

Annual Report 2016

Central Bank of the Republic of China (Taiwan)

Taipei, Taiwan
Republic of China

Foreword



Fai-nan Perng, Governor

The year 2016 started off with export contraction and weak economic expansion amidst a tepid global economy. In the latter half of the year, exports regained positive growth thanks to rebounding semiconductor demand. Private investment thus picked up, and private consumption sustained moderate growth. With the economy gathering steam, the annual GDP growth rate for the year as a whole rose from 0.72% in 2015 to 1.50%. The CPI inflation rate was 1.40%, reflecting weather-induced food price surges. Excluding vegetables, fruit, and energy, core inflation grew mildly at a pace of 0.84%.

Against the backdrop of a slow economic recovery, a widened negative output gap, and subdued inflation expectations, the Bank cut the policy rates in both March and July by a total of 25 basis points. Later in the year, as the economy strengthened and inflation was expected to stay stable, the policy rates were kept unchanged to foster economic growth with the continuation of easy money and credit conditions. The Bank also conducted open market operations to maintain adequate liquidity in the banking system. In 2016, bank credit and M2 growth averaged 4.12% and 4.51%, respectively, indicating there was sufficient market liquidity to support economic activity.

On the housing front, targeted macroprudential measures have proved effective and financial institutions have improved credit risk management associated with real estate lending. Relevant government policies, including real estate tax reforms, have also pared down speculative real estate transactions. Based on these developments, the Bank announced in March 2016 to lift credit controls on home mortgages and land-collateralized loans, except loans for high-value housing purchases.

During the course of the year, the Bank continued to maintain dynamic stability of the NT dollar under a managed floating exchange rate regime. The domestic financial market

was roiled by erratic short-term capital flows. The NT dollar was broadly on an appreciating trend partly because of foreign capital inflows that resulted in higher net foreign buying than other major Asian stock markets. At the end of 2016, the NT dollar exchange rate was 32.279 against the US dollar, appreciating by 2.44% compared to the end of 2015.

In terms of financial development, the Bank approved a new range of financial products and the issuance of negotiable certificates of deposit denominated in Australian dollar, enriching investment choices for hedging or wealth management. Amid a rising wave of financial digitization, financial services became even more convenient as the Bank continued streamlining electronic forex business application procedures for banking enterprises. We also enhanced further the foreign currency clearing platform by launching Australian dollar clearing and currency collection services on the platform. This not only facilitates the operation of the overall payment system but also increases settlement efficiency and significantly reduces foreign currency remittance fees.

Our Virtual Money Museum, having attracted many viewers since it opened in 2013, unveiled a special online exhibition in July 2016. By showcasing the 56 foreign banknotes that feature remarkable girls and women, Museum visitors can learn about their wonderful contributions to the world while admiring manifold banknote designs produced by various countries.

Looking ahead, uncertainties abound, ranging from US economic and trade policies, Brexit negotiations, to a rapid debt buildup in emerging markets. These factors could disrupt international financial markets and cast a shadow over the global economic recovery. We will continue to closely monitor the economic and financial developments in Taiwan and across the world. The Bank will take appropriate policy actions in line with its statutory mandate, including maintaining an orderly foreign exchange market to safeguard dynamic stability of the NT dollar.

Finally, I would like to thank my colleagues for their dedication in putting together this publication and for their hard work over the past year. We remain committed to fulfilling our missions and strive to meet future challenges.

A handwritten signature in black ink, appearing to read 'Fai-nan Perng', with a stylized, flowing script.

Fai-nan Perng
Governor
April 2017

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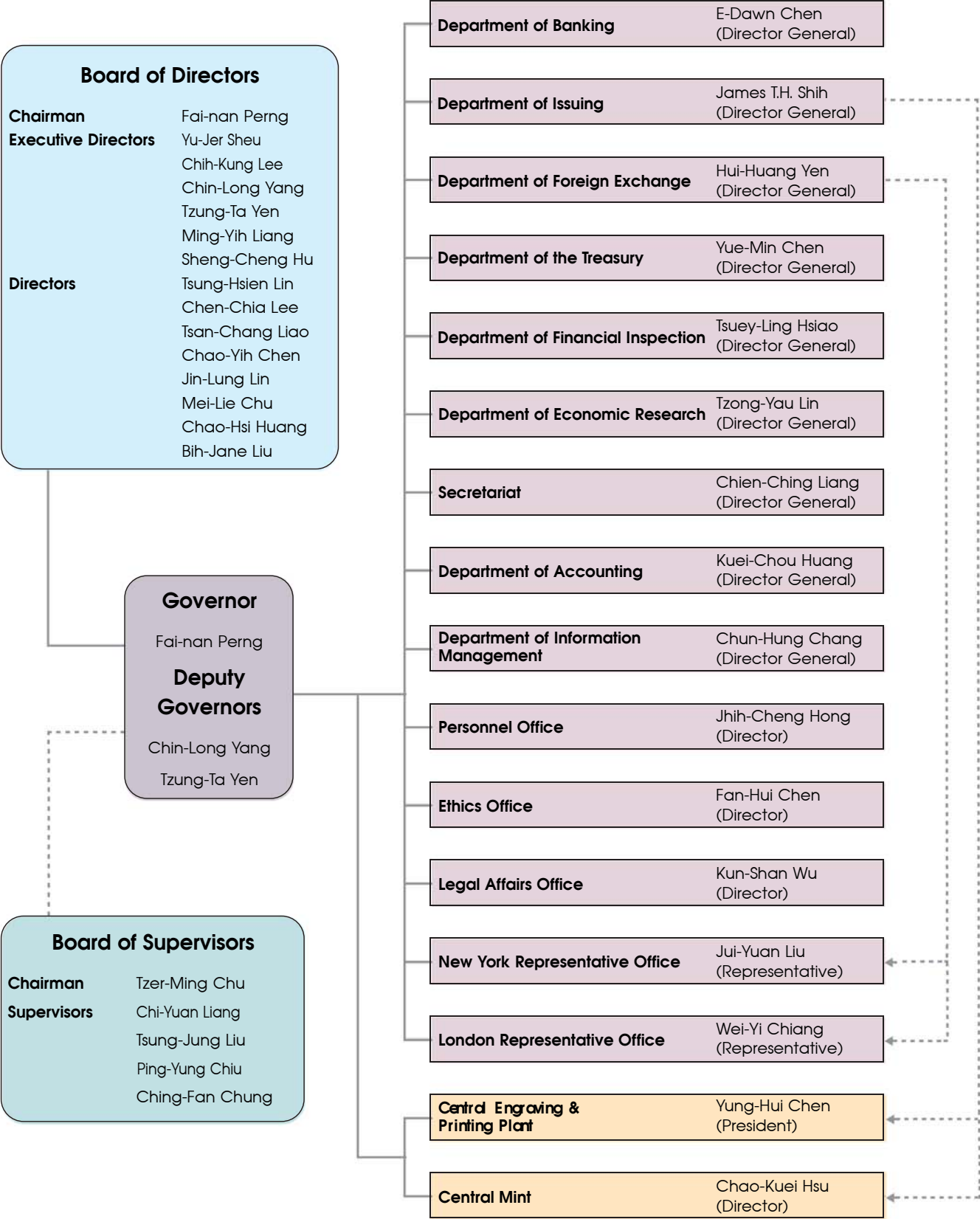
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Organization and Management of the CBC



As of May 2017



Chairman
Board of Directors
Governor
Fai-nan Perng



Executive Director
Yu-Jer Sheu



Executive Director
Chih-Kung Lee



Executive Director
Deputy Governor
Chin-Long Yang



Executive Director
Deputy Governor
Tzung-Ta Yen



Executive Director
Ming-Yih Liang



Executive Director
Sheng-Cheng Hu



Director
Tsung-Hsien Lin



Director
Chen-Chia Lee



Director
Tsan-Chang Liao



Director
Chao-Yih Chen



Director
Jin-Lung Lin



Director
Mei-Lie Chu



Director
Chao-Hsi Huang



Director
Bih-Jane Liu



Chairman
Board of Supervisors
Tzer-Ming Chu



Supervisor
Chi-Yuan Liang



Supervisor
Tsung-Jung Liu



Supervisor
Ping-Yung Chiu



Supervisor
Ching-Fan Chung

Developments in the Real Economy

I. Developments in the Real Economy

1. Overview

As domestic demand enjoyed steady growth in 2016 and external demand was bolstered by a strengthening global economy in the second half of the year, Taiwan's economy expanded from 0.72% in 2015 to 1.50%. The balance of payments (BOP) stayed healthy with a surplus of US\$10,663 million. In terms of inflation, weather-induced rises in food prices were partially offset by lower fuel and gas costs following international energy price declines; the average annual growth rate of the consumer price index (CPI) rose 1.40% over the previous year. Despite record-high tax revenue, a significant increase in social welfare expenditure pushed up the central government deficit to NT\$45.0 billion. Meanwhile, the unemployment rate averaged 3.92% for the year as a whole, the second lowest level since 2008.

Moderate Economic Growth

In the first quarter of 2016, private consumption grew steadily, but private investment was dampened by a tepid housing market and exports also faltered amid a weak global economy, leading the economy to contract by 0.23% year on year. From the second quarter onwards, though, exports regained strength thanks to rising demand for semiconductors in a stabilizing global economy, and private investment was driven by increased capital outlays in the semiconductor and airline industries. Consequently, economic growth began to gather pace and reached an all-year high of 2.88% in the fourth quarter. The annual economic growth rate was 1.50%, higher than the previous year's 0.72%.

In terms of GDP components by expenditure, domestic demand grew steadily by 2.16%, boosted by growth in private consumption, government consumption, and government and public enterprise investment. Domestic demand contributed 1.89 percentage points to GDP growth, while net external demand contributed -0.38 percentage points.

Broken down by type of activity, the industrial sector reversed the previous year's contraction and expanded by 2.04%, with a growth contribution of 0.73 percentage points. The services sector continued to pick up at a pace of 1.33%, contributing 0.83 percentage points to GDP growth.

Continued BOP Surplus

For year 2016 as a whole, Taiwan continued to post a balance of payment surplus¹, with a

¹ Starting from 2016, the CBC adopted the sixth edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6) for BOP compilation. For more information, please see Appendix of the 2016-Q1 press release on Taiwan's balance of payments.

current account surplus of US\$70,938 million and a net asset increase of US\$65,037 million in the financial account. The overall balance of payments showed a surplus of US\$10,663 million, lower than US\$15,011 million in 2015.

In the current account, both internal and external demand strengthened in the latter half of the year, but exports and imports for the full year still declined compared to the previous year. As exports shrank more than imports, the goods trade surplus decreased to US\$69,410 million. The services account ran a larger deficit of US\$10,964 million in 2016, mainly owing to reduced travel and freight receipts as well as increased payments for travel and airline passenger transportation. The primary income surplus narrowed to US\$15,649 million mainly because of higher outward payments to non-residents' portfolio investment income. The secondary income posted a smaller deficit of US\$3,157 million.

In the financial account, portfolio investment recorded a net asset increase of US\$78,419 million. With insurance companies investing more in foreign debt securities, portfolio investment abroad by residents grew by US\$81,062 million; as for local portfolio investment by non-residents, it also increased by US\$2,643 million mainly because foreign investors increased local share holdings. Direct investment reported a net asset increase of US\$9,510 million, with Mainland China remaining the major recipient of Taiwan's direct investment. As a result of cross-border mergers and acquisitions and share swap transactions, direct investment abroad by residents, with an increase of US\$17,843 million, and inbound direct investment by non-residents, with an increase of US\$8,333 million, both registered higher figures than ever before. As for other investment, it showed a net asset decrease of US\$20,664 million, as increases in non-residents' deposits and foreign borrowing led to a greater increment in foreign liabilities.

Mild Inflation

Amid lackluster global growth, languishing international raw material prices resulted in a 3.08% decline in import prices in NT dollar terms. In addition, low quotations for electronics and optical apparatus and a reduction in electricity rates led the wholesale price index to fall by 2.99%, albeit to a lesser degree compared to the previous year's drop.

In terms of CPI growth, prices of vegetables & fruits and food away from home climbed on account of adverse weather conditions, but prices of fuel and gas went down as a result of falling international energy prices. Reflecting these factors, the 2016 CPI annual growth rate stood at 1.40%, the most marked rise in four years. Core inflation (excluding fruits, vegetables, and energy prices) recorded a mild increase at 0.84%, slightly higher than the 0.79% of 2015.

Widened Government Deficit

In 2016, the central government deficit grew by NT\$34.9 billion to NT\$45.0 billion, as the NT\$9.9

billion increase in revenue was trumped by the NT\$44.8 billion in expenditure.

Of the total revenue, tax revenue continued to contribute around 80%. Adjustments in tax schemes and corporate profit gains helped to bring in 4.7% more tax revenue in 2016 than the previous year. Surpluses of public enterprises and public utilities decreased by 2.5%, while fees, fines, and indemnities posted a sizable reduction of 29.2% owing to a higher base effect. On the other hand, central government expenditure mounted in 2016 mainly because expenditure on social welfare and expenditure on economic development expanded by NT\$20.7 billion and NT\$8.1 billion, respectively.

The central government's debt financing needs rose to NT\$118.0 billion because of a wider deficit and an increase in debt principal repayment. At the end of 2016, the total outstanding debt of the central government posted a new high of NT\$5,372.1 billion, but its ratio to GDP dropped slightly to 31.4%.

Low Unemployment Rate; Slower Wage Growth

The unemployment rate edged up from January onwards amid a slow economic recovery. It reached 4.08% in August, the highest since September 2014. Later, with an economic upturn, the unemployment rate began to drop and recorded 3.79% in December. The annual average unemployment rate was 3.92%, higher than 3.78% in 2015 but still the second lowest since 2008.

The average number of employed persons increased by 69 thousand or 0.62% to 11.27 million in 2016. Employment in the services sector grew the most among all sectors, with an increase of 58 thousand workers or 0.88% from the previous year. The industrial sector hired eight thousand persons more than a year before, increasing by 0.21%.

Average non-farm (industrial and services sectors) monthly earnings per employee gained by 0.62% year on year to NT\$48,790, while average monthly regular earnings of non-farm employees increased by 1.35% to NT\$39,238. Adjusted for inflation, real monthly earnings decreased by 0.77%, and real monthly regular earnings shrank slightly by 0.05%.

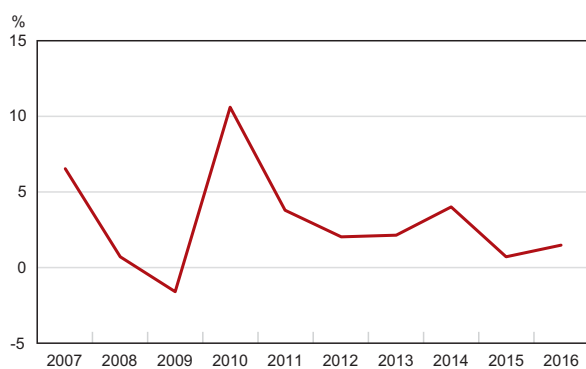
Labor productivity indices of the industrial sector and the manufacturing industry grew by 5.42% and 5.74%, respectively, over the previous year. Unit labor costs dropped by 0.52% in the industrial sector and by 0.71% in manufacturing, reflecting a smaller increase in total earnings over that in production.

2. National Output and Income

In 2016, the Taiwanese economy expanded at a mild pace and real GDP grew by 1.50% over the previous year because of a slight revival in domestic demand. Private consumption rose steadily owing to stronger new car sales, continued expansion in the number of citizens traveling abroad, and an increase in disposable income resulting from declining oil prices. Fixed capital formation displayed modest growth, mainly because the aviation industry expanded capital outlays and the semiconductor industry increased capacity in advanced manufacturing in the second half of the year. External trade witnessed a weaker performance in the first half of the year and then exhibited strong growth during the second half of the year on the back of a broad rebound in global demand. Nevertheless, exports showed a slower recovery for the year as a whole.

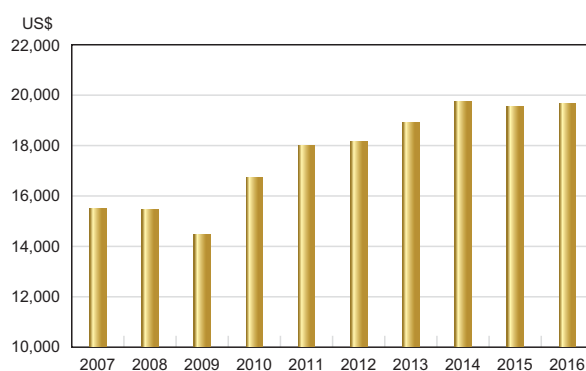
In the first quarter, external trade continued to fall as foreign demand remained lackluster and construction investment decreased. Modest growth in private consumption was unable to offset sluggish external trade and construction investment, leading real GDP to shrink 0.23%. On account of a gradual expansion in external trade, improved private investment, and an increase in private consumption, real GDP grew mildly by 1.13% in the second quarter. The domestic economy continued to expand during the third quarter, reflecting increased private investment and a pickup in external demand boosted by solid global demand for semiconductors. Consequently, real GDP growth rose to 2.12% in the third quarter. During the fourth quarter, as continuously strong demand for semiconductors bolstered external trade and private investment, real GDP growth rose further to 2.88% in the fourth quarter, the highest level in the year. Meanwhile, amid a moderate recovery in the domestic economy, per capita GNI (Gross National Income) in nominal terms increased slightly from US\$19,540 to US\$19,653.

Real Growth Rate of GDP



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

Per Capita GNI



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

Expenditure Components of GDP

All expenditure components of GDP except for private consumption posted higher growth rates than those in the previous year. Among them, exports recorded a positive contribution of 1.36 percentage points to GDP growth for the year, replacing private consumption as the primary source of economic growth. Private consumption also posted a positive contribution of 1.12 percentage points to GDP growth in 2016. Gross fixed capital formation contributed 0.56 percentage points to GDP growth owing to a pickup in capital expenditures by the private sector. Meanwhile, growth in government consumption moved from negative to positive territory and further boosted GDP growth by 0.43 percentage points. With respect to shares of GDP, exports of goods and services still accounted for the largest share of GDP at 62.83%, followed by private consumption at 52.72% and gross fixed capital formation at 21.00% for the year.

(1) Steady Growth in Private Consumption

During 2016, private consumption grew by 2.14% in real terms and contributed 1.12 percentage points to GDP growth. Overall consumer spending grew at a steady pace on account of stronger new car sales, continued expansion in the number of citizens traveling abroad, and an increase in disposable income resulting from declining oil prices.

In the first quarter, driven by the government's consumption-boosting program, an increase in the number of citizens traveling abroad, and a stable rise in consumer spending in the retail sector and restaurant business, private consumption expanded at an annual rate of 2.64%. In the second quarter, affected by weaker retail sales, private consumption registered the lowest growth rate of 1.59% for the year. Subsequently, continued expansion in new car sales, growth in tourism, and the

Expenditure on Gross Domestic Product

Unit: %

	2016			2015		
	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*
Private Consumption	52.72	2.14	1.12	52.27	2.68	1.43
Government Consumption	14.28	3.05	0.43	13.97	-0.26	-0.04
Gross Fixed Capital Formation	21.00	2.71	0.56	20.84	1.64	0.36
Change in Inventory	-0.07	-	-0.22	0.09	-	-0.08
Exports of Goods and Services	62.83	2.12	1.36	64.30	-0.34	-0.24
(Less : Imports of Goods and Services)	50.76	3.39	1.75	51.48	1.19	0.71
Expenditure on GDP	100.00	1.50	1.50	100.00	0.72	0.72

Note: * Percentage point.

Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

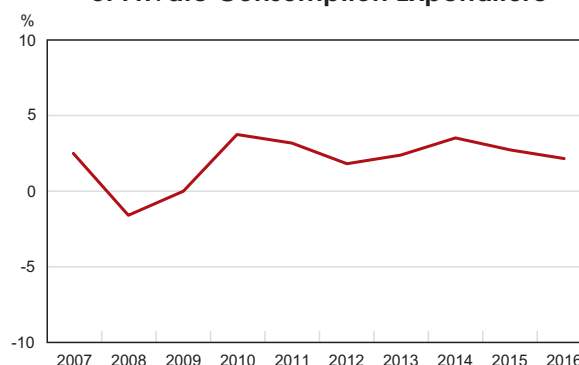
launch of new smartphone products drove private consumption to rise at an annual rate of 2.70% in the third quarter. During the final quarter, despite increases in new car sales and the number of outbound travelers, private consumption growth weakened to 1.62% on account of abated growth momentum for retail sales.

(2) Modest Growth in Fixed Capital Formation

For the year 2016, domestic semiconductor manufacturers continued to invest in advanced manufacturing, yet the sluggish housing market resulted in slower growth in construction investment. Meanwhile, growth momentum for investment by public enterprises softened. Therefore, fixed capital formation exhibited modest growth with an annual rate of 2.71% in real terms and contributed 0.56 percentage points to economic growth. In the first quarter, despite a mild expansion in private investment, continuous contractions in investments by public enterprises and general government dragged growth in fixed capital formation down to a yearly low of negative 0.12%. In the second quarter, imports of capital equipment increased further, pushing private investment to rise. As a result, growth in fixed capital formation turned positive, recording an annual rate of 0.16%. Subsequently, as the semiconductor industry continued to expand capacity in advanced production and airline companies increased investment in aircraft purchases, fixed capital formation expanded by 3.66% and 6.81%, respectively, in the last two quarters.

Regarding expenditure by type of purchaser, investments by the private sector and general government both registered positive growth, whereas investment by public enterprises experienced two consecutive years of decline. In the first half of the year, an increase in machinery and equipment investment was partially offset by decreases in investment in transport equipment and construction, leading private investment to advance by 0.22% and 1.16%, respectively, in the first and second quarters. Later, reflecting a pickup in capital spending led by the semiconductor and transportation industries, private investment rose by 3.99% and 7.24%, respectively, in the last two quarters. For the year as a whole, private investment increased by 3.12%, slightly higher than the 2.97% registered in 2015. Meanwhile, the government's expansionary fiscal policy boosted government investment growth back into positive territory for the first time in six years, with a year-on-year increase of 1.72%. In contrast, investment by public enterprises went down by 1.93%, primarily owing to a decline in investment in machinery and equipment.

**Real Growth Rate
of Private Consumption Expenditure**



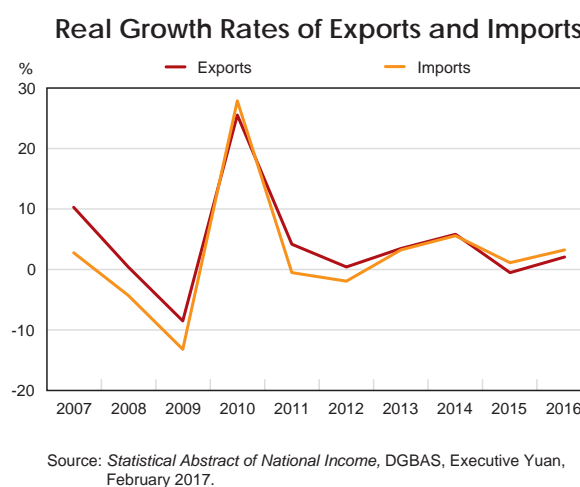
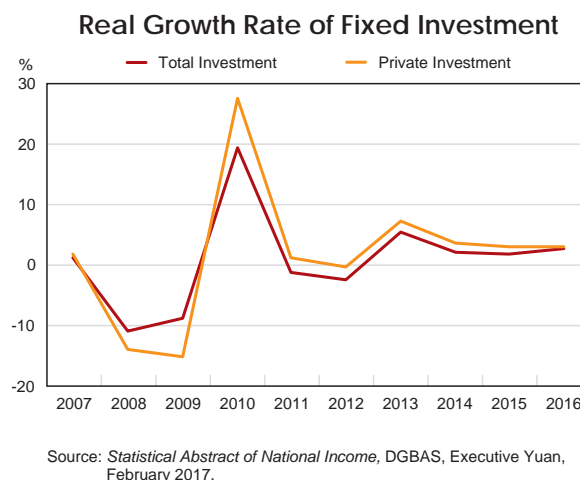
Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

In terms of the type of capital formation, the largest increase was observed in outlays on machinery and equipment, registering a growth of 9.14%, mainly attributable to capacity expansion and technology upgrades conducted by semiconductor manufacturers. Transportation spending decelerated in the first half of the year as a result of a poor domestic business climate. Bolstered by increased procurement of airliners, growth in transportation spending turned positive in the second half of the year. Consequently, transportation investment rose moderately by 3.35% for the entire year. Investment in intellectual property was relatively stable, registering an annual growth rate of 2.51%. On the other hand, because of stagnant growth in the housing market, investment in the construction sector contracted by 2.85%.

(3) Mild Expansion in Exports and Imports

Despite a weaker global business climate, competitive pressure from Mainland China's efforts to localize the supply chain, and volatility in raw material prices, growth in exports still outpaced that in 2015, registering a year-on-year increase of 2.12% and contributing 1.36 percentage points to economic growth for the year as a whole. The increase in exports was mainly due to an improvement in foreign demand as well as a lower base effect.

For the first quarter, growth in exports of electronics products and machinery, plastics, rubber, base metals, and optical and precision instruments all retreated, and net proceeds from merchandising also slid, whereas the number of tourists from abroad rose by 16.03%. As a result, growth in exports of goods and services went down to negative 3.88%. In the second quarter, growth in exports of electronic parts and components returned to positive territory, leading exports of goods and services to rise by 0.21%. Then, influenced by continued solid expansion in exports of electronic parts and components



and regained growth momentum in exports of base metals, machinery, and information, communications and audio-video products, exports of goods and services went up 3.66% and 8.02%, respectively, in the last two quarters.

Since a large proportion of import demand was derived from exports, the growth trends of imports and exports moved together. Import growth was negative in the first half of the year, while it turned positive in the second half of the year as raw material prices gradually rebounded and capital outlays on machinery and electrical equipment rose with mounting export demand. For the year as a whole, imports of goods and services advanced by 3.39%, subtracting 1.75 percentage points from economic growth.

Sectoral Components of GDP

Looking at sectoral production in 2016, industry and services, making up major shares of national output, were key forces behind economic growth. With intelligent technologies being utilized in a wider range of applications, industrial output grew by 2.04%, in contrast to the previous year's contraction, and contributed 0.73 percentage points to overall GDP. Services output exhibited continuous expansion, pitching in 0.83 percentage points to economic growth for the year. On the contrary, agricultural output declined in 2016 as a consequence of abnormal weather conditions and crop damage caused by typhoons, subtracting 0.12 percentage points from GDP growth.

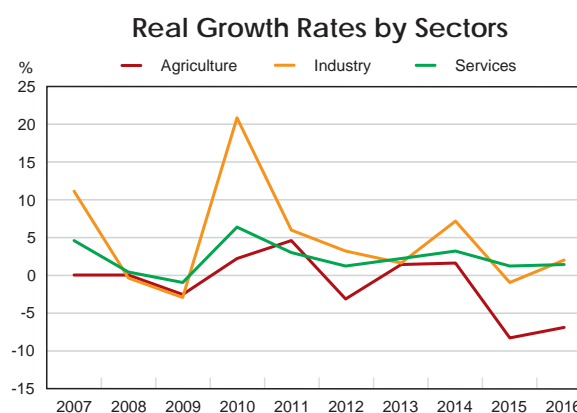
Regarding the sectoral shares of GDP in nominal terms, Taiwan's economy was still dominated by the services sector with a 63.15% share in 2016. The industrial sector accounted for 35.04% of GDP, slightly lower than the share in the previous year. Meanwhile, the ratio of agricultural output to GDP slightly increased to 1.82%.

(1) Continued Shrinkage in Agricultural Output

During 2016, agricultural production, covering agriculture, forestry, fishing and animal husbandry industries, continued to contract owing to adverse weather conditions. Agricultural output shrank by 6.91%, up from an 8.26% decrease in the previous year.

(2) Moderate Expansion in the Industrial Sector

The industrial sector, consisting of the industries of mining and quarrying, manufacturing, construction, and electricity, gas, and water, increased by 2.04% for the year, higher than in



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

the previous year. The growth in industrial output benefited from rising global demand for electronics products amid the improving global economy in the second half of the year.

Manufacturing production in 2016 went up by 2.28%, mainly led by the information and electronics industry, which showed a moderate growth of 4.26% in the production index during the year. The gain in the information and electronics industry was mostly attributed to a boom in semiconductor-related exports in the second half of the year, driven by soaring demand for new mobile devices. The production index of the chemical industry inched up 0.90%, supported by the rebound in oil prices. The index of food, textile, and other industries also rose by 0.77% because of a stable increase in the production of food. However, output growth in metal and machinery edged down to 0.60%, primarily hit by weaker global demand and inventory adjustment.

Output of mining and quarrying also dropped significantly by 9.74% for the year, on account of the decline in the production volume of marble, sand, and gravel. Affected by the softening real estate market, output growth in the construction industry slipped by 2.84%.

(3) Mild Growth in the Services Sector

In 2016, services output increased mildly and recorded a growth of 1.33%, slightly higher than

Gross Domestic Product by Type of Activity

Unit: %

	2016			2015		
	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*
Agriculture	1.82	-6.91	-0.12	1.70	-8.26	-0.15
Industry	35.04	2.04	0.73	35.13	-1.05	-0.35
Mining and Quarrying	0.08	-9.74	-0.01	0.10	-6.58	-0.01
Manufacturing	30.16	2.28	0.68	30.05	-0.85	-0.26
Construction	2.38	-2.84	-0.07	2.52	-0.88	-0.02
Electricity and Gas Supply	1.76	5.45	0.12	1.85	-5.45	-0.06
Water Supply and Remediation Services	0.65	1.98	0.01	0.61	-0.03	0.00
Services	63.15	1.33	0.83	63.17	1.14	0.71
Wholesale and Retail Trade	16.19	0.63	0.10	16.37	0.27	0.04
Transport and Storage	3.03	3.68	0.11	3.06	-0.26	-0.01
Information and Communications	2.84	3.07	0.09	2.92	4.71	0.14
Finance and Insurance	6.60	2.37	0.16	6.56	3.78	0.25
Real Estate and Ownership of Dwellings	8.20	1.35	0.11	8.16	2.08	0.17
Public Administration and Defense; Compulsory Social Security	6.36	0.20	0.01	6.41	0.05	0.00
Other Services	19.92	0.10	0.25	19.70	0.62	0.12
Gross Domestic Product	100.00	1.50	1.50	100.00	0.72	0.72

Note: * Percentage point.

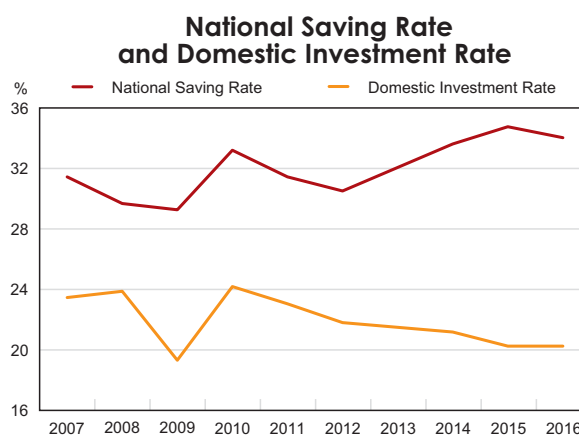
Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

the growth rate of 1.14% of the previous year. The mild growth in services output for the year was consistent with slower private consumption growth. The subsectors of transport and storage services, wholesale and retail trade services, and public administration and defense services recorded higher growth rates compared with those of the previous year.

Owing to increased demand for public transportation, transport and storage services registered the largest growth of 3.68% among the services subsectors in 2016. Information and communications services also posted an increase of 3.07%, largely attributable to a rising number of internet users over the year. Finance and insurance services continued to grow along with increased fee income and life insurance premium income, yet posted a moderate growth of 2.37% for the year. Real estate and ownership of dwellings services expanded by 1.35%, reflecting the lackluster housing market. Wholesale and retail trade services edged up by 0.63% on account of a slowdown in trade-related export demand and slack domestic demand.

Slight Decline in National Saving Rate

As government consumption growth turned positive, national consumption (including both private consumption and government consumption expenditures) grew at a moderate rate of 3.26% in nominal terms for the year, higher than the GNI growth rate of 2.30%. As a consequence, the national saving rate (the ratio of national saving to GNI measured at current prices) declined from 34.70% in 2015 to 34.04% in 2016. The excess saving ratio, defined as the excess of national saving over gross domestic investment to GNI, slid from 14.44% in 2015 to 13.82% in 2016, reflecting a greater increase in domestic investment than that in national saving.



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2017.

3. Balance of Payments

In order to be consistent with international statistical standards and practice, the CBC has adopted the sixth edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6) since the first quarter of 2016.

In 2016, Taiwan's current account registered a smaller surplus of US\$70,938 million, which

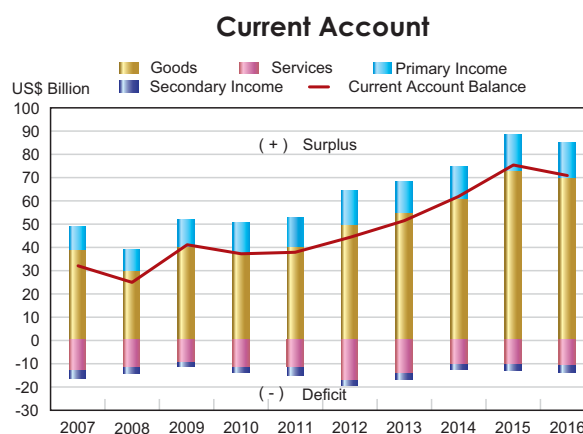
Balance of Payments

Unit: US\$ Million

	(1) 2016	(2) 2015	(1)-(2)
A. Current Account	70,938	75,180	-4,242
Goods: credit (exports)	312,303	336,899	-24,596
Goods: debit (imports)	242,893	264,064	-21,171
Balance on Goods	69,410	72,835	-3,425
Services: credit (exports)	41,443	41,127	316
Services: debit (imports)	52,407	51,259	1,148
Balance on Services	-10,964	-10,132	-832
Primary income: credit	29,459	28,886	573
Primary income: debit	13,810	13,032	778
Balance on primary income	15,649	15,854	-205
Secondary Income: credit	6,944	6,618	326
Secondary Income: debit	10,101	9,995	106
Balance on secondary income	-3,157	-3,377	220
B. Capital Account	-9	-5	-4
C. Financial Account	65,037	66,116	-1,079
Direct investment: assets	17,843	14,709	3,134
Equity and investment fund shares	16,810	13,649	3,161
Debt instruments	1,033	1,060	-27
Direct investment: liabilities	8,333	2,413	5,920
Equity and investment fund shares	7,311	2,478	4,833
Debt instruments	1,022	-65	1,087
Portfolio investment: assets	81,062	56,341	24,721
Equity and investment fund shares	6,547	6,930	-383
Debt securities	74,515	49,411	25,104
Portfolio investment: liabilities	2,643	-858	3,501
Equity and investment fund shares	5,325	1,658	3,667
Debt securities	-2,682	-2,516	-166
Financial derivatives: assets	-11,153	-11,227	74
Financial derivatives: liabilities	-8,925	-12,411	3,486
Other investment: assets	-3,094	-16,498	13,404
Other investment: liabilities	17,570	-11,935	29,505
D. Net Errors and Omissions	4,771	5,952	-1,181
E. Reserves and Related Items*	10,663	15,011	-4,348

Note: * Excluding valuation changes in exchange rates.
Source: *Balance of Payments*, CBC, February 2017.

accounted for 13.4% of nominal GDP, down from 14.3% the previous year as a result of narrower surpluses on the goods and primary income accounts and a wider deficit on trade in services. The financial account posted a net asset increase of US\$65,037 million mainly owing to greater investment in debt securities abroad by residents. The overall balance of payments recorded a surplus of US\$10,663 million, which was reflected in the increase in foreign reserve assets held by the CBC.



Source: Balance of Payments, CBC, February 2017.

Narrower Current Account Surplus

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

(1) Goods

A persistently stagnant world economy dragged down Taiwan's external merchandise trade in 2016 despite stronger global demand for semiconductors and rising prices of raw materials in the second half of the year. The value of exports, on a BOP basis, declined 7.3% to US\$312,303 million, and the value of imports decreased 8.0% to US\$242,893 million. As a result of a larger reduction in the value of exports over that of imports, the goods surplus narrowed to US\$69,410 million.

In addition, according to customs statistics, the value of exports declined 1.7% to US\$280,394 million on a free on board (FOB) basis, and the value of imports decreased 2.7% to US\$230,888 million on a cost, insurance, and freight (CIF) basis, respectively.

The top three export partners of Taiwan in 2016 were Mainland China including Hong Kong (hereafter in this chapter referred to as Mainland China), the US, and Japan, accounting for a combined share of 59.0% of total exports. The top three import partners were Mainland China, Japan, and the US, with a combined share of 49.6%.

In terms of Taiwan's trade with Mainland China, the value of exports amounted to US\$112,300 million in 2016, 0.2% lower than the previous year. China's economic slowdown, supply chain localization, and overcapacity limited growth in Taiwan's exports to Mainland China. Among major export products to Mainland China, optical instruments and apparatus posted slower growth, whereas electronic parts and components, and information, communication and audio-video products increased by 16.4% and 0.7% respectively. The share of exports to Mainland China rose to

40.1%, and Mainland China remained Taiwan's largest export market.

Imports from Mainland China dropped 3.0% to US\$45,329 million. With a share of 19.6%, Mainland China continued to be Taiwan's largest import partner. The trade surplus with Mainland China increased by 1.8% to US\$66,971 million in 2016. Furthermore, Mainland China remained the largest source of Taiwan's trade surplus.

Exports to the Association of Southeast Asian Nations (ASEAN), including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, decreased by 0.6% to US\$51,317 million in 2016. The combined share of exports to ASEAN climbed to 18.3%. Imports from these countries decreased 6.4% to US\$27,192 million, with a share of 11.8% in total imports. In sum, the trade surplus with ASEAN increased from US\$22,601 million in 2015 to US\$24,125 million, with Singapore, Vietnam, and the Philippines being the second, third, and fourth largest sources of Taiwan's trade surplus, respectively.

Despite a stable growth trend in the US economy, Taiwan's exports to the US still declined 2.9% to US\$33,525 million, thus comprising a lower share of 12.0% in total exports. The top three types of products exported to the US were information, communication and audio-video products, base metals and articles of base metal, and machinery. Among these, only information, communication and audio-video product exports increased. Imports from the US decreased by 2.0% to US\$28,603 million, yet its share in total imports grew to 12.4%. The trade surplus with the US, Taiwan's fifth largest

Direction of Trade in Goods by Country

Unit: %

	2016			2015		
	Amount (US\$ Million)	Share	Annual Change	Amount (US\$ Million)	Share	Annual Change
Exports						
Mainland China (including Hong Kong)	112,300	40.1	-0.2	112,540	39.4	-12.4
ASEAN	51,317	18.3	-0.6	51,639	18.1	-14.2
U.S.	33,525	12.0	-2.9	34,543	12.1	-1.6
Europe	26,236	9.4	1.0	25,964	9.1	-10.8
Japan	19,554	7.0	-0.2	19,592	6.9	-2.7
Rest of the World	37,461	13.4	-8.8	41,066	14.4	-12.6
Total	280,394	100.0	-1.7	285,344	100.0	-10.9
Imports						
Mainland China (including Hong Kong)	45,329	19.6	-3.0	46,734	19.7	-8.3
Japan	40,648	17.6	4.6	38,865	16.4	-7.4
U.S.	28,603	12.4	-2.0	29,196	12.3	-2.8
ASEAN	29,045	12.6	1.9	28,499	12.0	-11.1
Europe	27,192	11.8	-6.4	29,039	12.2	-16.4
Rest of the World	60,071	26.0	-7.4	64,887	27.4	-29.5
Total	230,888	100.0	-2.7	237,219	100.0	-15.8

Note: * Including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.
Source: *Monthly Statistics of Exports and Imports*, Ministry of Finance, R.O.C. (Taiwan), February 2017.

surplus source, shrank to US\$4,922 million.

Exports to Japan decreased by 0.2% to US\$19,554 million, yet the share of exports to Japan went up to 7.0%. The primary export product to Japan is electronic parts and components, which grew for the fifth consecutive year with a year-on-year increase of 1.3%. Imports from Japan increased by 4.6% to US\$40,648 million, with the share rising to 17.6% in total imports. Japan remained Taiwan's second largest source of imports in 2016. In sum, the trade deficit with Japan widened to US\$21,093 million.

Because of a low base the previous year, exports to Europe increased by 1.0% to US\$26,236 million, and their share in total exports grew to 9.4%. Imports from Europe increased by 1.9% to US\$29,045 million, making up a greater share of 12.6% in total imports. The trade deficit with Europe widened to US\$2,809 million.

(2) Services

The adoption of BPM6 led Taiwan's services account to run deficits instead of surplus as under previous manuals, because merchanting is reclassified from services to goods. In 2016, services receipts slightly increased by US\$316 million to US\$41,443 million. Services payments increased by US\$1,148 million to US\$52,407 million. In all, the services deficit widened to US\$10,964 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\$415 million to US\$2,035 million in 2016. On the debit side, payments for manufacturing services, namely a resident's payments to a nonresident for providing these services for the resident who is also the owner of the goods concerned, decreased by US\$937 million to US\$3,452 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\$438 million to US\$832 million, while the payments increased by US\$70 million to US\$860 million.

Transport receipts shrank by US\$1,029 million to US\$8,899 million, reflecting decreases in international freight fares and passenger fares received by domestic carriers. Transport payments increased by US\$829 million to US\$10,793 million, resulting from growth in domestic passengers' payments to foreign airlines. Overall, net transport payments substantially increased by US\$1,858 million to US\$1,894 million in the year, with the balance on international passenger fares turning into a deficit after running a continuous surplus since 2009.

Even though tourists from China decreased, the number of inbound visitors reached a record high this year. However, owing to diminishing average daily expenditures per inbound visitor and shortened average length of stay, travel receipts decreased by US\$1,004 million to US\$13,383 million. Meanwhile, travel payments increased by US\$1,071 million to its highest ever level of US\$16,574 million. This was mainly due to a 10.7% increase in the number of outbound travelers. In sum, the deficit on the travel account expanded over a year before to US\$3,191 million, the largest deficit since Taiwan opened up to Mainland Chinese tour groups in 2008.

Other services receipts increased by US\$1,496 million to US\$16,294 million, mainly attributable to an increase in receipts of construction and of professional and management consulting services (which is under other business services). Other services payments increased by US\$115 million to US\$20,728 million on account of increases in expenditures on construction and financial services. In all, the deficit in other services shrank to US\$4,434 million in 2016.

(3) Primary Income

Primary income consists of compensation of employees, investment income, and other primary income. In 2016, primary income receipts increased by US\$573 million to US\$29,459 million, mainly caused by an increase in interest earnings generated by residents' foreign portfolio investment. Meanwhile, primary income payments amounted to US\$13,810 million, US\$778 million more than the previous year, mostly attributable to an increase in dividends from equity securities paid to non-residents. Consequently, the surplus on the primary income account narrowed to US\$15,649 million for the year of 2016.

(4) Secondary Income

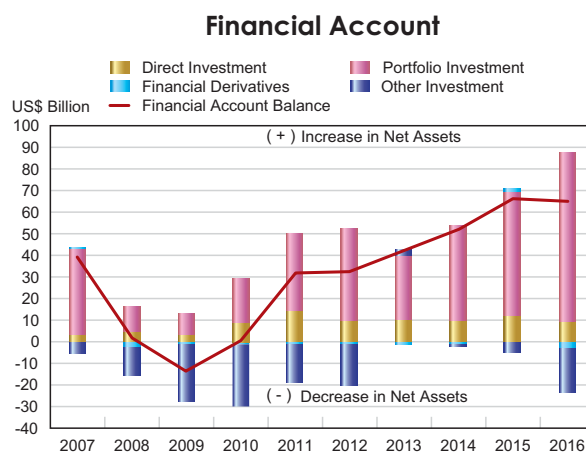
For the year of 2016, secondary income receipts and payments amounted to US\$6,944 million and US\$10,101 million, respectively. As a whole, the deficit in secondary income narrowed to US\$3,157 million in 2016, mainly owing to a decrease in outward donation remittances.

Higher Capital Account Deficit

The capital account includes capital transfers and the acquisition and disposal of non-produced, non-financial assets. In 2016, the capital account deficit went up by US\$4 million to US\$9 million.

Net Asset Increase in Financial Account

The financial account showed an increase



Source: Balance of Payments, CBC.

of US\$65,037 million in net assets. In terms of sub-categories, direct investment and portfolio investment exhibited increases of US\$9,510 million and US\$78,419 million in net assets, respectively. Financial derivatives and other investment exhibited decreases of US\$2,228 million and US\$20,664 million in net assets, respectively.

(1) Direct Investment

Direct investment abroad by residents exhibited an increase of US\$17,843 million in assets, and direct investment in Taiwan by non-residents showed an increase of US\$8,333 million in liability, both of which registered record highs in 2016. This was primarily attributable to cross-border mergers and acquisitions, as well as large share swap transactions conducted by both sides.

Based on approved cases, residents' direct investment in China and in other areas reported US\$9,184 million and US\$12,123 million, respectively, suggesting that China remained the major recipient of Taiwan's direct investment abroad. The main investment target sectors included electronic parts and components manufacturing, finance and insurance, computers, and electronic and optical products manufacturing.

The main target sector for inbound investments by non-residents included electronic parts and components manufacturing, machinery and equipment manufacturing, and finance and insurance.

Overall, direct investment reported an increase of US\$9,510 million in net assets in 2016.

(2) Portfolio Investment

In 2016, portfolio investment abroad by residents increased by US\$81,062 million. Of the components, equity and investment fund shares increased by US\$6,547 million, and debt securities increased by US\$74,515 million.

The substantial increase in debt securities was because insurance companies expanded their investment in debt securities (including Formosa bonds) abroad issued by non-residents throughout the year. Their motivation was that insurance companies' holdings of foreign currency denominated international bonds were allowed to be excluded from the amount subject to the overseas investment ceiling.

On the other hand, local portfolio investment by non-residents increased by US\$2,643 million. Of the components, equity and investment fund shares increased by US\$5,325 million, as foreign investors increased holdings of Taiwanese stocks; debt securities decreased by US\$2,682 million, mainly because foreign investors reduced holdings of domestic bank debentures and corporate bonds.

Overall, portfolio investment showed an increase of US\$78,419 million in net assets in 2016.

(3) Financial Derivatives

Assets in financial derivatives decreased by US\$11,153 million, principally because of gains on transactions of financial derivatives received by banks and other financial corporations.

Liabilities in financial derivatives decreased by US\$8,925 million, mainly because of losses on transactions of financial derivatives paid by banks and other financial corporations.

(4) Other Investment

In 2016, other investment abroad by residents decreased by US\$3,094 million. Of the components, currency and deposits decreased by US\$4,801 million as the private sector withdrew overseas deposits; loans increased by US\$5,794 million because banks' short-term lending to non-residents mounted; trade credit increased by US\$26 million; other accounts receivable decreased by US\$4,122 million, owing to diminished accounts receivable from non-residents.

Moreover, other inward investment by non-residents increased by US\$17,570 million. Of the components, currency and deposits increased by US\$9,954 million, because of growing deposits from non-residents and overseas branches; loans increased by US\$9,306 million, owing to expanded short-term external borrowing by banks; trade credit increased by US\$120 million; other accounts payable decreased by US\$1,810 million, owing to falling accounts payable to non-residents.

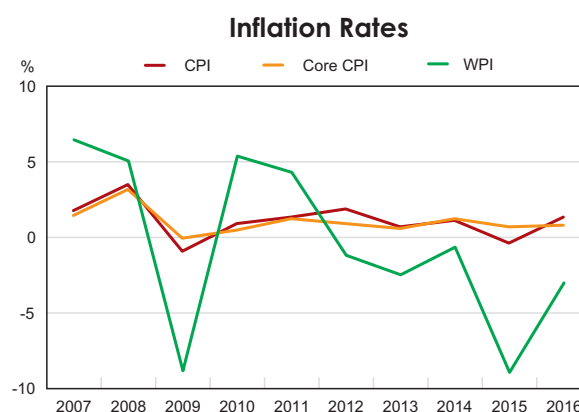
As a consequence, other investment showed a decrease of US\$20,664 million in net assets in 2016.

Increase in Foreign Exchange Reserves

The foreign exchange reserve assets held by the CBC increased by US\$10,663 million as the current account surplus surpassed the net assets increase in the financial account.

4. Prices

Taiwan's wholesale price index (WPI) fell by 2.99% in 2016, yet the pace of decline lessened remarkably compared with a decrease of 8.84% in 2015. The drop in WPI inflation was largely attributable to low international primary commodity prices owing to a moderate recovery in the global economy. Headline inflation, measured by the consumer price index (CPI), increased by 1.40% from the previous year's 0.31% decrease, mainly driven by a rise in food prices, though it was partly offset by reductions in energy prices. The core CPI, which excludes fruits, vegetables, and energy, rose mildly by 0.84%, slightly higher than the 0.79% increase a year before.



Source: Price Statistics Monthly, DGBAS, Executive Yuan.

Moderate Decline in Wholesale Prices

After the WPI experienced the largest decrease of 8.84% in 2015, the decline in the WPI narrowed to 2.99% in 2016. The deceleration mainly reflected low prices for international primary materials stemming from weak global demand. In terms of monthly movements, the pace of the decrease in the annual WPI inflation rate gradually abated in the first eleven months of the year. In December, however, the annual WPI inflation rate reversed to a 1.79% increase on account of the rebound in global oil prices.

Broken down by the three major components of the WPI, the annual rates of change in prices for imports, exports, and domestic sales excluding imports all decreased moderately in 2016, as international raw material prices remained at relatively low levels.

Import prices, weighted at 33.41% of the WPI, decreased by 4.68% in US dollar terms in 2016, mainly led by falling prices of imported raw materials, such as crude petroleum, liquefied natural gas, coal, integrated circuits, and cell phones and parts thereof. As the NT dollar depreciated against the US dollar over 2016, the annual change in import prices lessened to a 3.08% decrease in NT dollar terms. Among the components of import prices in terms of NT dollars, prices of raw materials and consumer goods declined by 4.62% and 0.09% and accounted for 3.47 percentage points and 0.01 percentage points in the import price decrease, respectively. In contrast, prices of capital goods rose by 2.91%, contributing 0.42 percentage points to the increase in import prices.

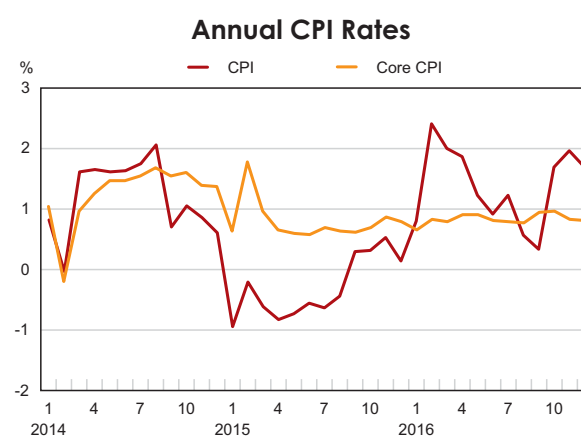
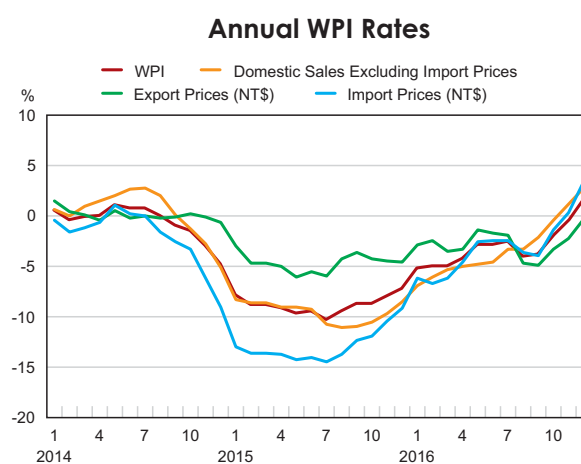
Export prices, weighted at 36.79% of the WPI, declined by 4.32% in US dollar terms in 2016. Owing to the depreciation of the NT dollar against the US dollar, export prices fell by 2.71% in terms of the NT dollar. Among the basic groups in NT dollar terms, prices of mineral products accounted for the largest decrease at 17.92%, primarily resulting from the declines in the prices of gasoline, diesel, and fuel oil. In addition, prices of primary metal products decreased by 4.52% on account of falling prices of iron and steel. On the contrary, prices of animal products rose by 7.47% in 2016, mainly attributable to a lower supply of fish.

Prices of domestic sales excluding imports, weighted at 29.8% of the WPI, fell by 3.23% in 2016, reflecting declining import costs of primary commodities. In terms of the basic groups, prices of water supply, electricity and gas registered the largest decline at 11.86%, largely attributable to a reduction in electricity prices effective in April based on the new electricity pricing adjustment mechanism, together with falling gas prices. Prices of quarrying and mineral products and manufacturing products dropped by 5.15% and 3.25%, respectively. On the other hand, prices of agriculture, forestry and livestock products rose by 9.00%, driven by rising prices of vegetables and fruits stemming from the shortage of supply caused by cold weather and typhoons.

Modest Increase in Consumer Prices

Compared with a slight decrease of 0.31% in the previous year, the CPI rose by 1.40% in 2016. Owing to rising prices of vegetables and fruits affected by weather-related disruptions, the annual rate of change in the CPI in the first quarter climbed to 1.75%. From April onwards, the pace of monthly CPI inflation rates slackened and slowed to an all-year low of 0.33% in September. Afterwards, it went up to 1.97% in November, as prices of vegetables and fruits soared following typhoons and heavy rainfall. At the end of the year, the CPI edged down to 1.69%.

The core CPI inflation rate averaged 0.84% in 2016. Reflecting the slow pace of the recovery in the domestic economy, monthly core CPI inflation rates remained moderate between 0.65% to 0.96%.



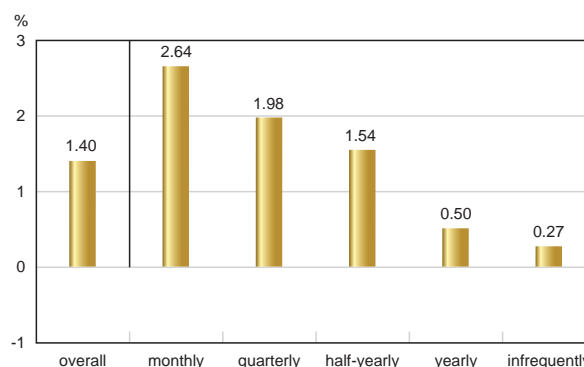
With respect to frequency of purchase, CPI items can be categorized into five groups (monthly, quarterly, half-yearly, yearly and infrequently). Among these five groups, prices for the most frequently purchased goods and services increased at an annual rate of 2.64%, higher than the overall CPI inflation of 1.40%. Soaring food prices, registering a growth rate of 5.24%, constituted the main cause of the uptrend and thus had a far larger impact on consumers' perceptions of price rises.

In terms of CPI movements for households in three disposable income groups, CPI and food prices for the lowest income group both advanced at a higher rate than those of general households as the lowest income group spent a greater share of income on food.

The main factors contributing to the rise of CPI inflation in 2016 were as follows:

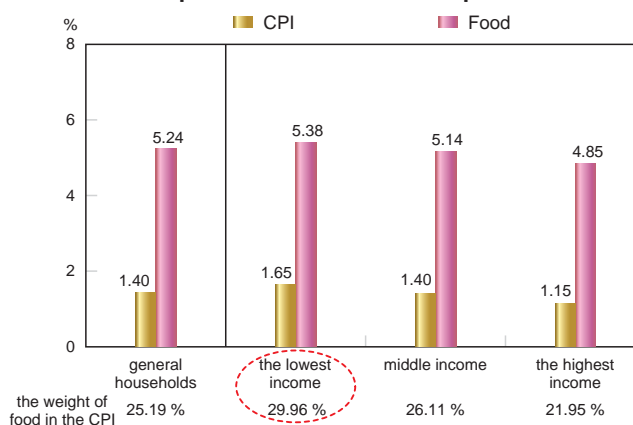
- (1) Owing to crop damage caused by severe coldness and typhoons, prices of vegetables and fruits moved up by 22.46% and 18.81%, and accounted for 0.60 percentage points and 0.47 percentage points in CPI inflation, respectively.
- (2) Despite the declines in oil, electricity and gas costs, higher raw food prices such as vegetables, fish & seafood, and pork & chicken, together with a rise in wages, pushed up the prices of food away from home by 1.48%, contributing 0.16 percentage points to CPI inflation.
- (3) Prices of residential rent continued a mild uptrend and went up by 0.82%, contributing 0.15 percentage points to CPI inflation.
- (4) With the supply of global fisheries constrained by climate change, along with increasing demand from developing countries, prices of fish and shellfish increased at an annual rate of 4.71% in 2016, accounting for 0.08 percentage points in CPI inflation.

Annual CPI Rates by Frequency of Purchase in 2016



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

Annual CPI Rates for Households in Different Disposable Income Groups in 2016

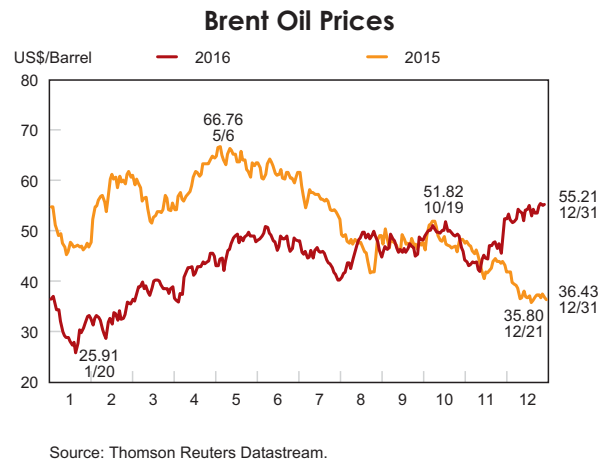


Note: The lowest, middle and the highest household income groups refer to households in the lowest 20 percent, the middle 60 percent, and the highest 20 percent classified by disposable income levels.

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

The main factors contributing to downward pressure on the CPI in 2016 were as follows:

- (1) Following the shrinkage in crude oil production in the US, some temporary supply disruptions in oil-producing countries, such as Canada and Nigeria, and the production cuts agreed by OPEC members and several other major producers in November, international petroleum prices rebounded from a yearly low recorded in early 2016 and showed an upward trend to the year end. However, average Brent oil prices still fell by 16.44% compared with 2015. Reflecting lower imported costs for petroleum and natural gas, prices for domestic oil and gas dropped by 5.88% and 15.47% and accounted for 0.16 and 0.13 percentage points in the CPI decrease, respectively.
- (2) Affected by a reduction in electricity prices in April, electricity prices went down by 6.11%, subtracting 0.13 percentage points from CPI inflation.



Percentage Changes in the Major Components of the CPI in 2016

Item	Annual Rate of Change (%)	Contribution to CPI Inflation Rate (Percentage Point)
CPI	1.40	1.40
Food	5.24	1.44
Vegetables	22.46	0.60
Fruits	18.81	0.47
Food away from Home	1.48	0.16
Fish & Shellfish	4.71	0.08
Residential Rent	0.82	0.15
Total		1.59
Fuels & Lubricants	-5.88	-0.16
Gas	-15.47	-0.13
Electricity	-6.11	-0.13
Total		-0.42
Others		0.23

Source: Price Statistics Monthly, DGBAS, Executive Yuan.

5. Public Finance of the Central Government

For the year 2016, central government revenue slightly increased by 0.5%, whereas central government expenditure expanded by 2.4%, causing the overall central government deficit to increase to NT\$45.0 billion from NT\$10.1 billion in 2015.

Mild Growth in Central Government Revenue

In 2016, central government revenue grew by NT\$9.9 billion or 0.5% to NT\$1,895.6 billion. Of its various components, tax revenue remained the major source, with a share of 80.9% of the total revenue, exhibiting growth of NT\$68.7 billion or 4.7% from the previous year and registering a record-high level. The increase was mainly attributable to adjustments in tax schemes and the deferred effect of income tax.

Surpluses of public enterprises and public utilities, accounting for 12.2% of the total revenue, slightly decreased by NT\$6.0 billion or 2.5% in 2016. Fees, fines and indemnities fell significantly by NT\$35.1 billion or 29.2%, primarily owing to the effect of a higher base in revenue from the second auction of 4G mobile-phone service licenses in the previous year.

Total Revenue and Expenditure of the Central Government

Unit: NT\$ Billion

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Total Revenue	1,635.5	1,640.9	1,553.7	1,497.3	1,671.3	1,668.3	1,730.5	1,726.4	1,885.7	1,895.6
(Ratio to GDP : %)	12.2	12.5	12.0	10.6	11.7	11.4	11.4	10.7	11.3	11.1
Total Expenditure	1,552.0	1,617.7	1,714.8	1,654.4	1,734.4	1,882.4	1,855.9	1,853.5	1,895.8	1,940.6
(Ratio to GDP : %)	11.6	12.3	13.2	11.7	12.1	12.8	12.2	11.5	11.3	11.3
Surplus/Deficit	83.5	23.2	-161.1	-157.1	-63.1	-214.1	-125.4	-127.1	-10.1	-45.0
(Ratio to GDP : %)	0.6	0.2	-1.2	-1.1	-0.4	-1.4	-0.8	-0.8	0.0	-0.2
Debt Repayment	6.0	65.0	65.0	66.0	66.0	94.0	77.0	64.0	66.0	73.0
Financing:	0.0	41.8	226.1	224.2	129.1	308.1	202.4	191.1	76.1	118.0
Debt Financing	0.0	0.0	164.5	224.2	129.1	288.1	202.4	191.1	76.1	118.0
Surplus of Previous Fiscal Years	0.0	41.8	61.6	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Tax Dependency Ratio (%)**	77.9	76.8	61.3	65.4	69.4	64.9	65.6	72.5	77.3	79.0
Debt Dependency Ratio (%)***	0.0	0.0	9.6	13.6	7.4	15.3	10.9	10.3	4.0	6.1

Notes: * The figures for 2015 and the previous years are final audit accounts; the figures for 2016 are final accounts.

** Tax dependency ratio is defined as the ratio of annual tax revenue to total expenditure.

***Debt dependency ratio is defined as the ratio of annual revenues from government bonds and borrowing from banks to total government expenditure.

Sources: 1. Department of Statistics, MOF.

2. DGBAS, Executive Yuan.

Modest Increase in Central Government Expenditure

Central government expenditure rose by NT\$44.8 billion or 2.4% to NT\$1,940.6 billion in 2016. Of total expenditure, social welfare and education, science & culture remained the largest two categories, accounting for 23.7% and 19.7%, respectively, followed by national defense and economic development with respective shares of 15.9% and 13.7%.

Social welfare expenditure expanded by NT\$20.7 billion or 4.7%, mainly because the government set aside expenditures to address the shortfalls of mandatory outlays for the national health insurance program and the national pension fund. Meanwhile, expenditure on economic development increased by NT\$8.1 billion or 3.1%, mostly related to the disbursements of more capital to the Export-Import Bank and of more funds to transportation infrastructure projects. Furthermore, expenditure on general administration grew by NT\$2.6 billion or 1.5%, principally resulting from the purchases of land lots for New Taipei Judiciary Park and increased expenses for alternative military service.

Total Revenue and Expenditure of the Central Government by Category

Unit: NT\$ Billion

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Total Revenue	1,635.5	1,640.9	1,553.7	1,497.3	1,671.3	1,668.3	1,730.5	1,726.4	1,885.7	1,895.6
Taxes	1,208.7	1,243.0	1,051.5	1,082.3	1,203.5	1,222.1	1,218.0	1,343.4	1,465.1	1,533.8
Surpluses of Public Enterprises and Public Utilities	271.5	253.4	318.8	264.8	264.7	262.5	251.0	241.0	238.0	232.0
Fees, Fines and Indemnities	81.1	83.1	78.1	81.6	81.0	108.2	197.3	83.7	120.3	85.2
Proceeds from Sales of Properties and Recalled Capital	51.3	40.0	53.7	46.7	64.0	60.1	52.3	43.7	49.3	26.6
Others	22.9	21.4	51.6	21.9	58.1	15.4	11.9	14.6	13.0	18.0
Total Expenditure	1,552.0	1,617.7	1,714.8	1,654.4	1,734.4	1,882.4	1,855.9	1,853.5	1,895.8	1,940.6
General Administration	168.2	170.8	168.8	170.2	176.4	176.2	172.7	174.2	177.1	179.7
National Defense	256.7	282.4	291.2	276.8	284.2	303.4	289.0	291.4	305.4	309.3
Education, Science & Culture	308.7	310.3	326.4	342.7	356.2	358.9	355.7	364.5	379.4	382.7
Economic Development	193.3	203.6	244.4	194.5	217.1	263.9	258.3	269.0	258.6	266.7
Social Welfare	305.1	298.4	320.2	327.4	348.5	420.1	438.9	411.8	439.7	460.4
Community Development & Environmental Protection	19.4	13.5	21.4	9.0	6.6	15.9	15.9	16.1	15.9	17.5
Retirement & Compassionate Aid	134.6	133.8	133.4	134.5	138.5	138.3	132.8	134.6	138.4	146.8
Obligations	124.0	117.4	116.7	109.8	111.8	114.5	117.4	115.1	111.7	113.2
General Subsidies and Other Expenditure	42.0	87.5	92.3	89.5	95.1	91.2	75.2	76.8	69.6	64.3

Note: * The figures for 2015 and the previous years are final audit accounts; the figures for 2016 are final accounts.

Sources: 1. Department of Statistics, MOF.

2. DGBAS, Executive Yuan.

Widening Fiscal Deficit

The fiscal deficit, defined as expenditure minus revenue, increased to NT\$45.0 billion in 2016. This, combined with debt repayment, represented that the central government needed to finance NT\$118.0 billion for 2016.

Rising Tax Dependency and Debt Dependency

The tax dependency ratio, defined as the ratio of annual tax revenue to total central government expenditure, rose from 77.3% in 2015 to 79.0% in 2016, indicating that tax revenue grew faster than central government expenditure.

With respect to the debt dependency ratio, defined as the ratio of revenues from government bonds and borrowing to total central government expenditure, it rose from 4.0% in the previous year to 6.1% in 2016, largely reflecting the increase in demand for debt financing in line with the expansion of the fiscal deficit.

Lessening Debt-to-GDP Ratio

The total outstanding debt of the central government grew by NT\$47.9 billion to a record-high level of NT\$5,344.7 billion at the end of 2016. However, the ratio of outstanding central government debt to GDP decreased slightly from 31.6% in 2015 to 31.2% in 2016, reflecting higher output growth.

Public Debt of the Central Government

Unit: NT\$ Billion

End of Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Outstanding Debt	3,718.2	3,778.1	4,126.3	4,536.5	4,750.9	4,996.6	5,146.6	5,275.9	5,296.8	5,344.7
(Ratio to GDP : %)	27.7	28.7	31.8	32.1	33.2	34.0	33.8	32.7	31.6	31.2

Note: * The figures for 2015 and the previous years are final audit accounts; the figures for 2016 are final accounts.

Sources: 1. Department of Statistics, MOF.

2. DGBAS, Executive Yuan.

6. Labor Market

From the beginning of year 2016, as the pace of the domestic economic recovery continued to slow, the unemployment rate gradually trended upward to 4.08% in August, the highest since September 2014. After August, however, economic activity picked up. Consequently, the unemployment rate dropped after September and reached 3.79% in December. For the year as a whole, the unemployment rate averaged 3.92%, higher than the 3.78% registered in 2015.

The labor force participation rate was 58.75% in 2016, 0.10 percentage points higher than the year before. The labor participation rate for male was 67.05%, 0.14 percentage points higher than year 2015. On the other hand, the female labor participation rate increased by 0.06 percentage points over 2015 and reached a new record high at 50.80%, indicating the role of females in the labor force has gradually expanded. Moreover, while Taiwan's total labor force participation has been increasing, it is still lower than those of countries such as the United States, Japan, South Korea, and Singapore. Extension of schooling among young people and early retirement of middle-aged people are two of the main causes for the lower labor participation rate.

Annual average employment in 2016 was 11.27 million persons, an increase of 0.62% from the previous year. In terms of employment by sector, employment in the services sector grew by 0.88%, more than all the other sectors. Employment in the industrial sector increased 0.21%. Employment in the agricultural sector also increased 0.50%.

The average monthly earnings per worker of the non-farm sector (the industrial and services sectors combined) was NT\$48,790 in 2016, a 0.62% increase from 2015. However, after adjustment for inflation, average real monthly earnings decreased by 0.77%.

An increase in total production and a decrease in working hours caused labor productivity of the industrial sector and the manufacturing industry to increase by 5.42% and 5.74%, respectively. On the other hand, because the increase in total earnings was lower than that in production, unit labor costs in the industrial and services sectors decreased by 0.52% and 0.71%, respectively.

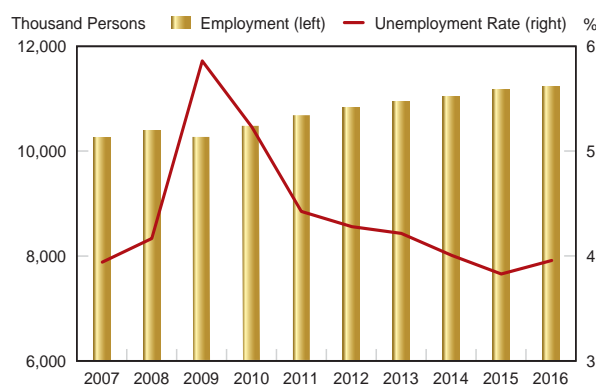
Increase in Employment Lower than Expected

Owing to a slowdown in economic growth, the increase in general employment was lower than expected. Annual average employment in 2016 was 11.27 million persons, an increase of 69 thousand persons or 0.62% from the previous year. From the beginning of the year to August, the annual growth of employment broadly trended down. After September, the annual employment growth rate turned positive as the economy expanded further.

In terms of employment by sector, the agricultural sector in 2016 hired two thousand persons more than the previous year, increasing by 0.50%. Employment in the industrial sector increased eight thousand persons or 0.21%. Within this sector, employment in manufacturing and in construction each increased by four thousand people. Employment in the services sector grew by 58 thousand persons or 0.88%. Among which, employment in accommodation and food services increased by 13 thousand, while wholesale and retail added 11 thousand jobs. Of total employment, the services sector accounted for 59.17%, up by 0.15 percentage points from a year before, while the agricultural and industrial sectors made up 4.95% and 35.88%, 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) increased 32 thousand persons or 0.64%. Services and sales employment increased 25 thousand persons or 1.12%. Employment of blue collar workers (skilled agricultural, forestry, fishing, and animal husbandry industries, craft and machinery related workers, etc.) increased 14 thousand persons or 0.35%. These figures indicate that professionals and technical talents were in greater demand.

Employment and Unemployment Rate



Source: DGBAS, Executive Yuan.

Unemployment Rate Slightly Increased

From the beginning of the year, a slow economic recovery led the unemployment rate to climb gradually. The unemployment rate rose to 4.08% in August 2016, the highest since September 2014. However, the unemployment rate started to decrease in October as economic growth gradually picked up. By December, the unemployment rate dropped to 3.79%. For the year as a whole, the unemployment rate was 3.92%, the second lowest since 2008.

As labor market conditions moderated, unemployment duration only slightly increased by 0.12 weeks to 25.07 weeks over the previous year. The average number of the long-term unemployed (those who were unemployed for 53 weeks or more) was 69 thousand people, the same as that in the previous year. Of the long-term unemployed, 57.60% were males, while 62.97% were in the age group between 25 and 44, and 54.31% had a college degree or above. This indicates long-term unemployment remained a serious problem for males, those aged 25-44, and those with a higher education.

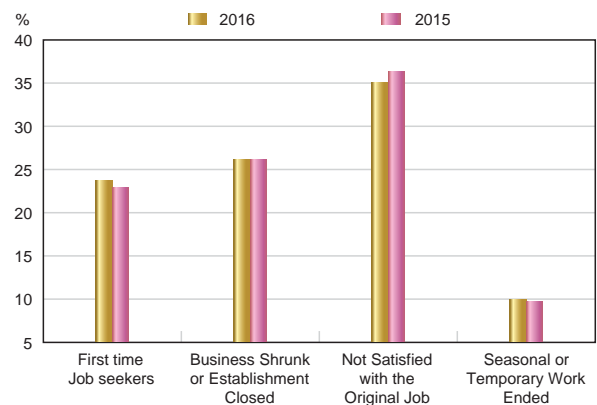
In terms of causes of unemployment, total unemployment increased by 20 thousand people or 4.44% from the year before, mainly because first-time job seekers increased by eight thousand persons or 8.25%. The ratio of such unemployment to total unemployment went up to 23.72%, compared to 22.89% the previous year. People who lost their job because business shrunk or establishment closed made up a major portion of the unemployed. This type of involuntary unemployment increased by five thousand persons or 4.49%, and its ratio to total

unemployment slightly increased to 26.30% from 26.28% the previous year. On the other hand, those unemployed who were not satisfied with their original job only increased by one thousand persons, and the ratio to total unemployment dropped to 35.21% from 36.53% the previous year.

In terms of age groups, the unemployment rate of the age group 15-24 slightly increased by 0.07 percentage points to 12.12%, the highest among the age groups. The unemployment rates of the age groups 25-44 and 45-64 were 4.08% and 2.15%, respectively, representing year-on-year declines of 0.13 and 0.16 percentage points.

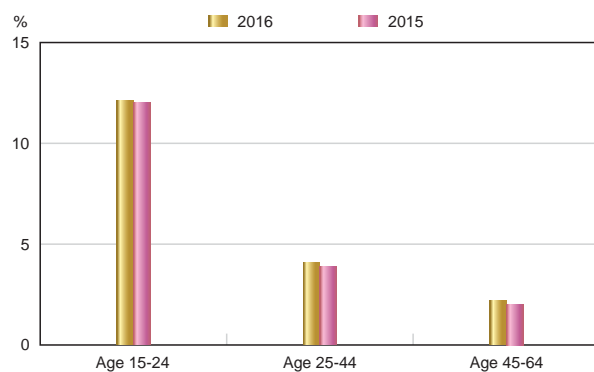
In terms of educational background, unemployment of people with a junior high school degree or below increased by five thousand persons or 9.24%, and the unemployment rate increased to 3.09%. The unemployment rate of people with a middle high school or vocational school degree rose to 3.90%, with an increase in number by three thousand persons or 1.85%. For those with a college degree or above, unemployment grew by 12 thousand persons or 4.87%, bringing the unemployment rate higher to 4.24%.

Contribution to Unemployment by Reason



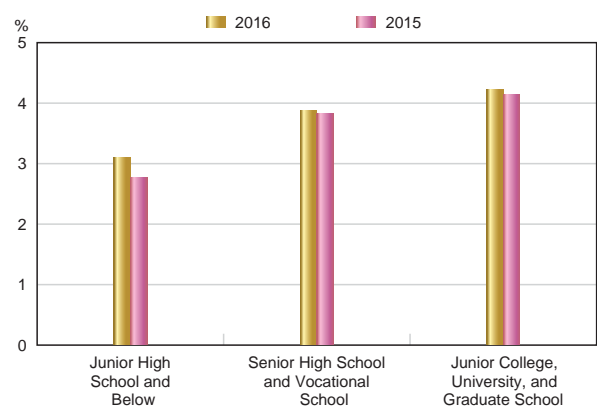
Source: DGBAS, Executive Yuan.

Unemployment Rate by Age



Source: DGBAS, Executive Yuan.

Unemployment Rate by Education



Source: DGBAS, Executive Yuan.

Labor Force Participation Rate Rose

The labor force (employed and unemployed combined) grew modestly by 89 thousand persons or 0.76% to 11.73 million in 2016.

The labor force participation rate was 58.75% in 2016, an increase of 0.10 percentage points over the year before. In terms of gender, the male labor force participation rate increased by 0.14 percentage points from the preceding year to 67.05%, while the female rate also rose to 50.80%, up by 0.06 percentage points over the previous year. Such improvement reflected government efforts to promote gender equality and to improve the work environment. In general, the female labor force has played an increasingly important role in economic development.

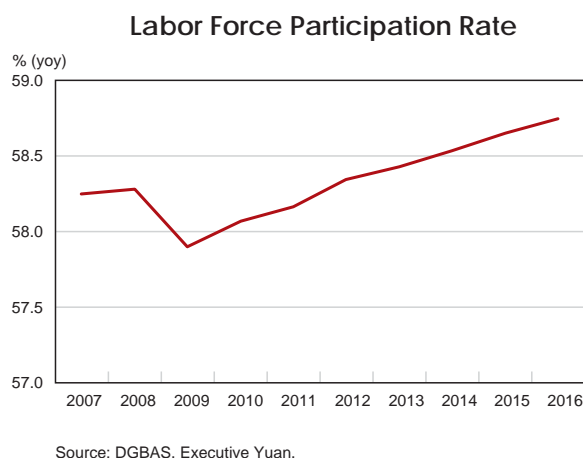
In terms of age group, the labor force participation rates of all age groups went up in 2016. The 16-24, 25-44 and 45-64 age groups saw their rates go up by 1.13, 0.42, and 0.53 percentage points to the levels of 31.37%, 87.82% and 62.42%, respectively. While Taiwan's total labor force participation has gradually increased in recent years, it is still lower than those of countries such as the United States (62.8%), Japan (60.0%), South Korea (62.8%), and Singapore (68.0%). Extension of schooling and early retirement of middle-aged people are two of the main causes for the lower labor force participation rate.

In terms of educational background, the labor force participation rate of the working population with a junior high school degree or below and middle high school or vocational school degree increased by 0.20 and 0.02 percentage points to 40.37% and 62.06%, respectively, while those of people with a college degree or above decreased by 0.50 percentage points to 67.29%.

Real Earnings of Non-farm Workers Decreased

The average monthly earnings per worker of the non-farm sector reached NT\$48,790 in 2016, a 0.62% increase from the year before. However, after adjustment for inflation, the average real monthly earnings decreased by 0.77%.

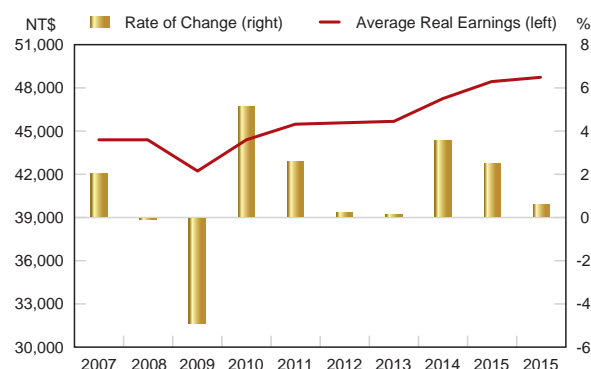
In terms of major sectors, the average monthly earnings of industrial sector workers increased by 0.64% over the previous year to NT\$47,035 but their earnings in real terms decreased by 0.75%. Meanwhile, the average monthly earnings of services sector workers increased by 0.57% to NT\$50,146 and their real earnings decreased by 0.81%. The electricity and gas supply sector still



enjoyed the highest average monthly earnings with NT\$94,292, while education services workers earned only NT\$24,873 per month, the lowest among all sectors.

In terms of growth rate, education services workers' earnings enjoyed the largest increase at 2.35%. The information and communications sector came in second with a 1.89% increase, while water supply and pollution control workers' earnings decreased by 3.03%, the largest decline among subsectors.

Average Real Earnings of Non-farm Workers

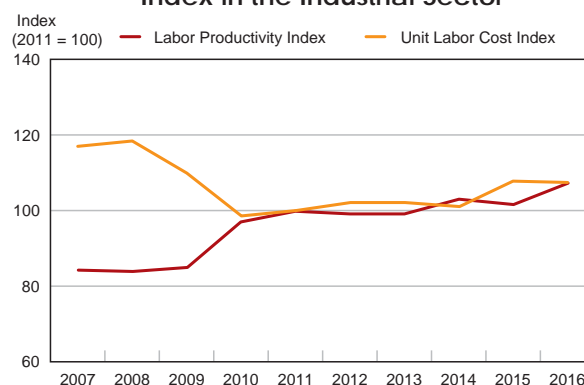


Source: DGBAS, Executive Yuan.

Labor Productivity Increased While Unit Labor Cost Decreased

As total production increased while total working hours decreased, labor productivity of the industrial sector and the manufacturing industry went up by 5.42% and 5.74%, respectively. In the manufacturing sector, wood and bamboo products manufacturing registered the highest increase in labor productivity of 10.67%, followed by a 9.86% increase for electronic parts and components manufacturing. Since the increase in total earnings was lower than that in production, unit labor costs of the industrial and manufacturing sectors decreased by 0.52% and 0.71%, respectively. Of all the manufacturing sectors, basic metal manufacturing experienced the largest decrease in unit labor costs of 5.53%, and electronic parts and components manufacturing came in second with a decrease of 3.85%.

Labor Productivity and Unit Labor Cost Index in the Industrial Sector



Source: DGBAS, Executive Yuan.

Financial Developments

II. Financial Developments

1. Overview

In 2016, market interest rates on deposits and loans both moved lower, mainly owing to two policy rate cuts by the CBC in the first half of the year. From January to August, most money market rates and the average 10-year government bond yield generally exhibited a downward trend because of ample liquidity and a sluggish economy. Thereafter, they turned upwards as the CBC held policy rates unchanged in view of a stabilizing economy. Although growth in loans increased, the conservative attitude of commercial banks towards investments dampened growth in loans and investments of monetary financial institutions, which in turn caused growth in M2 to decrease.

With respect to the exchange rate, the NT dollar against the US dollar depreciated at the beginning of 2016, extending the weak trend of the previous year. Afterwards, affected by factors including the Bank of Japan's negative interest rate policy, the Brexit referendum result, the US presidential election, and the Fed's rate hike, the NT dollar against the US dollar swung into depreciation after appreciation in the preceding months. In the stock market, concerns over the Fed's possible rate hike led the domestic stock market indices to swing lower in the first half of the year. Then, owing to favorable factors including net purchases by foreign investors, rallies across international stock markets, and the domestic economic recovery, the local indices trended up in the second half of the year.

Growth in Monetary Aggregates M2 Decelerated

The monetary aggregate M2, measured on a daily average basis, recorded a yearly growth rate of 4.51% in 2016. This was lower than the 6.34% in 2015 and remained within the CBC's 2.5% to 6.5% target range for the year. The drop was mainly due to slower growth in bank loans and investments. The annual growth rate of M1B, measured on a daily average basis, rose to 6.33% in 2016 from 6.10% in 2015, mainly because of higher growth in bank transaction deposits. Meanwhile, the annual growth rate of reserve money increased in 2016 as a result of higher growth in transaction deposits.

Growth in Bank Loans and Investments Slowed

Although loan growth increased owing to the economic recovery and increasing demand for funds by the private sector in the second half of the year, the annual growth rate of loans and investments, compared with that at the end of 2015, decreased from 4.61% to 3.88% at the end of 2016. The decrease was because commercial banks became conservative in investment decisions

on concerns about increasing uncertainty in international financial markets. 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 2.56% at the end of 2016, close to the 2.54% recorded a year earlier.

Bank Asset Quality Slightly Declined

The asset quality of Taiwan's banks slightly declined and the overall non-performing loan ratio of monetary financial institutions slightly increased from 0.25% at the end of 2015 to 0.28% at the end of 2016. In addition, the pre-tax profits of monetary financial institutions decreased mainly owing to growing expenses for bad loans written off. Their average return on assets and return on equity were both lower than those of the previous year, dropping from 0.65% and 10.84% to 0.59% and 9.13%, respectively.

Average Rates on Deposits and Loans Dropped

The CBC cut the policy rate twice in 2016 and, consequently, the posted interest rates on deposits and loans of banks went lower during the year. At the end of 2016, the average fixed rate on one-year time deposits and base lending rates of the five major domestic banks were all lower than those of 2015. Meanwhile, the weighted average rate on their new loans also decreased mainly because of a drop in rates on loans for current operations resulting from increases in low-interest loans of governments and government enterprises.

For domestic banks as a whole, the weighted average interest rate on deposits moved downward, mainly because the CBC lowered the policy rate and the share of time deposits in total deposits shrank from the previous year. Meanwhile, the weighted average interest rate on loans also declined, mainly reflecting lower policy rates and increases in low-interest loans of governments.

Bills Market Rates and 10-Year Government Bond Yields Swung to Increase

Reflecting the CBC's rate cuts, the interbank overnight call loan rate declined during the year of 2016. With regard to the bills market, from January to August, weak demand for funds and easy funding conditions led money market rates to exhibit a downtrend. Thereafter, they trended up because of the economic recovery.

From January to August of 2016, the yield on the benchmark 10-year government bond trended downward, mainly influenced by increased hedging demand for NTD bonds against the slow economic recovery and the CBC's rate cuts. The yield then rose owing to the domestic economic upturn and the Fed's rate hike. 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 over the previous year.

Exchange Rate Rose After a Weak Start, Then Depreciated

At the beginning of 2016, the NT dollar against the US dollar remained weak as in the previous year and reached a yearly low on January 21. Afterwards, the NT dollar appreciated owing to the Bank of Japan's negative interest rate policy and the international capital influx into Asia's emerging economies. As the Fed became wary of lifting rates after the Brexit vote at the end of June, the NT dollar climbed up further against the US dollar to a yearly high on August 10. Thereafter, the US dollar strength was affected by uncertainty surrounding the US presidential election, leading the NT dollar against the US dollar to fluctuate in a narrow range. As the US dollar firmed after Trump's election as the US president in November, and the Fed raised the policy rate in mid-December, the NT dollar generally depreciated in the last two months. At the end of 2016, the NT dollar appreciated against the US dollar by 2.44% compared to that at the end of the previous year. However, the NT dollar against the US dollar depreciated by 1.30% on an annual average basis.

Stock Index Fluctuated, Then Closed Higher

During early 2016, the domestic stock market's mainboard index, the TAIEX, trended up to 8,813 on March 21, mainly driven by net purchases by foreign investors and rises across major international stock markets. Afterwards, the TAIEX declined to 8,054 points on May 13, mainly affected by concerns over a possible Fed rate hike and less-than-expected domestic economic growth. In the following months, although there were uncertainties about Brexit and the US presidential election, the TAIEX swung upwards owing to the domestic economic recovery, net purchases by foreign investors, an international stock market rally and US stocks renewing record highs. The TAIEX closed at 9,254 points at the end of the year, increasing by 10.99% compared with the previous year end.

2. Monetary Aggregates

The CBC has used the monetary aggregate M2 as the intermediate target since 1992. For the year 2016, M2 recorded an annual growth rate of 4.51%, lower than the previous year's 6.34% but still within the CBC's target range of 2.5% to 6.5%. Compared with nominal GDP growth of 2.10%, the money growth indicated there was sufficient liquidity to support economic activity.

The annual growth rate of the narrow monetary aggregate M1B accelerated to 6.33% in 2016 from the previous year's 6.10%. The growth in M1B was mainly attributed to higher growth in transaction deposits.

Steady Growth in Reserve Money

Reserve money showed steady growth for the year 2016, recording a growth rate of 5.92%, and was 0.13 percentage points higher than the previous year's figure. In terms of the monthly movements of reserve money, the annual growth rates of reserve money for January and February gradually trended up because of a stronger demand for funds during the Chinese New Year holidays. The annual growth rate hit a yearly low of 4.62% in March and then moved upward to 6.55% in July. In subsequent months, annual growth rates remained relatively stable.

On the demand side, 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. Banks' excess reserves also rose as the CBC adjusted its monetary policy operation in response to a slower economic recovery. Meanwhile, higher growth in transaction deposits led to an increase in banks' demand for reserves.

From the supply side perspective, the balance sheet of the CBC revealed the sources of changes in reserve money. The increase was mostly attributable to the increase in foreign assets held by the CBC, while the decrease resulted largely from the decrease in claims on financial institutions and the increase in the issuance of certificates of deposit (CDs).

Decline in M2 Growth

The monetary aggregate M2 is comprised of currency in circulation, deposits in banks'

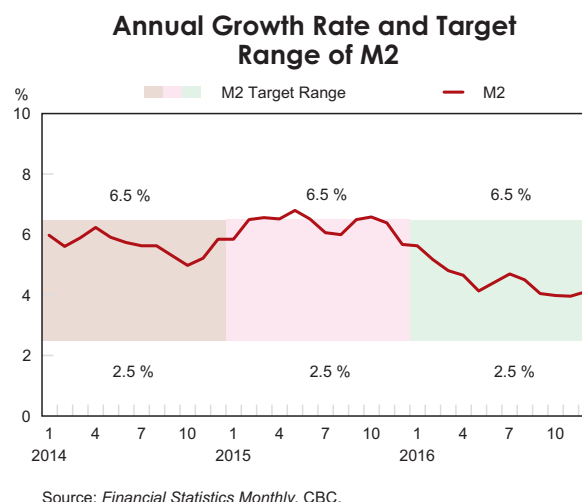
Annual Growth Rate of Reserve Money



Source: *Financial Statistics Monthly*, CBC.

checking and passbook accounts, and quasi-money. The annual growth rate of M2 in 2016 was 4.51%, down by 1.83 percentage points from the previous year and close to the midpoint of the CBC's target range.

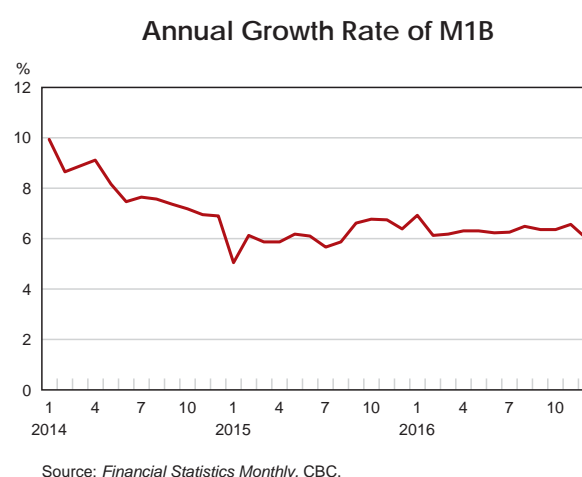
In terms of M2's monthly movements in 2016, owing to slowing growth in bank loans and investments and a decrease in net foreign capital inflows, which later turned into net outflows, the M2 growth rate exhibited a downward trend from 5.63% in January to 4.14% in May. The annual growth rate of M2 moved up between June and July on account of higher growth of bank loans and investments and net foreign capital inflows. The M2 growth rate generally trended down in the following months except in December and hit a yearly low of 3.96% in November as a result of lower growth in bank loans and investments and net foreign capital outflows.



Slight Increase in M1B Growth

In 2016, the average annual growth rate of M1B recorded 6.33%, 0.23 percentage points higher than the previous year's figure. The increase mirrored, in large part, the higher growth in transaction deposits.

As for the monthly movements of M1B, the annual growth rate reached its yearly high of 6.92% in January because of a stronger demand for funds prior to the Chinese New Year holidays, and then slid to 6.11% in February. Between March and August, the M1B growth rate broadly trended up as growth in transaction deposits accelerated. In subsequent months, the annual growth rates generally moved downward except in November, which was due to net foreign capital outflows. The M1B growth rate recorded an all-year low of 6.01% in December.



3. Banking Sector

Number of Monetary Financial Institutions

At the end of 2016, the number of monetary financial institutions (defined hereafter in this chapter as excluding the central bank) amounted to 404. The number of foreign and Mainland Chinese banks decreased by one due to the closing of one business. The number of credit departments of farmers' and fishermen's associations increased by two owing to new openings, while the numbers of the other types of institutions all remained unchanged.

Number of Monetary Financial Institutions by Type

Types of institutions	End of 2016	End of 2015	Annual Change
Total Number of Main Offices	404	403	1
Domestic Banks	40	40	0
Foreign and Mainland Chinese Banks	29	30	-1
Credit Cooperatives	23	23	0
Credit Departments of Farmers' and Fishermen's Associations	311	309	2
Chunghwa Post	1	1	0
Total Number of Branches	6,111	6,119	-8
Local Branches	5,908	5,925	-17
Overseas Branches	141	132	9
Offshore Banking Units	62	62	0

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

The number of money market mutual funds and the number of financial holding companies remained at one and 16, respectively, with the former being a fund raised and managed by Yuanta Commercial Bank.

Market Shares of Deposits and Loans

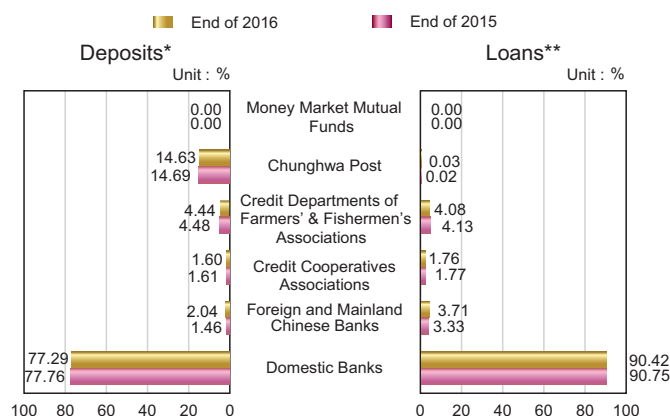
The growth of deposits slowed down in 2016 partly because deposit rates were still low. Moreover, the FSC announcement to lower the interest rates on some insurance policy reserves from 2017 onwards prompted some savers to buy endowment savings policies with the money from their matured CD contracts before the premium of insurance policies rose.

In terms of market shares of deposits, the market share of foreign and Mainland Chinese banks grew considerably to 2.04% because some of these banks offered better rates or appealed to savers with preferential rates or by issuing negotiable certificates of deposit. In contrast, the market

shares of domestic banks, Chunghwa Post, credit departments of farmers' and fishermen's associations, and credit cooperatives declined to 77.29%, 14.63%, 4.44%, and 1.60%, respectively.

In terms of loans, the market share of domestic banks shrank to 90.42%, whereas that of foreign and Mainland Chinese banks went up to 3.71%. As public enterprises enjoyed good profits, they borrowed less from domestic banks, resulting in slower loan growth. Domestic banks also lost some loan customers, including SMEs, to foreign banks whose lending rates were lower. For the other institution types, Chunghwa Post's market share of loans increased modestly to 0.03%. For credit departments of farmers' and fishermen's associations and credit cooperatives, higher lending rates caused their market shares to decrease to 4.08% and 1.76%, respectively.

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



Notes: * The carrying values of the host contracts of structured products issued by banks are excluded.

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

Source: *Financial Statistics Monthly*, CBC.

Sources and Uses of Funds

At the end of 2016, the total amount of funds in monetary financial institutions was NT\$46,436 billion, increasing by NT\$1,653 billion compared to the end of 2015. The combined share of transaction and non-transaction deposits still accounted for 85%, but they both grew at a much slower pace than the previous year. Their declines in growth resulted from some savers switching to insurance products for higher returns in response to low deposit interest rates following the CBC's rate cuts since September 2015. As for foreign currency deposits, market expectation of the Fed's rate hike caused both the balance and the pace of growth of foreign currency deposits to increase compared to the previous year. As for other items, its balance increase largely came from gains in banks' profits.

In the case of fund uses, foreign currency loans by the corporate sector decreased owing to the expectation of USD appreciation, whereas all the other items increased at the end of 2016 compared to the end of 2015. Bank loans accounted for over 50% of total uses of funds. Despite the significantly weaker demand from government and public enterprises, growth of loans still rose from 3.26% to 3.57% thanks to a greater demand from private enterprises amid a recovering economy in the second half of 2016. Furthermore, the balance and the share of net foreign assets both increased over the end of the previous year, largely driven by USD strength.

Because of ample liquidity in the banking system, both portfolio investments and banks' purchases of CDs issued by the CBC rose at the end of 2016 compared to the end of 2015. Growth in portfolio investments by monetary financial institutions slowed, mainly affected by the Fed's policy stance change, the new US administration's policy direction and the impact of Brexit. In addition, both the share and growth of banks' purchases of CDs issued by the CBC declined, continuing the trend of the past few years.

Sources and Uses of Funds in Monetary Financial Institutions¹

Unit: NT\$ Billion

	End of 2016			End of 2015			Annual Change	
	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)
Sources:								
Transaction Deposits ²	14,497	31.22	5.61	13,727	30.65	6.83	770	0.57
Non-transaction Deposits ³	25,124	54.10	2.63	24,480	54.67	4.34	645	-0.57
NT Dollar Deposits	20,122	43.33	1.14	19,895	44.43	3.48	227	-1.10
Foreign Currency Deposits	5,002	10.77	9.12	4,584	10.24	8.27	418	0.53
Government Deposits	895	1.93	5.83	846	1.89	9.61	49	0.04
Other Items	5,919	12.75	3.29	5,731	12.79	13.04	189	-0.04
Total	46,436	100.00	3.69	44,784	100.00	6.24	1,653	0.00
Uses:								
Net Foreign Assets ⁴	4,518	9.73	8.99	4,145	9.26	27.70	373	0.47
Loans	25,123	54.10	3.57	24,256	54.16	3.26	866	-0.06
NT Dollar Loans	24,295	52.32	3.78	23,409	52.27	4.03	886	0.05
Foreign Currency Loans ⁴	828	1.78	-2.27	847	1.89	-14.17	-19	-0.11
Portfolio Investments ⁵	5,425	11.68	5.76	5,129	11.45	10.59	295	0.23
Purchases of CDs Issued by CBC	7,487	16.12	1.00	7,412	16.55	5.59	74	-0.43
Deposits with CBC	3,884	8.37	1.15	3,840	8.58	2.20	44	-0.21

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

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

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

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

5. Measured at original costs.

Source: *Financial Statistics Monthly*, CBC.

Downtrend in Deposit Growth

In 2016, the global economy performed weaker than expected, domestic economic growth slowed down and inflation expectations were mild. The CBC cut interest rates in March and July to ease conditions of market liquidity, which drove down deposit rates. Owing to low deposit rates, some people moved their funds from bank deposits to insurance products, causing the growth rate of deposits to decline to 3.45% at the end of 2016.

In terms of monthly movement, except for June and July, the growth rate of deposits roughly

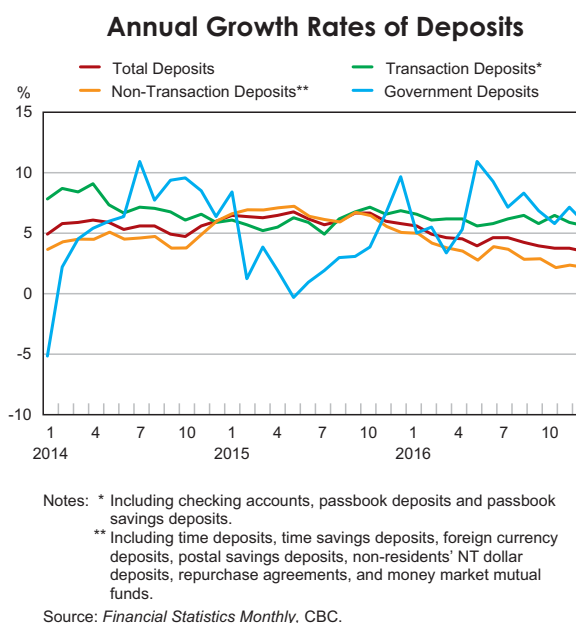
trended downward in 2016, mainly because some deposits were shifted to insurance products. With larger net foreign capital inflows and a buoyant domestic stock market causing foreign currency deposits and passbook savings deposits to both increase, the growth rate of deposits went up in June and July.

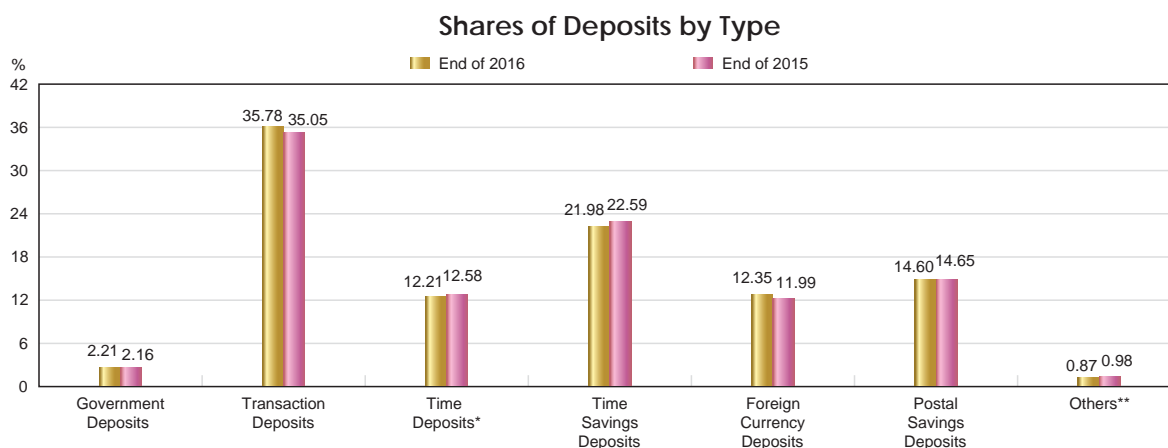
Afterwards, net foreign capital inflows continually decreased and even turned into net foreign capital outflows from October to December. Furthermore, some depositors switched to endowment savings insurance policies before insurance premiums were set to rise once the related FSC announcement became effective in 2017. As a result, the growth rate of deposits dipped through to December.

For transaction deposits, the annual growth rates in January and February declined because of a higher comparison base in the corresponding period of the previous year. The annual growth rate increased to 6.12% in March on account of active trade in the stock market. In April and July, there were both notable rises in checking accounts, so the annual growth rates went up. However, the annual growth rates significantly decreased because enterprises and residents filed tax returns in May and June. Between August and December, the annual growth rates rose first and fell shortly after. This was largely because the deposit balance of securities giro accounts fell after rising as well. At the end of 2016, the annual growth rate of deposits dropped to 5.61% from 6.83% the previous year end.

For the year as a whole, non-transaction deposits posted a decline in annual growth rate from 5.15% in 2015 to 2.17% in 2016 owing to low deposit interest rates and a shift of funds from deposits to insurance products for higher returns. However, the annual growth rate in June significantly increased to 3.90% from 2.78% in May because enterprises preparing to pay dividends parked their funds in time deposits.

By type of non-transaction deposits, the share of foreign currency deposits went up to 12.35%, but its annual growth rate fell from 12.87% in 2015 to 6.52% in 2016 owing to a higher comparison base in the corresponding period of the previous year. The shares and annual growth rates of time savings deposits and postal savings deposits all declined because some people moved their deposits to insurance products.





Notes: * Including NCDs.

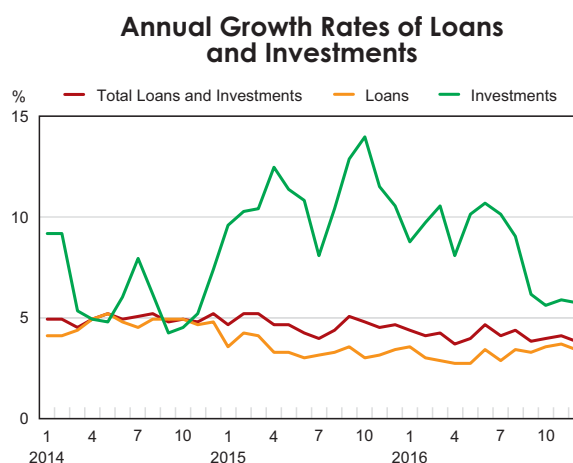
** Including repurchase agreements, non-residents' NTD deposits and money market mutual funds.

Source: *Financial Statistics Monthly*, CBC.

For time deposits, the share and annual growth rate both went down partly because some banks provided preferential interest rates for large-value transaction deposits leading to some funds flowed from time deposits to transaction deposits. In addition, owing to a higher base effect, the annual growth rate of government deposits trended down to 5.82%.

Lower Growth in Bank Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions was 3.88% at the end of 2016, decreasing from 4.61% at the end of 2015. Growth in loans slightly increased to 3.48% at the end of 2016 from 3.43% at the end of the previous year, mainly owing to a greater demand from private enterprises amid a recovering economy. In contrast, growth in portfolio investment decelerated to 5.76% at the end of 2016 from 10.59% a year earlier. Banks became more conservative with their investments in response to the uncertainties over the global economy such as the Brexit effect, the path of the Fed's policy rate and the policy direction under the new US administration. In general, growth in banks' investments in all types of instruments exhibited a downward trend.



Source: *Financial Statistics Monthly*, CBC.

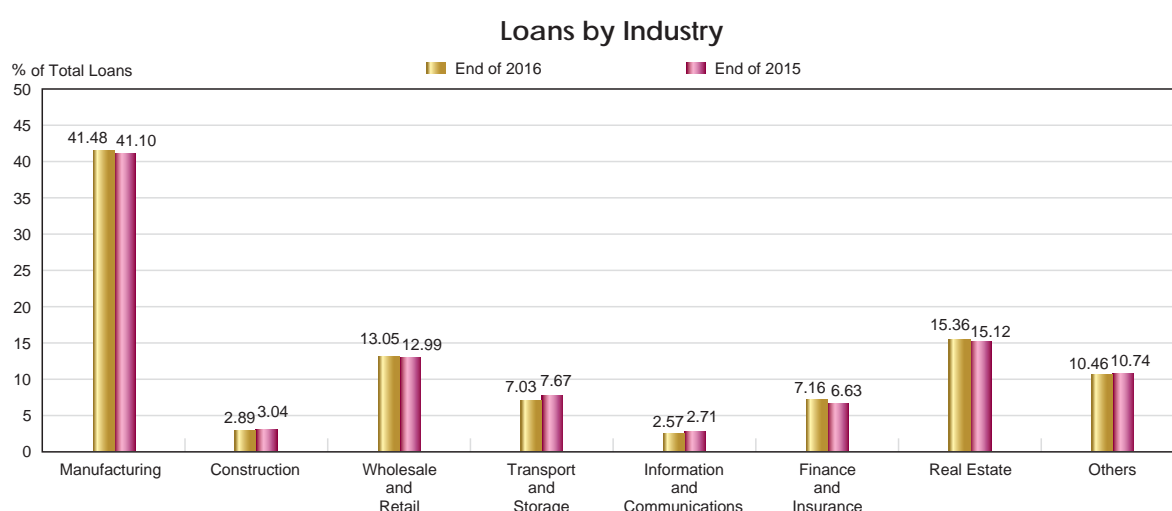
Loans by Sector

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 4.84% at the end of 2016 from 3.80% at the end of 2015. The upturn was mainly due to a stronger demand from private enterprises. The annual growth rate of loans to government enterprises decreased significantly to -15.64% at the end of 2016 from -3.40% at the end of the previous year, mainly because the CPC Corporation, Taiwan, and the Taiwan Power Company reduced their borrowing from banks, largely reflecting their considerable gains in annual profits. Meanwhile, the annual growth rate of loans to government agencies was -3.51% at the end of 2016, mainly on account of increased tax revenues thanks to the economic recovery. Though negative, the growth rate still represented an improvement compared to the -4.56% of the previous year end mainly as a result of a lower base effect.

In terms of loan composition, loans extended to the private sector accounted for 92.15% of total loans at the end of 2016, higher than the 91.22% recorded at the end of 2015. Loans extended to government agencies and public enterprises accounted for 5.65% and 2.20% at the end of 2016, respectively, lower than 6.08% and 2.70% at the end of the previous year.

Loans by Industry

Broken down by industry sector, bank loans to the manufacturing sector continued to account for the largest portion, at 41.48% at the end of 2016, increasing from 41.10% at the end of 2015. This increase was mainly due to faster growth in loans extended to electronic parts and components manufacturing as intelligent technology is increasingly applied to related products. Meanwhile,



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

Source: *Financial Statistics Monthly*, CBC.

compared with the end of 2015, the share of loans extended to the construction industry slightly decreased from 3.04% to 2.89% at the end of 2016, reflecting a cautious outlook for the housing market.

The shares of loans extended to the transport and storage industry and the information and communications industry both shrank. The shares of loans extended to the remaining industries went up. In the finance and insurance industry, for example, as the money market interest rates moved upward in the fourth quarter of 2016, some industries repaid their commercial paper debts with bank loans, which contributed to an increase in loans extended to this industry.

Consumer Loans

The annual growth rate of consumer loans extended by banks decreased from 3.42% at the end of 2015 to 2.86% at the end of 2016. Among them, house-purchasing loans increased NT\$232.9 billion, or 3.80%, in 2016, a slower year-on-year increase mainly because of a higher comparison base as transactions rose in the previous year before the enforcement of the integrated housing and land tax. As for the shares of various consumer loans, house-purchasing loans remained the largest component, with its share rising from 82.32% at the end of 2015 to 83.07% at the end of 2016. Car loans accounted for 1.65%, increasing from 1.60%, mainly because car sales were stimulated by the commodity tax cut for vehicle trade-ins. Meanwhile, house-repairing loans, revolving credit for credit cards and other consumer loans accounted for 1.82%, 1.41% and 11.40%, respectively, all decreasing from the end of the previous year.

Investments

Portfolio investments by monetary financial institutions, measured on a cost basis, showed slower growth with an annual increase of 5.76% in 2016, mainly because banks became more conservative with their investments in response to a number of uncertainties such as the Fed policy rate path, the new US administration's policy direction and the impact of Brexit.

Among the investment instruments, government bonds accounted for the largest share with 63.70%, higher than the 61.46% a year ago, mainly bolstered by massive purchases of government bonds by banks and the Department of Savings and Remittances of Chunghwa Post to seek low-risk investments. Meanwhile, banks began to adjust their asset allocation, investing more in commercial paper instead of corporate bonds in view of expectation of rising interest rates. At the end of 2016, commercial paper accounted for a share of 14.46%, larger than a year ago. Corporate bonds accounted for a share of 13.99%, decreasing from the end of 2015.

In terms of valuation changes, portfolio investments by monetary financial institutions, measured at fair value, recorded a year-on-year increase of NT\$293.6 billion, while the increase was larger, at NT\$295.4 billion, when measured on a cost basis.

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. Direct finance and indirect finance combined to increase from the previous year's NT\$1,073.9 billion to NT\$1,130.6 billion in 2016. Direct finance increased NT\$229.5 billion during 2016, higher than the previous year's increase of NT\$64.3 billion. Indirect finance decreased from the previous year's NT\$1,009.6 billion to NT\$901.1 billion, which was mainly due to slower growth in investments by financial institutions.

Based on the outstanding balance, the share of direct finance in total funds raised increased from 20.53% a year ago to 20.63% at the end of 2016, while the share of indirect finance decreased from 79.47% to 79.37%.

Direct Finance vs. Indirect Finance*

Unit: NT\$ Billion

Year	Direct Finance (1)	Indirect Finance (2)			Total Funds Raised (3)=(1)+(2)
		Loans	Investments	Subtotal	
2007	82.7	737.0	228.6	965.6	1,206.4
2008	-316.1	649.2	563.0	1,212.2	1,048.3
2009	142.8	133.0	259.3	392.3	896.1
2010	165.5	1,242.6	433.8	1,676.4	535.1
2011	19.0	1,141.4	642.5	1,783.9	1,841.9
2012	17.0	809.4	880.7	1,690.1	1,802.9
2013	62.6	1,007.2	803.3	1,810.5	1,707.1
2014	234.3	1,248.6	217.8	1,466.4	1,873.1
2015	64.3	865.1	144.5	1,009.6	1,073.9
2016	229.5	909.4	-8.3	901.1	1,130.6

Notes: * Measured in terms of flow data.

(1) 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.

(2) 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.

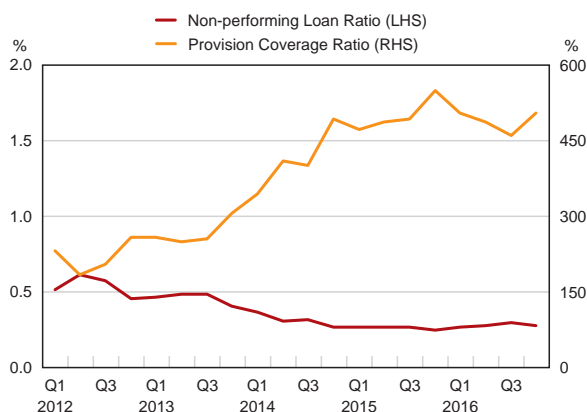
Source: *Financial Statistics Monthly*, CBC

Increase in Non-performing Loan (NPL) Ratio

Because of declined asset quality, non-performing loans of monetary financial institutions as a whole increased by NT\$11.5 billion to NT\$81.9 billion in 2016, and their average NPL ratio also increased to 0.28% at the end of 2016 from the previous year's 0.25%.

Owing to an increase in non-performing loans, the average provision coverage ratio of monetary financial institutions decreased to 503.11% at the end of 2016 from 547.47% the previous year end.

Non-performing Loan Ratio and Provision Coverage Ratio of Monetary Financial Institutions*

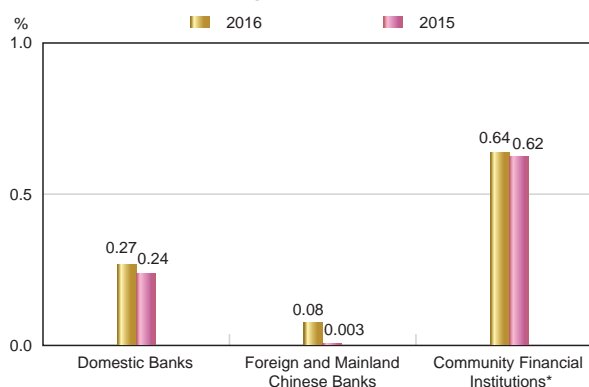


Note: * Including domestic banks, foreign and Mainland Chinese banks, credit cooperatives, credit departments of farmers' and fishermen's associations.

Non-performing Loan Ratio = Non-performing Loans / Total Loans
Provision Coverage Ratio = Loan Loss Provisions / Non-performing Loans

Source: Department of Financial Inspection, CBC.

Non-performing Loan Ratios by Type of Monetary Financial Institutions



Note: * Including credit cooperatives and credit departments of farmers' and fishermen's associations.

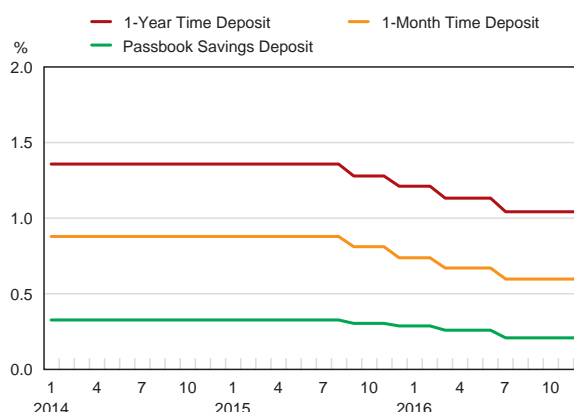
Source: Department of Financial Inspection, CBC.

Decline in Bank Interest Rates

The CBC lowered policy rates twice, effective on March 25 and July 1, respectively, by a total of 25 basis points to stimulate the economy. As a result, bank interest rates on deposits and loans went down. However, in the second half of the year, as the global economy was more clearly on track for a recovery and the domestic economy also stabilized, the CBC decided to keep policy rates unchanged; hence, domestic bank interest rates remained broadly steady. In the case of the interest rates of the five major domestic banks, their average fixed rates on one-month and one-year time deposits decreased to 0.60% and 1.04% at the end of July 2016 from 0.74% and 1.21% at the end of January, respectively, and then remained steady until the end of the year. Moreover, the average base lending rate decreased to 2.63% at the end of 2016 from 2.83% at the previous year-end.

The weighted average rates on deposits and loans of domestic banks showed a

Average Deposit Rates of the Five Major Domestic Banks*



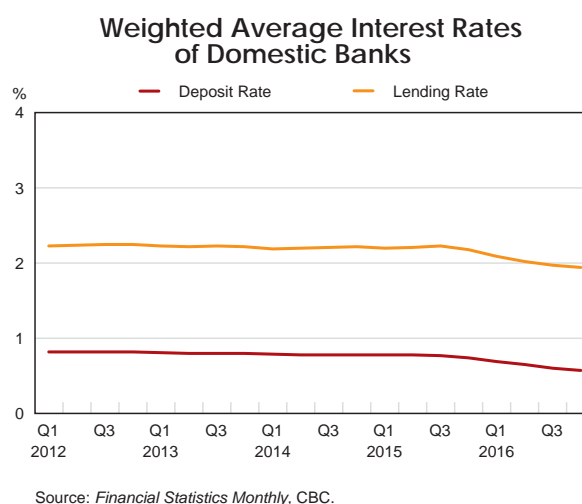
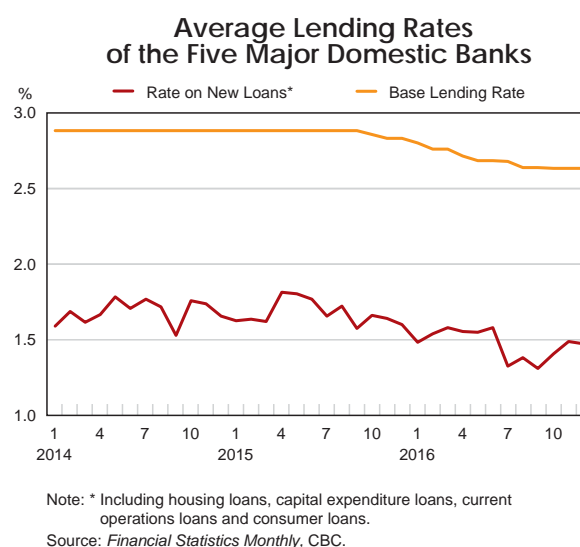
Note: * The five major domestic banks are Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Land Bank of Taiwan.

Source: Financial Statistics Monthly, CBC.

downward trend in 2016 as well. Owing to the CBC's rate cut, the weighted average deposit rate decreased to 0.69% in the first quarter from 0.74% the previous quarter, and declined further to 0.57% in the fourth quarter of the year. On the whole, the weighted average interest rate on deposits of domestic banks was 0.63% in 2016, which was 0.14 percentage points lower than that recorded in the previous year.

With respect to the weighted average interest rate on new loans of the five major domestic banks, it fluctuated within a narrow range between 1.49% and 1.58% during the January to June period. In July, it decreased to 1.33% due to the decreases in base lending rates and the index rates on adjustable-rate mortgages owing to eased funding conditions in the banking system. Then, it declined further to 1.31% in September and moved upward to 1.48% in December. On the whole, the weighted average interest rate on new loans slightly decreased from 1.67% in 2015 to 1.47% in 2016, down by 0.20 percentage points. Excluding central government loans, the weighted average interest rate on new loans decreased from 1.73% in 2015 to 1.56% in 2016, down by 0.17 percentage points.

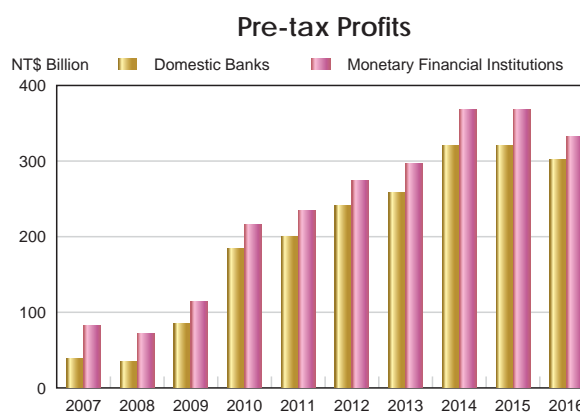
In the first quarter of the year, as a result of the CBC's rate cut, an increase in bank claims on local governments and government enterprises, and repayment of some corporate loans for land and construction, the weighted average interest rate on total loans of domestic banks moved downward from 2.18% in the previous quarter to 2.09%. In the fourth quarter, the weighted average interest rate on loans declined to 1.94% as a result of a delayed effect of the CBC's rate cut and an increase in bank lending for low-interest loans to local governments and government enterprises and for large-value loans to renowned firms. For the year as a whole, the weighted average interest rate on loans of domestic banks was 2.01%, which was 0.19 percentage points lower than that recorded in the previous year.



Because the decrease in average deposit rates was less than that in average lending rates, the average interest rate spread between deposits and loans shrank to 1.38 percentage points in 2016, which was 0.05 percentage points smaller than that recorded in the previous year.

Reduction in Profitability

Affected by the slow economic recovery, the pre-tax profits of monetary financial institutions decreased by NT\$35.5 billion in 2016. Those of domestic banks decreased by NT\$18.7 billion to NT\$301.9 billion mainly owing to increased expenses for bad loans written off. The pre-tax profits of foreign and Mainland Chinese banks decreased by NT\$14.6 billion mainly because their net interest revenues dropped, and the pre-tax profits of Chunghwa Post also decreased by NT\$1.1 billion.



Source: Department of Financial Inspection, CBC.

Profits of Monetary Financial Institutions

Unit: NT\$ Billion

	Pre-tax Profits			Return on Assets (%)*			Return on Equity (%)**		
	2016	2015	Annual Change	2016	2015	Annual Change	2016	2015	Annual Change
Domestic Banks	301.9	320.6	-18.7	0.66	0.73	-0.07	9.23	10.65	-1.42
Foreign and Mainland Chinese Banks	11.2	25.8	-14.6	0.44	0.57	-0.13	12.67	22.45	-9.78
Credit Cooperatives	2.4	2.5	-0.1	0.35	0.37	-0.02	5.28	5.54	-0.26
Credit Departments of Farmers' and Fishermen's Associations	4.8	5.8	-1.0	0.25	0.31	-0.06	3.86	4.90	-1.04
Chunghwa Post	12.4	13.5	-1.1	0.20	0.23	-0.03	10.95	12.46	-1.51
Total	332.7	368.2	-35.5	0.59	0.65	-0.06	9.13	10.84	-1.71

Notes: * Return on Assets = Pre-tax Profits / Average Assets

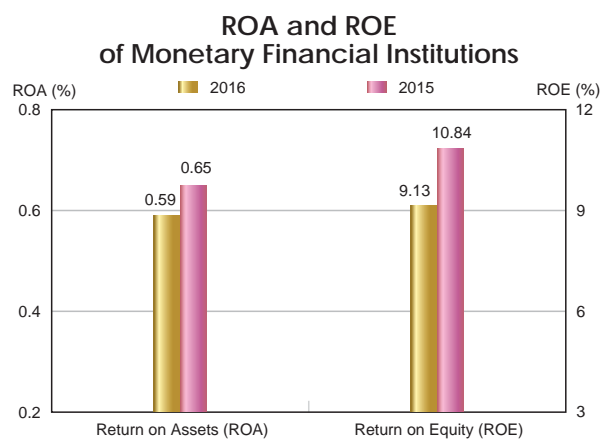
** Return on Equity = Pre-tax Profits / Average Equity

Source: Department of Financial Inspection, CBC.

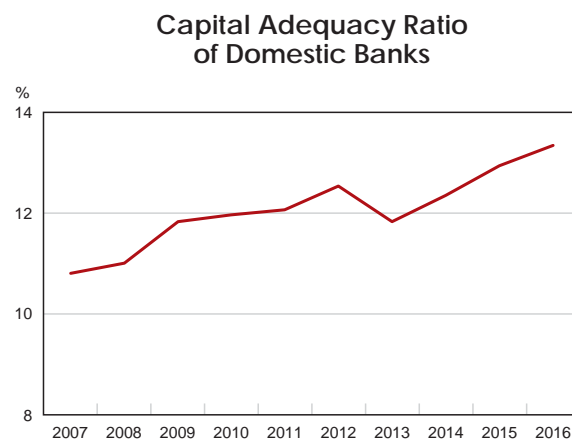
Decreases in ROA and ROE

The average return on assets (ROA) of monetary financial institutions in 2016 decreased to 0.59% from 0.65% the previous year, and their return on equity (ROE) also went down to 9.13% from 10.84% a year earlier. Among monetary financial institutions, domestic banks were the best performers in terms of ROA, and foreign and Mainland Chinese banks posted the highest ROE.

With regard to capital adequacy ratios, the average ratio for domestic banks increased to 13.33% at the end of 2016 from 12.93% a year before, mainly because some domestic banks recorded increases in cumulative earnings and common stock.



Source: Department of Financial Inspection, CBC.



Source: Department of Financial Inspection, CBC.

4. Money Market

In 2016, the total turnover in the interbank call loan market decreased by 9.05%, whereas that in the short-term bills market increased by 6.89%. As the CBC lowered policy rates twice amid domestic growth deceleration and mild inflation, interest rates in both markets exhibited a downward trend in the first half of the year, but then remained broadly stable in the second half of the year.

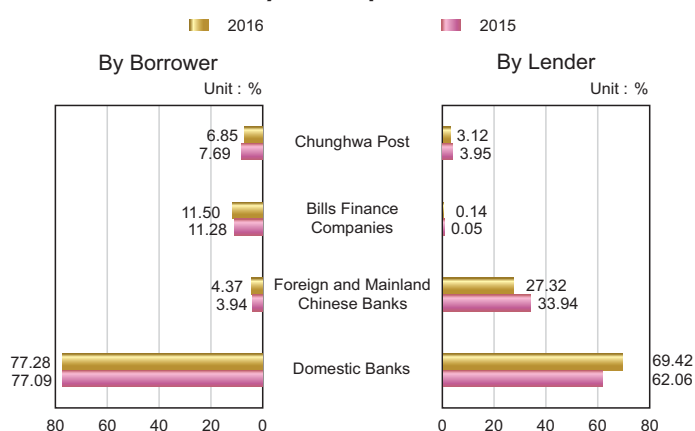
Reduction in Interbank Call Loans

For the year 2016, on account of soft demand for funds from the private sector amid a slow domestic economic recovery, together with easy monetary conditions, banks' demand for call loans continued to slacken. Therefore, total annual turnover of interbank call loans for 2016 declined by NT\$4,406.4 billion, or 9.05%, to NT\$44,290.2 billion.

With regard to borrowers, domestic banks were still the largest player during the year, accounting for 77.28% of total transactions, followed by bills finance companies, Chunghwa Post, and foreign and Mainland Chinese banks, with shares of 11.50%, 6.85% and 4.37%, respectively. The amount borrowed by domestic banks decreased by NT\$3,312.3 billion, or 8.82%, compared with the previous year, mainly because banks had ample liquidity, which reduced their funding needs. On the other hand, the amount borrowed by bills finance companies decreased by NT\$399.5 billion or 7.28% during the year primarily owing to lower demand for funds as bills finance companies gained more funds by selling short-term bills and conducting repurchase agreement transactions. The borrowed amount of Chunghwa Post fell by NT\$711.2 billion or 18.98%, while that of foreign and Mainland Chinese banks grew by NT\$16.6 billion or 0.86%.

With respect to lenders, domestic banks continued to be the largest supplier of funds, accounting for 69.42% of total transactions in 2016. Following domestic banks were foreign and Mainland Chinese banks, Chunghwa Post, and bills finance companies, with respective shares of 27.32%, 3.12%, and 0.14%. The amount lent by domestic banks rose by NT\$524.8 billion, or 1.74%, compared with the previous

Composition of Interbank Call Loan Market by Participant



Source: Financial Statistics Monthly, CBC.

year. In contrast, the amount lent by foreign and Mainland Chinese banks dropped by NT\$4,426.6 billion or 26.79% from a year before as foreign and Mainland Chinese banks continued to reduce the size of lending in order to lower risks. Meanwhile, the amount lent by Chunghwa Post declined by NT\$538.7 billion or 28.03% compared with the previous year as it diverted more funds to purchase government bonds and commercial paper.

In terms of maturity, interbank overnight call loans remained the most actively traded instrument in the market with a predominant share of 54.50%, down by 9.21 percentage points from that of the previous year. Second were those with a maturity of 1 week, accounting for 35.19%, up by 5.57 percentage points from that of the previous year. The share of loans with a 2-week maturity increased by 2.92 percentage points to 8.30%. Shares for the trading of interbank call loans with maturities of 3 weeks, 1 month, 2-6 months, and above 6 months were negligible.

Increase in Short-Term Bill Transactions

In 2016, newly issued short-term bills totaled NT\$12,778.5 billion. Of the new issues, commercial paper continued to account for the lion's share, at 88.99%. Second were negotiable certificates of deposit with a share of 9.17%. As market interest rates remained at relatively low levels, enterprises were more willing to issue commercial paper instead of borrowing from banks. Consequently, compared with the previous year, the amount of commercial paper issued grew by NT\$945.4 billion. Following commercial paper were negotiable certificates of deposit with an increase of NT\$339.2 billion. On the contrary, the Ministry of Finance decreased the issues of treasury bills by NT\$16.4 billion owing to increased tax revenue. Meanwhile, the amount of bankers' acceptances contracted by NT\$2.50 billion over the previous year. As of the end of 2016, total outstanding short-term bills amounted to NT\$1,873.5 billion, 11.67% more than that of the previous year end.

Short-Term Bills Market

Unit: NT\$ Billion

Year	Total		Treasury Bills		City Treasury Bills		Commercial Paper		Bankers' Acceptances		Negotiable Certificates of Deposit	
	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding
2007	6,495.1	925.3	88.0	28.0	-	-	5577.2	664.8	38.2	8.4	791.7	224.0
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	10.0	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	0.0	0.0	10426.0	1346.6	20.8	3.5	832.3	237.6
2016	12,778.5	1,873.5	217.3	90.0	0.0	0.0	11371.3	1480.1	18.3	4.1	1171.6	299.4
2016-2015 Change	1,265.7	195.7	-16.4	-0.1	0.0	0.0	945.4	133.4	-2.5	0.6	339.2	61.8

Source: Financial Statistics Monthly, CBC.

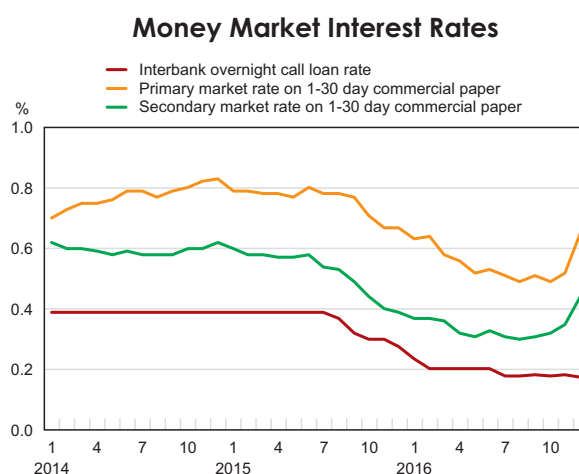
The total turnover of short-term bills in 2016 increased by 6.89% to NT\$35,556.1 billion. Of the total transactions, commercial paper still made up the largest share with 92.24%, representing a decrease of 1.55 percentage points from a year earlier. Negotiable certificates of deposit came in second with a share of 7.23%, showing an increase of 1.82 percentage points over 2015. Treasury bills and bankers' acceptances made up negligible shares of transactions. With respect to market participants, private enterprises were the largest player in the market with a share of 45.98%, followed by banks with a share of 27.87%.

Broad Downtrend in Money Market Rates

In the first half of 2016, as domestic economic growth remained sluggish, demand for funds from private enterprises weakened. Furthermore, the CBC continued to conduct open market operations to manage market liquidity and cut policy rates on March 25 and July 1, respectively, by a total of 25 basis points to foster economic growth. As a result, funding conditions in the money market remained easy. In the second half of the year, as the domestic economy gradually rebounded, the CBC decided to keep policy rates unchanged.

The weighted average interbank overnight call loan rate went down from 0.233% in January of 2016 to 0.178% in August, reflecting the CBC's successive policy rate cuts. Later, heightened volatility in global financial markets driven by the US presidential election led banks to adopt more conservative lending policies, which in turn caused the tightening of market liquidity. Consequently, the weighted average interbank overnight call loan rate moved upward to 0.183% in November. As the CBC injected liquidity through open market operations and maintained accommodative monetary conditions, the weighted average interbank overnight call loan rate dropped again to 0.174% in December of the same year.

The primary market rate on commercial paper with a maturity of 1-30 days trended down from 0.63% in January to 0.49% in August and then slightly moved upward to 0.65% in December of 2016. The secondary market rate on commercial paper with a maturity of 1-30 days also descended from 0.37% in January to 0.30% in August and trended up to 0.44% in December of the same year.



Decrease in Money Market Funds

In recent years, investment trust companies employed a product diversification strategy, affecting their asset allocation. In addition, turmoil in major stock markets around the world in early 2016, the impact of Brexit, and the outcome of the US presidential election, as well as market expectations for a Fed rate hike, caused greater volatility in global financial markets and undermined investors' confidence. The above factors led to a decline in the size of money market funds. At the end of 2016, there were a total of 44 money market funds in Taiwan with total assets reaching NT\$848.3 billion, a decrease of NT\$145.2 billion or 14.61% over the previous year.

With regard to portfolio composition, the largest use of the funds was bank deposits with a share of 64.97% at the end of the year. The second largest was short-term bills with a share of 17.00%. Meanwhile, repurchase agreements decreased to 15.88% of total money market funds.

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 (%)
2014	741.4	512.6	69.14	136.2	18.37	90.4	12.19	2.3	0.30
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
2016/ 1	975.6	647.4	66.36	152.9	15.68	157.9	16.19	17.4	1.78
2	938.0	644.5	68.71	138.4	14.76	135.6	14.45	19.5	2.08
3	926.5	631.1	68.12	146.7	15.84	127.8	13.80	20.8	2.25
4	1,049.9	668.1	63.63	198.3	18.89	160.5	15.29	23.0	2.19
5	1,044.2	681.8	65.29	183.8	17.60	152.8	14.63	25.8	2.47
6	939.4	655.8	69.81	146.2	15.57	113.6	12.10	23.8	2.53
7	931.2	653.9	70.23	132.5	14.23	119.7	12.86	25.0	2.68
8	941.7	654.1	69.46	133.3	14.15	129.9	13.79	24.5	2.60
9	842.7	616.2	73.12	113.3	13.45	91.8	10.90	21.3	2.53
10	873.0	617.8	70.76	121.8	13.95	109.0	12.49	24.4	2.80
11	818.8	576.1	70.36	132.7	16.21	88.5	10.81	21.5	2.62
12	848.3	551.1	64.97	144.2	17.00	134.7	15.88	18.2	2.15

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

5. Foreign Exchange Market

The NT Dollar Exchange Rate

At the end of 2016, the NT dollar appreciated against the US dollar, the euro, the RMB and the Korean won, but slightly depreciated against the Japanese yen when compared with the previous year end. The trade-weighted nominal effective exchange rate index of the NT dollar decreased by 0.69% on a daily average basis. The exchange rate movements of the NT dollar against the US dollar, the euro, the yen, the RMB, and the Korean won are analyzed as follows.

During the course of the year, the NT dollar against the US dollar depreciated briefly and then appreciated before it weakened again in the fourth quarter. In January, the NT dollar depreciated against the US dollar, mainly because of the effect of the Fed's rate hike in December 2015, and the NT dollar hit a yearly low on January 21. As the US dollar was dampened by the less-than-expected US economic performance, combined with the Brexit issue, international capital flowed into emerging Asia including Taiwan, sending the NT dollar to a yearly high against the US dollar on August 10. Later, the US dollar strengthened because market participants expected the new US government under President Donald Trump would enact aggressive fiscal measures and urge firms to bring back manufacturing jobs to the US. The Fed's rate hike on December 14 also led the NT dollar to depreciate against the US dollar. At the end of 2016, the NT dollar appreciated by 2.44% against the US dollar compared with the end of the previous year. On a daily average basis, the NT dollar depreciated against the US dollar by 1.30% in 2016.

The NT dollar against the euro fluctuated in the first half of the year and appreciated steadily in the second half. Early in the year, as the international stock market slump and the Middle East geopolitical crisis led the euro to soar on safe-haven demand, the NT dollar against the euro fell to a yearly low on February 5. Then, anxiety over the Brexit referendum and investor worries about a deflationary risk in the euro area induced by the continued decline in oil prices combined to result in an NT dollar appreciation against the euro. In March, as the ECB cut rates and expanded QE with an indication that interest rates would remain low for some time, euro strength led to NT dollar depreciation against the euro. In the second half of the year, Brexit concerns, the banking crisis and failed referendum on constitutional reforms in Italy, and the ECB's decision to extend QE policy pushed the NT dollar against the euro to a yearly high on December 20. Compared with the end of the previous year, the NT dollar appreciated against the euro by 6.53% at the end of 2016. On a daily average basis, the NT dollar depreciated against the euro by 1.04%.

The NT dollar depreciated against the yen in the first three quarters and appreciated toward

the end of 2016. Early in the year, international stock market declines led the yen to soar on safe-haven demand, but the rally was reversed by the BOJ's announcement of the negative interest rate policy on January 29. The ECB's rate cut amid concerns of deflation, and the UK's decision to leave EU then caused the yen to soar on safe-haven demand again, and the NT dollar against the yen hit a yearly low on July 6. After that, the yen trended down on account of weak economic conditions in Japan. In November, as the BOJ announcement of an unlimited bond buying plan, the NT dollar against the yen continued to appreciate steadily. Late in December, the BOJ's QE remained unchanged and its growth forecasts for Japan were revised up; therefore, the NT dollar depreciated against the yen again. In sum, the NT dollar slightly depreciated by 0.35% against the yen at the end of 2016 compared with the previous year end. On a daily average basis, the NT dollar depreciated against the yen by 11.29%.

The NT dollar against the RMB generally appreciated in 2016 after dipping in January. Early in the year, owing to China's widened trade surplus and the People's Bank of China (PBOC) governor's comment that there was no basis for the persistent RMB depreciation, the NT dollar against the RMB fell to a yearly low on February 22. After that, because of a slowdown in Chinese economic growth, continued easing by the PBOC, and market concerns about China's exports to Europe shrinking after Brexit, the NT dollar appreciated against a softer RMB. After November, Donald Trump's election victory gave rise to market expectations that trade friction between China and the US could intensify, inducing in more capital flight out of China. As a result, the NT dollar against the RMB hit a yearly high on December 16. Afterwards, China tightened capital controls to stem RMB weakness, and the NT dollar against the RMB depreciated. The NT dollar appreciated against the RMB by 9.63% between end-2015 and end-2016. On a daily average basis, the NT dollar appreciated by 5.31% against the RMB when compared with the previous year.

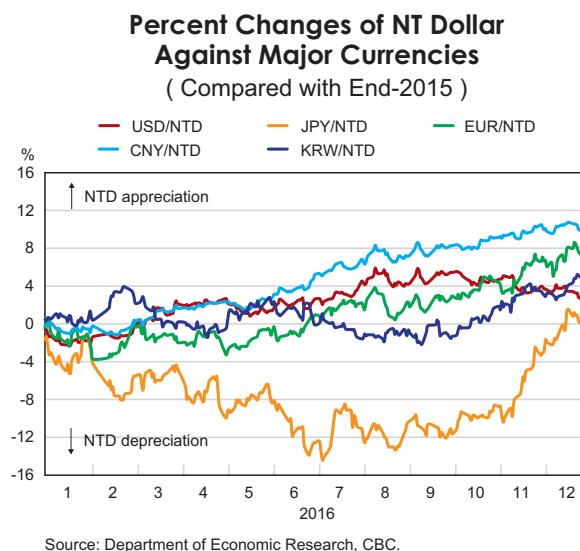
In 2016, the NT dollar appreciated against the Korean won in the first quarter, fluctuated in the second and third quarters, and appreciated in the fourth quarter. Early in the year, slower economic growth in South Korea and rising tensions on the Korean Peninsula led the NT dollar to appreciate

Annual Changes of NTD Exchange Rate Against Major Currencies

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2016/12/30)	32.279	33.917	0.2757	4.6448	0.0268
Exchange Rate (2015/12/31)	33.066	36.131	0.2747	5.0921	0.0281
Annual Change	2.44%	6.53%	-0.35%	9.63%	4.81%
Average Exchange Rate (2016)	32.318	35.749	0.2971	4.8639	0.0279
Average Exchange Rate (2015)	31.898	35.377	0.2635	5.1222	0.0282
Annual Change	-1.30%	-1.04%	-11.29%	5.31%	1.24%

Source: Department of Economic Research, CBC.

against the won. During the second quarter, international capital flowed into emerging Asia including Taiwan and South Korea, leading both the NT dollar and the won to rise. The NT dollar against the won fluctuated and reached a yearly low on September 10. In the fourth quarter, as the won was affected by Korea's political scandal and downward revision of economic outlook by the Bank of Korea, the NT dollar against the won hit a yearly high on December 28. Compared with the end of 2015, the NT dollar appreciated by 4.81% against the won at the end of 2016. On a daily average basis, the NT dollar also appreciated by 1.24% against the won in 2016.

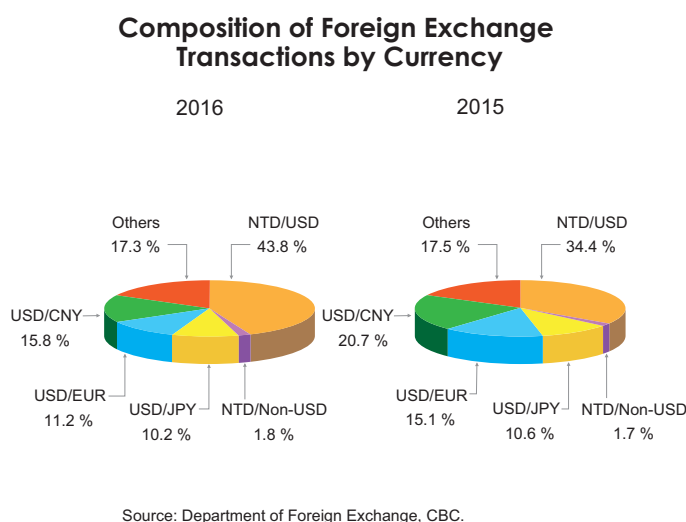


Lower Turnover in Foreign Exchange Market

Trading in the Taipei foreign exchange market decreased in 2016. Total net trading volume for the year was US\$7,113.8 billion, representing a year-on-year growth rate of -13.3%. This was due to a higher base in 2015 when major foreign currencies fluctuated wildly and the turnover was thus higher than usual. The daily average turnover was US\$28.9 billion in 2016.

In terms of trading partners, transactions between banks and non-bank customers accounted for 28.8% of the total turnover, while interbank transactions made up 71.2%, including 23.7% for transactions among local banks and 47.5% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 45.6% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 43.8%. Transactions in third currencies contributed to 54.4% of

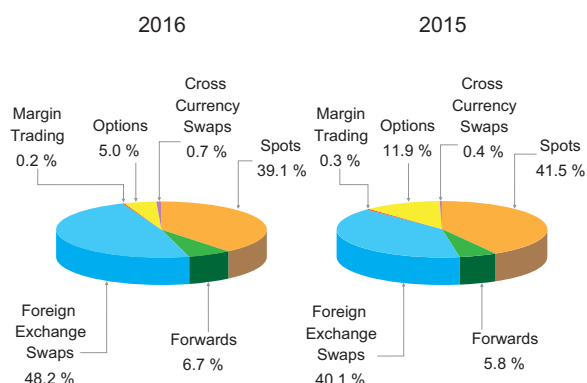


the total trading volume, with trading in currency pairs of USD-RMB, USD-euro and USD-yen accounting for respective shares of 15.8%, 11.2% and 10.2%. Compared with 2015, NT dollar trading against foreign currencies increased by 9.7%. Transactions in third currencies decreased by 26.3%.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 48.2% and 39.1% of total turnover, respectively. Compared with 2015, the trading volumes

of forwards, foreign exchange swaps and cross currency swaps increased, whereas the other types decreased.

Composition of Foreign Exchange Transactions by Product



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
2012	2,249,684	406,831	2,558,288	19,419	627,958	30,993	5,893,172
2013	2,681,798	373,006	2,991,819	21,730	1,072,740	32,983	7,174,076
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
2015-2016 Growth Rate (%)	-18.4	0.3	4.2	-30.4	-63.1	51.7	-13.3

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			
2012	1,069	51,887	4,320	142,310	199,586	15,440	955	2,243	218,223
2013	523	37,042	3,040	115,636	156,240	5,488	1,758	1,517	165,004
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
2015-2016 Growth Rate (%)	-97.6	-1.9	166.9	-8.7	-6.5	-24.8	-70.2	-16.8	-7.6

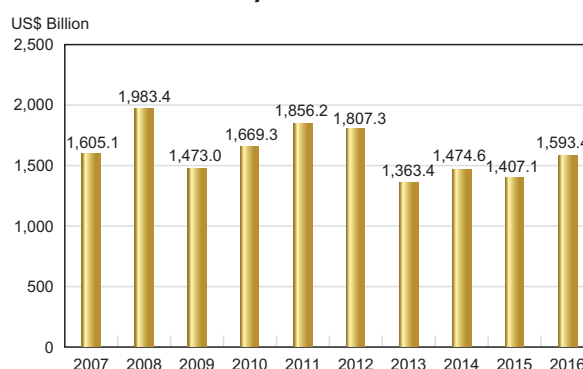
Source: Department of Foreign Exchange, CBC.

For other foreign currency derivatives including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, the total turnover amounted to US\$103.2 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$99.0 billion, or 96.0%, with its turnover down by 6.5% from the previous year. Interest rate futures accounted for the majority of this decrease, down by US\$4.9 billion.

Increase in Trading in Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2016 was US\$1,593.4 billion, an increase of 13.2% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,507.2 billion, making up 94.6% of the total while increasing 13.7% from 2015. The increase was because some banks conducted more currency lending trades in response to flush foreign currency funds from growth in deposits.

Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

Japanese yen transactions reached ¥398.4 billion in 2016, a small share of 0.2% of the total with a year-on-year decline of 50.0% in volume. The amount of euro transactions amounted to €0.5 billion, a low share of 0.04%. Other currencies accounted for a combined 5.1% of the total transaction volume.

Growing Assets of Offshore Banking Units

There were 62 offshore banking units (OBUs) at the end of 2016. Domestic banks operate 38 of these OBUs, while foreign banks run the other 24. The total assets of all OBUs increased to US\$186.0 billion at the end of the year, representing an increase of US\$4.1 billion or 2.2% from the previous year end owing to increasing securities investments. Domestic OBUs made up 88.1% of these combined assets with an amount of US\$164.0 billion, and the OBUs of foreign banks accounted for US\$22.1 billion, a 11.9% share of the total.

In terms of the uses of funds, discounts and loans, at US\$77.0 billion, represented the majority share of 41.4% of total OBU assets. Securities investments came in second place, accounting for 23.0% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 52.0%, followed by America at 31.0%.

The OBUs' main source of funds was interbank transactions, making up 41.1% of total liabilities.

Furthermore, deposits of non-financial institutions accounted for 38.8% of total liabilities. The main funding origins of OBUs were Asia, accounting for the majority with 59.0%, and America, with a share of 30.0%.

Forex trading turnover of all OBUs dropped by 36.0% to US\$683.5 billion, of which US\$476.3 billion went for spot transactions, US\$101.4 billion for forward transactions and US\$105.7 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards and forex swaps were -36.8%, -19.4%, and -43.7%, respectively.

For OBUs, the total turnover of other derivatives products shrank to US\$313.6 billion, a decrease of 59.2% over the previous year. Of this amount, currency options transactions registered US\$207.2 billion, making up 66.1% 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
2012	67,811	18,240	60,200	24,655	170,906	44,102	100,389	364	26,051
2013	79,981	22,019	44,459	23,113	169,572	51,191	100,133	351	17,896
2014	87,849	22,066	47,681	26,379	183,974	57,818	101,671	338	24,146
2015	81,198	29,547	52,790	18,388	181,924	66,137	97,087	0	18,700
2016	77,236	42,803	54,519	11,467	186,025	72,245	96,454	0	17,326
2015-2016 Growth Rate (%)	-4.9	44.9	3.3	-37.6	2.3	9.2	-0.7	0.0	-7.3

Source: *Financial Statistics Monthly*, CBC.

6. Stock Markets

Taiwan's benchmark stock index, the Taiwan Stock Exchange (TWSE) weighted stock price index (TAIEX), trended up in the first few months of 2016 as the world's major stock markets rallied and international oil and raw material prices rebounded. Local shares retreated in the following two months to reach a yearly low in May, owing to concerns over the US Fed's possible rate hike, downward corrections in major world stock indices, and a still weak domestic economy. Towards the second half of the year, the TAIEX shrugged off events like Brexit and uncertainty surrounding the US presidential election and swung upward to hit an annual high on December 9 on the back of several positive factors at home and abroad, including international stock market rallies and stronger domestic economic and export growth.

At the end of 2016, the TAIEX rose by 11.0% compared to the end of the previous year. Most categories enjoyed year-on-year gains, except for shares in Shipping & Transportation, Textile, Biotechnology & Medical Care, Tourism, and Automobile. Oil, Gas & Electricity stocks posted the largest increase by 39.4%, followed by Electrical & Cable and Iron & Steel at 34.4% and 34.1%, respectively. The TAIEX daily average trading value was NT\$68.7 billion, a 17.0% decline from the previous year.

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
2014	9,307.3	88.3	84.6	26,891.5	354.6	-38.1	-0.4
2015	8,338.1	82.8	77.5	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
2016/ 1	8,145.2	71.6	6.3	23,964.0	-59.5	-1.1	-13.2
2	8,411.2	73.4	3.9	24,758.0	50.6	-1.7	-9.9
3	8,744.8	81.5	7.3	25,727.2	160.1	-6.9	-18.2
4	8,377.9	68.7	5.3	24,628.6	15.8	-5.4	-5.0
5	8,535.6	66.7	5.6	25,141.2	-73.9	1.8	12.9
6	8,666.6	65.1	5.4	25,528.4	82.1	-2.3	-20.1
7	8,984.4	77.3	5.8	26,475.9	167.7	0.1	-9.4
8	9,068.9	69.5	6.0	26,736.9	71.0	-5.8	-12.8
9	9,166.9	68.4	4.8	27,045.7	2.5	-0.4	-17.4
10	9,290.1	60.3	4.4	27,466.8	-1.9	0.3	2.5
11	9,240.7	67.1	5.4	27,354.2	-96.2	1.5	9.0
12	9,253.5	56.5	4.6	27,247.9	1.9	0.0	-5.1

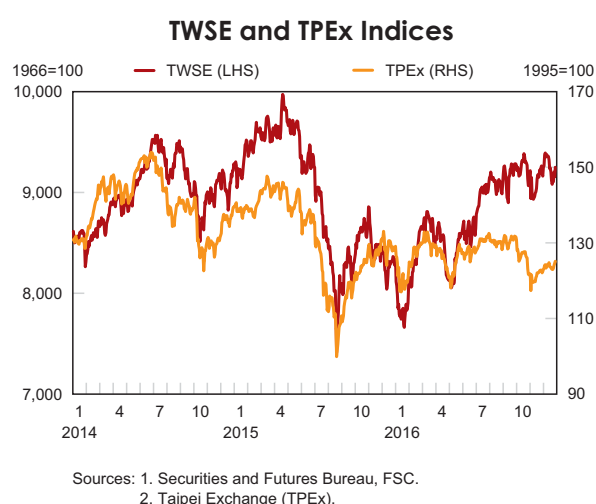
Source: Securities and Futures Bureau, FSC.

In Taiwan's over-the-counter market, the weighted stock price index of the Taipei Exchange (TPEX) closed the year down by 3.0% over the previous year end. The TPEX-listed categories posted mixed performances. Biotechnology & Medical Care shares were dragged down by a biotech company scandal and fell by 25.5% over the previous year, the largest decline among all categories. Cultural & Creative shares posted the second largest fall of 16.1% mainly owing to the failed acquisition of XPEC Entertainment. In 2016, the TPEX daily average trading value was NT\$20.7 billion, decreasing by 11.2% compared to the previous year.

The TWSE Market

Listings and Capitalization Both Grew

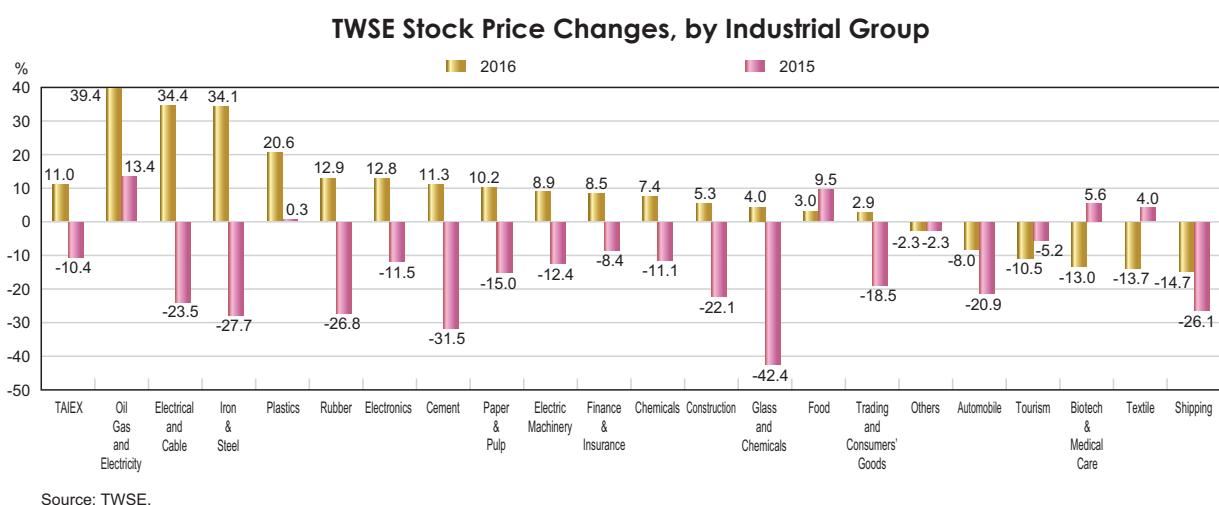
At the end of 2016, the number of TWSE listings grew by 18 during the year to a total of 892. The par value of total shares issued amounted to NT\$7.0 trillion, increasing by 1.0% from the end of the previous year. Total market capitalization reached NT\$27.2 trillion, a year-on-year increase of 11.2%. In terms of Taiwan Depository Receipts (TDRs), three existing TDRs were de-listed and no new ones were issued. The number of total TDRs on the TWSE decreased to 19 at the end of 2016.



TAIEX Started Higher Before Dipping but Rallied in H2

In the beginning months of 2016, the TAIEX was boosted by major international stock market rallies and rising oil and raw material prices, as well as net foreign buying of TAIEX shares. As a result, the index rose to a high of 8,813 points on March 21. However, renewed market concern over the possible Fed rate hike, consolidations in major international stock indices, and a still weak domestic economy combined to drag down the TAIEX, which dipped to a low of 8,054 points on May 13.

Then, despite disruptions from uncertainty surrounding the Brexit vote and the US presidential election, the TAIEX climbed higher because international stock markets rallied, new iPhones sold better than expected, the NASDAQ hit multiple record highs, Taiwan's economy and exports both picked up, and foreign investors net-bought TWSE-listed shares. The TAIEX swung to an all-year high of 9,393 on December 9 and trended down on profit-taking trades and thinner foreign buying around the Christmas holidays. The TAIEX closed the year at 9,254, rising by 11.0% from the 8,338 points at the end of the previous year.



Broken down by subcategory, only five industrial groups, namely Shipping & Transportation, Textile, Biotechnology & Medical Care, Tourism, and Automobile, recorded year-on-year declines. Shipping & Transportation suffered the most with a 14.7% drop, because demand for shipping by air and by sea was dampened by weak global trade and some shipping companies taking heavy losses. On the other hand, boosted by international oil price rises, Oil, Gas & Electricity shares climbed 39.4%, the largest increase among all industrial groups. The second-best performance was the 34.4% rise of Electrical & Cable shares, thanks to increased demand for electric appliances and better corporate profits as copper and nickel prices went up. Iron & Steel shares also surged 34.1% owing to higher demand for steel and rising steel prices.

Market Turnover Decreased

In 2016, turnover in the TWSE market measured on a daily average basis, decreased by 17.0% to NT\$68.7 billion from the NT\$82.8 billion of the previous year. The decline was mainly because a lock-in effect had led to slower trading despite price rises domestically as investors held on to stocks with high dividend yields in a low-interest global environment. Moreover, subdued trading activity also resulted in a lower turnover rate, which dropped from 77.6% the previous year to 64.6%.

Net Foreign Buying Increased

In 2016, foreign investors bought a net NT\$320.2 billion in the TWSE market, a significant increase from the NT\$46.2 billion of 2015. Local securities investment trust companies and securities dealers net sold TAIEX shares valued at NT\$19.9 billion and NT\$86.6 billion, respectively.

Looking at foreign buying in 2016, foreign investors net-sold TAIEX shares in January amid international stock market crashes and geopolitical tensions. They became net buyers between February and April, encouraged by a global market rally and international oil and raw material

price rebounds. Although market concern of a possible Fed rate hike and a looming Brexit vote turned foreign investors into net-sellers in the TWSE mainboard in May, net-buying was recorded in June through to September albeit dwindling month by month. In both October and November, the TWSE market saw renewed net-sales by foreign investors because uncertainty surrounding the US presidential election and a possible Fed rate hike drained capital out of Asian stock markets including Taiwan. However, in December, the TAIEX's annual high record also brought about a modest net foreign buying position.

Local securities investment trust companies net bought in May, July, October, and November. In the rest of the year, net selling positions were recorded because some of these investors held off buying in a heated market and some increased selling to meet fund redemption demand or to boost their own financial statements.

Local securities dealers, with an inclination for short swing trading, net bought in May, October, and November when the TAIEX trended up or reached a period high. They net sold in the rest of the year when the TAIEX weakened or for the purposes of position adjustment or profit taking.

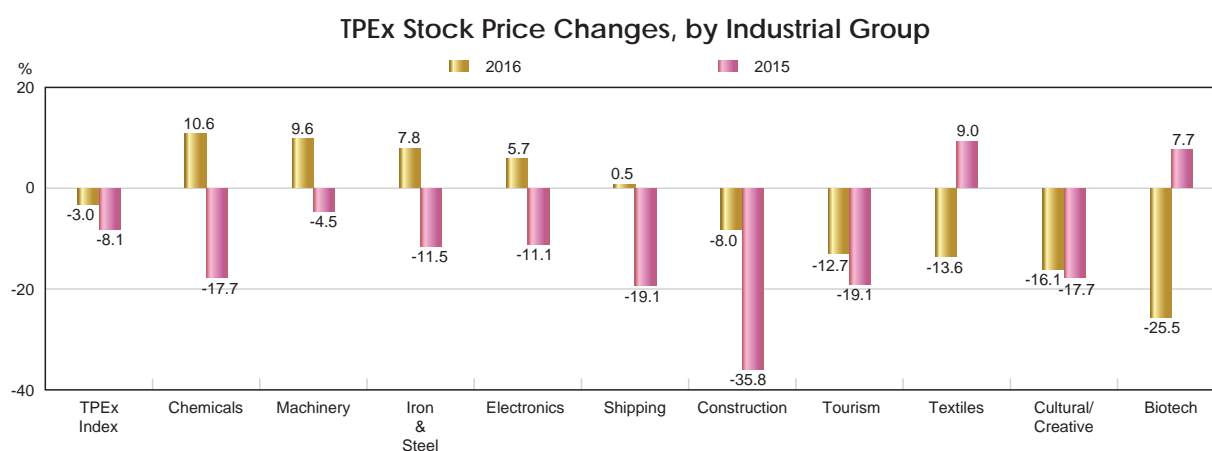
The TPEX Market

Listings Increased, Capitalization Shrank Slightly

At the end of 2016, the number of TPEX listings increased by 20 to a total of 732. The total par value amounted to NT\$715.3 billion, up by 1.3% from the previous year. Market capitalization decreased slightly by 0.3% to NT\$2.72 trillion.

TPEX Index Swung Lower

In 2016, stock prices in the TPEX market moved in a trading range between 117.09 and 132.91 as volume and prices were both depressed by less participation of retail investors in this mid- and small-cap market. At the end of the year, the TPEX closed at 125.2 points, 3.0% lower compared to



Source: TPEX.

the 129.1 points at the previous year end.

For the year of 2016, foreign investors made net purchases of NT\$31.7 billion in the TPEX market, while local securities investment trust companies and local dealers recorded net selling positions of NT\$13.5 billion and NT\$0.5 billion, respectively. The daily average turnover in the TPEX market fell to NT\$20.7 billion, a 11.2% decrease from the NT\$23.3 billion of the previous year.

Key Measures for the Stock Markets

Key measures for Taiwan's stock markets in 2016 included the following:

- (1) January 1: Effective from this day, initial public offerings (IPOs) shall be conducted via bidding auction, except for those IPO companies raising capital of an amount less than NT\$0.4 billion or Cultural & Creative listings.
- (2) February 1: The FSC expanded the scope of securities eligible for day trading from 377 to 1,432 stocks.
- (3) April 12: The National Financial Stabilization Fund announced that it would stop its market-stabilizing buying actions, which had already lasted longer than ever before (from August 25, 2015 to April 12, 2016, totaling 232 days).
- (4) August 2: The FSC eased rules governing risk-based capital ratios of insurance companies, in hopes of stimulating the local equities markets by boosting insurers' investment in local stocks as well as exchange-traded funds (ETFs).
- (5) October 19: The TPEX gave the greenlight for securities firms to conduct over-the-counter trading of foreign-currency denominated structured notes with professional institutional investors and high-net-worth corporate investors.

7. Bond Market

The total volume of bond issuance rose significantly for the year 2016. New issues of bonds amounted to NT\$2,522.1 billion, an increase of NT\$431.9 billion or 20.66% over the previous year. At the end of 2016, the total outstanding of bonds issued reached NT\$11,584.5 billion, up by NT\$1,117.5 billion or 10.68% from the previous year end.

To support fiscal funding needs, issuance of central government bonds for 2016 was NT\$563.5 billion, falling by NT\$41.8 billion or 6.91% from the previous year.

Issuance of corporate bonds exhibited an uptrend in 2016. This was largely due to declining market rates leading corporations to issue new bonds in order to repay old ones with higher yields. Issuance of corporate bonds for 2016 grew by NT\$17.7 billion, or 6.58%, to NT\$286.0 billion.

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\$140.1 billion for the entire year, dropping by NT\$56.2 billion or 28.61% over the previous year.

In terms of asset securitization, corporations issued asset securitization products worth NT\$5 billion in 2016.

In addition, foreign institutions issued 165 foreign currency-denominated international bonds in Taiwan amounting to NT\$1,524.6 billion, increasing substantially by NT\$518.0 billion or 51.46% over the previous year. Meanwhile, seven NT dollar-denominated foreign bonds were issued by foreign institutions with a total amount of NT\$3.0 billion, down by NT\$2.5 billion or 45.87% compared to the previous year.

In the secondary market, yields on bonds with different maturities all displayed a downtrend in 2016 in reflection of the CBC's policy rate cuts. Among the components, the average 10-year government bond yield moved down by 54 basis points from 1.352% in the previous year to 0.818% in 2016. Owing to soft demand for bonds amid market expectations of yields remaining at low levels, annual transactions totaled NT\$66,817.9 billion, contracting by NT\$907.8 billion or 1.34% over the previous year.

Reduction in Government Bond Issuance

With respect to central government bonds, on account of the rise in tax revenues and government bond issuance approaching the ceiling, central government bond issuance for 2016 declined by NT\$41.8 billion, or 6.91%, to NT\$563.5 billion.

In 2016, the Ministry of Finance issued 2-year, 3-year, 5-year, 10-year, 20-year, and 30-year government bonds with respective amounts of NT\$53.5 billion, NT\$35.0 billion, NT\$120.0 billion, NT\$180.0 billion, NT\$90.0 billion, and NT\$85.0 billion.

In regard to issuing rates, affected by a slowing domestic economy and successive policy rate cuts in the first half of the year, the weighted average issuing rates in 2016 on central government bonds with different maturities were all lower than the previous year. The weighted average issuing rates on 2-year, 3-year, 5-year, 10-year, 20-year, and 30-year bonds dropped by 22, 33, 39, 49, 68, and 70 basis points, respectively, compared to the previous year.

Broken down by institutional investors, bonds held by the banking industry made up the largest share at 31.74% in 2016, an increase of 4.84 percentage points over the previous year. The insurance industry and Chunghwa Post came in second and third with shares of bond holdings at 31.22% and 30.55%, contracting by 5.43 percentage points and 0.05 percentage points, respectively. Meanwhile, the share of bonds held by bills finance companies went up by 1.09 percentage points to 3.76% from a year before. The insurance industry's share of bond holdings shrank chiefly because funds flowed to high-yield international bonds. As of the end of 2016, the total outstanding of central government bond issuance was NT\$5,542.3 billion, expanding by NT\$63.5 billion or 1.16% from the previous year end.

In terms of bonds issued by governments of special municipalities, new issues were nil in 2016. At the end of the year, the outstanding amount of bonds issued by governments of special municipalities stood at NT\$63.1 billion, down by NT\$27.6 billion or 30.41% from the previous year end.

Growth in Corporate Bond Issuance

Corporate bonds refer to NT dollar or foreign currency-denominated bonds issued in Taiwan by domestic corporations. In 2016, life insurance companies issued perpetual bonds to expand their capital base, while corporations issued new bonds to repay old ones with higher yields amid expectations that rates might have already hit relatively low levels. As a result, the issuing amount of corporate bonds for the year 2016 rose by NT\$17.7 billion or 6.58% to NT\$286.0 billion.

As for bond maturities, the majority of the issuance went for 5-year corporate bonds with a share of 42.22%, followed by perpetual bonds with 27.81%. On account of the CBC's successive rate cuts in 2016, the weighted average coupon rates on 2-year, 5-year, 7-year, and 10-year corporate bonds slid by 21, 41, 59, and 62 basis points from a year earlier to 0.734%, 0.963%, 1.046%, and 1.200%, respectively. Meanwhile, the weighted average coupon rate on perpetual bonds was 3.510%. At the end of 2016, the outstanding amount of corporate bonds stood at NT\$1,897.9 billion, falling by NT\$106.3 billion or 5.30% from the previous year end.

Issues and Outstanding Values in Bond Market by Category

Unit: NT\$ Billion

Year/ Month	Total		Central Government Bonds		Local Government Bonds*		Corporate Bonds		Bank Debentures		Beneficiary Securities**		Foreign Bonds***		Int'l Bonds****	
	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding
2014	1,974.1	9,425.3	675.3	5,338.5	0.0	101.7	360.4	2,013.0	397.5	1,273.6	8.5	118.7	6.0	9.3	526.4	570.5
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
2016/ 1	177.4	10,475.0	65.0	5,428.8	0.0	90.6	14.1	1,984.7	25.7	1,290.8	0.0	94.6	0.0	9.3	72.7	1,576.1
2	212.7	10,652.6	29.9	5,458.7	0.0	90.6	0.9	1,954.5	6.5	1,295.1	0.0	93.5	0.0	8.6	175.4	1,751.5
3	199.0	10,645.1	60.0	5,388.7	0.0	80.6	6.7	1,917.6	5.2	1,280.7	0.0	93.7	0.5	8.9	126.6	1,874.9
4	138.5	10,767.9	30.0	5,418.7	0.0	80.6	18.4	1,927.8	0.0	1,274.8	0.0	93.3	0.0	8.9	90.2	1,963.8
5	255.9	10,961.9	60.0	5,478.7	0.0	80.6	28.3	1,927.3	7.2	1,262.9	0.0	92.2	0.7	9.6	159.7	2,110.7
6	290.7	11,179.5	60.0	5,538.7	0.0	70.6	50.0	1,935.5	9.6	1,265.5	0.0	92.1	0.0	9.3	171.1	2,267.7
7	152.4	11,208.4	60.0	5,528.7	0.0	70.6	4.4	1,916.0	0.0	1,261.7	0.0	92.2	0.0	8.8	88.1	2,330.4
8	241.9	11,323.1	30.0	5,508.7	0.0	70.6	20.4	1,910.8	2.2	1,255.0	5.0	97.3	0.0	8.3	184.3	2,472.4
9	313.7	11,415.9	30.0	5,453.7	0.0	70.6	21.8	1,905.9	26.3	1,271.7	0.0	97.4	0.7	9.0	234.9	2,607.8
10	199.4	11,482.6	53.6	5,457.3	0.0	70.6	18.0	1,887.3	5.7	1,253.1	0.0	97.9	0.0	8.9	122.1	2,707.5
11	172.5	11,517.5	55.0	5,512.3	0.0	70.6	27.1	1,861.7	29.2	1,219.0	0.0	97.7	0.8	9.6	60.4	2,746.5
12	168.1	11,584.5	30.0	5,542.3	0.0	63.1	76.2	1,897.9	22.5	1,212.5	0.0	97.8	0.3	9.8	39.1	2,761.0

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.

Marked Decline in Bank Debenture Issuance

A total of 21 financial institutions issued bank debentures in 2016 in support of their funding needs, with an issuance amount of NT\$140.1 billion, showing a decrease of NT\$56.2 billion or 28.61% over the previous year. The reduction was mostly because banks had exceeded the minimum capital adequacy ratio required by law, thereby weakening demand for NT dollar-denominated subordinated debt issuance.

In respect 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 26.05%, 24.40%, and 32.65% in total issuance, respectively. As for foreign currency bank debentures, 30-year bank debentures accounted for the lion's share with 41.24%. At the end of 2016, the outstanding amount of bank debentures was NT\$1,212.5 billion, declining by NT\$73.3 billion or 5.70% from the previous year end.

New Issues in Asset Securitization

New issues of asset securitization products amounted to NT\$5.0 billion for the entire year. The outstanding amount of asset securitization expanded by NT\$3.4 billion or 3.57% from the previous year end to NT\$97.8 billion.

Large Decrease 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 convertible corporate bonds issued by offshore companies listed on the Taiwan Stock Exchange or Taipei Exchange (TPEX). For the year 2016, issuance of foreign bonds reached NT\$3.0 billion, a decrease of NT\$2.5 billion or 45.87% from a year earlier. At the end of the year, the outstanding amount of foreign bonds was NT\$9.8 billion, increasing by NT\$0.2 billion or 1.57% over the previous year end.

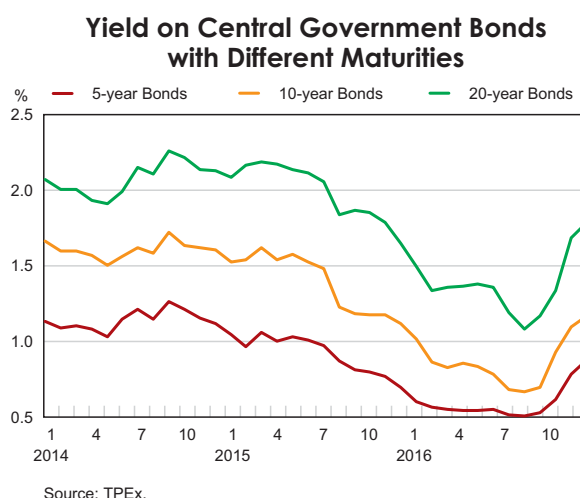
Substantial Increase in International Bond Issuance

International bonds refer to corporate bonds issued in Taiwan by foreign institutions and are currently denominated in foreign currencies. Issuance of international bonds in 2016 grew by NT\$518.0 billion or 45.87% from the previous year to NT\$1,524.6 billion. The increase was mostly driven by enhanced willingness for US dollar-denominated bond issuance stemming from market expectations of further rate hikes by the Fed since the beginning of the year.

With regard to currency composition, issuance of US dollar-denominated, RMB-denominated, AUD-denominated, NZD-denominated, and ZAR-denominated bonds in 2016 amounted to NT\$1,478.0 billion, NT\$39.9 billion, NT\$4.3 billion, NT\$1.3 billion, and NT\$1.0 billion, respectively. At the end of the year, the outstanding amount of international bonds was NT\$2,761.0 billion, an increase of NT\$1,257.7 billion or 83.65% over the previous year end.

Downtrend in Bond Yields and Decline in Transactions

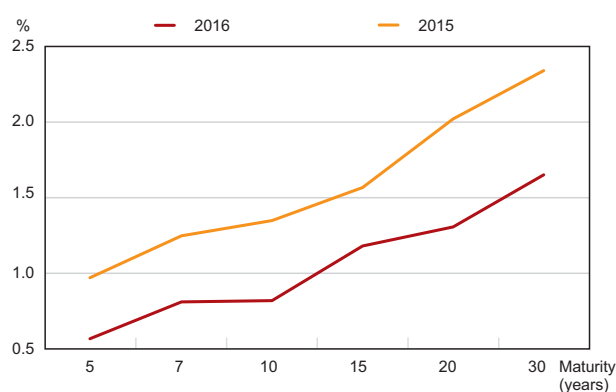
In 2016, sluggish domestic economic growth and the CBC's successive policy rate cuts in the first half of the year led the 10-year government bond yield to decline, which reached 0.630% on August 19. Subsequently, as funds flowed to the stock market from the bond market on the back of a domestic stock market rally, along with market expectations of the Fed lifting interest rates, the 10-year government bond yield trended upward and ended 2016 at 1.204%, 19 basis points higher than the 1.015% of the previous year end. The average yield on 10-year government bonds for the year was 0.818%, down by 53 basis points from 1.352% over the previous year.



Moreover, average yields on 5-year, 7-year, 10-year, 15-year, 20-year, and 30-year government bonds for the year 2016 slid by 40, 44, 53, 39, 72, and 70 basis points, respectively, compared to the previous year.

In terms of transaction volume, with market rates staying at relatively low levels in the second half of the year, as well as expectations of the Fed's rate increases, demand for bonds softened. Consequently, total bond transactions for 2016 contracted by NT\$907.8 billion or 1.34% from the previous year to NT\$66,817.9 billion.

Yield Curve of Central Government Bonds



Source: TPEx.

By type of bonds, government bonds accounted for 67.71% of total bond transactions with an annual trading volume of NT\$45,243.5 billion. Corporate bonds came in second, making up 25.74% of total transactions with an annual trading volume of NT\$17,202.0 billion. The third most actively traded were bank debentures, accounting for 3.56% of total transactions with an annual trading volume of NT\$2,376.9 billion. International bonds, foreign bonds, and asset securitization products made up marginal shares of 2.91%, 0.04%, and 0.03% in total transactions, with their respective annual trading reaching NT\$1,946.8 billion, NT\$29.4 billion, and NT\$34.7 billion.

Bond Transactions in the Taipei Exchange

Unit: NT\$ Billion

Year/ Month	Total	Outright Transactions		Repurchase Agreement Transactions	
		Amount	Share(%)	Amount	Share(%)
2014	68,032.4	14,706.0	21.6	53,326.4	78.4
2015	67,725.7	15,414.3	22.8	52,311.4	77.2
2016	66,817.9	14,573.7	21.8	52,244.3	78.2
2016/ 1	6,273.7	1,782.9	28.4	4,490.9	71.6
2	3,822.7	911.7	23.9	2,911.0	76.1
3	6,173.8	1,508.0	24.4	4,665.8	75.6
4	4,808.9	848.1	17.6	3,960.8	82.4
5	5,622.4	1,388.0	24.7	4,234.3	75.3
6	5,707.5	1,434.1	25.1	4,273.5	74.9
7	5,732.8	1,263.6	22.0	4,469.2	78.0
8	6,482.2	1,397.3	21.6	5,084.9	78.4
9	5,619.7	1,043.2	18.6	4,576.5	81.4
10	5,425.2	1,137.0	21.0	4,288.2	79.0
11	5,822.7	1,075.6	18.5	4,747.1	81.5
12	5,326.2	784.1	14.7	4,542.1	85.3

Source: TPEx.

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				
2014	68,032.4	49,776.5	14,296.9	753.9	2,483.3	89.5	33.2	599.2
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
2016/ 1	6,273.7	4,451.1	1,376.4	56.2	225.8	1.2	3.2	159.8
2	3,822.7	2,434.6	975.9	35.4	174.3	1.2	3.1	198.2
3	6,173.8	4,362.7	1,368.2	71.1	226.8	2.5	2.5	140.1
4	4,808.9	3,224.6	1,211.6	52.2	200.6	0.7	2.3	117.0
5	5,622.4	3,799.4	1,323.0	45.6	219.9	0.6	2.7	231.2
6	5,707.5	3,803.1	1,447.3	48.3	194.8	1.7	2.4	209.9
7	5,732.8	4,044.4	1,309.6	57.7	174.5	0.4	2.1	144.1
8	6,482.2	4,471.6	1,521.0	61.5	178.5	4.9	2.3	242.4
9	5,619.7	3,793.4	1,373.9	48.7	200.5	0.9	3.1	199.2
10	5,425.2	3,732.7	1,364.2	45.5	181.2	1.7	1.9	98.0
11	5,822.7	3,878.8	1,577.4	64.5	182.8	1.6	1.5	116.1
12	5,326.2	3,246.9	1,698.4	68.6	217.1	2.1	2.3	90.8

Source: TPEx.

Central Bank Operations

III. Central Bank Operations

1. Overview

For the year 2016, the global economy expanded at a slower pace, and uncertainties over the international economy remained, thus putting a drag on the domestic economic recovery. Against such a backdrop, along with a widened negative output gap and subdued inflation expectations, the CBC lowered policy rates twice on March 25 and July 1, respectively, by a total of 25 basis points to foster economic growth.

In response to economic and financial conditions, the CBC continued to issue certificates of deposit (CDs) to manage market liquidity, maintain reserve money at appropriate levels, and sustain steady growth in monetary aggregates. Moreover, the CBC increased the bidding amounts of 364-day CDs. The outstanding balance of CDs issued by the CBC was NT\$7,587.3 billion at the end of the year, rising by NT\$42.6 billion or 0.56% from the end of the previous year. In terms of money supply, M2 growth averaged at a pace of 4.51% for the year as whole, within the CBC's target range of 2.5% to 6.5%, indicating there was sufficient liquidity to support economic activity.

Since the CBC introduced targeted macroprudential measures on the real estate sector, financial institutions have improved credit risk management associated with real estate lending. On the other hand, the government gradually rolled out relevant taxation schemes and implemented measures to sustain housing market soundness, both helping to dampen speculative demand. Based on these developments, the CBC announced in March 2016 to repeal the rules imposed on home mortgage loans and land loans, except for high-value housing loans.

With respect to foreign exchange management, the CBC steadily promoted the internationalization of capital markets and revised relevant foreign exchange regulations in continual cooperation with the FSC. In 2016, adjustments to forex business made by the CBC included easing regulations governing foreign exchange business performed by insurance companies, approving the issuance of negotiable certificates of deposit denominated in Australian dollars, and continuously streamlining electronic forex business application procedures for banking enterprises amid a rising wave of financial digitization.

In order to enhance the safety and efficiency of payment system operation, the CBC stepped up efforts to reinforce financial infrastructure. During 2016, the CBC enhanced further the foreign currency clearing platform by launching services for Australian dollar clearing and foreign currency fee collection via the platform. The new functions markedly reduces foreign currency remittance fees.

2. Monetary Management

In 2016, moderation in global economic growth and uncertainties surrounding the international economy hampered domestic growth. Taking into account a lingering negative output gap and mild inflation expectations, the CBC judged that policy rate cuts would be conducive to economic growth. The CBC continued to absorb excess funds from financial markets to maintain liquidity at an appropriate level. In addition, the CBC revised targeted macroprudential measures and continued to closely monitor financial institutions' management of real estate-associated credit risks to ensure financial stability. The CBC also continued to enhance the financing mechanism for small and medium-sized enterprises (SMEs) in order to expand banks' lending to SMEs.

Lowering Policy Rates to Promote Economic Growth

In view of both international and domestic economic and financial conditions, the CBC kept monetary conditions accommodative to foster economic growth. The CBC cut policy rates in March and July, respectively, by a total of 0.25 percentage points. At the end of 2016, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral were 1.375%, 1.750%, and 3.625%, respectively.

The four policy rate cuts since the second half of 2015 have brought the cumulative reduction to 0.5 percentage points, and maintaining such an accommodative monetary policy stance has helped to boost economic growth.

CBC Policy Rates

Unit: % (percent per annum)

Effective Date	Discount Rate	Accommodation Rate with Collateral	Accommodation Rate Without Collateral
2015 / Sep. 25	1.750	2.125	4.000
Dec. 18	1.625	2.000	3.875
2016 / Mar. 25	1.500	1.875	3.750
Jul. 1	1.375	1.750	3.625

Source: *Financial Statistics Monthly*, CBC.

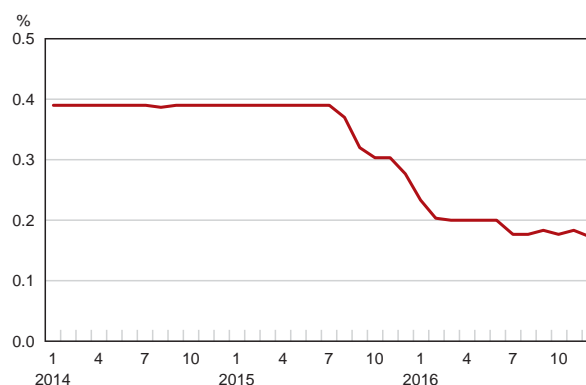
Continuing Open Market Operations to Absorb Excess Liquidity

In 2016, the CBC continued to conduct open market operations by issuing certificates of deposit (CDs) to maintain reserve money and overnight call loan rates at appropriate levels. The average annual growth rate of reserve money in 2016 was 5.92%, while M2 recorded an annual growth rate of 4.51%, within the CBC's target range of 2.5% to 6.5%.

In response to the demand for asset allocation of financial institutions, the monthly amount of 364-day CDs issued increased from NT\$150 billion to NT\$160 billion from February onwards. The total value of CDs issued amounted to NT\$66,995 billion in 2016, and the total outstanding amount of CDs issued by the CBC was NT\$7,587 billion at the end of the year.

Against a backdrop of a slow recovery for the domestic economy and sluggish credit demand, along with two policy rate cuts, the non-competitive bidding rates on CDs also changed. Consequently, in 2016, the rates on 1-30 day CDs fluctuated for the first eight months within the range of 0.579% to 0.699% until hitting a plateau in the last four months, and ended the year at 0.580%. Furthermore, the rates on 31-91 day and 92-182 day CDs both exhibited steady downtrends from 0.790% and 0.910% in January to 0.650% and 0.770% at the end of the year, respectively. On the other hand, the rates on 274-364 day CDs swung between 0.338% and 0.375% for the first eleven months, and then rose sharply to 0.583% in December because of a stronger demand for funds. Meanwhile, the rates on 2-year CDs generally displayed a similar pattern, staying within the range of 0.405% to 0.502% for the first eleven months, and then climbed to 0.705% at the end of the year.

Overnight Call Loan Rate



Source: Financial Statistics Monthly, CBC.

Open Market Operations

Unit: NT\$ Billion; %

Year/ Month	Amount Absorbed	Amount Offered	Weighted Average Rate on CDs Issued				
	Issues of CDs	Redemptions of CDs	1-30 Days	31-91 Days	92-182 Days	274-364 Days	2 Years
2014	67,187	66,955	0.870	0.930	1.050	0.575	0.786
2015	68,418	67,877	0.842	0.911	1.031	0.502	0.617
2016	66,995	67,103	0.619	0.701	0.823	0.375	0.458
2016/ 1	5,750	5,799	0.682	0.790	0.910	0.351	0.427
2	5,471	5,438	0.699	0.790	0.910	0.349	0.428
3	6,759	6,813	0.664	0.781	0.899	0.363	0.436
4	5,235	5,195	0.654	0.720	0.840	0.375	0.442
5	5,503	5,587	0.608	0.720	0.840	0.370	0.437
6	6,061	5,994	0.625	0.720	0.840	0.360	0.434
7	5,219	5,130	0.583	0.650	0.770	0.344	0.413
8	5,877	5,835	0.579	0.650	0.770	0.338	0.405
9	5,217	5,265	0.581	0.650	0.770	0.342	0.421
10	5,439	5,393	0.581	0.650	0.770	0.356	0.449
11	5,241	5,326	0.580	0.650	0.770	0.371	0.502
12	5,224	5,327	0.580	0.650	0.770	0.583	0.705

Source: Financial Statistics Monthly, CBC.

Average overnight call loan rates gradually declined, dropping from 0.233% in January to 0.178% in August. Afterwards, average overnight call loan rates stayed at relatively low levels, recording 0.174% at the end of the year.

Revising Targeted Macroprudential Measures Governing Real Estate Loans

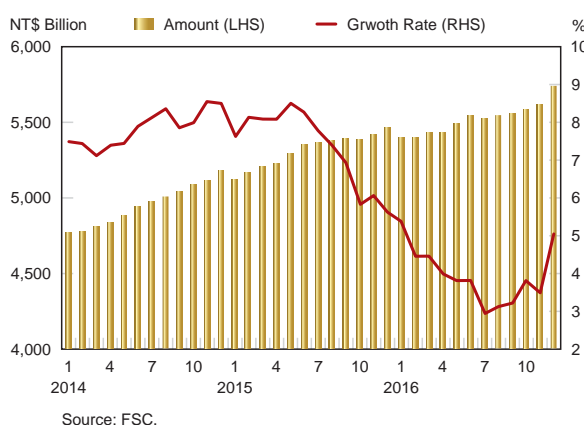
1. Since the CBC introduced targeted macroprudential measures on the real estate sector in June 2010, banks' management of real estate-associated credit risks has improved. In addition, as the government rolled out several relevant taxation schemes and implemented measures to sustain housing market soundness, speculative demand has tapered off. However, given that largely volatile high-value housing prices may raise banks' real estate-associated credit risks, the CBC repealed most rules imposed on home mortgage loans and land loans in March, except for high-value housing loans. The CBC also urged banks to exercise self-discipline on risk management of home mortgage loans and land loans.
2. 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.

Enhancing the SME Financing Mechanism

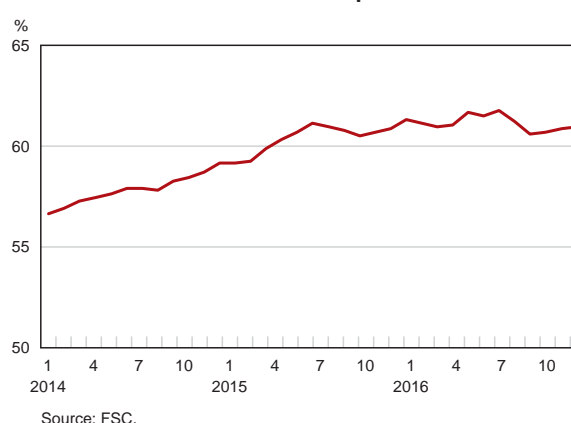
To sufficiently meet SME's funding needs, the Financial Supervisory Commission (FSC) continued the program of encouraging lending to SMEs by domestic banks. Meanwhile, the CBC urged commercial banks to increase lending to SMEs.

At the end of 2016, the outstanding loans extended to SMEs by domestic banks amounted to NT\$5,727 billion, increasing by NT\$274 billion from the end of the previous year. The ratio of the outstanding loans extended to SMEs to those extended to private enterprises rose slightly from 61.32% at the end of 2015 to 61.56% at the end of 2016.

Outstanding Loans Extended to SMEs



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



Redeposits of 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 2016, 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 also stayed unchanged to NT\$384 billion.

3. Foreign Exchange Management

For the year 2016, the CBC followed the established managed float regime to maintain an orderly foreign exchange (FX) market. Sufficient seed funds were provided by the CBC for the Taipei Foreign Currency Call Loan Market. The CBC's foreign exchange reserves increased by US\$8.2 billion mainly owing to returns on investments. With the addition of foreign currency fee collection services, the function of the foreign currency clearing platform is nearly complete. Moreover, from February 6, 2013, when domestic banking units (DBUs) were allowed to conduct renminbi (RMB) business, up to the end of 2016, the total amount of DBUs' cross-strait RMB remittances was RMB1,872.4 billion, and DBUs and OBUs recorded a combined balance of RMB311.4 billion on RMB deposits.

Foreign Exchange Market Management

Taiwan's exchange rate is in principle guided by the market mechanism. The CBC conducts "leaning against the wind" operations when there is excessive exchange rate volatility. Indeed, according to behavioral macroeconomic analysis, "leaning against the wind" policies can effectively eliminate excessive exchange rate fluctuations and enhance FX market efficiency. In recent years, frequent and massive capital movement has replaced trade or economic fundamentals to become the major factor affecting short-term exchange rate variation. This development increases the need for the CBC to maintain foreign exchange market order. Therefore, Taiwan has adopted a managed float regime, which allows exchange rate flexibility and FX intervention and helps diminish or prevent speculative attacks.

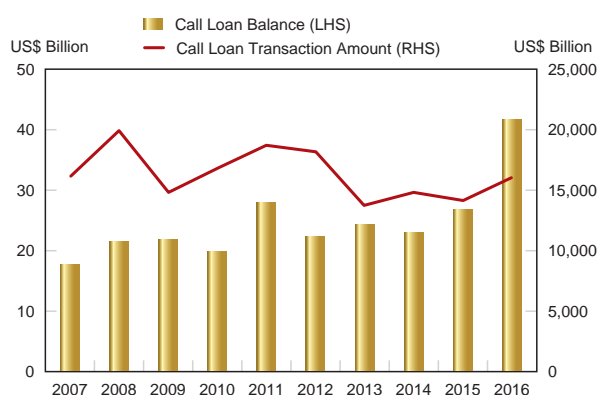
In 2016, the CBC continued to implement the Real-Time Reporting System for Large-Amount Foreign Exchange Transactions to keep the market orderly. Moreover, reinforced examination efforts were made to ensure that forward transactions were based only on actual transactions. The CBC also urged authorized banks to enhance their exchange rate risk management.

Management of Foreign Currency Call Loan and Swap Markets

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.

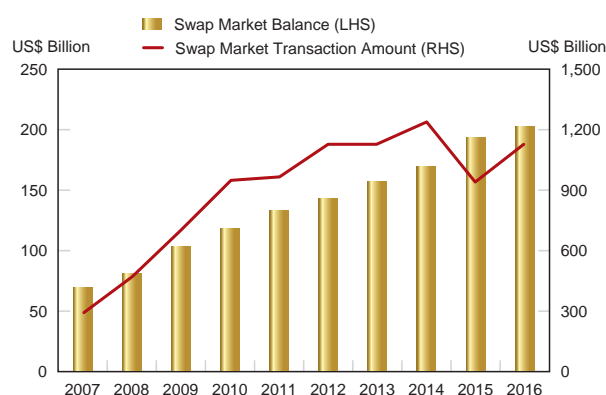
Furthermore, the CBC continued to conduct foreign currency swap transactions with banks and offered foreign currency call loans to banks so as to facilitate smooth corporate financing. During 2016, the volume of foreign exchange call loan transactions reached US\$1,593.4 billion, 13.2% more than that of 2015, while the balance at the end of 2016 was US\$41.4 billion. The volume of

Call Loan Market Transaction Amount and Balance



Source: Department of Foreign Exchange, CBC.

Swap Market Transaction Amount and Balance



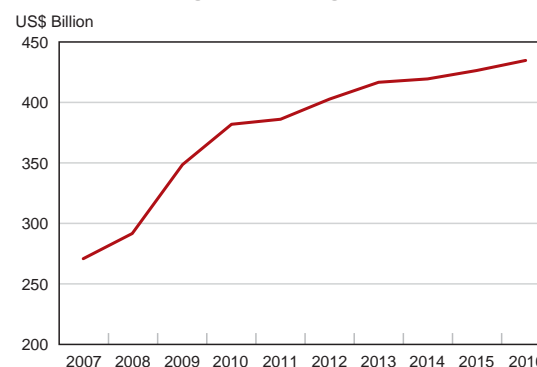
Source: Department of Foreign Exchange, CBC.

foreign currency-NTD swap transactions reached US\$1,130.5 billion, 20% more than 2015, while the balance was US\$205.4 billion at the end of 2016.

Foreign Exchange Reserve Management

At the end of 2016, total foreign exchange reserves stood at US\$434.2 billion, a US\$8.2 billion increase (or 1.9%) from the end of 2015, mainly attributable to returns from foreign exchange reserve investments.

Foreign Exchange Reserves



Source: Department of Foreign Exchange, CBC.

Capital Flow Management

The CBC's foreign exchange management mainly relies on the market mechanism, and capital can, in principle, flow freely in and out of Taiwan. As of 2016, 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 2016 included:

1. Promoting the internationalization of Taiwan's capital market

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	15	NTD 7.85 billion
	NTD convertible bonds	7	NTD 4.45 billion
	International bonds	54	USD 47.92 billion RMB 8.22 billion AUD 0.18 billion ZAR 0.45 billion NZD 0.06 billion
Domestic companies	Overseas convertible bonds	7	USD 1.16 billion

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

2. Approving residents' investments in foreign securities

Residents' investments in Foreign Securities Approved by the CBC

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	78 domestic SITE funds (including 42 NTD-foreign multiple currency SITE funds)	NTD 1,476.5 billion (multiple currency funds: NTD 781 billion)
	5 SITE private funds	NTD 8.9 billion
	3 domestic futures trust funds for qualified persons	NTD 125 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.3 billion
	Investment for their own accounts	USD 4.1 billion
	Lowering overseas investment hedge positions	USD 0.7 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 11 billion
Chunghwa Post	Presell forward FX in order to hedge own investment interest	USD 0.12 billion

Source: Department of Foreign Exchange, CBC.

3. Loosening the regulations regarding foreign exchange remittances

To promote the development of Taiwan as a key offshore renminbi market and to aid the

internationalization and product diversification of the futures market, starting from June 27, 2016, banks were allowed to conduct FX settlement declarations for transactions of renminbi/USD exchange rate options listed on the Taiwan Futures Exchange (TFE) conducted by the TFE or futures firms.

Management of the Foreign Exchange 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 and authorizes banks to conduct FX business and be supervised accordingly. In 2016, the CBC continued to approve bank branches as authorized FX banks and loosened restrictions on FX derivative product business in order to promote authorized FX banks' competitiveness and quality of services. Related developments in 2016 are as follows:

(1) Number of authorized FX banks and overseas branches increased:

- A. At the end of 2016, there were 3,427 authorized FX banks in total, which included 39 head offices and 3,389 branches of domestic banks, 35 branches of 26 foreign banks, three branches of Mainland Chinese banks, as well as 1,265 authorized money exchangers, post offices, and financial institutions authorized to engage in basic foreign exchange business.
- B. The CBC also approved two cases for authorized FX banks to establish branches in Mainland China, and 12 cases for domestic banks to set up branches abroad.

(2) The CBC prudently approved new FX products:

- A. In terms of new FX products, 15 derivatives were approved in 2016 after prudent review.
- B. On September 20, the CBC revised the *Directions for Issuance of Foreign-Currency Denominated Negotiable Certificates of Deposit by Banks*, adding the Australian dollar in the currency denomination of the said product type.

(3) The CBC actively assisted banks to take advantage of business opportunities in the digital age, and promoted related businesses:

- A. On May 16, the CBC announced that customers of authorized FX banks may use internet banking to pre-designate foreign currency deposit accounts, including others' accounts in the same bank or the same person's accounts in other banks, to conduct FX related business.
- B. On June 6, the CBC announced that authorized FX banks may conduct FX ATM business, including cardless same-bank foreign currency withdrawals.

(4) The CBC continued to improve the operating procedures for FX business conducted by authorized FX banks through two amendments of relevant directions:

- A. On April 28, the CBC revised the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business* to be in line with the directions of the Financial Action Task Force (FATF) regarding FX electronic remittances. The amendment stipulated that banks managing FX business should ensure know your customer (KYC) procedures and the electronic messages for FX remittances should include the required information about the payers and the payees.
- B. On September 9, the CBC revised the *Regulations Governing Foreign Exchange Business of Banking Enterprises* so that prior application was required for authorized banks to conduct new, complex, high risk FX derivatives business for customers except professional institutional investors and high net worth corporate investors.

2. Insurance companies

- (1) Up to the end of 2016, 21 insurance companies were allowed to engage in foreign currency investment-linked insurance business, and 22 insurance companies were permitted to conduct business in relation to traditional foreign currency insurance products. The 2016 foreign currency premium revenue was US\$22.9 billion, 1.7% less than that of 2015.
- (2) In order for a timely review and improvement of FX business of the insurance industry, the *Regulations Governing Foreign Exchange Business of Insurance Enterprises* was revised twice within 2016:
 - A. On March 23, the CBC removed the restriction that the subject matter insured of a non-life insurance policy denominated in foreign currency should exclude domestic real estate, and allowed insurance companies to engage in foreign currency loans made as one of the participants of a foreign-currency syndicated loan.
 - B. On December 30, the CBC announced the exceptions where NTD receipt and payment may be used for foreign currency-denominated non-life insurance policies and the relevant settlement matters.

3. Securities firms, bills finance firms, securities investment trust and consulting firms and futures firms

- (1) On May 11, in response to the TWSE's plans to offer foreign currency beneficiary certificates under the corresponding ETFs, the CBC stipulated how the TWSE, the Taiwan Deposit and Clearing Corporation, and securities firms should apply for related FX business, as well as the supporting rules. On May 23, the TWSE was granted the approval to conduct the above business.
- (2) The approved cases granted by the CBC for securities firms, bills finance firms, investment trust and investment consulting firms and futures firms to manage FX business as of 2016, are shown in the following table:

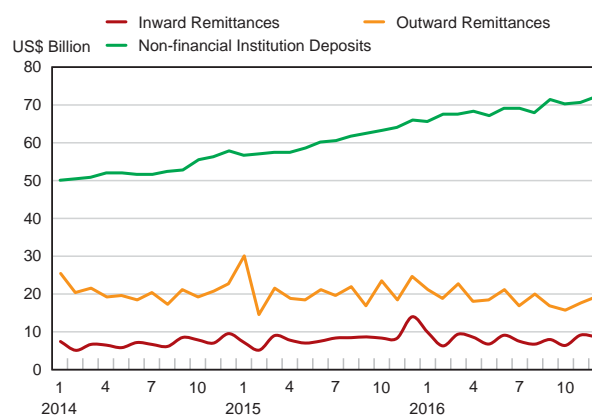
Institution	FX business	Number
Securities firms	Agents for foreign bond trading	2
	Underwriting international bonds	2
	Proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs	3
	Non-discretionary individually managed money trust wealth management	1
	FX spot transactions	1
	FX forward transactions	1
	FX SWAP transactions	1
	Brokerage trading of onshore and offshore funds	1
	Domestic foreign currency ETF liquidity providers	2
Bills finance firms	Foreign currency bills certification, underwriting, brokerage and dealing	1
investment trust and investment consulting firms	Mandated institution of private offshore funds	8
	Foreign currency discretionary investments in foreign securities	3
	Conducting public offer or private placement of foreign currency-denominated funds	1
Futures firms concurrently operating leverage transaction merchants	Foreign currency margin trading	1

Source: Department of Foreign Exchange, CBC.

4. Offshore Banking Units (OBUs)

- (1) At the end of 2016, all OBU assets totaled US\$186.0 billion, which was US\$4.1 billion or 2.3% more than the previous year end. Domestic banks owned 88.1% of the OBU assets, while foreign banks owned 11.9%.
- (2) In 2016, the total OBU FX trading amount was US\$683.5 billion, down by 36% from 2015.
- (3) In 2016, the performance of cross-strait OBU financial business was mixed:

OBUs' Non-financial Institution Deposits and Cross-Strait Remittances



A. The cross-strait remittances decreased by 7.6% from a monthly average of US\$28.53 billion in 2015 to US\$26.36 billion in 2016.

B. At the end of 2016, non-financial institutions' deposits reached US\$72.24 billion, a 9.2% increase from a year ago.

5. Offshore Securities Units (OSUs)

At the end of 2016, 17 OSUs were approved and established, and total OSU assets reached US\$3.58 billion; total OSU pretax net profits in 2016 were US\$52 million.

6. Offshore Insurance Units (OIUs)

Up to the end of 2016, 20 insurance firms were approved to establish OIUs, and 18 of the approved cases were set up. Total OIU assets reached US\$0.21 billion; total OSU pretax net profits in 2016 were US\$1.6 million.

RMB Exchange Business Slowed During 2016

1. Since February 6, 2013, when authorized FX banks or DBUs began to conduct RMB business, domestic RMB business has been flourishing. However, the pace of progress slowed during 2016.

2. By the end of 2016, there were 68 DBUs and 59 OBUs engaging in RMB business. The balance of RMB deposits amounted to RMB311.4 billion, 2.5% lower than the end of 2015; RMB remittances totaled RMB1,872.4 billion in 2016, 38.5% lower than 2015; and RMB settlement through the Taipei Branch of the Bank of China totaled RMB4,036.6 billion, 21.4% lower than 2015.

3. RMB investment business conducted by financial institutions as of the end of 2016 is shown in the following table.

RMB Business Conducted by Financial Institutions

Unit: RMB Billion

Business items	Amount
Deposit balance (include NCDs, end of 2016)	311.4
Total remittances (February 2013 till December 2016)	6,889.1
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2016)	14,675
Total value of 109 RMB-denominated bonds issued (up to the end of 2016)	70.8
Accumulated premium receipts from RMB-denominated investment-linked insurance business (up to the end of 2016)	1.8
Accumulated premium receipts from RMB-denominated traditional insurance business (up to the end of 2016)	1.7

Source: Department of Foreign Exchange, CBC.

Expanding Foreign Currency Clearing Platform

1. The CBC began efforts to establish a domestic USD clearing mechanism in September 2008 and officially launched the system on December 6, 2010. Afterwards, the CBC cosigned the Financial Information Service Co. to set up a foreign currency clearing platform, which started operating in March 2013. The platform also began services for domestic and cross-border US dollar and RMB remittances, and adopted a payment-versus-payment (PVP) mechanism among banks and a liquidity-saving mechanism for foreign currency remittances. In 2015, the CBC made domestic and cross-border yen and euro remittances available on the platform, as well as a delivery-versus-payment (DVP) mechanism for foreign currency bonds and bills.
2. By the end of 2016, the scope of services provided by the platform was nearly complete. It helps to promote the efficiency of foreign currency remittances, significantly reduces the remittance fees, improves the safety and efficiency of payment systems, and boosts the development of financial services.

The Development of Domestic Foreign Currency Settlement Business

Currency	Domestic participating units	Settlements in 2016	
		Transactions	Amount
US dollar	70	999,765	USD1,000.8 billion
Renminbi	61	183,145	RMB 401.1 billion
Yen	42	26,144	JPY 967.5 billion
Euro	41	15,678	EUR 3.8 billion
Australian dollar	29	1,387	AUD 137 million

Source: Department of Foreign Exchange, CBC.

4. 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, appropriate policies can be adopted in a timely manner to achieve the operational goal of financial stability.

On-Site Examination

Targeted examinations in 2016 included 921 earthquake reconstruction loans, commercial banks' offered interest rates, required reserves, checking deposits account file creation, counterfeit money detection, foreign exchange derivatives transactions, foreign exchange remittances, 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.

Off-Site Monitoring

To reflect changing financial conditions and regulatory amendments and to fully understand the dynamics of financial institutions' business operations, the CBC reviews and revises as necessary all relevant reporting forms and contents of statistical data submitted by financial institutions. Developments related to off-site monitoring in 2016 included the following:

- (1) To fully understand associated default risks of commercial banks' business operation in financial derivatives, the CBC reviewed the related reporting format and content for domestic banks and local branches of foreign banks and Mainland Chinese banks in Taiwan.
- (2) The reporting format and content of "interest rate sensitivity analysis" and "domestic bank lending to Mainland Area" were modified to meet the needs for comprehensive financial supervision.
- (3) Additional indicators for domestic banks' asset quality, namely "non-performing ratio of house-purchasing loans" and "non-performing ratio for construction loans," were included. The statutory minimum for Capital adequacy indicators, including "eligible capital to risk-weighted assets

ratio," "tier 1 capital ratio," and "common equity ratio," were also adjusted.

- (4) A new indicator, "ratio of amount due from the head office and overseas branches to total assets," was added to better inform the assessment of management soundness in local branches of foreign banks and Mainland Chinese banks. In addition, the weights and classification standards of relevant assessment criteria were also adjusted.
- (5) In response to pertinent regulatory changes, grading criteria of the asset quality indicator "non-performing loan ratio" of credit departments of farmers' associations were adjusted.

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. As a result, operational transparency of financial institutions has strengthened, and market self-discipline has been reinforced.

Financial Stability Assessment

The CBC compiles financial soundness indicators and develops a macro model based on the Basel III framework for evaluating banks' market risks, so that the relevant authorities, market participants, and the public are kept informed of the status and sources of financial system risks in Taiwan. In 2016, the tenth Financial Stability Report was issued. These publications help promote cross-border communication and information sharing with regard to Taiwan's financial stability and surveillance.

International Cooperation in Financial Supervision

In 2016, the CBC continued to actively engage in international cooperation related to financial supervision, such as the seventh SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision.

5. 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

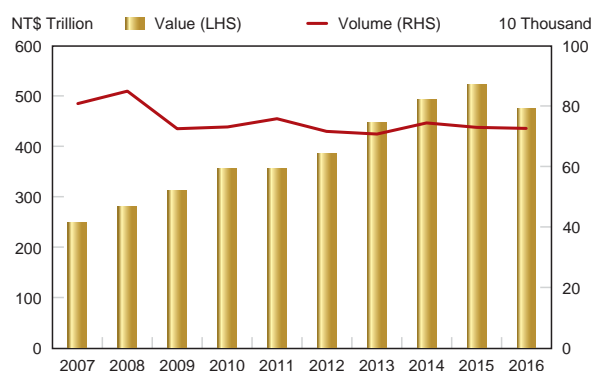
The CIFS is a large-value electronic funds-transfer system. In addition to dealing with interbank funding, reserve requirement adjustments and funds settlements in financial markets, the CIFS also provides interbank final settlement services to each clearing institution.

At the end of 2016, participants of the CIFS included 68 banks, eight bills finance companies, and seven other institutions including Chunghwa Post, Taipei Post Office, the FISC, the TCH, the TWSE, the TPEX, and the NCCC. In the year 2016, the number of transactions via the CIFS was 723,955, and the amount of funds transferred totaled NT\$477 trillion. Meanwhile, the daily average number of transactions via the CIFS reached 2,943, and the daily average amount of funds transferred was NT\$1,939 billion, decreasing by 8.97% over the previous year. The decline was primarily because the CBC reduced the issuance of short-term certificates of deposit (CDs), leading the maturities of CDs to extend.

(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

Transaction Value and Volume of the CIFS



Source: Department of Banking, CBC.

form. In October 2001, treasury bills were included in this system and have been issued in book-entry form ever since.

The CGSS linked up with the CIFS in April 2008. Since then, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a delivery-versus-payment (DVP) mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system to ensure that securities delivery occurs almost at the same time as the funds transfer, effectively mitigating potential risks during the transaction process.

There were 17 clearing banks with 1,690 branches that handled the registration of central government securities transfers at the end of 2016. During 2016, 258,000 transfers with a total amount of NT\$31.2 trillion were processed by this system.

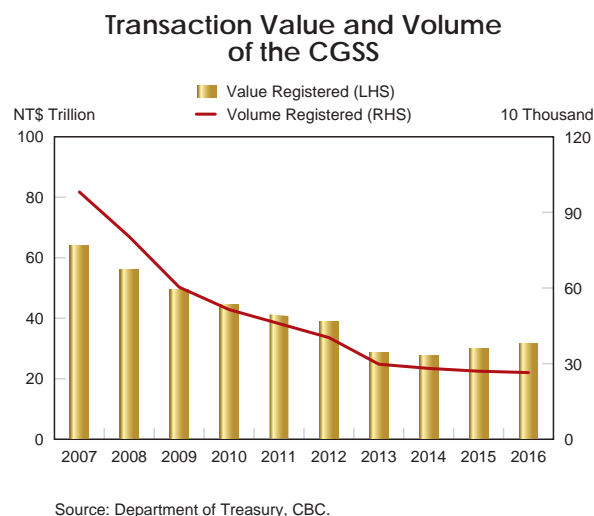
Monitoring Payment and Settlement Systems

The CBC monitors the payment and settlement systems on a periodic basis to maintain their safety and efficiency. In 2016, the CBC's monitoring activities in this regard included the following:

- (1) Requiring payment system operators and payment instrument issuers to provide detailed information on their operations and activities as a basis for monitoring payment systems.
- (2) Supervising clearing institutions to perform regular drills on operating backup systems and implementing contingency plans in case of emergency to ensure business continuity.
- (3) Inviting the Financial Supervisory Commission and clearing institutions such as the FISC, the TDCC, and the TCH to jointly hold conferences on "Promoting Sound Operation of the Payment Systems" with themes of "How to Respond to the Possible Impacts and Challenges Posed by Financial Technology Development" in May and "Strengthening Information Security Management and Improving System Security and Efficiency" in November, in order to urge clearing institutions to better prepare for the impacts and challenges arising from the development of financial technology.

Expanding the Foreign Currency Clearing Platform

To further reinforce Taiwan's payment systems, and in line with the establishment of the cross-strait RMB clearing mechanism, the CBC consigned the FISC in 2012 to set up a foreign currency



clearing platform. Domestic and cross-strait remittances in foreign currencies such as the US dollar and the renminbi can be settled directly through the platform, without being transferred to the third country (e.g., European countries, the U.S., or Hong Kong) for settlement.

The foreign currency clearing platform was launched in March 2013, and the functions of the platform were gradually expanded. Up to the end of 2015, remittances of the US dollar, the renminbi, the Japanese yen, and the euro were available on the platform. This platform was connected with offshore clearing systems in Mainland China, Japan, and the euro area to provide cross-border remittances. Furthermore, being linked up with the domestic central depositories and clearing systems enabled the platform to be connected with international depositories such as Euroclear and Clearstream to offer settlement service for international bonds. Progress achieved in the foreign currency clearing platform helped to facilitate the development of Taiwan's financial services industry. In 2016, the platform continued to be expanded with the new services below:

- (1) Domestic remittances of the Australian dollar were launched in October.
- (2) Foreign currency collection services were available from December.

Disclosing Results of Payment and Settlement System Assessment in Line with BIS Principles

In order to ensure that Taiwan's payment and settlement systems comply with international standards, the CBC required the units in charge of operating major payment and settlement systems to conduct self-assessments against the Principles for Financial Market Infrastructures designed by the BIS. In 2016, the CBC started to request all participating units (including the Department of Banking of the CBC, the FISC, and the TCH) to publish assessment reports both in English and Chinese on their respective official websites after the assessments were completed.

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

In response to the possible impacts brought about by rapidly developing financial technology on the banking industry and financial supervision in recent years, the CBC continued to keep close watch on the development of financial technology and undertook the following actions:

- (1) Urging the FISC in collaboration with financial institutions to organize the "Financial Blockchain Research and Application Development Committee" in order to plan on establishing an interconnected financial blockchain platform.
- (2) Instructing the TCH to carry out an outsourced research program with a focus on the applications of blockchain technology in financial services.

6. Currency Issuance

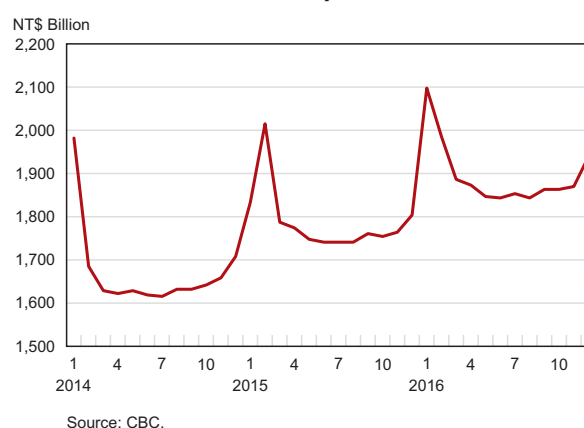
For the year 2016, the CBC conducted currency issuance with the aim of maintaining an adequate supply of currency to meet public demand, which is dependent on domestic economic conditions, seasonal factors, and the development of noncash payment instruments. In addition, the CBC also issued commemorative coin sets to mark national events.

Currency Issuance Rose in Response to Currency Demand

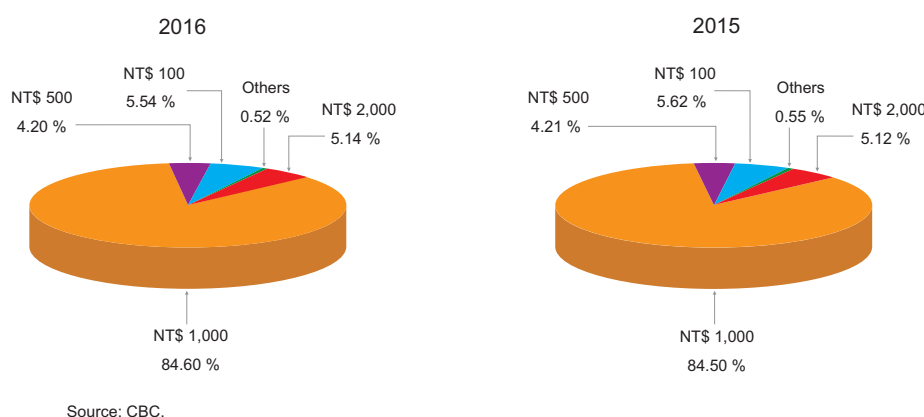
In 2016, the CBC provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,233.9 billion on February 5, the business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT\$1,938.1 billion, representing an increase of NT\$133.5 billion or 7.40% over the previous year end.

At the end of 2016, the composition of NT dollar banknotes in circulation by denomination was similar to the end of 2015. The NT\$1,000 note accounted for the lion's share at 84.60%, followed by the NT\$100 (5.54%) and the NT\$2,000 (5.14%) notes.

Currency Issued



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



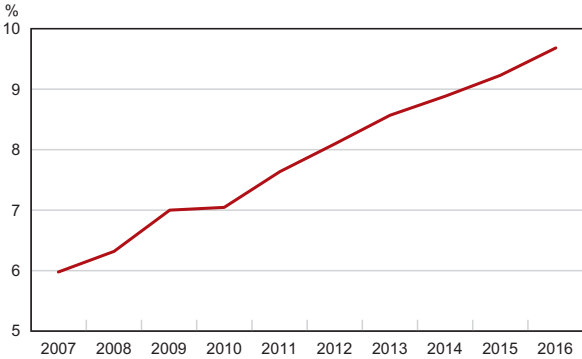
Currency in Circulation to GDP Ratio Increased

Owing to the low interest rate environment since September 2008, the public began to increase their currency holdings, and the ratio of currency in circulation to GDP continued to rise. It stood at 9.68% in 2016, a 0.46 percentage point gain over the previous year.

Three 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 2016, the CBC issued a casting set of coins for the Chinese Zodiac Year of the Monkey, the commemorative gold and silver coins for the inauguration of the Fourteenth President and Vice President of the Republic of China (Taiwan), and the fifth coin set of the National Parks of Taiwan series - Shei-Pa National Park.

The Ratio of Currency Held by the Public to GDP



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

7. Fiscal Agency Functions

The CBC acts as a banker to the central government as well as to financial institutions. As the fiscal agent of the government, the CBC provides various services for the national treasury, including handling the treasury deposit account (TDA), managing central government agency deposit accounts, and undertaking the issuance, transfer and registration, redemption, and interest payment of central government bonds and treasury bills.

Managing the Treasury Deposit Account

The 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 359 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,728 tax collection agencies set in financial institutions. In 2016, the CBC received a total of NT\$3,339.2 billion in treasury deposits, increasing by NT\$74.9 billion or 2.29% from 2015. Payments made on behalf of the national treasury were NT\$3,333.5 billion, an increase of NT\$80.8 billion or 2.48% over the previous year. At the end of 2016, the TDA balance was NT\$27.3 billion, an increase of NT\$5.6 billion or 25.81% from the end of 2015.

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 2016, the balance of central government agencies' deposits with the CBC amounted to NT\$173.4 billion, an increase of NT\$3.9 billion or 2.30% over the previous year. Deposits with other delegated banks were NT\$526.3 billion at the end of 2016, increasing by NT\$68.6 billion or 14.99%. Among them, redeposits with the CBC registered NT\$11.0 billion, decreasing by NT\$0.4 billion or 3.51% from the previous year end.

Managing Central Government Bonds

As a fiscal agent, the CBC performs 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 2016, the CBC handled 19 issues of central government bonds in book-entry form worth

NT\$563.5 billion and paid NT\$500 billion in principal and NT\$113.9 billion in interest for central government bonds. At the end of 2016, the outstanding amount of central government bonds was NT\$5,542.3 billion, an increase of NT\$63.5 billion or 1.16% from the end of 2015.

Managing Treasury Bills

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

In 2016, the CBC handled eight issues of book-entry treasury bills with a total amount of NT\$217.3 billion. At the end of 2016, the outstanding amount of treasury bills was NT\$89.95 billion, slightly decreasing by NT\$0.05 billion or 0.06% from the previous year end.

8. Participation in International Activities

The CBC actively took part in international activities during 2016. 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 November 2016, the CBC attended the 52nd annual conference of governors held in Nay Pyi Taw, Myanmar. At this conference, the CBC shared views on the impact of financial globalization on monetary policy strategies and operations and offered opinions on stable financial targets within the monetary-policy operation framework. The world economic outlook and emerging international financial issues were also discussed among member banks. Moreover, the CBC hosted the SEACEN Intermediate Course on Payment and Settlement Systems during May 15 to 20.

In addition, 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 Nassau, the Bahamas, during April 7 to 10, the CABEI's Ordinary Meeting of the Board of Governors in Panama city, Panama, on April 28 and 29, the ADB's annual meeting in Frankfurt, Germany, during May 2 to 5, the EBRD's annual meeting of the Board of Governors held in London, the United Kingdom, on May 11 and 12, the BIS annual general meeting in Basel, Switzerland, on June 25 and 26, and the APG annual meeting in San Diego, the United States, on September 6 to 8.



Annex

IV. Annex

The Effectiveness of the CBC's Targeted Macroprudential Measures on Real Estate Loans

After the global financial crisis, repatriation of residents' funds triggered by poor performance of their overseas investments, together with factors such as the substantial reduction in estate and gift taxes, low real estate tax, speculation in pre-sale housing and the extension of subway routes in Taipei metropolitan area, pushed up the demand for houses. Consequently, surging transactions, rising home prices, and increasing concentration on real estate loans of banks have heightened banks' credit risk since the second half of 2009.

To prevent financial institutions' funds from being used for real estate speculation, and to urge financial institutions to enhance credit risk management, the CBC implemented a series of targeted macroprudential measures on real estate loans, such as moral suasion, introducing regulations on real estate loans, and relevant supporting measures. Recently, credit risk management associated with real estate loans has improved. With this backdrop, the CBC lifted relevant restrictions in two phases in 2015 and in 2016, respectively, and passed the responsibility of sound management of real estate lending back to banks.

1. The CBC Adopted Targeted Macroprudential Measures on Real Estate Lending in a Step-by-Step Manner

1.1 Three Waves of Moral Suasion from October 2009

Concerned about surging housing prices and increasing concentration on real estate loans by banks, the CBC has employed three waves of moral suasion.

Year/month	Moral Suasion	Contents
2009/10	Urging banks to enhance risk management of housing loans	1. Requiring banks to impose restrictions on loan terms of real estate speculators 2. Requiring banks to submit reports on housing loans every two weeks
2010/9-11	Urging banks to enhance risk management of land collateralized loans	1. Requiring banks to enhance risk management of land collateralized loans 2. Requiring banks to submit monthly reports on land collateralized loans
2012/4	Urging banks to enhance risk management of high-value housing loans	1. Requiring banks to enhance risk management of high-value housing loans 2. Requiring banks to submit monthly reports on high-value housing loans

1.2 Four Rounds of Measures Implemented on Real Estate Loans since June 2010

To provide more specific guidelines regarding these moral suasion concerns for financial institutions to comply with, and in line with the government's policy of "strengthening risk management of real estate lending" under the "Plan to Enhance the Soundness of the Housing Market", the CBC has introduced several rounds of targeted macroprudential measures (i.e., selective credit controls) on real estate loans since June 2010, aiming to further enhance financial institutions' risk management of real estate loans.

Year/month	Measures	Contents
2010/6	Enacting the regulations governing housing loans in Specific Areas	For second or more housing loans for a single borrower who purchases houses in Specific Areas ² , the loans are subject to a cap on loan-to-value (LTV) ratios at 70% with no grace period
2010/12	Amending the regulations governing housing loans in Specific Areas	1. Expanding the scope of Specific Areas ³ and the scope of regulated entities to include corporate legal entities 2. Lowering the LTV ratio cap to 60%
	Enacting the regulations governing land collateralized loans	For loans collateralized by residential or commercial land plots in urban planning districts, borrowers are required to submit concrete construction projects, LTV ratios are capped at 65%, and 10% of approved loans shall be extended only after construction commences
2012/6	Enacting the regulations governing loans for high-value housing loans	Capping LTV ratios of high-value ⁴ housing loans at 60% and removing the grace period
2014/6	Amending the regulations governing housing loans	1. Expanding the scope of Specific Areas ⁵ 2. Capping LTV ratios at 50% for third or more housing loans by a single borrower 3. Revising the definition of high-value housing ⁶ and lowering the LTV ratio ceiling to 50% 4. Lowering the LTV ratio ceiling of housing loans granted to corporate legal entities to 50%, applicable across the country

1.3 Relevant Supporting Measures

To enhance financial institutions' credit risk management of real estate loans, the CBC has also strengthened the collection and analysis of statistical data, conducted targeted financial examinations, and urged banks to exercise self-discipline over housing loans and industrial land collateralized loans.

² Specific Areas here include Taipei City and ten districts in Taipei County covering Banqiao, Sanchong, Zhonghe, Yonghe, Xinzhuang, Xindian, Tucheng, Luzhou, Shulin, and Xizhi. After the administrative rezoning effective December 25, 2010, Taipei County was upgraded to New Taipei City.

³ Three more districts, namely Sanxia District, Linkou District and Tamsui District in New Taipei City, were included.

⁴ Defined as: (1) located in Taipei City or New Taipei City, valued at NT\$80 million or more; (2) located in other areas, valued at NT\$50 million or more.

⁵ Expanding the scope of Specific Areas to include four more districts, namely Wugu District, Taishan District, Bali District, and Yingge District, in New Taipei City and four districts, namely Taoyuan District, Luzhu District, Zhongli District, and Guishan District, in Taoyuan City.

⁶ Redefined as residential properties valued at more than NT\$70 million in Taipei City, NT\$60 million in New Taipei City, and NT\$40 million located elsewhere in Taiwan.

1.3.1 Collecting Statistics of Real Estate Loans and Conducting Targeted Financial Examination

To apprehend the situation of real estate lending by financial institutions, and to monitor if they duly comply with the regulations governed by the CBC, the CBC required financial institutions to submit loan statistics periodically and conducted targeted financial examinations.

Furthermore, the CBC made a proposal at the "Coordination Meeting of Financial Regulators" held in March 2011, recommending the FSC to strengthen financial examinations on real estate loans and dummy account borrowing.

1.3.2 Advising Mortgage Borrowers to Be Mindful of Risks Stemming from Future Interest Rate Changes

In view that interest rate changes may influence borrowers' mortgage interest payments, the CBC requested the Bankers Association of the Republic of China to notify member banks to alert mortgage borrowers to the risks from interest rate changes.

In addition, since mortgage expenditure as a percentage of household income already exceeded 30%, the Board of the CBC reiterated at the September 2013 meeting that borrowers should be mindful of risks from interest rate changes.

1.3.3 Urging Banks to Exercise Self-Discipline on Housing Loans and Industrial Land Collateralized Loans

Year/month	Measures	Contents
2013/3	Urging for self-discipline by banks on housing loans outside the Specific Areas	Banks shall exercise self-discipline with prudent measures on housing loans for properties outside the Specific Areas but already showing a noticeable uptrend in housing prices.
2013/12	Urging for self-discipline by banks on industrial land collateralized loans	In the CBC's meetings with eight major banks self-discipline was called for to keep borrowers from using bank funds for speculative investment in industrial land.
2015/2		The CBC met with the Industrial Development Bureau (Ministry of Economic Affairs), the Banking Bureau and the Financial Examination Bureau (Financial Supervisory Commission), the National Treasury Administration (Ministry of Finance), the Joint Credit Information Center, and ten major banks to discuss the principles of approving industrial land collateralized loans, and to obtain a consensus on terms of idle industrial land collateralized loans; The CBC also urged banks to adopt self-discipline according to the aforementioned principles and to incorporate them into internal credit extension rules.

1.4 Two-Phase Unwinding of Measures on Real Estate Loans from August 2015

Given that financial institutions' credit risk management of real estate loans has improved and the time seemed appropriate to exit macroprudential measures, the CBC made amendments to these measures in two phases.

Year/month	Measures	Contents
2015/8	Relaxing some of the regulations governing housing loans	1. Narrowing the scope of Specific Areas ⁷ 2. Raising the LTV ratio ceiling on housing loans for corporate legal entities, high-value housing loans and a single person's third (or more) housing loans to 60%
2016/3	Repealing the regulations governing real estate loans except for high-value housing loans	1. High-value housing loans to remain regulated in view of volatile house prices and still high concentration of new high-value housing loans which may incur high risks borne by banks 2. Risk management of the other types of housing loans to henceforth rely on banks' own terms and self-discipline

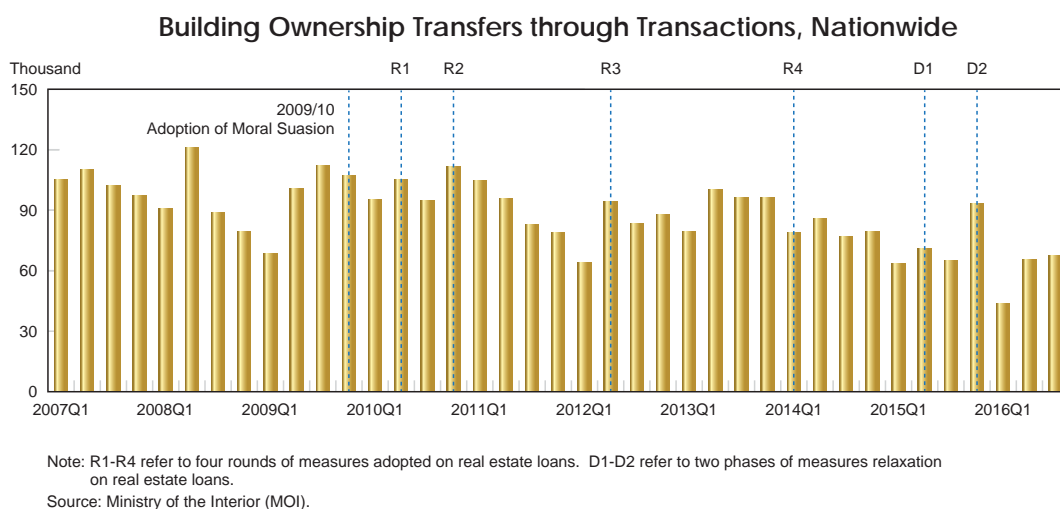
2. Housing Market Returned to Fundamentals As Speculative Demand Abated

With the real estate market rebounding in the second half of 2009, housing prices continued to increase. To sustain financial stability, the CBC implemented targeted macroprudential measures on real estate lending. With these measures, along with the government's real estate-related tax reform (such as raising property tax and levying a consolidated housing-and-land income tax), speculative transactions have decreased and housing loans were mainly taken out by first-time or relocating home buyers. Housing prices trended up at a slower pace and the housing market returned to fundamentals.

2.1 Number of Ownership Transfers through Transactions Decreased

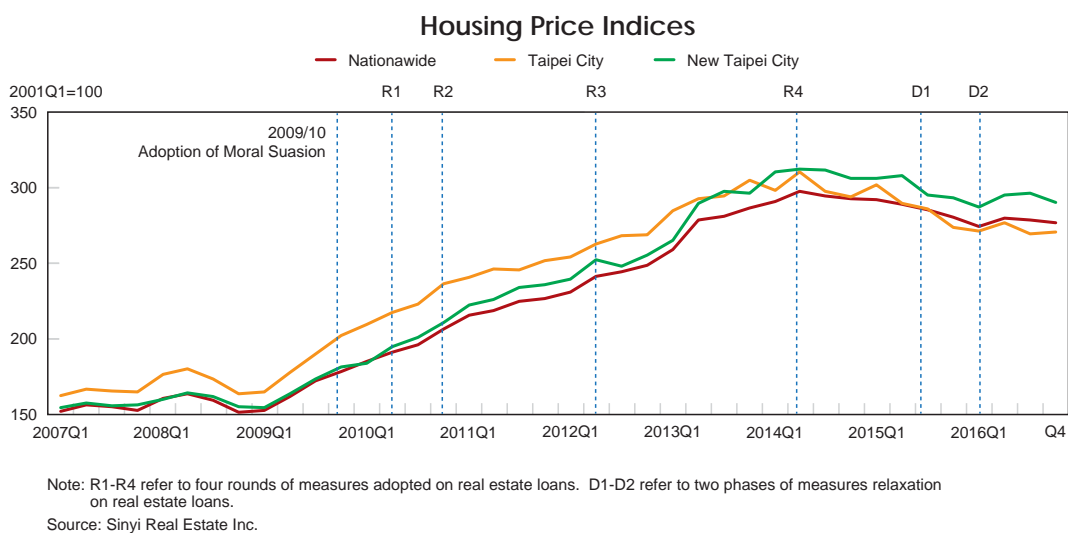
The government introduced the "Plan to Enhance the Soundness of the Housing Market" in April 2010. The CBC also implemented several targeted macroprudential measures progressively to strengthen risk management of real estate loans in line with the aforementioned plan. In addition, the specifically selected goods and services tax was imposed in June 2011 and the property transaction price registration mechanism was launched in August 2012. As a result, housing market transactions moderated. Later on, the regulations governing housing loans were tightened by the CBC in 2014, while people who own multiple houses were faced with a heavier tax burden, and a consolidated housing-and-land income tax was implemented beginning 2016. Consequently, housing market transactions continued to diminish. The number of building ownership transfers through transactions nationwide dropped from 407 thousand in 2010 to 245 thousand in 2016.

⁷ Removed two districts in New Taipei City, namely Bali and Yingge, and four districts in Taoyuan City, namely Taoyuan, Luzhu, Zhongli and Guishan.



2.2 Housing Prices Moderated

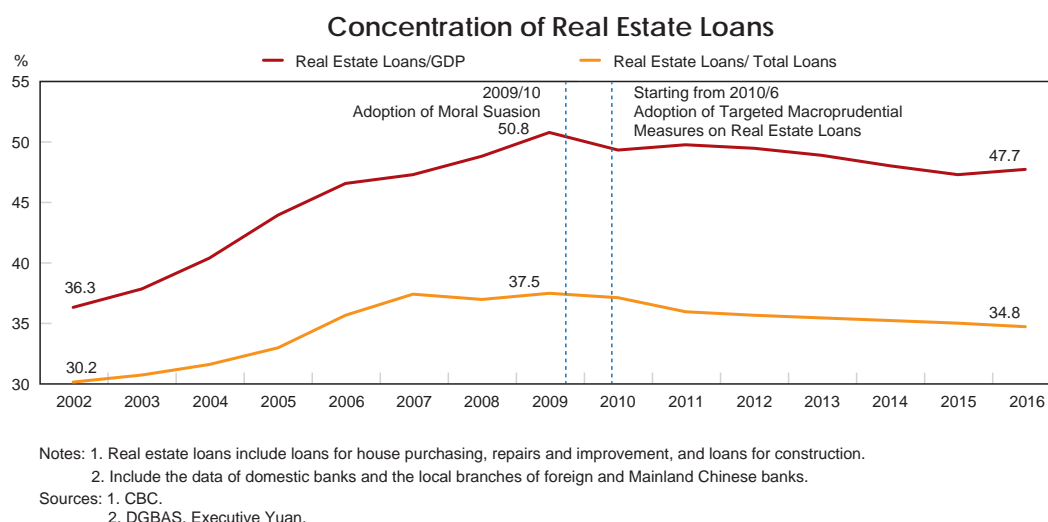
Housing prices for existing homes increased dramatically from the second quarter of 2009, particularly in Taipei City and New Taipei City. Owing to continual real estate market enhancement measures implemented by the government since 2010, housing prices grew at a moderate pace. As transaction volume in the housing market contracted, housing prices have trended slightly downwards since 2014.



3. The CBC's Targeted Macroprudential Measures on Real Estate Loans Have Proved Effective

3.1 Bank Lending Concentration on Real Estate Loans Fell

The ratio of housing loans to GDP declined from 50.8% at the end of 2009 to 47.7% at the end of December 2016. The ratio of housing loans to total loans declined from 37.5% to 34.8% during the same period.



3.2 For Housing Loans in Specific Areas, LTV Ratios Turned Lower, and Lending Rates Rose

During the period when targeted macroprudential measures were implemented by the CBC, the LTV ratios of housing loans within Specific Areas, land loans, and high-value housing loans have declined and lending rates have generally risen.

The targeted macroprudential measures have proven to be effective. Financial institutions have prudently managed credit risk associated with real estate loans. This would ensure financial stability and help promote sound development in the housing market.

Loan Item	LTV Ratio (%)		Lending Rate (%)	
	Before Measures Adopted	After Measures Adopted	Before Measures Adopted	After Measures Adopted
Specific Areas Housing	63.91 (2010/7)	57.21 (2016/2)	1.97 (2010/7)	2.07 (2016/2)
Land	68.36 (2010/12)	62.36 (2016/2)	2.08 (2010/12)	2.71 (2016/2)
High-Value Housing	80-90 ¹ (2012/5)	57.93 (2016/12)	1.84 (2012/5)	1.70 ² (2016/12)

Notes: 1. In some cases, the LTV ratio was higher than 90%.

2. The reason the lending rate on high-value housing loans in Dec. 2016 was lower than that before adoption of credit controls is that banks lowered their housing loan interest rates following the CBC's four policy rate cuts since Sept. 2015.

4. Conclusion

Sound development in the real estate market is indispensable to financial stability, the lack of which could imperil macroeconomic integrity. Looking forward, the CBC will continue to monitor financial institutions' credit risk management of real estate loans and the enforcement results of targeted macroprudential measures, and undertake appropriate policy actions in a timely manner to ensure financial stability.

Chronology of Events of the CBC in 2016

Chronology of Events of the CBC in 2016

Date	Event
Jan. 21	The CBC issued a commemorative coin set for 2016, the Chinese Zodiac Year of the Monkey.
Feb. 24	The CBC increased the monthly bidding amount for 364-day certificates of deposit from NT\$150 billion to NT\$160 billion from February onwards.
Mar. 24	<p>The CBC's Board decided on the following measures:</p> <ol style="list-style-type: none"> 1. Cutting the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral by 12.5 basis points each to 1.5%, 1.875%, and 3.75%, respectively, effective from March 25, 2016. 2. Amending the <i>Regulations Governing Home Mortgage Loans and Land Loans Extended by Financial Institutions</i> to repeal the rules imposed on home mortgage loans and land loans, except for high-value housing loans, effective from March 25, 2016.
Apr. 1	The CBC lowered the remuneration rates on banks' B reserve accounts. Reserves from demand deposits would receive interest at 0.186% per annum, while those from time deposits would receive interest at 0.898% per annum.
25	The CBC appointed Mega International Commercial Bank as the clearing bank for the foreign currencies other than the US dollar, the RMB, the Japanese yen, and the euro settled on the foreign currency clearing platform.
28	In line with the rules governing electronic remittance business as per the Financial Action Task Force (FATF) on Money Laundering, the CBC amended the <i>Directions Governing Banking Enterprises for Operating Foreign Exchange Business</i> .
May 16	The CBC allowed customers of authorized banks to pre-designate via internet banking others' foreign currency deposit accounts with which they may conduct forex business.
20	The CBC issued the Commemorative Coins for the Inauguration of the Fourteenth President and Vice President of the Republic of China (Taiwan).

Date	Event
May 23	The CBC permitted the Taiwan Stock Exchange to engage in the listing and trade matching of foreign currency beneficiary certificates issued under the corresponding ETFs.
Jun. 6	The CBC approved cardless cash withdrawal services in foreign currency through foreign currency ATMs of authorized banks.
27	The CBC allowed authorized banks to handle declaration of foreign exchange settlements of the Taiwan Futures Exchange (TAIFEX) and futures enterprises in dealing with USD/RMB option contracts listed on the TAIFEX.
30	The CBC's Board decided to cut the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral by 12.5 basis points each to 1.375%, 1.75%, and 3.625%, respectively, effective from July 1, 2016.
Jul. 8	The CBC lowered the remuneration rates on banks' B reserve accounts to 0.146% per annum for reserves from demand deposits and 0.82% per annum for those from time deposits.
Sep. 9	The CBC amended the <i>Regulations Governing Foreign Exchange Business of Banking Enterprises</i> . Authorized banks engaging in complex high-risk foreign exchange derivatives business with customers other than professional institutional investors and high net worth corporate investors shall obtain the CBC's prior approval, effective from September 11, 2016.
20	The CBC amended the <i>Directions for Issuance of Foreign-currency Denominated Negotiable Certificates of Deposit by Banks</i> to allow authorized banks to issue NCDs denominated in Australian dollars.
29	The CBC's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
Oct. 28	The foreign currency clearing platform began to process domestic Australian dollar remittances.
Nov. 3	The CBC issued the New Taiwan dollar uncirculated coin set of the National

Date	Event
Dec. 22	<p>Parks of Taiwan series - Shei-Pa National Park.</p> <p>The CBC's Board decided on the following measures:</p> <ol style="list-style-type: none"> 1. Leaving the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively. 2. Keeping the target range of M2 growth for 2017 unchanged at 2.5% to 6.5%.
26	<p>The CBC and the FSC jointly promulgated the "<i>Implementation Standards for Net Stable Funding Ratios of Banks</i>," effective from January 1, 2018.</p>
27	<p>The foreign currency clearing platform began to provide service for fee collection in foreign currency.</p>

Financial Statements of the CBC

1. Balance Sheet

Unit: NT\$ Million

	December 31 2016	December 31 2015	Change	
			Amount	%
Assets				
Foreign Assets	14,137,030	14,165,814	-28,784	-0.20
Due from Domestic Banks	788,145	882,287	-94,142	-10.67
Loans and Accommodations to Financial Institutions	319,084	339,985	-20,901	-6.15
Other Assets	881,194	749,202	131,992	17.62
Total Assets	16,125,453	16,137,288	-11,835	-0.07
Liabilities				
Currency Issued	1,938,122	1,804,606	133,516	7.40
Deposits of Financial Institutions	1,700,514	1,656,019	44,495	2.69
Certificates of Deposit Issued	7,587,300	7,544,710	42,590	0.56
Redeposits of Financial Institutions	2,183,680	2,184,092	-412	-0.02
Government Deposits	200,764	191,301	9,463	4.95
Other Liabilities	1,542,172	1,829,361	-287,189	-15.70
Total Liabilities	15,152,552	15,210,089	-57,537	-0.38
Equity	972,901	927,199	45,702	4.93
Total Liabilities and Equity	16,125,453	16,137,288	-11,835	-0.07

Note: Figures for 2016 are unaudited. Figures for 2015 are audited by the National Audit Office.

2. Income Statement

Unit: NT\$ Million

	2016	2015
Income		
Interest Income	386,198	403,507
Fee Income	100	105
Foreign Exchange Gains	24,227	14,862
Revenue from Trust Investment	7,366	3,493
Subsidiaries Investment Income	1,847	2,171
Others	2,923	554
Total Income	422,661	424,692
Expenses		
Interest Expenses	74,907	93,772
Fee Expenses	228	230
Expenses for Coin Issuance	1,499	1,614
Expenses for Banknote Issuance	3,552	4,288
Allowances	113,802	95,997
Operating Expenses	1,450	1,439
Administrative Expenses	450	454
Others	1,105	1,163
Total Expenses	196,993	198,957
Net Income	225,668	225,735

Note: Figures for 2016 are unaudited. Figures for 2015 are audited by the National Audit Office.

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

Year / Month	I. Business Indicators			II. National Income and Aggregate Demand										
	NDC ⁽¹⁾ Total Score of Monitoring Indicators	TIER ⁽²⁾ Business Composite Index (2006=100) (average)		Economic Growth Rate	Per Capita GNI	Unemploy- ment Rate	Manufacturing Sector			Annual Rate of Change of Industrial Production Indices				
		Manufacturing	Services				Labor Productivity Index	Average Monthly Earnings (Per Employee) (NT\$)	Unit Labor Cost Index Growth Rate (%)	General	Manufacturing	Construction		
(average)	Sector	Sector	(%)	(US\$)	(%)	(2011=100)		(%)	(%)	(%)				
2007	25	102.12	96.05	6.52	18,256	3.91	83.03	43,178	-5.00	7.76	8.34	-0.49		
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	0.72	23,131	3.78	102.52	46,781	6.22	-1.75	-1.49	3.57		
2016	21	97.13	87.05	1.50	23,325	3.92	108.40	47,258	-0.71	1.53	1.99	-9.11		
2016/1	14	90.99	84.77			3.87	101.37	74,735	60.46	-5.66	-6.22	29.13		
2	16	92.42	85.90			3.95	113.76	56,609	-29.02	-3.81	-4.83	24.25		
3	16	96.66	88.51			-0.23	5,688	3.89	101.25	40,798	3.86	-2.27	-2.84	4.15
4	17	97.27	86.70			3.86	109.45	40,694	3.66	-3.55	-3.93	-22.98		
5	20	99.46	88.87			3.84	106.64	43,107	0.84	2.17	2.13	-12.84		
6	20	96.66	85.54	1.13	5,590	3.92	108.49	42,883	-0.76	1.21	1.88	-5.31		
7	23	98.20	84.07			4.02	110.66	47,881	-3.64	-0.17	0.80	-29.63		
8	25	97.53	84.37			4.08	103.60	45,835	-3.53	7.89	8.51	28.12		
9	23	97.43	87.02			2.12	5,940	3.99	113.78	43,749	-3.65	4.20	5.65	-18.48
10	24	97.69	89.89			3.95	116.93	41,927	-1.79	3.25	5.17	-34.85		
11	26	99.85	88.69			3.87	108.45	43,377	-4.03	8.94	10.46	-10.35		
12	28	101.43	89.27			2.88	6,107	3.79	109.66	45,572	-2.59	6.25	7.41	-20.68

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	Annual Rate of Change of Export Orders	
						Change of Total Imports	Capital Equipment	China and H. K.	U. S.	Japan	Europe	ASEAN ⁽³⁾			
															(%)
(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(US\$ Million)	(%)
2007	2.42	1.14	1.88	31.46	23.45	10.1	12.4	-1.0	-2.1	9.9	16.3	8.1	3.0	25,677	15.5
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	2.68	1.64	2.97	34.70	20.26	-10.9	-12.4	-1.6	-2.7	-10.8	-14.2	-15.8	-1.1	48,124	-4.4
2016	2.14	2.71	3.12	34.04	20.22	-1.8	-0.2	-3.0	-0.2	1.0	-0.7	-2.8	12.1	49,753	-1.6
2016/1						-13.0	-19.2	-5.8	-1.9	3.5	-8.7	-11.5	10.9	3,515	-12.4
2						-12.0	-13.0	-13.8	-9.2	-4.7	-9.8	-13.4	-0.3	4,169	-7.4
3	2.64	-0.12	0.22	33.69	18.41	-11.4	-14.3	-8.6	0.8	-3.0	-12.4	-17.1	-0.3	4,532	-4.7
4						-6.6	-6.8	-12.7	-5.0	9.8	-4.5	-9.6	5.9	4,791	-11.1
5						-9.5	-10.2	-8.5	-8.9	2.7	-13.0	-3.4	22.1	3,514	-5.8
6	1.59	0.16	1.16	33.88	20.69	-2.2	-4.6	3.1	0.9	0.1	-4.4	-10.1	-1.9	3,565	-2.4
7						1.1	3.4	-7.3	10.2	4.2	4.2	-0.6	-2.1	3,677	-3.4
8						0.9	3.3	5.7	-1.9	2.1	0.5	-1.0	7.8	3,994	8.3
9	2.70	3.66	3.99	34.19	21.24	-1.9	6.1	-5.2	-1.5	-11.0	-3.6	0.7	16.7	4,377	3.9
10						9.3	14.9	7.9	3.3	6.7	13.0	19.2	45.1	4,428	0.3
11						12.1	19.0	9.0	0.8	1.9	13.4	2.8	12.0	4,309	7.0
12	1.62	6.81	7.24	34.38	20.56	14.0	21.4	1.9	10.1	0.1	23.0	13.2	34.1	4,859	6.3

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)			
	CPI	Core CPI ⁽⁴⁾	Wholesale Price	Import Price	Export Price	Amount (NT\$ Billion)	Annual Growth Rate ⁽⁵⁾ (%)	M1B		M2	
								Amount (NT\$ Billion)	Annual Growth Rate (%)	Amount (NT\$ Billion)	Annual Growth Rate (%)
2007	1.80	1.46	6.47	8.94	3.56	1,977.1	5.11	8,289.2	6.44	25,975.9	4.16
2008	3.52	3.26	5.14	8.84	-2.15	2,084.1	3.35	8,045.8	-2.94	26,679.3	2.71
2009	-0.86	-0.04	-8.73	-9.60	-6.59	2,298.4	11.55	9,376.5	16.54	28,667.1	7.45
2010	0.96	0.58	5.46	7.04	2.02	2,421.7	5.43	10,776.6	14.93	29,966.1	4.53
2011	1.42	1.26	4.32	7.65	0.09	2,632.3	7.24	11,547.8	7.16	31,713.9	5.83
2012	1.93	1.00	-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	1.26	-0.57	-2.10	0.10	3,165.4	6.94	13,836.1	7.96	36,576.7	5.66
2015	-0.31	0.79	-8.84	-12.94	-4.67	3,348.8	5.79	14,680.0	6.10	38,894.1	6.34
2016	1.40	0.84	-2.99	-3.08	-2.71	3,547.2	5.92	15,609.8	6.33	40,646.9	4.51
2016/ 1	0.81	0.65	-5.14	-6.18	-2.90	3,473.3	6.64	15,317.6	6.92	39,975.2	5.63
2	2.41	0.84	-4.90	-6.76	-2.44	3,658.2	6.74	15,454.0	6.11	40,385.9	5.17
3	2.01	0.79	-4.92	-6.21	-3.52	3,530.3	4.62	15,411.2	6.16	40,449.8	4.81
4	1.87	0.91	-4.21	-4.55	-3.25	3,510.7	4.91	15,415.2	6.30	40,497.1	4.65
5	1.23	0.91	-2.80	-2.58	-1.41	3,512.5	5.46	15,479.0	6.30	40,518.4	4.14
6	0.91	0.81	-2.80	-2.41	-1.67	3,512.0	6.55	15,391.7	6.23	40,486.5	4.42
7	1.23	0.79	-2.48	-2.41	-1.86	3,519.5	6.52	15,496.6	6.24	40,703.7	4.70
8	0.57	0.77	-3.97	-3.67	-4.71	3,542.6	5.90	15,747.9	6.48	40,862.8	4.51
9	0.33	0.95	-3.78	-3.98	-4.88	3,573.7	6.11	15,872.7	6.36	40,868.1	4.05
10	1.70	0.96	-1.82	-1.39	-3.31	3,556.1	5.74	15,835.4	6.35	40,814.7	3.98
11	1.97	0.83	-0.39	0.38	-2.19	3,571.0	6.00	15,895.7	6.56	40,965.4	3.96
12	1.69	0.81	1.79	3.39	-0.26	3,605.9	5.92	16,001.1	6.01	41,235.2	4.11

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

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

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

Year / Month	IV. Money, Banking and Finance										
	Monetary Financial Institutions (end of period)				Non-performing Loan Ratio of Domestic Banks ⁽⁶⁾ (end of period) (%)	Interest Rates (%)					
	Deposits		Loans & Investments			CBC's Discount Rate (end of period)	Interbank Call Loan Rate (average)	31-90 Days CP Rate In Secondary Market	10-year Gov't Bond Rate in Secondary Market	Five Major Domestic Banks ⁽⁷⁾	
	Amount (NT\$ Billion)	Annual Rate of Change (%)	Amount (NT\$ Billion)	Annual Rate of Change (%)						1-year Deposit Rate (end of period)	New Loan Rate (average)
2007	26,052.5	0.93	20,626.9	2.35	1.84	3.375	1.998	1.90	2.32	2.62	2.70
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	29,406.4	4.61	0.23	1.625	0.353	0.58	1.39	1.21	1.67
2016	40,717.4	3.46	30,547.5	3.88	0.27	1.375	0.193	0.39	0.82	1.04	1.47
2016/ 1	39,604.8	5.70	29,536.6	4.43	0.25	1.625	0.233	0.40	1.01	1.21	1.49
2	39,695.7	5.07	29,715.3	4.13	0.26	1.625	0.202	0.41	0.86	1.21	1.54
3	39,783.9	4.85	29,746.4	4.23	0.26	1.500	0.201	0.39	0.82	1.13	1.58
4	40,000.8	4.72	29,677.2	3.70	0.28	1.500	0.201	0.36	0.86	1.13	1.56
5	39,893.9	4.09	29,795.1	4.02	0.28	1.500	0.201	0.38	0.83	1.13	1.55
6	40,066.1	4.81	29,816.4	4.65	0.27	1.500	0.201	0.40	0.78	1.13	1.58
7	40,327.0	4.86	29,947.9	4.17	0.29	1.375	0.178	0.35	0.68	1.04	1.33
8	40,372.1	4.39	30,245.8	4.45	0.29	1.375	0.178	0.34	0.66	1.04	1.38
9	40,293.2	4.06	30,237.5	3.81	0.29	1.375	0.184	0.35	0.70	1.04	1.31
10	40,414.6	3.87	30,337.4	3.96	0.30	1.375	0.178	0.37	0.93	1.04	1.41
11	40,478.0	3.78	30,423.7	4.06	0.29	1.375	0.183	0.39	1.10	1.04	1.49
12	40,717.4	3.46	30,547.5	3.88	0.27	1.375	0.174	0.56	1.17	1.04	1.48

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 ⁽⁹⁾			
					Share of Outright Transactions							
	(1966=100) (average)	(NT\$ Billion)	(end of period)	(NT\$ Billion)		(%)	(US\$ Million)				(end of period) (US\$ Billion)	(end of period) (NT\$/US\$)
2007	8,510	33,043.9	5,542.1	194,005.5	48.34	32,044	-25	38,932	-4,020	270.31	32.443	18.62
2008	7,024	26,115.4	5,771.2	135,509.5	44.09	24,821	-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	36,833	-49	339	40,173	382.01	30.368	20.23
2011	8,156	26,197.4	6,895.8	97,809.1	27.46	37,888	-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	44,348	-24	32,669	15,484	403.17	29.136	23.41
2013	8,093	18,940.9	8,104.6	69,226.1	19.78	51,284	67	42,489	11,318	416.81	29.950	28.93
2014	8,992	21,898.5	8,726.8	68,032.4	21.62	61,849	-8	52,082	13,015	418.98	31.718	31.29
2015	8,959	20,191.5	8,859.5	67,725.7	22.76	75,180	-5	66,116	15,011	426.03	33.066	33.35
2016	8,763	16,771.1	8,715.8	66,817.9	21.81	70,938	-9	65,037	10,663	434.20	32.279	28.92
2016/ 1	7,871	1,503.6	8,794.9	6,273.7	28.42					425.98	33.650	31.88
2	8,247	954.4	8,798.9	3,822.7	23.85					428.82	33.492	31.45
3	8,688	1,874.6	8,667.6	6,173.8	24.43	19,496	-4	17,080	3,845	431.60	32.282	27.90
4	8,568	1,304.5	8,701.9	4,808.9	17.64					433.18	32.281	29.93
5	8,235	1,400.3	8,749.4	5,622.4	24.69					433.43	32.630	28.43
6	8,595	1,366.7	8,810.4	5,707.5	25.13	16,971	-5	15,492	3,153	433.55	32.286	28.79
7	8,900	1,545.7	8,777.0	5,732.8	22.04					434.09	31.926	29.75
8	9,094	1,598.1	8,745.1	6,482.2	21.56					435.86	31.726	27.03
9	9,131	1,299.5	8,701.8	5,619.7	18.56	16,170	1	13,933	2,949	436.73	31.366	30.19
10	9,274	1,206.4	8,668.3	5,425.2	20.96					435.26	31.580	27.65
11	9,098	1,475.4	8,663.7	5,822.7	18.47					434.35	31.890	29.45
12	9,245	1,241.9	8,715.8	5,326.2	14.72	18,301	-1	18,532	716	434.20	32.279	25.88

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

(9)The minus sign "-" represents a decrease.

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