# Annual Report 2011

Central Bank of the Republic of China (Taiwan)

Taipei, Taiwan The Republic of China

## Foreword



Fai-nan Perng, Governor

Taiwan exhibited steady economic growth during the first half of 2011. In the second half of the year, however, the escalating European sovereign debt crisis threatened to undermine global economic strength and financial stability. The negative effects also spilled over to Taiwan's exports, investment, and production. As a consequence, Taiwan's GDP grew 4.04 percent in 2011, lower than the 10.72 percent of 2010. The consumer price index registered an annual growth rate of 1.42 percent, reflecting international price rises of crude oil and other raw materials. Compared with major economies of the world, though, our inflation remained low and stable.

In line with the developments as well as drastic changes of the domestic and global economic and financial conditions, the Bank's Board made the following policy rate decisions. Two rate increases in the first half of 2011 were later followed by decisions to hold policy rates steady, as the Board judged it consistent with its mandated objectives to achieve price stability, as well as preserving economic and financial stability, amid global economic uncertainties due to the deepening European debt crisis.

Meanwhile, the Bank continued to issue short- and long-term certificates of deposit to keep market liquidity in check and manage monetary growth. With ample liquidity in the banking system and steady bank credit growth, Taiwan was shielded from a credit crunch like the ones distressing the US and European countries. In 2011, bank credit grew 7.44 percent on average, while the annual M2 growth rate stayed within the target range at 5.83 percent. The fact that both rates were higher than the GDP growth rate of the same year indicated sufficient money supply to fully support economic activity. In terms of foreign exchange management, Taiwan adopts a managed float regime with flexibility to maintain dynamic stability of the exchange rates. Stable exchange rates have a counter-cyclical effect and help contain inflation, thereby sustaining macroeconomic and financial stability. At the end of 2011, the NT dollar was 30.290 against the US dollar, representing a 0.26 percent appreciation from end-2010. Foreign exchange reserves increased by US\$3.5 billion over the year to reach US\$385.5 billion at the end of 2011.

The Bank also carried through with targeted prudential measures, implementing the regulations governing housing loans and land collateralized loans. Aimed at addressing the over-concentration of banks' real estate lending, the efforts were in line with the government's cross-agency "Plan to Enhance the Soundness of the Housing Market" and continued to bring forth positive progress.

In the meantime, the Bank made an ongoing endeavor to further improve on its operations. To better control liquidity risks of financial institutions, the minimum statutory liquidity ratio was raised higher. Key payment systems and the framework for financial stability assessment were strengthened in an effort to promote a sound financial system. An increasing number of market players gained permission to partake in Taiwan's foreign exchange market, where new products were approved, adding to a variety of foreign exchange businesses. The Bank also played an active role in promoting cross-strait financial cooperation as well as offshore banking unit (OBU) businesses. Furthermore, in celebration of the centenary of the Republic of China, the Bank issued the Centenary Commemorative Silver Coin and collection sets of uncut commemorative NT\$100 banknote sheets.

At this juncture, the global economic recovery remains shadowed by the unfolding European sovereign debt problems. In addition, geopolitical risks linked to the Middle East tensions have not subsided, and the probability of an economic slowdown in Mainland China can not be overlooked. The Bank will closely monitor the economic and financial conditions both at home and abroad to take proper actions in a timely manner, so as to safeguard price and financial stability and sustain economic growth.

Finally, I would like to conclude this foreword by thanking my colleagues for their dedication during past years. With the collective efforts of the talented staff, the Bank will continue to make unremitting efforts to meet future challenges.

Zihan pung

Fai-nan Perng Governor April, 2012

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## Organization and Management of the CBC



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Executive Director Deputy Governor Chin-Long Yang



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Supervisor Chao-Cheng Mai



Supervisor Tsung-Jung Liu



Supervisor Ping-Yung Chiu



Supervisor Yuh-Lin Lee

# Developments in the Real Economy



## I. Developments in the Real Economy

## 1. Overview

The global economic slowdown in 2011 dented Taiwan's exports and private investment, while private consumption grew steadily. As a result, real GDP posted an annual growth rate of 4.04 percent, markedly lower than 10.72 percent in 2010. The unemployment rate declined to 4.39 percent from 5.21 percent in 2010. In terms of balance of payments, the overall surplus decreased to US\$6,239 million as the current account surplus was mostly offset by the net outflow in the financial account. Meanwhile, climbing energy and food prices led the consumer price index (CPI) to inch up by 1.42 percent. Central government finances posted a deficit of NT\$63.5 billion, much lower than the NT\$158.8 billion deficit of 2010.

#### Moderate Economic Growth

Following an upturn in 2010, the Taiwanese economy continued to show solid growth in the first quarter of 2011. Since the second quarter, with the spread of the European sovereign debt crisis and the weakened global economy, real GDP grew at a gradually slower pace each quarter, moderating to 1.89 percent in the fourth quarter. For the entire year, real GDP grew by 4.04 percent, markedly down from 10.72 percent in 2010.

With regard to the expenditure components of GDP, all components of GDP other than government consumption posted growth rates lower than the previous year. Among them, net exports recorded a contribution of 3.72 percentage points for the year. Moreover, largely due to contracted private investment, domestic demand contributed only 0.31 of a percentage point to GDP growth, a lower contribution than that of external demand. On the production side, industrial output and services output advanced at a slower pace than the previous year, with respective contributions of 1.53 and 1.93 percentage points to GDP growth.

#### **Decreasing Balance of Payments Surplus**

For the year 2011, considering the current account surplus was mostly offset by the net outflow in the financial account, the overall balance decreased to a US\$6,239 million surplus, which was reflected in the increase of foreign reserve assets held by the Bank.

The current account surplus, which accounted for 8.6 percent of nominal GNP, increased to US\$41,270 million. This represented growth of 3.5 percent and was due to greater increases in the goods and services surpluses than in the current transfer deficit, despite a decline in

the income surplus. However, the financial account still reported a net outflow of US\$31,621 million as direct investment abroad and portfolio investment by non-residents exhibited record-high net outflows of US\$14,772 million and US\$16,188 million, respectively.

#### Mild Increase in Consumer Prices

Taiwan's wholesale price index (WPI) rose by 4.32 percent in 2011, led by international oil and commodity price rises due to surging demand from emerging markets, extreme weather conditions, and market speculation. On the other hand, the CPI edged up by 1.42 percent, higher than 2010's 0.96 percent, reflecting the pass-through of the rise in the costs of imported goods to retail prices. The core CPI, which excludes prices of fruits and vegetables, fish and shellfish, and energy, rose at an annual rate of 1.13 percent in 2011, up from a 0.44 percent increase in the previous year.

#### Narrower Fiscal Deficit

For 2011, central government revenue and expenditure grew by NT\$174.3 billion and NT\$79.0 billion, respectively. Overall, central government finances showed an improvement as the deficit narrowed significantly by 60 percent from the previous year, with a balance of NT\$63.5 billion.

Central government revenue increased by 11.6 percent to reach NT\$1,671.4 billion. Due to better economic conditions, tax revenue rose by NT\$121.0 billion or 11.2 percent. While economic development and social welfare accounted for the largest increases in central government expenditure, growing by NT\$21.3 billion and NT\$21.2 billion, respectively, expenditure growth of 4.8 percent was slower than that in revenue.

Total outstanding debt of the central government increased significantly by NT\$230.1 billion over the previous year-end, amounting to NT\$4,759.1 billion at the end of 2011. Furthermore, the ratio of outstanding central government debt to GDP also rose from the previous year's 33.3 percent to 34.7 percent.

#### **Downtrend in Unemployment Rate**

Despite economic fluctuations at home and abroad, labor market conditions in Taiwan remained favorable in 2011. In the first half of the year, business demand for labor increased as the economy continued to grow, while the government persisted with job creation programs. As a consequence, employment increased significantly and the unemployment rate recorded a considerable drop. In the second half of the year, the worsening European debt crisis and global economic slowdown caused some fluctuations in the labor market; nevertheless, in general, the unemployment rate trended downward. For the year 2011, the average unemployment rate was 4.39 percent, a 0.82 of a percentage point decrease from 2010.

## 2. National Output and Income

Following an upturn in 2010, the Taiwanese economy continued its solid growth in the first half of 2011. However, as a consequence of the global economic downturn in 2011, domestic economic activities lost steam in the second half of the year. GDP registered a modest growth of 4.04 percent in real terms over the whole year, markedly down from 10.72 percent in 2010. In terms of expenditures, largely due to the contraction of private investment, the contribution of domestic demand to GDP growth was less than that of external demand.

With the spread of the European sovereign debt crisis and the weakened global economy, exports as well as overall GDP advanced at a sluggish pace in the second half of 2011. Private consumption grew stably in the first three quarters on the back of improving labor market conditions, while growth fell markedly in the fourth quarter on account of shrinking financial wealth resulting from low trading activities in the stock market. Private investment fell sharply in the second half of the year as business enterprises, especially in the electronics industry, put their investment plans on hold.

Meanwhile, owing to an increase in economic activity as well as the appreciation of the domestic currency against the US dollar, per capita GNP in nominal terms increased considerably from US\$19,175 to US\$20,713.

#### Expenditure Components of GDP

Amid the downturn of the global business climate in 2011, all expenditure components of GDP other than government consumption posted growth rates lower than the previous year. Among

2002

2004

2005 2006

2003



Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.



#### Per Capita GNP

2007

2008 2009 2010 2011

Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.

them, net exports recorded a positive contribution of 3.72 percent for the year, remaining the primary source of economic growth. Gross fixed capital formation registered a negative contribution to GDP growth of 0.71 of a percentage point, mainly due to a sharp curtailment in capital expenditures induced by the declining external demand for hi-tech products. Private consumption and government consumption contributed 1.59 percentage points and 0.21 of a percentage point to economic growth, respectively. In terms of shares of GDP, exports and imports shares increased further despite the contraction of global demand, accounting for 75.71 percent and 68.87 percent, respectively. The share of gross fixed capital formation went down to 21.02 percent from last year's 21.74 percent. On the other hand, the share of private consumption grew from 58.05 percent of GDP to 59.60 percent. Nevertheless, its real growth rate declined from 3.67 percent to 2.95 percent due to the limited increase in household spending.

#### (1) Modest Lift in Private Consumption

In the beginning of the year, private consumption gradually picked up amid an improvement in labor market conditions and financial market resilience. In the second quarter, consumer spending in the retail sector, restaurant business and tourism progressed, but the outbreak of the plasticizer scare in May had a suppressing effect on consumption momentum. The growth rate of private consumption was 4.61 percent in the first quarter and 3.04 percent in the second. During the third quarter, with the lessening of the impact of plasticizer scare and continued expansion in car sales and tourism, private consumption regained its momentum and grew by 3.24 percent. Dragged down by a decline in the stock market, private consumption growth weakened to 0.98 percent in the fourth quarter. For the year as a whole, private consumption grew by 2.95 percent, lower than the figure of 3.67 percent registered in the previous year.

|  |        |                        |   |        |                        | Unit: %   |
|--|--------|------------------------|---|--------|------------------------|---|
|  |        | 2011                   |   |        | 201                    | 0   |
|  | Share  | Real<br>Growth<br>Rate | Contribution to<br>Real Growth<br>Rate of<br>GDP* | Share  | Real<br>Growth<br>Rate | Contribution to<br>Real Growth<br>Rate of<br>GDP* |
| Private Consumption                        | 59.60  | 2.95                   | 1.59  | 58.05  | 3.67                   | 2.11  |
| Government Consumption                     | 12.32  | 1.86                   | 0.21  | 12.08  | 0.58                   | 0.07  |
| Gross Fixed Capital Formation              | 21.02  | -3.79                  | -0.71   | 21.74  | 23.99                  | 3.99  |
| Change in Inventory                        | 0.22   | _                      | -0.78   | 1.06   | _                      | 2.17  |
| Exports of Goods and Services              | 75.71  | 4.51                   | 3.35  | 73.53  | 25.56                  | 16.73   |
| ( Less : Imports of Goods<br>and Services) | 68.87  | (-0.64)                | (-0.38)   | 66.46  | (28.23)                | (14.36)   |
| Expenditure on GDP                         | 100.00 | 4.04                   | 4.04  | 100.00 | 10.82                  | 10.82   |

#### Expenditure on Gross Domestic Product

Note: \* Percentage point.

Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.

With regard to food and non-food categories, both rose steadily with respective annual growth rates of 1.73 percent and 3.12 percent for the year. Among the components of non-food consumption, outlays for communications recorded the largest growth of 11.06 percent for the year, reflecting increasing demand for internet games and cellular phones as well as the continual growth of home-based businesses. Moreover, consumer spending on recreation and culture increased further, registering the second largest growth of 9.16 percent for the year. This was primarily the consequence of an



increasing demand for recreation in a more developed economy. Correspondingly, outlays for transportation, restaurants and hotels also advanced by more than 6 percent.

#### (2) Mild Growth in Government Consumption

As the growth momentum of the domestic economy turned weaker than the previous year, the government gradually raised its stimulus spending. Government consumption expenditure increased by 1.86 percent in real terms and contributed 0.21 of a percentage point to GDP growth for the year. The rise in government consumption was primarily associated with the implementation of employment promotion and unemployment relief measures. In addition, disadvantaged families were subsidized with the implementation of transfer payment programs.

#### (3) Moderate Decline in Fixed Capital Formation

Benefiting from strong demand for exports, hi-tech firms accelerated capital spending amid high capacity utilization in the first half of the year. Nevertheless, due to a higher comparison base, the growth rate was lower than the previous year. With the sluggish growth of external demand in the second half of the year, hi-tech firms reduced their capital outlays, leading to a decline in fixed investment. For the year as a whole, fixed capital formation dropped by 3.79 percent, subtracting 0.71 of a percentage point from GDP growth in 2011.

Regarding expenditure by type of purchaser, investment by private businesses contracted by 2.35 percent for the year, subtracting 0.33 of a percentage point from real GDP growth, in sharp contrast to the significant expansion of the previous year. In the first half of the year, as hi-tech firms increased capital investment driven by rising external demand, private investment exhibited stable growth. In the second half, sinking global business sentiment accompanied by the uncertain

economic outlook and the spread of the European sovereign debt crisis suppressed private investment. Furthermore, as public enterprises curtailed their capital investment, investment by public enterprises decreased by 14.32 percent, subtracting 0.21 of a percentage point from economic growth in 2011. Government investment registered a minor increase in the first quarter, but revealed contractions in the last three quarters as the peak of public construction had passed. Therefore, for the year as a whole, government investment edged down by 5.41 percent, subtracting 0.16 of a percentage point from economic growth.

In terms of the type of capital formation, the largest decrease was observed in outlays on machinery and other equipment, registering a contraction of 9.41 percent. This was primarily attributable to a decrease in export orders, dropping capital utilization and a higher comparison base. With a rising capital utilization rate driven by high export demand, firms continued with fixed capital investment, yielding a positive growth rate of 7.99 percent in the first quarter. Nevertheless, due to the broken supply chain following the earthquake in Japan in March, some firms were hesitant about increasing investment, and thereby a minor contraction in capital expenditure was witnessed in the second quarter. As a consequence of weak global business sentiment, a double-digit dip in investment was seen in the last two quarters.

Transportation spending accelerated on the back of economic recovery in the first half of the year, while it contracted in the second half mostly due to weaker economic activities and a high base effect, registering a growth of 3.83 percent for the year as a whole. Additionally, investment in construction and intangible fixed assets contracted by 0.47 percent and grew by 4.09 percent, respectively.

#### (4) Mild Expansion in Exports and Minor Contraction in Imports

With the backdrop of weaker global business sentiment, the growth in exports of goods and services declined throughout all quarters. Total exports registered a mild growth of 4.51 percent, contributing 3.35 percentage points to economic growth for the year as a whole. Export expansion in the first quarter sustained a strong momentum from 2010 and registered a robust growth of 11.20 percent. This was primarily boosted by increased external demand for information and telecommunications products, electronics and machinery. In the second quarter, slowing economic growth in industrial countries and lackluster exports of industries relying heavily on Japan, such as those involved in the production of electronic parts and accessories, discouraged the performance of total exports. With the spread of the European sovereign debt crisis, growth in the final two quarters weakened to only 2.10 percent and 0.78 percent, respectively.

Due to the contraction of export-derived demand, import growth also decreased throughout the quarters of the year. The shrinkage of import-derived demand induced by the contraction in investment began in the third quarter, leading to a contraction in imports in the last two quarters. During the year as a whole, imports of goods and services, measured in NT dollar terms, decreased by 0.64 percent, thus subtracting 0.38 of a percentage point from economic growth.

#### Sectoral Components of GDP

On the output side, while agricultural output expanded by 1.89 percent as a consequence of favorable weather conditions, industrial output and services advanced at a slower pace than the previous year amid weaker global business sentiment. As industry and services are relatively large in terms of GDP sectoral components, they were key forces behind economic growth, contributing 1.53 percentage points and 1.93 percentage points, respectively, to economic growth for the year 2011. Agricultural output contributed only 0.03 of a percentage point to economic growth.



Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.

|   |        | 2011                   |   |        | 2010                   |   |  |  |
|---|--------|------------------------|---|--------|------------------------|---|--|--|
|   | Share  | Real<br>Growth<br>Rate | Contribution to<br>Real Growth<br>Rate of<br>GDP* | Share  | Real<br>Growth<br>Rate | Contribution to<br>Real Growth<br>Rate of<br>GDP* |  |  |
| Agriculture   | 1.72   | 1.89                   | 0.03  | 1.64   | 1.19                   | 0.02  |  |  |
| Industry  | 29.57  | 4.39                   | 1.53  | 31.12  | 23.01                  | 7.20  |  |  |
| Mining & Quarrying                                  | 0.21   | 1.86                   | 0.01  | 0.47   | 11.19                  | 0.04  |  |  |
| Manufacturing                                       | 24.83  | 4.91                   | 1.49  | 26.03  | 25.38                  | 6.80  |  |  |
| Construction  | 2.84   | -0.32                  | -0.01   | 2.81   | 11.33                  | 0.26  |  |  |
| Electricity, Gas, Water and<br>Remediation Services | 1.69   | 2.17                   | 0.04  | 1.81   | 5.61                   | 0.10  |  |  |
| Services  | 68.71  | 3.02                   | 1.93  | 67.24  | 5.40                   | 3.63  |  |  |
| Wholesale and Retail Trade                          | 18.81  | 4.26                   | 0.74  | 18.29  | 4.77                   | 0.87  |  |  |
| Transport & Storage                                 | 2.96   | 2.58                   | 0.08  | 3.18   | 7.65                   | 0.24  |  |  |
| Information and Communications                      | 3.62   | 4.86                   | 0.17  | 3.53   | 8.34                   | 0.31  |  |  |
| Finance and Insurance                               | 6.56   | 3.86                   | 0.25  | 6.32   | 6.28                   | 0.42  |  |  |
| Real Estate   | 8.67   | 1.24                   | 0.10  | 8.60   | 3.27                   | 0.29  |  |  |
| Administration and Defense                          | 7.33   | 0.42                   | 0.03  | 7.26   | 3.14                   | 0.22  |  |  |
| Education   | 4.65   | 1.07                   | 0.05  | 4.60   | 1.01                   | 0.05  |  |  |
| Other Services                                      | 16.12  | 3.59                   | 0.52  | 15.47  | 8.35                   | 1.23  |  |  |
| Gross Domestic Product                              | 100.00 | 4.04                   | 4.04  | 100.00 | 10.72                  | 10.72   |  |  |

#### Gross Domestic Product by Type of Activity

Unit: %

Note: \* Percentage point.

Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.

Regarding the sectoral shares of GDP in nominal terms, Taiwan's economy was dominated by the services sector with a 68.71 percent share in 2011. The industrial sector accounted for 29.57 percent of GDP, slightly lower than the share in the previous year, which was a consequence of sluggish export momentum. Meanwhile, the ratio of agricultural output to GDP slightly increased to 1.72 percent.

#### (1) Further Expansion in Agricultural Output

During 2011, all agricultural production subsectors, namely agriculture, forestry, fishing and animal husbandry, grew due to a stable climate, which led agricultural output to expand by 1.89 percent.

#### (2) Mild Growth in Industrial Output

The industrial sector, comprised of the industries of mining and quarrying, manufacturing, construction, and electricity, gas and water, grew by 4.39 percent in 2011, a mild growth compared with the previous year's 23.01 percent increase. The manufacturing sector, which carried a weight of over 90 percent in the index of industrial production, was the dominant driver of industrial output.

In 2011, the manufacturing industry posted a mild growth of 4.91 percent, in contrast to the 25.38 percent surge of the previous year, which was primarily a result of the global business climate downturn leading to a contraction of export demand. Specifically, the production index of the information and electronic industry was at the top with 8.91 percent growth, followed by metal and machinery with 6.64 percent and food, textile and other industry with 10.74 percent, which were substantially lower than the figures for the preceding year. Manufacturing output exhibited a downward trend from a peak of 15.28 percent growth in the first quarter to a 4.00 percent contraction in the fourth quarter.

As the government imposed the Specifically Selected Goods and Service Tax in the second half of the year to curtail the overheated housing market, along with a weaker demand for commercial construction induced by an uncertain economic outlook, construction output posted a decline of 0.32 percent for the year. In contrast to a considerable growth of 11.19 percent in the previous year, output of mining and quarrying also grew by only 1.86 percent for the year.

#### (3) Moderate Performance in the Services Sector

In 2011, services output increased mildly and recorded a moderate growth rate of 3.02 percent, lower than the growth rate of 5.40 percent of the previous year. Declining business sentiment cooled growth in all the services subsectors other than education. The subsectors of finance and insurance, information and communication as well as trade, food and tourism services all exhibited relatively lower increases than they had experienced in the 2010.

Among the services subsectors, information and communication topped the growth among all subsectors, registering an increase of 4.86 percent for the year, reflecting the expansion of homebased businesses as well as online virtual shops and Internet games during the economic slowdown. Benefiting from the increasing sales of information and communications equipment, household appliances and vehicle-related parts and accessories, wholesale and retail trade services posted a growth rate of 4.26 percent. Finance and insurance services grew by 3.86 percent, primarily due to increased financial trading activity and fee income in the first half of the year. Nevertheless, with the deterioration of the European sovereign debt crisis and sluggish stock trading activities, finance and insurance services contracted by 1.77 percent in the fourth quarter.

#### Slight Decline in National Savings Rate

While GNP increased slightly by 0.75 percent in nominal terms for the year, national consumption (including both private consumption and government consumption expenditures) grew by a modest 3.64 percent in nominal terms. As the growth of GNP descended from 8.91 percent the previous year and consumption growth remained at almost the same level, the national savings rate (the ratio of national savings to GNP measured at current prices) declined from 31.62 percent in 2010 to 29.16 percent in 2011. The excess savings ratio, defined as the excess of national savings over gross domestic



Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2012.

investment to GNP, slightly declined from 9.51 percent in 2010 to 8.50 percent in 2011, reflecting that the decline in national savings outpaced that in domestic investment.

## 3. Balance of Payments

In 2011, the current account surplus, which accounted for 8.6 percent of nominal GNP, increased to US\$41,270 million. This represented growth of 3.5 percent and was due to greater increases in the goods and services surpluses than in the current transfer deficit, despite a decline in the income surplus. However, the financial account still reported a net outflow of US\$31,621 million, as direct investment abroad and portfolio investment by non-residents exhibited record-high net outflows of US\$14,772 million and US\$16,188 million, respectively. Considering the current account surplus was mostly offset by the net outflow in the financial account, the overall balance recorded a small surplus of US\$6,239 million, which was reflected in the increase of foreign reserve assets held by the Bank.

#### Widening Current Account Surplus

The current account consists of four major items-goods, services, income, and current transfers.

#### (1) Goods

As the protracted European sovereign debt crisis continued to undermine global economic growth, both Taiwan's exports and imports delivered slower growth, though hitting record levels in terms of value in 2011. The value of exports increased by 12.1 percent to US\$307,070 million, mainly driven by the stronger demand for ICT, electronic, and mechanical products. The value of imports increased by 13.0 percent to US\$279,376 million,

fueled in large part by higher international energy prices. Due to a larger expansion of exports over imports, the trade surplus of goods widened to US\$27,694 million, an increase of 4.5 percent from the previous year.

As indicated by customs statistics, the top three trading partners of Taiwan in 2011 were Mainland China including Hong Kong (hereafter in this chapter referred to as Mainland China), the US, and Japan. Exports to these three countries accounted for 57.9 percent of total exports, while imports from the three made up 43.8 percent of total imports.



Goods (2) Services (3) Income (4) Current Transfers (5) Capital Account
Direct Investment (7) Portfolio Investment (8) Financial Derivatives
Other Investment (10) Net Errors and Omissions (11) Reserves \*

Notes:\* Excluding valuation changes in exchange rates. \*\* The minus sign (-) indicates an increase in foreign exchange reserves held by the Bank.

Source: Balance of Payments, CBC.

|                                      | Unit: US\$ N |          |  |  |  |  |  |
|--------------------------------------|--------------|----------|--|--|--|--|--|
|                                      | 2011         | 2010     |  |  |  |  |  |
| A. Current Account                   | 41,270       | 39,873   |  |  |  |  |  |
| Goods: exports f.o.b.                | 307,070      | 273,823  |  |  |  |  |  |
| Goods: imports f.o.b.                | -279,376     | -247,310 |  |  |  |  |  |
| Balance on Goods                     | 27,694       | 26,513   |  |  |  |  |  |
| Services: credit                     | 45,951       | 40,357   |  |  |  |  |  |
| Services: debit                      | -42,002      | -37,864  |  |  |  |  |  |
| Balance on Services                  | 3,949        | 2,493    |  |  |  |  |  |
| Income: credit                       | 24,965       | 23,265   |  |  |  |  |  |
| Income: debit                        | -11,648      | -9,688   |  |  |  |  |  |
| Balance on Income                    | 13,317       | 13,577   |  |  |  |  |  |
| Current transfers: credit            | 5,548        | 5,251    |  |  |  |  |  |
| Current transfers: debit             | -9,238       | -7,961   |  |  |  |  |  |
| Balance on Current Transfers         | -3,690       | -2,710   |  |  |  |  |  |
| B. Capital Account                   | -119         | -116     |  |  |  |  |  |
| Total, Groups A plus B               | 41,151       | 39,757   |  |  |  |  |  |
| C. Financial Account                 | -31,621      | -309     |  |  |  |  |  |
| Direct investment abroad             | -12,787      | -11,574  |  |  |  |  |  |
| Direct investment in R.O.C. (Taiwan) | -1,985       | 2,492    |  |  |  |  |  |
| Portfolio investment assets          | -19,483      | -33,487  |  |  |  |  |  |
| Portfolio investment liabilities     | -16,188      | 12,823   |  |  |  |  |  |
| Financial derivatives assets         | 6,342        | 4,792    |  |  |  |  |  |
| Financial derivatives liabilities    | -4,838       | -4,166   |  |  |  |  |  |
| Other investment assets              | -7,999       | 12,317   |  |  |  |  |  |
| Other investment liabilities         | 25,317       | 16,494   |  |  |  |  |  |
| Total, Groups A through C            | 9,530        | 39,448   |  |  |  |  |  |
| D. Net Errors And Omissions          | -3,291       | 725      |  |  |  |  |  |
| Total, Groups A through D            | 6,239        | 40,173   |  |  |  |  |  |
| E. Reserves and Related Items*       | -6,239       | -40,173  |  |  |  |  |  |

#### **Balance of Payments**

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

In terms of Taiwan's trade with Mainland China, exports stood at a historical high of US\$124,054 million in 2011, up by 8.1 percent from the previous year. From January to October, Mainland China extended its contractionary monetary policies and rolled out measures aimed at industrial upgrade. These, in addition to a high base effect, caused export growth to decelerate to 10.4 percent. Furthermore, the downward spiral of the European debt crisis dampened consumption in Europe and the US, undermining demand for Mainland China's exports and in turn Mainland China's demand for Taiwan's. As a consequence, exports declined by 2.5 percent and 3.0 percent in November and December, respectively, with large reductions in plastics and electrical machinery products. The share of exports to Mainland China in total exports slipped by 1.6 percentage points to 40.2 percent. Nevertheless, Mainland China remained Taiwan's largest export market in 2011.

Imports from Mainland China posted a record high of US\$45,283 million, reflecting a moderate

|                                      |                          | 2011  |                  |                          | 2010  |                  |
|--------------------------------------|--------------------------|-------|------------------|--------------------------|-------|------------------|
|                                      | Amount<br>(US\$ Million) | Share | Annual<br>Change | Amount<br>(US\$ Million) | Share | Annual<br>Change |
| Exports                              |                          |       |                  |                          |       |                  |
| Mainland China (including Hong Kong) | 124,054                  | 40.2  | 8.1              | 114,742                  | 41.8  | 37.1             |
| Southeast Asia 6*                    | 50,741                   | 16.5  | 22.7             | 41,358                   | 15.1  | 37.2             |
| U. S. A.                             | 36,365                   | 11.8  | 15.6             | 31,466                   | 11.5  | 33.6             |
| Europe                               | 31,214                   | 10.1  | 6.3              | 29,372                   | 10.7  | 30.1             |
| Japan                                | 18,238                   | 5.9   | 1.3              | 18,010                   | 6.6   | 24.2             |
| Rest of the World                    | 47,687                   | 15.5  | 20.3             | 39,653                   | 14.4  | 35.8             |
| Total                                | 308,299                  | 100.0 | 12.3             | 274,601                  | 100.0 | 34.8             |
| Imports                              |                          |       |                  |                          |       |                  |
| Japan                                | 52,211                   | 18.5  | 0.6              | 51,917                   | 20.7  | 43.3             |
| Mainland China (including Hong Kong) | 45,283                   | 16.1  | 20.5             | 37,574                   | 15.0  | 47.1             |
| Southeast Asia 6*                    | 32,659                   | 11.6  | 13.5             | 28,783                   | 11.5  | 45.6             |
| Europe                               | 29,590                   | 10.5  | 13.8             | 26,005                   | 10.4  | 33.7             |
| U. S. A.                             | 25,759                   | 9.1   | 1.5              | 25,379                   | 10.1  | 39.8             |
| Rest of the World                    | 96,103                   | 34.1  | 17.8             | 81,578                   | 32.5  | 47.7             |
| Total                                | 281,605                  | 100.0 | 12.1             | 251,236                  | 100.0 | 44.1             |

#### Direction of Trade in Goods by Country

Note: \* Including Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Source: Monthly Statistics of Exports and Imports, Ministry of Finance, R. O. C. (Taiwan).

growth of 20.5 percent and a share of 16.1 percent in total imports in 2011. Mainland China remained Taiwan's second largest source of imports. The increase was attributable to stronger demand for steel and organic chemicals as industrial raw material prices hovered at high levels and Taiwanese industries continued to employ a strategic division of labor across the Taiwan Strait. The bilateral trade surplus with Mainland China grew by 2.1 percent to US\$78,771 million for the year. Mainland China remained the largest source of Taiwan's trade surplus.

Exports to the US increased by 15.6 percent in 2011. The share of exports to the US in total exports rose to 11.8 percent, mainly spurred by robust demand for smartphones, which contributed to a strong growth of 46.6 percent in Taiwan's ICT exports to the US. Imports from the US grew by a slight 1.5 percent, while its share in total imports dropped further to 9.1 percent, compared with 10.1 percent a year earlier. Due to exports expanding by a greater amount, the bilateral trade surplus with the US significantly widened to US\$10,607 million, representing a substantial growth of 74.3 percent. The US was again the second largest source of Taiwan's trade surplus for the year.

Exports to Japan registered a slower growth of 1.3 percent in 2011, and its share in total exports continued to fall to 5.9 percent from a year earlier. Imports from Japan eked out growth of a mere 0.6 percent, with its share in total imports further down to 18.5 percent. However, Japan remained Taiwan's largest source of imports. The trade deficit with Japan slightly increased to US\$33,972 million for the year.

Exports to Europe increased by 6.3 percent in 2011, but its share in total exports slipped to 10.1 percent. Imports from Europe grew by 13.8 percent, with its share in total imports slightly up to 10.5 percent. The trade surplus with Europe reduced by more than half from US\$3,367 million in 2010 to US\$1,624 million as a result of a larger increase in imports.

Bolstered by buoyant economic growth in Southeast Asia—including Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam—exports to the six countries increased by 22.7 percent in 2011. The combined share of exports to these countries in total exports topped 16.5 percent. Imports from these countries grew by 13.5 percent, with the share in total imports marginally rising to 11.6 percent. In total, the trade surplus with the six countries expanded from US\$12,575 million in 2010 to US\$18,082 million, with Singapore and Vietnam being the third and the fourth largest sources of Taiwan's trade surplus.

#### (2) Services

In 2011, both receipts and payments of trade in services presented historic highs. Service receipts grew by US\$5,594 million to US\$45,951 million, while payments increased by US\$4,138 million to US \$42,002 million.

Of the various components of the services account, transportation receipts declined by US\$78 million to US\$9,687 million, reflecting less receipts from domestic air and sea carriers for international shipment amid a global economic slowdown. Transportation payments grew by US\$347 million to US\$10,242 million, resulting mainly from the increases in passenger fares paid to foreign airlines and in repairs on aircraft. Overall, net transportation payments increased to US\$555 million for the year, in comparison with US\$131 million the previous year.

Travel receipts increased by US\$2,323 million to US\$11,044 million as the average daily expenditure per visitor grew by 15.8 percent and the number of visitors in total registered a record-high figure of 6.1 million, of which arrivals from Japan, Taiwan's second largest source of visitors, grew the most and posted a 19.9 percent gain in 2011. Meanwhile, travel payments increased by US\$755 million to US\$10,112 million, due to a stronger NT dollar against the US dollar compared to a year earlier, which encouraged modest growth in the number and the expenditure of overseas visits by residents. Both receipts and payments of trade in travel showed record-high figures. For the first time, the travel balance, which presented a net payment of US\$636 million in 2010, turned into a net receipt of US\$932 million in 2011.

With respect to other services, both receipts and payments reached record highs as well. Other services receipts increased by US\$3,349 million to US\$25,220 million, mainly attributable to increases in net proceeds from merchanting as well as professional and technical services. Other services

payments increased by US\$3,036 million to US \$21,648 million on account of payments for patent lawsuits by Taiwan's ICT firms and an increase in royalties and license fees. In total, the surplus in net other services expanded from US\$3,259 million in 2010 to US\$3,572 million in 2011.

#### (3) Income

In 2011, income receipts increased by US \$1,700 million to a historical high of US\$24,965 million, attributable to the increase in interest earnings generated by residents' foreign



exchange assets. Meanwhile, income payments amounted to US\$11,648 million, US\$1,960 million more than in 2010, mostly attributable to the increase in nonresidents' investment income in local equity securities. Consequently, the surplus on the income account slightly contracted from US \$13,577 million in 2010 to US\$13,317 million for the year of 2011, the second highest level ever recorded.

#### (4) Current Transfers

For the year of 2011, the respective figures of current transfer receipts and payments amounted to US\$5,548 million and US\$9,238 million, both at the highest levels in history. As a whole, net current transfer payments increased from US\$2,710 million in 2010 to US\$3,690 million because of anti-trust penalties imposed by the US and European countries on Taiwan's major LCD panel producers and residents' increased outward remittances as relief donations in response to the Japanese earthquake.

#### **Slightly Widened Capital Account Deficit**

In 2011, the capital account increased by US\$3 million to a deficit of US\$119 million. This was mainly due to the increased outward remittances of migrants.

#### Net Outflows in the Financial Account

The financial account this year recorded a significant net outflow of US\$31,621 million on the grounds that residents increased their overseas portfolio investments, and foreign investors withdrew their holdings in the domestic stock markets on concerns over the grim economic outlook in the US and European countries. In terms of sub-categories, direct investment and portfolio investment registered net outflows of US\$14,772 million and US\$35,671 million, respectively, while other investment posted a net inflow of US\$17,318 million.

#### (1) Direct Investment

Direct investment abroad by residents accounted for a net outflow of US\$12,787 million, an increase of US\$1,213 million compared with 2010. Direct investment in Taiwan by nonresidents recorded a net outflow of US\$1,985 million for the first time, as foreign enterprises transferred their equity holdings to local enterprises. According to the statistics of approved cases, residents' direct investment in Mainland China and in other areas reported US\$13,100 million and US\$3,697 million, respectively, suggesting that China remained the major recipient of Taiwan's direct investment abroad after the



implementation of the Economic Cooperation Framework Agreement in the beginning of 2011. Furthermore, the main investment targets included the financial industry, the electronic parts and components manufacturing industry, the banking and insurance industry, and the information and communications industry. Overall, direct investment exhibited a net outflow of US\$14,772 million in 2011, US\$5,690 million more than in 2010.

#### (2) Portfolio Investment

In 2011, portfolio investment abroad by residents exhibited a net outflow of US\$19,483 million, mostly attributable to investment in overseas debt securities by insurance companies and overseas mutual funds investment by residents. However, local portfolio investment by nonresidents turned into a net outflow of US\$16,188 million, the highest level ever recorded. The exodus was mainly due to the growing concerns over the US credit downgrade and the sovereign debt crisis in Europe, which triggered massive redemption of share holdings by foreign investors in the local stock market. This was most significant in the third quarter of 2011 when the crisis deteriorated, resulting in a net outflow of US\$15,617 million from nonresidents' investments in equity securities, the biggest single quarter net outflow in history. As a whole, the net outflow of portfolio investment increased to US \$35,671 million for the year, compared to US\$20,664 million in 2010.

#### (3) Financial Derivatives

Financial derivatives recorded a net inflow of US\$1,504 million, due in large part to gains reaped by domestic banking units (DBUs) from transactions of derivative instruments involving foreign exchange swaps, cross currency swaps (CCS), and interest rate swaps (IRS), as well as by other sectors from investment in futures.

#### (4) Other Investment

In 2011, other investment abroad by residents swung into a net outflow of US\$7,999 million from a net inflow of US\$12,317 million a year earlier. The outflow mainly came from residents' offshore banking units (OBUs) which increased lending to nonresidents for the year. On the other hand, other local investment by nonresidents registered a record-high net inflow of US\$25,317 million, mainly attributable to the borrowings from overseas affiliates by the banking sector. To sum up, the net inflow of other investment diminished to US\$17,318 million in 2011.

#### Modest Increase in Foreign Exchange Reserves

The foreign exchange reserve assets held by the Bank increased by US\$6,239 million as a result of the current account surplus.



### 4. Prices

Taiwan's wholesale price index (WPI) rose by 4.32 percent in 2011, down from a 5.46 percent rise in 2010. The increase in WPI inflation in 2011 was mainly attributable to the surge of international primary commodity prices as well as the low base effect in the first half of the year. Headline inflation, measured by the consumer price index (CPI), edged up by 1.42 percent from the previous year's 0.96 percent increase, reflecting the pass-through to retail prices of the rise in the costs of imported goods.





The core CPI which excludes fruits and vegetables, fish and shellfish, and energy prices rose at an annual rate of 1.13 percent in 2011, up from a 0.44 percent increase in the previous year.

#### **Continued Increase in Wholesale Prices**

The annual WPI inflation rate was 4.32 percent in 2011, lower than the 5.46 percent rate of the previous year. The WPI was mainly boosted by higher prices of international raw materials, such as crude oil, cereals, cotton, and chemical materials. In terms of monthly movements, the annual WPI inflation rate in January registered 1.97 percent, the lowest increase in the year. It moved between 3.42 percent and 5.82 percent in the succeeding months of the year.

Broken down by the three major components of the WPI, the annual growth rates of import prices, domestic sales excluding import prices, and export prices in US dollar terms ran up markedly in 2011 as global commodity prices rose substantially in the first half of the year.

Import prices moved up sharply by 15.40 percent in US dollar terms in 2011. Due largely to rising international fuel prices brought about by robust demand from emerging markets and weather-induced instability in global agricultural product prices. However, the annual rate of change in import prices eased to 7.65 percent in terms of the local currency, reflecting the appreciation of the NT dollar against the currencies of major trading partners, which mitigated the inflationary pressure from import prices. Among the components of import prices, prices of raw materials, which account for 77.19 percent of the whole index, rose by 9.70 percent, and accounted for 7.55 percentage points in the 7.65 percent increase. Prices of consumer goods rose by 2.34 percent, while prices of capital goods declined by 0.39 percent.

Export prices in US dollar terms rose by an annual rate of 7.36 percent in 2011, higher than the 6.90 percent increase of the previous year. Due to the appreciation of the NT dollar against the US dollar in 2011, export prices in terms of the NT dollar showed a mere 0.09 percent increase, compared with a 2.03 percent increase in 2010.

Reflecting the rising costs of primary commodities imports, prices of domestic sales excluding import prices went up 5.04 percent in 2011, compared with the 7.44 percent rise in the previous year. In terms of product group, prices of fabric products, chemical materials, and petroleum and coal products rose by 14.38 percent, 13.84 percent, and 10.71 percent, respectively. In contrast, prices of electronic parts and components decreased by 6.57 percent in the year because of weaker than expected demand for semiconductor and liquid crystal displays.



#### Moderate Increase in Consumer Prices

The CPI rose by 1.42 percent in 2011, 0.46 of a percentage point more than the previous year. The advance in CPI inflation was associated with rising energy, food and garment prices, reflecting the pass-through from commodity input costs to related retail prices. Prices of entertainment services also picked up, with the demand generated by moderate growth in the domestic economy.

However, vegetable prices were low due to favorable weather conditions. In addition, telecommunication firms continued to cut communications fees to keep their market shares. Monthly CPI inflation rates remained stable throughout the year except in December, when the rate climbed to 2.02 percent, the highest in 2011, as vegetable prices soared due to severe damage caused by heavy rainfall.

The core CPI inflation rate was 1.13 percent in 2011. Monthly core CPI inflation rates trended modestly upward in the first ten months. Thereafter, the core CPI inflation rate declined



Source: Price Statistics Monthly, DGBAS, Executive Yuan.

from 1.53 percent in October, the highest in 2011, to 1.18 percent in December.

The main factors contributing to the rise of CPI inflation in 2011 were as follows:

- (1) International petroleum prices rose by 19.57 percent due to the geopolitical unrest in both North Africa and the Middle East, the continued increasing demand from emerging economies boosted by their robust economic growth and the deprecation of the US dollar. Reflecting higher imported prices for international petroleum and natural gas, prices for domestic fuels and lubricants and gas moved up by 7.30 percent and 4.22 percent and accounted for 0.25 and 0.05 of a percentage point in the CPI increase, respectively.
- (2) Given that the domestic economy grew modestly in 2011, increasing demand for travel pushed up the prices of foreign tour fees. In addition, international airline ticket prices and tutorial fees went up. As a result, prices of education and entertainment services rose by 1.57 percent, contributing 0.21 of a percentage point to CPI inflation.
- (3) Reflecting the long-term upward trend in prices of fish and shellfish due to a gradual decrease in the catch in offshore and deep-sea fisheries, prices of fish and shellfish continued to increase at an annual rate of 6.51 percent in 2011, accounting for 0.14 of a percentage point in CPI inflation.
- (4) The pass-through effect of the rise in imported prices of cereals and related raw materials into the retail prices of food and other processed goods pushed up food prices by 2.26 percent, contributing 0.63 of a percentage point to the CPI inflation rate.

| ltem                               | Weight<br>(%) | Annual rate<br>of change<br>(%) | Contribution to CPI<br>inflation rate<br>(percentage point) |
|------------------------------------|---------------|---------------------------------|---|
| CPI                                | 100           | 1.42                            | 1.42  |
| Fuels and Lubricants               | 3.26          | 7.30                            | 0.25  |
| Education & Entertainment Services | 12.96         | 1.57                            | 0.21  |
| Fish & Shellfish                   | 1.67          | 6.51                            | 0.14  |
| Food away from Home                | 8.87          | 1.44                            | 0.13  |
| Meat                               | 2.31          | 3.88                            | 0.10  |
| Fruits                             | 2.76          | 3.61                            | 0.09  |
| Cereals & Cereal Products          | 1.97          | 4.06                            | 0.09  |
| Garments                           | 2.70          | 3.32                            | 0.09  |
| Household Appliances               | 2.79          | 2.38                            | 0.07  |
| Medicines & Health Food            | 1.06          | 5.89                            | 0.07  |
| Residential Rent                   | 18.54         | 0.36                            | 0.06  |
| Total                              | 58.89         |                                 | 1.30  |
| Communication Fees                 | 3.18          | -5.46                           | -0.16   |
| Vegetables                         | 2.48          | -3.39                           | -0.08   |
| Total                              | 5.66          |                                 | -0.24   |
| Others                             | 35.45         |                                 | 0.36  |

#### Percentage Changes in the Major Components of the CPI in 2011

Source: Price Statistics Monthly, DGBAS, Executive Yuan.

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(5) Prices of garments rose by 3.32 percent in 2011, mainly driven by the rise in prices of textile products resulting from a pick-up in international prices of cotton and chemical fibers.

The main factors contributing to downward pressure on the CPI in 2011 were as follows:

- (1) As fees for cell phones, the internet and telephones adjusted downward, prices of communication fees declined by 5.46 percent during 2011.
- (2) Prices of vegetables fell by 3.39 percent in 2011 due to ample supply resulting from good weather conditions during the year.

## 5. Public Finance of the Central Government

For the year 2011, central government revenue and expenditure grew by 11.6 percent and 4.8 percent, respectively. Overall, central government finances improved significantly as the deficit narrowed by 60 percent from the previous year to NT\$63.5 billion.

#### Marked Growth in Central Government Revenue

In 2011, central government revenue was NT\$1,671.4 billion, an increase of NT\$174.3 billion from the previous year. Tax revenue grew by NT\$121.0 billion, the biggest increase since 2006, while the revenue from surpluses of public enterprises and public utilities decreased by NT\$0.2 billion.

Of the components, tax revenue and surpluses of public enterprises and public utilities remained the two major sources of central government revenue in 2011, with contributing shares of 72.0 percent and 15.9 percent, respectively. Due to solid economic performance, income tax revenues from both individuals and profit-seeking enterprises grew considerably. On the other hand, the surpluses of public enterprises and public utilities have contributed to a smaller share of overall revenue in the past two years due to losses in some public enterprises.

| Unit: NT\$ Bi                    |         |             |         |         |         |         |         |         | NT\$ Billion |         |  |  |
|----------------------------------|---------|-------------|---------|---------|---------|---------|---------|---------|--------------|---------|--|--|
|                                  |         | Fiscal Year |         |         |         |         |         |         |              |         |  |  |
|                                  | 2002    | 2003        | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010         | 2011*   |  |  |
| Total Revenue                    | 1,304.7 | 1,320.9     | 1,368.2 | 1,464.5 | 1,546.4 | 1,635.5 | 1,640.9 | 1,553.7 | 1,497.1      | 1,671.4 |  |  |
| (Ratio to GDP ; %)               | 12.5    | 12.3        | 12.0    | 12.5    | 12.6    | 12.7    | 13.0    | 12.4    | 11.0         | 12.1    |  |  |
| Total Expenditure                | 1,551.9 | 1,618.1     | 1,564.8 | 1,567.0 | 1,529.8 | 1,552.0 | 1,617.7 | 1,714.8 | 1,655.9      | 1,734.9 |  |  |
| (Ratio to GDP ; %)               | 14.9    | 15.1        | 13.8    | 13.3    | 12.5    | 12.0    | 12.8    | 13.7    | 12.2         | 12.6    |  |  |
| Surplus/Deficit                  | -247.2  | -297.2      | -196.6  | -102.5  | 16.6    | 83.4    | 23.2    | -161.1  | -158.8       | -63.5   |  |  |
| (Ratio to GDP ; %)               | -2.4    | -2.8        | -1.7    | -0.9    | 0.1     | 0.6     | 0.2     | -1.3    | -1.2         | -0.5    |  |  |
| Debt Repayment                   | 55.5    | 46.5        | 56.1    | 64.1    | 65.0    | 6.0     | 65.0    | 65.0    | 66.0         | 66.0    |  |  |
| Financing:                       | 302.7   | 343.7       | 253.5   | 167.3   | 63.9    | 0       | 45.5    | 227.0   | 224.8        | 129.5   |  |  |
| Debt Financing                   | 244.4   | 300.8       | 253.5   | 167.3   | 63.9    | 0       | 0       | 164.5   | 224.2        | 129.5   |  |  |
| Surplus of Previous Fiscal Years | 58.3    | 42.9        | 0       | 0       | 0       | 0       | 45.5    | 62.5    | 0.6          | 0       |  |  |
| Memorandum:                      |         |             |         |         |         |         |         |         |              |         |  |  |
| Tax Dependency Ratio**(%)        | 52.9    | 51.2        | 58.6    | 68.1    | 71.5    | 77.9    | 76.8    | 61.3    | 65.4         | 69.4    |  |  |
| Debt Dependency Ratio***(%)      | 15.7    | 18.6        | 16.2    | 10.7    | 4.2     | 0       | 0       | 9.6     | 13.5         | 7.5     |  |  |

#### Total Revenue and Expenditure of the Central Government

Notes: \* The figures for the year 2011 are preliminary estimates.

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

\*\*\*\* Debt dependency ratio is defined as the ratio of annual issuance of government bonds and borrowing from banks to total government expenditure. Sources: 1.DGBAS, Executive Yuan.

2.Department of Statistics, Ministry of Finance.

As tax revenue increased and government efforts to tap new financial resources continued, the ratio of tax revenue to government expenditure, denoted by the tax dependency ratio, increased to 69.4 percent in 2011 from 65.4 percent in 2010.

#### Increase of Central Government Expenditure Slower Than Revenue Growth

With the efforts undertaken to effectively control spending, central government expenditure rose by NT\$79.0 billion to NT\$1,734.9 billion in 2011. Central government expenditure grew at a slower pace than that of revenue, with respective growth rates of 4.8 percent and 11.6 percent. By category, economic development and social welfare accounted for the largest increases, growing by NT\$21.3 billion and NT\$21.2 billion, respectively.

In terms of share in total government expenditure, education, science and culture, and social welfare took up the biggest shares at 20.5 percent and 20.1 percent, respectively, followed by national defense with 16.4 percent.

In addition to general budget expenditures, the central government also allocated a total of NT\$198.6 billion as a special budget for expansionary public spending schemes and Typhoon Morakot disaster relief and reconstruction efforts. An additional budget of NT\$18.6 billion was set aside for adjustment to salaries of the military, civil servants, and teachers, as well as for the national health insurance program and medical subsidies.

|  |         |         |         |         |         |         |         |         | Unit: N | NT\$ Billion |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
|  |         |         |         |         | Fisca   | l Year  |         |         |         |              |
|  | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011*        |
| Total Revenue  | 1,304.7 | 1,320.9 | 1,368.2 | 1,464.5 | 1,546.4 | 1,635.5 | 1,640.9 | 1,553.7 | 1,497.1 | 1,671.4      |
| Taxes  | 820.1   | 828.5   | 916.6   | 1,067.8 | 1,094.3 | 1,208.7 | 1,242.9 | 1,051.6 | 1,082.4 | 1,203.4      |
| Surpluses of Public Enterprises and Public Utilities   | 250.7   | 326.5   | 282.2   | 243.4   | 289.1   | 271.5   | 253.4   | 318.7   | 265.1   | 264.9        |
| Fees, Fines and Indemnities                            | 123.3   | 77.8    | 76.1    | 79.0    | 79.0    | 81.1    | 83.1    | 78.1    | 81.5    | 81.0         |
| Revenues from Government-owned Monopolies              | 0.3     | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0            |
| Proceeds from Sales of Properties and Recalled Capital | 73.9    | 65.7    | 70.3    | 52.6    | 58.5    | 51.3    | 40.0    | 53.7    | 46.7    | 64.0         |
| Others   | 36.4    | 22.4    | 23.0    | 21.7    | 25.5    | 22.9    | 21.4    | 51.6    | 21.4    | 58.1         |
| Total Expenditure                                      | 1,551.9 | 1,618.1 | 1,564.8 | 1,567.0 | 1,529.8 | 1,552.0 | 1,617.7 | 1,714.8 | 1,655.9 | 1,734.9      |
| General Administration                                 | 162.3   | 167.3   | 164.1   | 165.5   | 167.3   | 168.2   | 173.0   | 168.8   | 170.2   | 176.4        |
| National Defense                                       | 225.2   | 227.7   | 248.9   | 248.5   | 237.1   | 256.7   | 282.4   | 291.2   | 276.8   | 284.2        |
| Education, Science and Culture                         | 267.0   | 300.2   | 302.1   | 301.5   | 303.1   | 308.7   | 310.4   | 326.4   | 342.7   | 356.4        |
| Economic Development                                   | 291.2   | 295.5   | 248.9   | 247.0   | 197.0   | 193.3   | 201.3   | 244.4   | 195.8   | 217.1        |
| Social Welfare   | 262.2   | 284.4   | 279.8   | 285.7   | 303.3   | 305.1   | 298.4   | 320.2   | 327.6   | 348.8        |
| Community Development & Environmental Protection       | 23.4    | 28.7    | 24.8    | 25.2    | 20.4    | 19.4    | 13.5    | 21.4    | 9.0     | 6.6          |
| Retirement & Compassionate Aid                         | 124.3   | 125.4   | 123.1   | 130.5   | 134.7   | 134.6   | 133.8   | 133.4   | 134.5   | 138.5        |
| Interest Payments                                      | 152.2   | 144.6   | 127.1   | 117.9   | 125.2   | 124.0   | 117.4   | 116.7   | 109.8   | 111.7        |
| General Subsidies and Other Expenditure                | 44.1    | 44.3    | 46.0    | 45.2    | 41.7    | 42.1    | 87.5    | 92.3    | 89.5    | 95.2         |

#### Total Revenue and Expenditure of the Central Government by Category

*Note:* \* The figures for the year 2011 are preliminary estimates. *Sources:* 1. DGBAS, Executive Yuan.

2. Department of Statistics, Ministry of Finance.

In sum, the ratio of central government expenditure to GDP rose from 12.2 percent in the previous year to 12.6 percent, while the ratio of the fiscal deficit to GDP fell to 0.5 percent.

#### **Reduced Needs for Debt Financing**

In 2011, the fiscal deficit shrank significantly to NT\$63.5 billion. A much smaller deficit along with NT\$66.0 billion in debt principal repayment represented a reduced need for financing. The central government raised the needed NT\$129.5 billion through issuing government bonds and borrowing from banks. The debt dependency ratio, measured by the ratio of annual government bond issuance and borrowing from banks to total government expenditure, decreased to 7.5 percent in 2011.

#### **Continued Increase in Outstanding Debt Obligations**

The general budget and the special budget combined to require debt financing from government bond issuance and borrowing from banks. At the end of 2011, the total outstanding debt of the central government was NT\$4,769.1 billion, increasing significantly by NT\$230.1 billion over the previous year-end. The ratio of outstanding central government debt to GDP also rose to 34.7 percent.

| Unit: NT\$ Billio  |                    |        |        |        |        |        |        |        |        | NT\$ Billion |
|--------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|
|                    | End of Fiscal Year |        |        |        |        |        |        |        |        |              |
|                    | 2002               | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009   | 2010   | 2011*        |
| Outstanding Debt   | 28,493             | 31,247 | 33,621 | 35,499 | 36,230 | 37,186 | 37,791 | 41,278 | 45,390 | 47,691       |
| (Ratio to GDP ; %) | 27.4               | 29.2   | 29.6   | 30.2   | 29.6   | 28.8   | 29.9   | 33.1   | 33.3   | 34.7         |

#### Public Debt of the Central Government

Note: \* The figures for the year 2011 are preliminary estimates. Sources: 1. DGBAS, Executive Yuan. 2. Ministry of Finance.

### 6. Labor Market

Despite economic fluctuations at home and abroad, labor market conditions in Taiwan remained favorable in 2011. In the first half of the year, business demand for labor increased as the economy continued to grow, while the government persisted with programs to create more jobs. As a consequence, there was a significant rise in employment and a considerable drop in unemployment, which in turn translated into a larger decrease in the unemployment rate. In the second half of the year, the worsening European debt crisis and global economic



Source: Monthly Bulletin of Manpower Statistics, DGBAS, Executive Yuan.

slowdown caused some fluctuations in the labor market; nevertheless, in general, the jobless rate trended downward. For the year 2011, the average unemployment rate was 4.39 percent, 0.82 of a percentage point decrease from 2010. It was also the first time the unemployment rate dropped below 5 percent since the 2008 global financial crisis.

Annual average employment reached a historical high of nearly 10.71 million persons in 2011, a 2.06 percent increase from 2010. Employment in the industrial and service sectors continued to grow at 3.24 percent and 1.64 percent year on year, respectively. However, employment in the agricultural sector dropped 1.45 percent from the previous year.

In terms of earnings and labor cost, the industrial and service sectors combined to register an increase of 2.73 percent from the previous year as monthly earnings per worker averaged NT\$45,642 in 2011. Since the increase in total production outpaced the increase in total working hours, labor productivity of the industrial sector and the manufacturing industry rose by 3.36 percent and 3.42 percent, respectively, while their unit labor cost rose by 1.21 percent and 1.11 percent, respectively, as compensation grew at a faster pace.

#### **Increase in Employment**

Continued economic growth and the government's measures to promote employment helped to create more jobs in 2011. Annual average employment in 2011 was 10.71 million, an increase of 216 thousand or 2.06 percent from the previous year. However, growth in employment decelerated in the fourth quarter of the year due to the deepening European debt crisis and weaker global economic performance. Broken down by sector, employment in the agricultural sector dropped by 8 thousand persons or 1.45 percent. On the other hand, in the industrial sector employment increased by 123 thousand or 3.24 percent. Within this sector, manufacturing employment increased the most, adding 88 thousand persons, and construction employment also increased by 34 thousand persons. In the service sector, employment grew by 101 thousand persons, or 1.64 percent, while an aging population and greater emphasis on medicine and health boosted the employment in medical services and social work by 22 thousand persons. Employment in wholesale and retail services gained 16 thousand persons.

#### **Decline in Unemployment Rate**

In the first half of the year, as the economic recovery continued and the government implemented job creation programs, there was a marked decrease in the unemployment rate. In the second half of the year, the jobless rate was still on a downtrend despite some fluctuations caused by the prolonged European debt crisis and a global economic slowdown. The unemployment rate in December declined to 4.18 percent, the lowest level since September 2008. For the year as a whole, the average unemployment rate was 4.39 percent, with the number of unemployed persons standing at 491 thousand, down by 86 thousand, or 14.86 percent from the previous year.

Improving labor market conditions also shortened the duration of unemployment by 2 weeks from the year before to 27.7 weeks. The average number of long-term unemployed (those unemployed for 53 weeks or more) declined to 80 thousand persons, a significant decrease of 24 thousand persons over the previous year. More than 60 percent of the long-term unemployed were male, of which 66.49 percent were in the age group between 25 and 44, and 42.99% were college educated or above. This indicates that long-term unemployment of the 25-44 age group and those with a higher educational background remained a major concern relating to the issue of unemployment.

Unemployment decreased by 86 thousand persons from the previous year. A major reason behind the decline in the number of unemployed was that those who were laid off involuntarily because of tight conditions or shutdowns decreased markedly by 92 thousand persons. Consequently, the proportion of persons laid off relative to the total unemployed was down substantially to 30.10 percent, compared to 41.57 percent the year before.

On the other hand, favorable labor market conditions significantly raised workers' willingness to change jobs. Leaving previous posts for other job opportunities became a major cause of unemployment, making up an increasing share of 32.63 percent in the total unemployed, an 8.06 percentage point increase compared to the year before.

In terms of age, the 15-24 age group continued to register the highest unemployment rate in 2011 at 12.47 percent as they are generally inexperienced and tend to change jobs more frequently. The average number of unemployed persons for the 25-44 and 45-64 age groups decreased by 56

thousand (16.62 percent) and 24 thousand (19.20 percent), respectively, over the previous year. For the year as a whole, the unemployment rate of the 25-44 age group was 4.46 percent, while that of the 45-64 age group was 2.64 percent, indicating year-on-year declines of 0.89 and 0.75 of a percentage point, respectively. Most of the unemployed in these age groups were the mainstay of their families and thereby their joblessness had a larger impact on households and society.

#### **Rise in Labor Force Participation**

The overall labor force increased by 1.17 percent to 11.20 million in 2011 as labor market conditions continued to improve. Persons in employment totaled around 10.71 million, with an annual growth rate of 2.06 percent, while the number of the unemployed fell by a robust 14.86 percent to 491 thousand persons.

The labor force participation rate averaged 58.17 percent for the year, a 0.10 percentage point increase compared to the year before. In terms of gender, the male labor participation



rate increased by 0.16 percentage points from the preceding year to 66.67 percent, while the female rate continued to reach an all-time high at 49.97 percent, up by 0.08 percentage points over the previous year. Labor force participation rates of all age groups went up across the board, with the 25-44 age group posting the largest increase of 0.84 percentage points to 85.56 percent. In terms of educational background, the labor participation rate of the working population with high school or vocational school degrees increased by 0.11 percentage points to 62.36 percent.

The non-labor force population totaled 8.05 million, representing a year-on-year rise of 61 thousand persons or 0.76 percent. As the economy continued to expand moderately, more job opportunities were available, which in turn encouraged more persons to participate in the labor market. As a consequence, the ratio of non-labor force to total population continued to drop. As Taiwan has gradually moved toward an aging society, the ratio of the number of old aged and disabled persons to total non-labor force continued to increase. However, compared to the year before, it only increased by 0.01 of a percentage point, which was the lowest increase of all time. Moreover, as the government continued to implement programs to encourage childbirth, the ratio of the number of persons in housekeeping to total non-labor force was up for the first time since 1982 to 29.74 percent, a 0.16 percentage point increase over the previous year.
# **Increased Earnings of Non-Farm Workforce**

Due to steady economic growth, average monthly earnings per worker of the non-farm sector reached a record high of NT\$45,642, representing a 2.73 percent rise from the year before. After being adjusted for inflation, average real monthly earnings grew by 1.29 percent.

Average monthly earnings of industrial sector workers increased by 2.51 percent over the previous year to NT\$43,946, and average monthly real earnings also rose by 1.08 percent. Meanwhile, average monthly earnings of services sector workers grew by 2.93 percent to NT\$47,058 and average monthly real earnings went up 1.48 percent.

A further breakdown of the performance of monthly real earnings across sub-industries indicated that accommodation and food services experienced the largest increase of 5.44 percent due to robust domestic consumption growth as well as booming tourism mainly attributable to tourists from Mainland China. Real earnings in the professional, scientific and technical services industry also exhibited a substantial growth of 2.77 percent. Affected by the European debt crisis, real earnings of the manufacturing sector edged up by a more subdued 1.19 percent. The growth rate of real earnings in the real estate sector was only 1.37 percent due to a newly imposed tax on certain housing transactions to curb excessive speculation. In terms of monthly real regular earnings per worker, the industrial sector saw a decrease of 0.15 percent, while the services sector recorded an increase of 0.23 percent. Together, the two sectors exhibited a mere 0.04 percent increase in their monthly real regular earnings compared with the previous year.

#### Continued Growth in Labor Productivity

As the increase in total production outpaced that in total working hours, labor productivity improved substantially. Labor productivity of the industrial sector and the manufacturing industry

were up by 3.36 and 3.42 percent, respectively. Within the manufacturing industry, the largest increase was from the computer, electronics and optical products industries, up by 21.98 percent compared to 2010.

On the other hand, total labor compensation grew faster than total production. This led to an increase in the unit labor cost in the industrial sector and the manufacturing industry by 1.21 and 1.11 percent in 2011, respectively, reversing the steep downtrend shown in both 2009 and 2010.

Labor Productivity and Unit Labor Cost Indices in the Industrial Sector



Source: Monthly Bulletin of Earnings and Productivity Statistics, DGBAS, Executive Yuan.

# **Financial Developments**



# II. Financial Developments

# 1. Overview

In the first half of year 2011, Taiwan's economy expanded moderately. However, growth momentum slowed during the second half. For the whole year, the overall demand for funds grew steadily. The annual growth rate of bank loans and investments was slightly lower than that of the previous year. Meanwhile, the annual growth rate of M2 was higher than the previous year, while that of M1B was much lower. Market interest rates rose slightly in the first half of the year as guided by policy rate increases, and remained steady in the second half of the year. As for the exchange rate against the US dollar, the NT dollar modestly appreciated during 2011.

# Steady Growth in Monetary Aggregates

Along with continuous growth of bank credit in 2011, the monetary aggregate M2 recorded an annual growth rate of 5.83 percent, higher than the previous year's 4.53 percent, and remaining within the Bank's 2.5 percent to 6.5 percent target range for the year. The annual growth rate of M1B decelerated to 7.16 percent, decreasing by 7.77 percentage points from the previous year. The decline mostly reflected the shift of funds from demand deposits to time deposits and decreased stock market trading in the second half of the year, as well as a higher base effect.

# Slowing Growth in Bank Loans and Investments

Loans and investments of monetary financial institutions grew at an annual rate of 6.00 percent at the end of December, slightly down from 6.15 percent registered a year earlier, mainly because corporate demand for funds turned weak during the second half of the year due to the global economic slowdown. If the loans and investments of life insurance companies, non-accrual loans reclassified, and bad loans written off by monetary financial institutions, as well as funds raised directly from capital markets, were all taken into account, the total funds raised by the non-financial sector would register an annual growth rate of 5.06 percent at the end of December, lower than the 5.44 percent recorded a year earlier.

# Continued Improvement in Financial Health of Domestic Banks

The asset quality of domestic banks continued to improve in 2011. The overall non-performing loan ratio decreased from the previous year-end's 0.61 percent to 0.43 percent at year end. The pre-tax profits of monetary financial institutions kept growing during the year, and their average return on assets and return on equity were both higher than those of the previous year, mainly due to the gradual widening of interest spreads and declining bad debt allowances. As a result, the average capital adequacy ratio of domestic banks increased from the previous year-end's 11.96 percent to 12.07 percent.

#### Interest Rates on Deposits and Loans Steady After Initially Rising

The Bank raised policy rates twice in the first half of the year, thus guiding banks' posted interest rates on deposits and loans to trend up gradually. In the second half of the year, as the global economic and financial uncertainties intensified, the Bank decided to keep policy rates unchanged. As a result, almost all banks held their posted interest rates on deposits and loans steady for the rest of the year. The average fixed rate on one-year time deposits of the five major domestic banks moved upward to 1.36 percent at the end of 2011, 0.23 percentage points higher than that at the previous year-end, and their weighted average rate on new loans also edged up to 1.53 percent at the end of 2011.

# Slight Rises in Money Market Rates and Bond Yields

Money market interest rates went up gradually as the Bank raised policy rates twice in the first half of the year, and then remained steady in the second half of the year. The average interbank overnight call-loan rate of 2011 rose to 0.34 percent, 0.15 percentage points higher than that of the previous year. Secondary market rates on commercial paper also went up. Regarding the bond market, yield rates slightly rose. The average yield rate on the 10-year government bond in 2011 was 1.38 percent, up by a mere 0.01 of a percentage point over the previous year.

# **Downtrend in Stock Indices**

After large swings in the first half of the year, Taiwan's stock market tumbled in the second half of the year, mainly due to adverse impacts of the Japanese earthquake and the deepening European sovereign debt crisis. In early 2011, the TAIEX soared on foreign investor buying to reach the yearly high of 9,145 on January 28. The Japanese earthquake in March and the potential nuclear crisis dragged the TAIEX down briefly. From August onwards, as the European sovereign debt crisis became worse and the global economy slowed down, the TAIEX dropped. With domestic investors becoming more cautious before the presidential election, the TAIEX weakened further and tumbled to a yearly low of 6,633 on December 19. The TAIEX closed the year at 7,072, a decline of 21.2 percent from the end of 2010. In 2011, the TWSE market turnover, measured on a daily average basis, declined by 5.6 percent to NT\$106.1 billion.

# Moderate Appreciation of the NT Dollar

The NT dollar appreciated against the US dollar from January to May, mainly because of the US dollar depreciation attributable to the US credit rating downgrade. The NT\$/US\$ exchange rate

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soared to a yearly high of 28.632 on May 5. International stock markets slid in September as the European sovereign debt crisis deepened, and therefore foreign investors sold off in Taiwan's stock market, weakening the NT\$/US\$ exchange rate to a yearly low of 30.680 on October 4. Compared to the end of the previous year, the NT dollar appreciated by 0.26 percent against the US dollar. On a daily average basis, the NT\$/US\$ exchange rate appreciated by 7.39 percent compared with that of the previous year, and the trade-weighted nominal effective exchange rate index of the NT dollar increased by 2.26 percent for the year.

# 2. Monetary Aggregates

The broad monetary aggregate M2 has been the Bank's intermediate target for monetary policy since 1992. For the year 2011, M2 recorded an annual growth of 5.83 percent, higher than the previous year's 4.53 percent and still within the Bank's target range of 2.5 percent to 6.5 percent. Overall, there was sufficient liquidity to sustain economic growth.

The annual growth rate of the narrow monetary aggregate M1B decelerated to 7.16 percent in 2011 when compared with the previous year's 14.93 percent. The decline in growth in M1B was mainly due to the shift from demand deposits to time deposits, the shrinkage in the stock market's transaction volume in the second half of the year, and a higher base effect.

# Growth in Reserve Money Increased

Reserve money growth was up for the year 2011, registering a growth rate of 7.24 percent, and was 1.81 percentage points higher than the previous year's figure. Broken down by the components of reserve money, bank reserves posted higher growth of 5.46 percent when compared with the previous year's 2.74 percent, while the growth of currency held by the non-bank public slightly increased to 9.84 percent from 9.64 percent a year ago.

As for the monthly movements of reserve money, the annual growth rate for January reached it's yearly high of 9.68 percent due to the seasonal demand for currency during the Chinese New Year holidays. In subsequent months, growth rates remained stable and hit an all-year low of 6.52 percent in July.

On the demand side, currency held by the non-bank public grew slightly faster as the low

interest rates paid on bank deposits encouraged the willingness to hold cash. The continued economic expansion also helped to bolster demand for money for transactions motives. Regarding banks, new Taiwan dollar demand deposits held by non-residents were subject to a higher reserve requirement ratio from December 30, 2010. In addition, the substantial increase in bank credit to the private sector also raised banks' demand for reserves. On the supply side, in order to promote financial stability, the Bank fine-tuned its monetary policy stance,





leaving banks with less excess reserves. This partially offset the strong demand for bank reserves.

From the supply side perspective, the balance sheet of the Bank revealed the sources of reserve money. The increase in reserve money was mainly attributable to the increase of foreign assets held by the Bank and claims on financial institutions.

#### Steady Growth in M2

The monetary aggregate M2 is comprised of currency in circulation, deposits in banks' checking and demand accounts, and quasi money.

Since banks began to issue structured products in early 2001, the carrying values of the host contracts have been classified as banks' deposits, which is by definition a component of the monetary aggregate M2. However, structured products carry higher liquidity risk and market risk and, unlike deposits, do not necessarily guarantee the return of principal. For these reasons, such products will be removed from the components of the M2.

Pursuant to the Official Letter by the FSC, released in October 2010, requesting banks to exclude structured products from deposits, the CBC's Financial Statistics Monthly will, beginning from the February 2012 issue, modify the M2 definition by removing the carrying values of the host contracts of structured products from deposits. This modification applies to all relevant data collected since January 2001.

According to the modified M2 definition, the annual growth rate of M2 in 2011 was 5.83 percent, 1.3 percentage points up from the previous year's figure and was within the Bank's target range. The monthly changes of the M2 annual growth rate were as follows. In February, M2 growth rose to 6.24 percent from the 5.63 percent posted in January due to the Chinese New Year factor and the continued growth of bank loans and investments. Between March and August, growth rates

remained relatively stable and were above 6 percent. The M2 growth rates trended down for the following months and recorded a yearly low of 5.01 percent in December in line with the economic slowdown, capital outflows, the decline in bank loans and investments growth, and a higher base effect.

# Decline in M1B Growth

In 2011, M1B continued to grow with an average annual growth rate of 7.16 percent, which was much lower than that in the preceding



year. The decline mirrored, in large part, the shift from demand deposits to time deposits, the shrink in stock transactions in the second half of the year, and a high base effect.

As for the monthly movements of M1B, the annual growth rate reached its yearly high of 9.40 percent in February due to the Chinese New Year factor. In the subsequent months, the annual growth rate of M1B generally exhibited a downward trend except in June, which was mainly due to a slowdown in the decline of passbook savings deposits compared with the same period of the previous year. The M1B growth rate hit a yearly low of 3.51 percent in December.

# Annual Growth Rates of M1B



# 3. Banking Sector

#### Number of Monetary Financial Institutions Unchanged

At the end of 2011, the number of monetary financial institutions (defined hereafter in this chapter as monetary financial institutions excluding the central bank) remained at 394. Among them, the numbers of domestic banks and foreign banks remained the same. The number of credit cooperatives decreased by one as a result of a merger. One new credit department of a farmers' and fishermen's association was set up in 2011.

| Types of institutions  | End of 2011 | End of 2010 | Annual Change |
|--|-------------|-------------|---------------|
| Total Number of Main Offices                                   | 394         | 394         | 0             |
| Domestic Banks   | 38          | 38          | 0             |
| Foreign Banks  | 28          | 28          | 0             |
| Credit Cooperatives  | 25          | 26          | -1            |
| Credit Departments of Farmers' and<br>Fishermen's Associations | 302         | 301         | 1             |
| Department of Savings and Remittances<br>of Chunghwa Post Co.  | 1           | 1           | 0             |
| Total Number of Branches                                       | 6,052       | 6,016       | 36            |
| Local Branches   | 5,887       | 5,860       | 27            |
| Overseas Branches  | 104         | 95          | 9             |
| Offshore Banking Units   | 61          | 61          | 0             |

# Number of Monetary Financial Institutions by Category

Sources: 1. Financial Statistics Monthly, CBC.

2. Department of Financial Inspection, CBC.

In addition, the number of money market mutual funds remained at 2 at the end of 2011, the same as 2010. The number of financial holdings companies was 16, an increase of one from the previous year-end.

### Market Shares of Deposits and Loans

Domestic banks have played a major role in Taiwan's banking system. At the end of 2011, domestic banks achieved 77.32 percent and 91.75 percent in terms of market share of deposits and loans. Because of the vigorous activity of domestic banks, their market share of deposits increased compared with last year. On the other hand, their market share of loans decreased due to the economic slowdown and increasingly stricter credit checks for mortgage loans. In addition, foreign banks competing for more financial services with multi-national corporations gained larger market shares both in deposits and loans at 1.66 percent and 3.01 percent, respectively. Moreover, the market share of deposits of the Department of Savings and Remittances of Chunghwa Post

Co. slightly decreased to 14.54 percent at the end of 2011, while its market share of loans continued to fall to a mere 0.03 percent due to mandatory restrictions on its lending business. As for credit cooperatives and the credit departments of farmers' and fishermen's associations, their market share in terms of both deposits and loans

continued to backslide because the capital flowed to large banks.

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

# Sources and Uses of Funds in Monetary Financial Institutions

Monetary financial institutions' funds increased by NT\$1,563 billion during the year 2011 due to the increase in banks' transaction deposits and non-transaction deposits. Among the different sources of funds, the amount of banks' non-transaction deposits as well as their share in the sources of funds increased significantly owing to the interest rate rises in the first half of the year and the stock market slump during the second half of the year.



Note: 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.

Unit: NT\$ Billion End of 2011 End of 2010 Annual Change Amount Share (%) Amount Share (%) Amount Share (%) Sources Transaction Deposits \*\* 10.723 29.92 30.53 -0.61 10.461 262 Non-Transaction Deposits\*\*\* 20,622 57.54 19,490 56.88 1,132 0.66 Government Deposits 776 2.17 835 2.44 -59 -0.27 Borrowings from CBC 0.46 56 016 110 0.30 166 9.91 Other Items (Net) 3,546 3,428 9.99 118 -0.08 Total 35,833 100.00 34,270 100.00 1,563 0.00 Uses: Net Foreign Assets \*\*\*\* 0.01 1,540 4.30 1,469 4.29 71 58.50 57.93 0.57 20.961 19.851 1,110 Loans Portfolio Investments\*\*\*\*\* 3,212 8.96 2,951 8.61 261 0.35 Purchases of CDs Issued by CBC 6,536 18.24 6,518 19.02 18 -078 3,481 Deposits with CBC 3 584 10.00 1015 103 -015

# Sources and Uses of Funds in Monetary Financial Institutions\*

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

Departments of Farmers' and Fishermen's Associations, Chunghwa Post Co., and Money Market Mut
\*\* Including checking account deposits, passbook deposits and passbook savings deposits.

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

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

\*\*\*\*\*Measured at original costs.

Source: Financial Statistics Monthly, CBC.

Transaction deposits also increased, though their share in the sources of funds shrank.

With respect to the uses of funds, banks' loans and portfolio investments contributed the most to the increase in 2011. Banks' loans and their share in the uses of funds increased owing to solid economic growth during the first half of the year. With banks' efforts to contain their investment risks amid the European sovereign debt crisis, portfolio investments, particularly those in government bonds, and their share in the uses of funds grew.

### **Downtrend in Deposit Growth**

Total deposits of monetary financial institutions exhibited an upward trend except in May and August during the year 2011. However, its annual growth rate declined from the end of the previous year's 5.40 percent to 4.31 percent, mainly caused by a net foreign capital outflow.

The annual growth rate of deposits fell to 5.12 percent at the end of January due to a shift of funds from deposits to currency in circulation during the Chinese New Year holidays. However, with the currency in circulation gradually flowing back, the growth rate of deposits rose to 5.76 percent at the end of February. From March to July, the growth rates of deposits fluctuated between 5.30 percent and 5.85 percent, mainly attributable to stable growth in banks' loans and investments. From August onwards, owing to a net foreign capital outflow caused by stock price falls, coupled with a continuous decrease in banks' credit growth since October, the growth rates of deposits gradually declined to their all-year low of 4.31 percent at the end of the year.

The annual growth rate of transaction deposits declined to 2.50 percent at the end of the year from last year's 8.98 percent. The decline was because of a shift of funds from transaction deposits to non-transaction deposits caused by the downturn in stock markets and the wider interest rate spread between these two deposits after two policy rate hikes. The share of transaction deposits in total deposits also decreased in 2011. The annual growth rate of non-transaction deposits rose to 5.77 percent at the end of the year from 3.46 percent at the previous year-end; their share in total deposits also increased.

By type of non-transaction deposits, the shares of time deposits and time savings deposits





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





# Shares of Deposits by Type

Notes: \* Including NCDs. \*\* Including repurchase agreements, nonresidents' NTD deposits and money market mutual funds. Source: Financial Statistics Monthly, CBC.

in total deposits both went up at the end of the year compared with the previous year-end, while the shares of other types of non-transaction deposits marginally declined.

The growth trend of government deposits in monetary financial institutions reversed from the previous year's 8.11 percent to -7.02 percent, reflecting an increasing efficiency of government finance. Accordingly, a smaller share in total deposits was registered.

## Increase in Banks' Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions declined to 6.00 percent at the end of 2011 compared to the 6.15 percent recorded at the end of the previous year. This was mainly due to slowing economic growth weakening private enterprises' demand for funds. Loans posted an annual growth rate of 5.58 percent at the end of 2011, lower than the 6.74 percent recorded a year earlier, while the growth of investments rose to 8.84 percent in 2011 from 2.36 percent in 2010.



#### Loans by Sector

At the end of 2011, loans extended to the private sector, government agencies and public enterprises accounted for 88.08 percent, 7.76 percent and 4.16 percent of total loans, respectively.

Due to a decrease in demand for funds, the respective annual growth rates of loans to the private sector and public enterprises declined to 6.20 percent and 4.13 percent at the end of 2011 from 7.23 percent and 7.92 percent a year earlier. Meanwhile, the annual growth rate of loans to government agencies rose to 2.15 percent from the 0.95 percent of the previous year-end.

# Loans by Industry

Among all industries, the manufacturing sector continued to account for the largest portion of bank loans, increasing from 45.49 percent in 2010 to 46.74 percent in 2011. This was mainly due to an increase in bank loans extended to the electronic parts and components industry. In addition, the respective shares of loans extended to the wholesale and retail industry, finance and insurance industry, transport and storage industry, construction industry and other industries fell in 2011 from the previous year-end, while those to the real estate industry increased in 2011 from the previous year-end.



# **Consumer Loans**

With regard to consumer loans, growth was limited as a result of economic slowdown and government action to enhance credit risk control over real estate-related lending after October 2009. At the end of 2011, the outstanding balance of consumer loans extended by banks recorded an annual increase of NT\$76.8 billion or 1.14 percent from the previous year-end.

#### Investments

Owing to flush liquidity in the market, portfolio investments by monetary financial institutions measured on a cost basis showed an annual increase of NT\$261 billion or 8.84 percent in 2011, significantly higher than the growth of NT\$68.1 billion or 2.36 percent a year earlier. Among the

investment instruments, government bonds accounted for the largest share with 64.38 percent, higher than the 63.52 percent a year ago, mainly due to the massive purchases of government bonds by banks and the Department of Savings and Remittances of Chunghwa Post Co. Moreover, the annual growth rate of investment in government bonds rose from 6.64 percent to 9.34 percent at the end of 2011. When measured at fair value, the annual increase of portfolio investments by monetary financial institutions equalled NT\$214.1 billion.

# Increase in the Share of Indirect Finance

Financing channels of the non-financial sector comprise indirect finance and direct finance, referring respectively to borrowing from financial institutions and issuing securities in the markets. The total amount of funds raised by the non-financial sector during the year 2011 decreased from the previous year(s NT\$1841.8 billion to NT\$1,802.9 billion. Funds raised through borrowing from financial institutions increased from the previous year's NT\$1,696.7 billion to NT\$1,781.7 billion, mainly due to the increasing portfolio investments of banks and life insurance companies. Meanwhile, funds raised by issuing securities fell to NT\$21.2 billion. Based on the outstanding balance, the share of indirect finance in total funds increased from 77.76 percent at the end of 2010 to 78.36 percent at year-end 2011, while the share of direct finance decreased from 22.24 percent to 21.64 percent.

|      |             |          |                      |             | Unit: NT\$ Billion |
|------|-------------|----------|----------------------|-------------|--------------------|
|      | Total Funds |          | Indirect Finance (1) | )           | Direct Finance     |
| Year | Raised      | Subtotal | (2)                  |             |                    |
|      | (3)=(1)+(2) | 30010101 | Loans                | Investments | (2)                |
| 2002 | 807.5       | 424.8    | 71.7                 | 353.1       | 382.7              |
| 2003 | 1,677.1     | 716.0    | 711.5                | 4.5         | 961.1              |
| 2004 | 2,129.3     | 1,815.9  | 1,569.7              | 246.2       | 313.4              |
| 2005 | 1,961.7     | 1,780.3  | 1,458.5              | 321.8       | 181.4              |
| 2006 | 1,223.6     | 1,374.8  | 837.8                | 537.0       | -151.2             |
| 2007 | 1,044.5     | 961.8    | 733.2                | 228.6       | 82.7               |
| 2008 | 894.4       | 1,222.8  | 647.5                | 575.3       | -328.4             |
| 2009 | 532.5       | 382.4    | 130.4                | 252.0       | 150.1              |
| 2010 | 1,841.8     | 1,696.7  | 1,242.5              | 454.2       | 145.1              |
| 2011 | 1,802.9     | 1,781.7  | 1,141.4              | 640.3       | 21.2               |

# Indirect Finance vs. Direct Finance\*

Notes: \*Measured in terms of flow data.

 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.

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

Source: Financial Statistics Monthly, CBC

# Decline in the Non-performing Loan (NPL) Ratio

Supported by moderate economic expansion and the better financial performance of the private sector, the asset quality of domestic financial institutions continued to improve in 2011. As





Source: Department of Financial Inspection, CBC.

a result, the average NPL ratio of monetary financial institutions as a whole declined to 0.51 percent at the end of 2011, lower than the previous year's 0.72 percent. Among the different types of financial institutions, the average NPL ratio of community financial institutions continued to show the biggest improvement during the course of the year.

#### Uptrend of Interest Rates

During the first half of 2011, Taiwan's economy exhibited stable growth. The Bank raised policy interest rates twice to ensure price and financial stability. However, in the second half of the year, due to the global economic downturn and uncertainties, domestic bank interest rates stopped moving up as the Bank kept policy rates unchanged. In the case of the interest rates of the five major domestic banks, the average fixed rates on onemonth and one-year time deposits increased to 0.88 percent and 1.36 percent at the end of July 2011 from 0.67 percent and 1.13 percent at the previous year-end, respectively, and then remained steady until the end of the year. Furthermore, the average base lending rate rose to 2.88 percent



Source: Financial Statistics Monthly, CBC.

at the end of 2011 from 2.68 percent at the previous year-end.



As the banks' base lending rate climbed following the Bank's discount rate increase in 2011, the weighted average interest rate on new loans of the five major domestic banks mildly moved upward and fluctuated between 1.42 percent and 1.65 percent. The weighted average rate on new loans merely increased from 1.44 percent in 2010 to 1.54 percent in 2011. Excluding government loans, the weighted average rate on new loans increased from 1.49 percent in 2010 to 1.57 percent in 2011.

Following the Bank's policy interest rate hikes, the weighted average rates on deposits and loans of domestic banks edged up steadily in 2011. In the fourth quarter of the year, the weighted average interest rates on deposits and loans were 0.80 percent and 2.23 percent, respectively, up from 0.66 percent and 2.04 percent at the previous year-end. Because the increases in lending rates were more than in deposit rates, the interest rate spread between deposits and loans widened to 1.43 percentage points, more than the 1.38 percentage points recorded in the fourth quarter of 2010.

# **Improved Profitability**

The pre-tax profits of monetary financial institutions increased by NT\$19.3 billion to a historical high of NT\$235.2 billion in 2011. Those of domestic banks increased by NT\$16.0 billion to NT\$200.8 billion, mainly due to increased net interest revenues. The pre-tax profits of the Department of Savings and Remittances, Chunghwa Post Co. decreased by NT\$4.6 billion to NT\$11.0 billion due to decreases in the fair value of its financial assets and losses from portfolio investments.

|  |       |            |                  |      |           |                  |                        | Uni   | t: NT\$ Billion  |  |
|--|-------|------------|------------------|------|-----------|------------------|------------------------|-------|------------------|--|
|  | F     | Pre-tax Pr | ofits            | Retu | rn on Ass | ets (%)*         | Return on Equity (%)** |       |                  |  |
|  | 2011  | 2010       | Annual<br>Change | 2011 | 2010      | Annual<br>Change | 2011                   | 2010  | Annual<br>Change |  |
| Domestic Banks   | 200.8 | 184.8      | 16.0             | 0.57 | 0.55      | 0.02             | 9.04                   | 8.75  | 0.29             |  |
| Foreign Banks  | 16.8  | 10.3       | 6.5              | 0.59 | 0.45      | 0.14             | 23.60                  | 15.52 | 8.08             |  |
| Credit Cooperatives  | 1.8   | 1.7        | 0.1              | 0.30 | 0.28      | 0.02             | 4.61                   | 4.16  | 0.45             |  |
| Credit Departments of Farmers' and<br>Fishermen's Associations | 4.8   | 3.5        | 1.3              | 0.29 | 0.21      | 0.08             | 4.85                   | 3.66  | 1.19             |  |
| Department of Savings and Remittances,<br>Chunghwa Post Co.    | 11.0  | 15.6       | -4.6             | 0.23 | 0.33      | -0.10            | 15.11                  | 19.74 | -4.63            |  |
| Total  | 235.2 | 215.9      | 19.3             | 0.52 | 0.51      | 0.01             | 9.39                   | 9.02  | 0.37             |  |

# **Profits of Monetary Financial Institutions**

Notes: \* Return on Assets = Pre-tax Profits / Total Assets \*\* Return on Equity = Pre-tax Profits / Net Worth

\*\* Return on Equity = Pre-tax Profits / Net Wor Source: Department of Financial Inspection, CBC.



#### Pre-tax Profits

Source: Department of Financial Inspection, CBC.



Source: Department of Financial Inspection, CBC.

# Increases in Both ROA and ROE

The average return on assets (ROA) and return on equity (ROE) of monetary financial institutions in 2011 went up to 0.52 percent and 9.39 percent, respectively, from 0.51 percent and 9.02 percent a year earlier. Except the Department of Savings and Remittances, Chunghwa Post Co., ROAs and ROEs of all the other monetary financial institutions strengthened during the course of the year. Among the monetary financial institutions, foreign banks were the best performers in terms of ROA and ROE.

With regard to capital adequacy ratios, the average ratio for domestic banks rose to 12.07 percent at the end of the year from 11.96 percent at the previous year-end on account of an increase of Tier 1 capital.

# 4. Money Market

In 2011, the total turnover decreased by 7.85 percent in the interbank call-loan market, and by 3.16 percent in the short-term bills market. Interest rates in both markets went up gradually after the Bank raised the discount rate and increased the issuance of NCDs from the second quarter of the previous year.

## **Dynamic Interbank Call-Ioan Market**

With the European sovereign debt crisis remaining unresolved, global economic and financial uncertainties increased due to an interplay of weak economic growth and deteriorating financial conditions. As a result, trading in the interbank call-loan market was less active in 2011. Total annual turnover amounted to NT\$32,693.6 billion for the year, showing a decrease of 7.85 percent when compared with the previous year.

Domestic banks were the largest borrower during the year, accounting for 72.82 percent of total trading, followed by the Department of Savings & Remittances of Chunghwa Post Co., foreign banks and bills finance companies, with shares of 13.02 percent, 7.29 percent and 6.88 percent, respectively. The share of domestic banks increased by 5.51 percentage points, with the amount borrowed decreasing by 0.32 percent. The decrease in the amount borrowed was mainly due to banks' weak demand for funds, which was associated with slower growth in bank credit. The share of the Department of Savings & Remittances of Chunghwa Post Co. decreased by 7.13 percentage points due to the end of its collaborative efforts with the CBC in managing market liquidity last

year. The share of foreign banks increased due to the larger outflow of foreign capital and was 0.79 percentage points more than that in the previous year. The share of bills finance companies increased by 0.85 percentage points from the previous year, and the borrowed amount increased by 5.03 percent primarily because of their continued efforts to improve profits by increasing the amount of bills issued.

With regard to lenders, domestic banks continued to be the largest supplier of funds, accounting for 55.87 percent of total transactions. Following domestic banks were foreign banks,

Composition of Interbank Call-Loan Market by Participant



Source: Financial Statistics Monthly, CBC.

the Department of Savings & Remittances of Chunghwa Post Co. and bills finance companies with respective shares of 41.45 percent, 2.38 percent and 0.30 percent. The amount lent by domestic banks decreased by 0.32 percent compared with the previous year because banks' lending policies became stricter. Due to the large outflow of custodian funds held for foreign investors, the amount lent by foreign banks decreased. Therefore, the share of foreign banks declined from 45.17 percent in the previous year to 41.45 percent. The share of the Department of Savings & Remittances of Chunghwa Post Co. decreased to 2.38 percent from 2.59 percent in the previous year, and that of bills finance companies decreased by 0.29 percentage points over the same period.

In terms of maturity, overnight interbank call loans remained the most actively traded instrument in the market with a predominant share of 64.41 percent, up by 0.87 percentage points from that of the previous year. Second were those with a maturity of 1 week, accounting for 31.76 percent, up by 0.71 percentage points from that of the previous year. The share of loans with a 2-week maturity declined to 3.59 percent from 4.49 percent in the previous year. Shares for the trading of those with maturities of 3 weeks, 1 month, 2-6 months, and above 6 months were negligible.

# **Increase in Short-term Bills Market Transactions**

In 2011, newly issued short-term bills totaled NT\$7,422.4 billion. Of the new issues of short-term bills, commercial paper continued to account for the lion's share of 84.48 percent. Second were negotiable certificates of deposit with a share of 10.79 percent. Bankers' acceptances made up a marginal share of 0.41 percent. Because the Bank decided to keep the discount rate unchanged after five previous policy rate increases, bills finance companies could gain more profit by holding short-term bills. Compared with the previous year, the growth rate of commercial paper issued was

|                     | Unit: NT\$ Billion |                         |                                     |                         |                   |                         |        |                         |  |                         |  |  |  |  |
|---------------------|--------------------|-------------------------|-------------------------------------|-------------------------|-------------------|-------------------------|--------|-------------------------|--|-------------------------|--|--|--|--|
| Year                | Total              |                         | Treasury Bills                      |                         | Commercial Papers |                         |        | nkers'<br>otances       | Negotiable<br>Certificates<br>of Deposit |                         |  |  |  |  |
|                     | Issues             | Year-end<br>Outstanding | Issues                              | Year-end<br>Outstanding | Issues            | Year-end<br>Outstanding | Issues | Year-end<br>Outstanding | Issues                                   | Year-end<br>Outstanding |  |  |  |  |
| 2002                | 8 <i>,</i> 378.1   | 1,309.5                 | 180.0                               | 180.0                   | 7,525.1           | 870.1                   | 40.1   | 7.9                     | 632.9                                    | 251.5                   |  |  |  |  |
| 2003                | 7,547.7            | 1,194.4                 | 60.0     60.0       130.9     130.9 |                         | 6,815.1           | 808.8                   | 34.5   | 6.8                     | 638.1                                    | 318.7                   |  |  |  |  |
| 2004                | 6,888.8            | 1,316.5                 |                                     |                         | 5,642.8           | 775.6                   | 35.2   | 7.6                     | 1,080.0                                  | 402.4                   |  |  |  |  |
| 2005                | 7,121.0            | 1,168.1                 | 115.0                               | 45.0                    | 5,690.4           | 747.0                   | 31.1   | 7.7                     | 1,284.5                                  | 368.5                   |  |  |  |  |
| 2006                | 7,004.0            | 1,092.4                 | 45.0                                | 25.0                    | 5,879.8           | 717.6                   | 36.1   | 8.1                     | 1,043.1                                  | 341.7                   |  |  |  |  |
| 2007                | 6,495.1            | 925.3                   | 88.0                                | 28.0                    | 5,577.2           | 664.8                   | 38.2   | 8.4                     | 791.7                                    | 224.0                   |  |  |  |  |
| 2008                | 6,948.6            | 969.8                   | 240.0                               | 106.8                   | 6,074.7           | 690.2                   | 33.3   | 4.9                     | 600.6                                    | 167.8                   |  |  |  |  |
| 2009                | 6,293.4            | 1,043.1                 | 435.0                               | 215.0                   | 5,397.7           | 651.3                   | 21.9   | 4.9                     | 438.8                                    | 171.9                   |  |  |  |  |
| 2010                | 7,137.2            | 1,167.5                 | 365.0                               | 240.0                   | 5,903.4           | 686.1                   | 33.1   | 6.2                     | 835.7                                    | 235.2                   |  |  |  |  |
| 2011                | 7,422.4            | 1,192.6                 | 321.2                               | 180.3                   | 6,270.5           | 735.2                   | 30.1   | 5.7                     | 800.6                                    | 271.5                   |  |  |  |  |
| 2010-2011<br>Change | 285.2              | 25.1                    | -43.8                               | -59.7                   | 367.1             | 49.1                    | -3.0   | -0.5                    | -35.1                                    | 36.3                    |  |  |  |  |
| Growth<br>Rate (%)  | 4.00               | 2.15                    | -12.00                              | -24.88                  | 6.22              | 7.16                    | -9.06  | -8.06                   | -4.20                                    | 15.43                   |  |  |  |  |

# Short-Term Bills Market

Source: Financial Statistics Monthly, CBC.

7.16 percent. In contrast, the Ministry of Finance decreased the issues of treasury bills to lessen the finacial burden of the government. As of the end of 2011, total outstanding short-term bills amounted to NT\$1,192.6 billion, 2.15 percent more than that of the previous year-end.

In the secondary market, the total turnover of short-term bills decreased by 3.16 percent to NT \$56,723.9 billion. Of the total transactions, commercial papers still made up the largest share of 63 percent, representing an increase of 3.62 percentage points compared with the previous year. It was followed by negotiable certificates of deposit with a share of 33.80 percent, representing a decrease of 4.46 percentage points over 2010. Treasury bills and banker's acceptances made up a negligible share of transactions. With respect to market participants, private enterprises were the largest players in the market with a combined share of 35.34 percent, followed by banks with a share of 34.71 percent.

# **Gradual Rise in Money Market Rates**

During 2011, funding conditions in the banking system remained easy. In the first half of the year, the global economy sustained solid growth and inflation risks remained elevated. To ensure price stability and prevent excess liquidily affecting the stability of financial markets, the Bank raised the discount rate twice and issued more certificates of deposit to bring down the level of excess reserves. In the second half of the year, as the European sovereign debt crisis heightened global economic and financial uncertainties due to an interplay of weak economic growth and deteriorating financial conditions, the Bank decided to keep the discount rate unchanged and, as a result, the overnight call-loan rate stabilized.

As for the movement of money market interest rates, the interbank overnight call-loan rate went up gradually from its lowest point of 0.26 percent in the beginning of the year to 0.40 percent at the end of the year. The primary market rate on commercial paper with maturities of 1-30 days moved upward from 0.63 percent in the beginning of 2011 to 0.88 percent at the end of the year. The secondary market rate on commercial paper with maturities of 1-30 days also stepped up from 0.49 percent to 0.75 percent during the same period.



#### **Decrease in Money Market Funds**

All quasi money market funds were converted to money market funds at the end of 2011. At

the end of the year, there were a total of 47 money market funds in Taiwan with total assets reaching NT\$755.7 billion, a decrease of NT\$27.7 billion or 3.54 percent over the level of the previous year. With regard to portfolio composition, the bond holding ratio of all money market funds declined from 3.8 percent in 2010 to 0.9 percent in 2011. The largest use of the funds was bank deposits with a share of 66.4 percent throughout the year, followed by repurchase agreements and short-term bills, with shares of 20.5 percent and 12.2 percent, respectively.

|            |       |            |           |            |            |        |         | Uni              | t: %;NT\$ Billio |  |
|------------|-------|------------|-----------|------------|------------|--------|---------|------------------|------------------|--|
| Year/Month | Total | Outright F | Purchases | Repurchase | Agreements | Bank D | eposits | Short-term Bills |                  |  |
| End        | IOIGI | Amount     | Share     | Amount     | Share      | Amount | Share   | Amount           | Share            |  |
| 2009       | 925.3 | 72.6       | 7.8       | 245.5      | 26.5       | 531.7  | 57.5    | 75.5             | 8.2              |  |
| 2010       | 783.4 | 32.5       | 4.1       | 172.1      | 22.0       | 495.6  | 63.3    | 83.2             | 10.6             |  |
| 2011       | 755.7 | 6.7        | 0.9       | 155.0      | 20.5       | 501.8  | 66.4    | 92.2             | 12.2             |  |
| 2011/1     | 758.6 | 28.5       | 3.8       | 145.1      | 19.1       | 507.1  | 66.8    | 77.9             | 10.3             |  |
| 2          | 760.3 | 28.7       | 3.8       | 139.9      | 18.4       | 515.7  | 67.8    | 76.0             | 10.0             |  |
| 3          | 727.4 | 27.5       | 3.8       | 128.1      | 17.6       | 490.5  | 67.4    | 81.3             | 11.2             |  |
| 4          | 780.0 | 26.3       | 3.4       | 152.0      | 19.5       | 509.3  | 65.3    | 92.3             | 11.8             |  |
| 5          | 729.4 | 23.4       | 3.2       | 121.9      | 16.7       | 500.1  | 68.6    | 84.1             | 11.5             |  |
| 6          | 689.4 | 19.7       | 2.9       | 123.1      | 17.9       | 448.8  | 65.1    | 97.8             | 14.2             |  |
| 7          | 722.3 | 17.1       | 2.4       | 147.1      | 20.4       | 485.9  | 67.3    | 72.2             | 10.0             |  |
| 8          | 696.4 | 15.7       | 2.2       | 141.9      | 20.4       | 485.5  | 69.7    | 53.3             | 7.7              |  |
| 9          | 690.2 | 15.2       | 2.2       | 136.3      | 19.7       | 477.0  | 69.1    | 61.8             | 9.0              |  |
| 10         | 720.9 | 12.9       | 1.8       | 149.4      | 20.7       | 488.4  | 67.8    | 70.2             | 9.7              |  |
| 11         | 761.0 | 8.8        | 1.2       | 174.6      | 22.9       | 500.9  | 65.8    | 76.7             | 10.1             |  |
| 12         | 755.7 | 6.7        | 0.9       | 155.0      | 20.5       | 501.8  | 66.4    | 92.2             | 12.2             |  |

# Portfolio Composition of Money Market Funds

Source : 1. Securities Investment Trust & Consulting Association of the R. O. C. (Taiwan). 2. 2009 and 2010 data are Quasi Money Market Funds.

# 5. Foreign Exchange Market

#### Moderate Appreciation of the NT dollar

The NT dollar appreciated moderately from the beginning of 2011 until a surge of foreign capital outflow contributed to a downward swing in the exchange rate and depreciation in September. On a daily average basis, the trade-weighted nominal effective exchange rate index of the NT dollar increased by 2.26 percent in 2011.

Early in the year, the NT dollar strengthened against the US dollar because of international capital inflows and increased demand for NT dollars before the Chinese New Year. In February, due to foreign capital outflow, the NT dollar moderately depreciated. After March, attributable to the continued monetary easing in the US and its credit rating downgrade, the US dollar depreciated and the NT\$/US\$ exchange rate soared to a yearly high of 28.632 on May 5.

The NT dollar then hovered between 28.700 and 29.076 from June to August. Thereafter, international stock markets slid in September as the European sovereign debt crisis worsened. Foreign investors sold off in Taiwan's stock market, weakening the NT\$/US\$ exchange rate further to a yearly low of 30.680 on October 4. Although the crisis alleviated later for a brief period, the US dollar rallied and the NT dollar depreciated slightly on gloomy global economic sentiment in November and the protracted European debt crisis. Between year-end 2010 and 2011, the NT dollar appreciated by 0.26 percent against the US dollar. On a daily average basis, the NT\$/US\$ exchange rate strengthened by 7.39 percent in 2011.

As euro depreciation continued into 2011, the NT dollar against the euro soared to a yearly high of 38.407 on January 11. Following an interest rate hike by the European Central Bank (ECB) and smooth government bond issuances by Portugal, Spain and Italy, the euro appreciated moderately and the NT\$/€ exchange rate reached a yearly low of 42.680 on April 29. From May to early September, the NT\$/€ exchange rate fluctuated between 40.146 and 42.614. Thereafter, foreign capital outflow weakened the NT dollar against the euro. However, countries in the European Union



failed to agree on a solution to the debt crisis and the NT dollar strengthened against the euro towards the end of 2011. Compared to the end of the previous year, the NT dollar against the euro appreciated by 3.54 percent. On a daily average basis, the NT dollar appreciated against the euro by 2.32 percent compared with the previous year.

The NT dollar against the Japanese yen appreciated in the first half of 2011 and then declined in the following months. Entering the year, Japan had its sovereign credit rating downgraded and the yen weakened. On March 11, the devastating earthquake in the northeast caused a tsunami and a nuclear emergency. Insurance companies sold their foreign assets to cover claims payable, leading to a stronger yen. After a coordinated intervention by the Bank of Japan (BOJ) and its G7 counterparts, the yen retreated, and the NT dollar rose to a yearly high of 0.340 against the yen on April 8. In the second half of 2011, due to the prolonged European debt crisis and downside risks of the US economy, global hedge funds and speculators in search of a safe haven continued to push the yen up. The NT exchange rate slipped to a yearly low of 0.400 on October 4 and rebounded later owing to further intervention. At the end of 2011, the NT dollar fell by 4.37 percent against the Japanese yen compared to the end of 2010 and depreciated by 2.36 percent compared with 2010 on a daily average basis.

As for other major currencies, the RMB against the US dollar appreciated throughout 2011 because of Mainland China's strict monetary tightening in response to inflationary pressures and a large external trade surplus. On top of that, Mainland China signed currency swap agreements with Thailand and Pakistan. Japan also announced it would buy the government bonds of Mainland China. Consequently, the RMB climbed to a yearly high of 6.294 against the US dollar on December 30. Meanwhile, the NT dollar depreciated to a yearly low of 4.813 against the RMB, 4.24 percent weaker than at the end of 2010. On a daily average basis, the NT dollar appreciated by 2.50 percent against the RMB as compared with the previous year.

In the early months of 2011, the Korean won was dragged down by a foreign capital outflow and the major earthquake in Japan, and the NT dollar appreciated against the won. However, at the end of March, with the disaster in Japan under control, the Korean won strengthened on the return of foreign capital. In addition, an increase in South Korea's trade surplus in July supported its currency and the NT dollar depreciated against the won to a yearly low of 0.0274 on August 2. Thereafter, global economic slowdown concerns and falling Korean stock indices accounted for a depreciation of the won. The NT dollar surged to a yearly high of 0.0256 against the Korean won on September 26. The NT dollar against the Korean won appreciated by 1.76 percent between year-end 2010 and 2011. On a daily average basis, the NT dollar also rose by 2.95 percent against the Korean won in 2011 compared with the previous year.

# Solid Growth in Foreign Exchange Trading Volume

Trading in the Taipei foreign exchange market continued to grow in 2011. Total net trading volume for the year reached US\$6,013.4 billion, representing a growth rate of 17.6 percent, while the daily average turnover was US\$24.1 billion. The increase in turnover mainly reflected expanding international trade and magnifying capital movements.

In terms of trading partners, transactions between banks and non-bank customers accounted for 25.8 percent of the total net turnover, while inter-bank transactions made up 74.2 percent, including 25.6 percent for transactions among local banks and 48.6 percent for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 44.9 percent of the total trading volume, of which trading against the US dollar made up a dominant 42.9 percent. Transactions in third currencies contributed to 55.1 percent of

|                              |           |                         |           |                   |         |                            | Unit: US\$ Million |
|------------------------------|-----------|-------------------------|-----------|-------------------|---------|----------------------------|--------------------|
| Year                         | Spots     | Forwards Forex<br>Swaps |           | Margin<br>Trading | Options | Cross<br>Currency<br>Swaps | Total              |
| 2007                         | 2,418,963 | 477,189                 | 1,362,112 | 42,482            | 303,857 | 29,683                     | 4,634,286          |
| 2008                         | 2,455,394 | 459,393                 | 1,548,763 | 34,871            | 307,857 | 40,097                     | 4,846,375          |
| 2009                         | 1,841,951 | 283,233                 | 1,627,020 | 20,809            | 311,353 | 26,927                     | 4,111,293          |
| 2010                         | 2,192,719 | 290,075                 | 2,166,897 | 18,295            | 423,261 | 23,848                     | 5,115,095          |
| 2011                         | 2,570,319 | 415,459                 | 2,454,626 | 19,016            | 529,351 | 24,587                     | 6,013,357          |
| 2010-2011<br>Growth Rate (%) | 17.2      | 43.2                    | 13.3      | 3.9               | 25.1    | 3.1                        | 17.6               |

Turnover of Major Products in the Taipei Foreign Exchange Market

Source: Department of Foreign Exchange, CBC.





Source: Department of Foreign Exchange, CBC.

# Composition of Foreign Exchange Transactions by Product



Source: Department of Foreign Exchange, CBC.

|                              |                               |                           |                             |   |                      |                  | Ur                    | it: US\$ Million |  |
|------------------------------|-------------------------------|---------------------------|-----------------------------|---|----------------------|------------------|-----------------------|------------------|--|
|                              |                               | Interest Rate-re          | lated Products              | Commodity-<br>related<br>Products               | Stock                | Cradit           |                       |                  |  |
| Year                         | Forward<br>Rate<br>Agreements | Interest<br>Rate<br>Swaps | Interest<br>Rate<br>Options | Foreign<br>Currency<br>Interest<br>Rate Futures | Commodity<br>Options | Index<br>Options | Credit<br>Derivatives | Total            |  |
| 2007                         | 12,958                        | 93,072                    | 17,475                      | 176,723   | 6,947                | 627              | 5,243                 | 313,044          |  |
| 2008                         | 18,799                        | 205,911                   | 8,860                       | 172,918   | 17,875               | 126              | 3,586                 | 428,075          |  |
| 2009                         | 5,715                         | 469,003                   | 4,999                       | 208,566   | 18,360               | 51               | 3,312                 | 710,006          |  |
| 2010                         | 842                           | 125,541                   | 6,043                       | 392,368   | 18,060               | 105              | 10,126                | 553,085          |  |
| 2011                         | 902                           | 76,153                    | 3,569                       | 254,703   | 22,728               | 421              | 5,204                 | 363,681          |  |
| 2010-2011<br>Growth Rate (%) | 7.1                           | -39.3                     | -40.9                       | -35.1   | 25.9                 | 301.4            | -48.6                 | -34.2            |  |

# Turnover of Other Products in the Taipei Foreign Exchange Market

Source: Department of Foreign Exchange, CBC.

the total trading volume, with trading in currency pairs of US dollar-other currencies and US dollareuro accounting for respective shares of 27.8 percent and 18.9 percent. Compared with 2010, NT dollar trading against foreign currencies increased by 10.8 percent, and transactions in third currencies increased by 23.7 percent.

With respect to types of transactions, the major transactions were spots and foreign exchange swaps, accounting for 42.7 percent and 40.8 percent of total turnover, respectively. Compared with 2010, the trading volume of all types increased. However, in terms of the share in the total turnover, only forwards and options increased.

In 2011, the total turnover of forwards, swaps and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives amounted to US\$363.7 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$335.3 billion, or 92.2 percent, representing a negative annual growth rate of 36.1 percent. Interest rate futures accounted for the majority of this decline, with a decrease of US\$137.7 billion, reflecting investor concern over an uncertain interest rate outlook due to the European debt crisis.

# Expansion in the Foreign Currency Call-Ioan Market

The transaction volume in the foreign currency call-loan market in 2011 was US\$1,856.2 billion, an increase of 11.2 percent over the previous year. Of this amount, US dollar transactions made up a dominant share with US\$1,834.4 billion, as high as 98.8 percent of the total and 10.9 percent higher than that in 2010. The main reason for the increase was the downward trend of the US dollar overnight call-loan rate aimed at improving US dollar liquidity conditions to relieve funding pressures of European banks. Japanese yen transactions reached  $\frac{1}{2}$ 950.3 billion in 2011, a small share of only 0.6 percent and a slight decrease of 0.4 percent compared to 2010. The amount of euro transactions totaled €4.3 billion, a share of just 0.3 percent.

Other currencies accounted for 0.2 percent of the total transaction volume.

# Increase in the Assets of Offshore Banking Units

There were 61 offshore banking units (OBUs) at the end of 2011. Domestic banks operated 36 of the OBUs, while foreign banks ran the other 25 units. Owing to larger loans to nonresidents, the total assets of all OBUs increased to US\$145.1 billion at the end of the year, representing an increase of US\$22.2 billion or



Unit: US\$ Million



18.0 percent from the previous year-end. Domestic OBUs made up 78.7 percent of these combined assets with an amount of US\$114.3 billion, and the OBUs of foreign banks accounted for US\$30.8 billion, or 21.3 percent of the total. In terms of the uses of funds, macroeconomic control measures in Mainland China made it difficult for Taiwanese firms to raise funds from the banking system there, driving them toward OBUs. As a result, loans to non-financial institutions reached a historic high of US\$59.7 billion, representing a majority share of 41.1 percent of OBU lending. Deposits with financial institutions and affiliated branches were 39.2 percent of total assets. In terms of the destination for funds, Asia accounted for the majority with 63.0 percent, followed by America at 24.7 percent.

The OBUs' main sources of funds were deposits by financial institutions and affiliated branches, which together accounted for 63.2 percent of total liabilities. Among them, deposits of non-financial institutions reached a historic high, which increased 5.8 percent compared to the previous year. In recent years, OBUs have been the funding centers for overseas Taiwanese firms. By geographical

| Year/Month                         | Loans to<br>Non-financial<br>Institutions | Portfolio<br>Investment | Claims on<br>Financial<br>Institutions | Other<br>Assets |         |        | Due to<br>Financial<br>Institutions | Securities<br>Issued | Other<br>Liabilities |
|------------------------------------|---|-------------------------|--|-----------------|---------|--------|-------------------------------------|----------------------|----------------------|
| 2007/12                            | 23,931                                    | 11,969                  | 47,788                                 | 7,593           | 91,281  | 27,263 | 55,939                              | 499                  | 7,580                |
| 2008/12                            | 32,481                                    | 10,851                  | 48,141                                 | 7,159           | 98,632  | 31,133 | 60,198                              | 724                  | 6,577                |
| 2009/12                            | 29,988                                    | 13,757                  | 43,954                                 | 7,352           | 95,051  | 32,493 | 54,070                              | 352                  | 8,136                |
| 2010/12                            | 40,752                                    | 15,952                  | 55,878                                 | 10,348          | 122,930 | 35,587 | 75,270                              | 364                  | 11,709               |
| 2011/12                            | 58,976                                    | 15,760                  | 56,900                                 | 13,465          | 145,101 | 37,645 | 91,662                              | 370                  | 15,424               |
| 2010/12-2011/12<br>Growth Rate (%) | 44.7                                      | -1.2                    | 1.8                                    | 30.1            | 18.0    | 5.8    | 21.8                                | 1.6                  | 31.7                 |

Consolidated Balance Sheet of Offshore Banking Units in Banking System

Source: Financial Statistics Monthly, CBC.

Source: Department of Foreign Exchange, CBC.

origin, 70.1 percent of the funds came from Asia, and 19.9 percent from America.

Supported by official approval for OBUs to conduct RMB-related business in July 2011, the forextrading turnover of all OBUs in 2011 increased by 37.1 percent and registered US\$269.8 billion, of which US\$141.9 billion went for spot transactions, US\$77.1 billion for forward transactions and US \$50.8 billion for foreign exchange swap transactions. Compared with the previous year, the growth rates of the trading of spots, forwards and foreign exchange swaps were 30.2 percent, 52.8 percent and 36.1 percent, respectively.

The total turnover of derivatives products amounted to US\$469.8 billion, a decrease of 10.7 percent over the previous year. Of this amount, interest rate futures accounted for US\$254.7 billion, or 54.2 percent of the total, but represented a decline of 35.1 percent from 2010. The main reason for the decline was investor conservatism due to uncertain interest rate trends. Supported by an increase in currency options trading, transactions of options registered US\$190.3 billion, 66.2 percent higher than 2010.



# 6. Stock Market

Taiwan's stock indices fluctuated at high levels in the first half of 2011, while they dropped significantly in the final six months of the year, mainly attributable to the adverse effects of the Japanese earthquake in March and the deepening European sovereign debt crisis.

At the end of 2011, the Taiwan Stock Exchange (TWSE) weighted stock price index (TAIEX) was 21.2 percent lower than the previous year-end. All industrial groups reported weaker performance than the previous year, except for a slight increase of 2.2 percent for the food industry, while the shipping and construction industries recorded the biggest year-on-year falls among all groups. The TAIEX daily average trading value was NT\$106.1 billion, decreasing by 5.6 percent from the previous year.

At the end of 2011, the weighted stock price index of the GreTai Securities Market (GTSM), an over-the-counter market, fell by 34.8 percent compared to the previous year-end. All industrial groups went lower, with electronics and chemicals among the worst performers. The daily average trading value was NT\$16.17 billion, a decrease of 27.9 percent from the previous year.

# The TWSE Market

# (1) Listings Increased While Market Capitalization Fell

At the end of 2011, the TWSE market listings totaled 790, 32 more than the end of 2010. The par

|        | Stock price          | Daily<br>Average                   | Turnover    | Market                            | ٢                                    | Net Buying Positions**<br>(NT\$ Billion)                    |                                       |  |  |  |
|--------|----------------------|------------------------------------|-------------|-----------------------------------|--------------------------------------|---|---------------------------------------|--|--|--|
|        | Index*<br>(1966=100) | Trading<br>Value<br>(NT\$ Billion) | Rate<br>(%) | Capitalization*<br>(NT\$ Billion) | Foreign<br>Investors<br>Net Buy/Sell | Securities<br>Investment<br>Trust Companies<br>Net Buy/Sell | Securities<br>Dealers<br>Net Buy/Sell |  |  |  |
| 2009   | 8,188.1              | 118.3                              | 178.3       | 21,034                            | 480.1                                | -28.9   | 10.0                                  |  |  |  |
| 2010   | 8,972.5              | 112.4                              | 136.7       | 23,811                            | 281.2                                | -67.8   | 2.7                                   |  |  |  |
| 2011   | 7,072.1              | 106.1                              | 119.9       | 19,216                            | -277.6                               | 9.4   | -45.6                                 |  |  |  |
| 2011/1 | 9,145.4              | 131.1                              | 10.8        | 24,235                            | 99.3                                 | -7.7  | -6.9                                  |  |  |  |
| 2      | 8,599.7              | 136.3                              | 8.4         | 22,826                            | -97.1                                | -5.9  | -13.7                                 |  |  |  |
| 3      | 8,683.3              | 114.5                              | 11.4        | 23,067                            | -36.1                                | 0.7   | -3.1                                  |  |  |  |
| 4      | 9,007.9              | 112.1                              | 8.9         | 23,939                            | 97.1                                 | -4.8  | 4.1                                   |  |  |  |
| 5      | 8,988.8              | 103.5                              | 9.1         | 23,891                            | -18.2                                | 0.5   | -0.1                                  |  |  |  |
| 6      | 8,652.6              | 98.5                               | 9.0         | 23,012                            | -21.7                                | 5.4   | -8.5                                  |  |  |  |
| 7      | 8,644.2              | 115.9                              | 10.6        | 23,080                            | -60.8                                | 8.9   | 5.9                                   |  |  |  |
| 8      | 7,741.4              | 127.2                              | 14.1        | 20,735                            | -190.3                               | 10.3  | -11.2                                 |  |  |  |
| 9      | 7,225.4              | 101.7                              | 11.0        | 19,397                            | -78.7                                | 3.0   | -7.5                                  |  |  |  |
| 10     | 7,587.7              | 90.9                               | 8.9         | 20,393                            | 51.3                                 | 4.2   | 1.6                                   |  |  |  |
| 11     | 6,904.1              | 86.4                               | 10.2        | 18,687                            | -61.7                                | -3.2  | -6.4                                  |  |  |  |
| 12     | 7,072.1              | 65.9                               | 7.6         | 19,216                            | 39.4                                 | -1.9  | 0.3                                   |  |  |  |

# Major Statistics of the TWSE Market

Notes: \* Refers to end-of-period data. \*\* Minus sign "-" indicates net sale positions.

Source: Securities and Futures Bureau, Financial Supervisory Commission, Executive Yuan.

value of shares issued amounted to NT\$6.2 trillion, growing by 3.8 percent over a year earlier. The total market capitalization shrank by 19.3 percent from the previous year-end to NT\$19.2 trillion. In terms of the issuance of Taiwan Depository Receipts (TDRs), 8 new TDRs were issued in 2011, less than the previous year's 12 new issues.

### (2) Stock Indices Turned Lower

In the first month of 2011, the TAIEX rose on foreign investor net-buying to reach the yearly high of 9,145 on January 28. However, political instability in the Middle East and North Africa, and impacts from the Japanese earthquake and the ensuing nuclear crisis combined to drag the TAIEX down to 8,235 on March 15. Afterwards, the reporting of better-than-expected profits by US firms bolstered the TAIEX to climb to 9,062 on June 1, before being followed by a series of index consolidations.





From August onwards, as the European sovereign debt crisis worsened and a global economic slowdown loomed, foreign investors offloaded their TWSE market shares, causing the TAIEX to tumble to 6,877 on September 26. Thereafter, major EU countries reached an initial consensus on debt crisis solutions, while the US posted better-than-expected signs for its economic recovery. These improvements boosted both international stock markets and the TAIEX, the latter of which climbed to 7,622 on November 1.

However, sovereign debt problems deepened in Italy and Spain, while domestic investor sentiment turned cautious before Taiwan's presidential election. As a result, the TAIEX weakened to a yearly low of 6,633 on December 19. It then bottomed out and rebounded to 7,072 on December 30, supported by intervention from the National Stabilization Fund. The TAIEX closed the year with a decline of 21.2 percent from the 8,973 points registered at the end of 2010.

Broken down by subcategory, stock prices in all industrial groups dropped, except for the food industry with a moderate gain of 2.2 percent. The main reasons behind the fall in prices included the protracted European debt crisis, global economic slowdown, and world stock market slumps. The worst performers in the TWSE market in 2011 were shares in the groups of shipping and transportation (down 40.4 percent), construction (down 37.4 percent), and textiles (down 27.5 percent).



#### Changes in Industrial Group Stock Price Indices in the TWSE Market

Note: Year-on-year changes; end of year figures. Source: Taiwan Stock Exchange Corporation.

### (3) Turnover Declined

TWSE market turnover, measured on a daily average basis, declined by 5.6 percent from NT \$112.4 billion the previous year to NT\$106.1 billion in 2011. This was mainly because a downtrend in the market from August onwards sapped investor confidence and dampened trading. In particular, in the fourth quarter, investors became more cautious on concerns over market corrections and uncertainties ahead of the presidential election, leading to a sharp decrease in daily average market turnover to less than NT\$100 billion.

### (4) Foreign Investors Net Sold

In 2011, foreign investors sold a net NT\$277.6 billion in the TWSE market. Net purchases by foreign investors were recorded in January, April, October, and December, when the US stock markets strengthened and concerns about the European debt crisis also eased. However, in the other months of the year, foreign investors sold more TWSE market shares than they bought, mainly affected by the aftermath of the Japanese earthquake and the ongoing European debt crisis.

#### (5) Local Securities Investment Trust Companies Net Bought

Local securities investment trust companies net bought NT\$9.4 billion in 2011. They net sold in January, February, and April on account of profit taking after the TAIEX exhibited relative strength. In March, and during the months from May to October, net purchases were recorded as these companies took the opportunity of the TWSE market corrections to increase their holdings of stocks they deemed undervalued. In the last two months of the year, redemption pressures from fund investors and accounting considerations combined to lead the local securities investment trust companies to sell more stocks than they bought.

#### (6) Local Securities Dealers Net Sold

Local securities dealers are inclined toward short-swing trading, and they often net buy on rising prices and net sell on falling prices. In 2011, they sold a net NT\$45.6 billion in the TWSE market. They bought more than they sold in April, July, October and December when the TAIEX rebounded. In the other months of the year, net sales were recorded due to the lackluster performance of the TAIEX.

# The GTSM Market

# (1) GTSM Listings Increased with Lower Market Capitalization

The number of GTSM listings increased by 43 over the year to reach a total of 607 at the end of 2011. The par value of total shares amounted to NT\$731.9 billion at the end of the year, 3.7 percent higher than the previous year-end. However, market capitalization shrank by 28.6 percent year on year, totaling NT\$1,417.1 billion at the end of 2011.

#### (2) Share Prices Slumped

As in the TWSE market, GTSM share prices also descended substantially in 2011. The GTSM index peaked at the yearly high of 146.2 on January 20 before falling to 132.3 on March 17. The subsequent strengthening in global stock markets supported the GTSM index to recover to 140.6 on June 1.

However, the unfolding European debt crisis and slowing global economic growth dragged the GTSM index down to a yearly low of 86.2 on December 19. Although a rally boosted the GTSM index to close the year at 93.9, it was still 34.8 percent lower than the 144.0 points of the previous year-end.



# Changes in Industrial Group Stock Price Indices in the GTSM Market

Note: Year-on-year changes; end of year figures. Source: GreTai Securities Market.

For the year of 2011, foreign investors net bought NT\$12.3 billion in the GTSM market, while local securities investment trust companies and securities dealers net sold NT\$2.0 billion and NT\$8.0 billion, respectively. The daily average turnover in the GTSM market was NT\$16.17 billion, a decrease of 27.9 percent from NT\$22.44 billion the previous year, mainly due to reduced trading as a result of low confidence in the weak market.

# Key Measures for the Stock Markets

In 2011, the key measures for Taiwan's stock markets included:

- (1) On February 22, the Financial Supervisory Commission (FSC) eased the restrictions on Taiwanese investment in Mainland Chinese listed securities. The cap on such investment, conducted via Taiwan's securities investment trust funds and discretionary asset management, was raised from 10 percent of the net asset value of the fund to 30 percent. This measure was designed to help securities investment trust enterprises to be more competitive with greater flexibility in asset management and product diversity to meet the various investment needs of their customers.
- (2) On April 7, the FSC approved the Taiwan Futures Exchange (TAIFEX) plan to launch a block trading system to provide traders with a suitable channel for large-volume trades.
- (3) On April 19, the FSC gave the permission for securities firms to issue callable bull/bear contracts (CBBCs), offering investors a wider range of products while increasing securities market liquidity. The TWSE launched the first CBBCs on July 8.
- (4) On November 11, the FSC announced the adjustment of daily quotas on sales of borrowed securities in order to provide for more reasonable control in this matter. Before the adjustment, daily quotas on the quantity of orders for the sale of borrowed securities were not allowed to exceed 3 percent of TWSE- or GTSM-listed shares outstanding or beneficial interest units issued. The new rule for such quotas put the cap at 20 percent of the 30-day moving average transaction volume for the given security.
- (5) On December 20, the National Stabilization Fund Management Committee announced it would begin to deploy utilizable funds for stock market trading to ensure market liquidity and stability.

# 7. Bond Market

For the year 2011, Taiwan's capital market conditions were steady. New issues of bonds amounted to NT\$1,393.9 billion, showing a marginal increase of NT\$300 million or 0.02 percent over the previous year.

Issuance of central government bonds increased by NT\$10.0 billion, or 1.64 percent, to NT\$620.0 billion in order to support fiscal funding needs.

In terms of corporate bonds and bank debentures, issuance grew in the first half of 2011 as firms and banks tried to lower funding costs in expectation of rate hikes amid inflationary pressures. Entering the second half of the year, as the sovereign debt crisis in Europe deepened and the credit downgrade in the US occurred, market interest rates declined to a relatively low level, boosting corporate funding. For the year as a whole, corporate bonds and bank debentures totaled an issuance of NT\$591.4 billion, increasing by NT\$103.2 billion or 21.14 percent over the previous year.

With respect to asset securitization, several products reached maturity during the year, while the volume of products on a revolving issuance basis declined significantly from the previous year. Foreign and international bonds recorded no new issues during the year.

At the end of 2011, the outstanding amount of bonds issued stood at NT\$7,113.5 billion, an increase of NT\$495.3 billion or 7.48 percent from the previous year-end. In the secondary market, annual transactions totaled NT\$97,809.1 billion, contracting by 8.0 percent over the previous year. While all quasi-money market funds in Taiwan had already been transformed to money market funds by the end of 2010, leaving only one fixed income fund in the market, the remaining fund's size shrank to NT\$3.3 billion at the end of 2011.

# Continuous Increase in Government Bond Issuance

In 2011, central government bond issuance in support of fiscal funding needs totaled NT\$620.0 billion, an increase of NT\$10.0 billion or 1.64 percent compared with the previous year.

Issues of 5-year and 10-year government bonds were both NT\$150.0 billion, and the issuance of 20-year government bonds was NT\$160.0 billion. In addition, there were also 2-year bond issuances worth NT\$40.0 billion and 30-year bond issuances worth NT\$120.0 billion to meet market demand.

In terms of issuing rates, the weighted average issuing rate on 30-year bonds declined to 1.972 percent due to supply/demand factors and large investment by life insurance companies. The weighted average issuing rates on 2-year and 5-year bonds were 0.791 percent and 1.107 percent,

respectively, both higher than the previous year due to expectations of rate increases.

The government of Kaohsiung special municipality issued construction bonds in October and December with a combined amount of NT\$20.0 billion to repay maturing debts.

In sum, government bond issuance amounted to NT\$640.0 billion in 2011, an increase of NT\$10.7 billion or 1.70 percent from 2010. The outstanding amount continued to rise to NT\$4,644.4 billion at year-end, an increase of NT\$310.1 billion or 7.15 percent from the previous year-end.

# **Continued Growth in Corporate Bond Issuance**

During the first half of 2011, optimistic economic prospects and rising inflation risks lifted expectations for policy rate hikes, prompting corporations, as well as financial institutions, to issue bonds for funding. In the second half of the year, corporate bond issues grew faster as market rates trended to relative lows owing to the heightened debt crisis in Europe. For the year, corporate bond issues amounted to NT\$396.7 billion, increasing by NT\$67.0 billion or 20.32 percent from a year before.

State-owned enterprises issued bonds worth NT\$109.0 billion, making up 30 percent of total corporate bond issuance in 2011. In the private sector, Formosa Plastics Group topped the list with its yearly bond issuance reaching NT\$48.0 billion, while the respective bond issues of shipping firms and financial holdings companies exceeded NT\$30.0 billion.

| Unit: NT\$ Bi  |         |             |                             |             |        |                     |        |             |                 |             |                             | : NT\$ Billion |                        |             |
|----------------|---------|-------------|-----------------------------|-------------|--------|---------------------|--------|-------------|-----------------|-------------|-----------------------------|----------------|------------------------|-------------|
| Year/<br>Month | Total   |             | Central Government<br>Bonds |             |        | Government<br>Bonds | Corpo  | orate Bonds | Bank Debentures |             | Beneficiary<br>Securities** |                | Foreign & int'l bonds* |             |
| MOHIII         | Issues  | Outstanding | Issues                      | Outstanding | Issues | Outstanding         | Issues | Outstanding | Issues          | Outstanding | lssues                      | Outstanding    | Issues                 | Outstanding |
| 2009           | 1,062.9 | 6,251.9     | 470.0                       | 3,829.6     | 25.6   | 141.4               | 203.9  | 1,136.9     | 98.7            | 812.5       | 243.9                       | 264.4          | 22.8                   | 73.1        |
| 2010           | 1,393.6 | 6,618.2     | 610.0                       | 4,187.6     | 19.3   | 146.7               | 329.7  | 1,202.2     | 158.5           | 815.8       | 256.8                       | 216.8          | 19.3                   | 53.1        |
| 2011           | 1,393.9 | 7,113.5     | 620.0                       | 4,509.6     | 20.0   | 134.8               | 396.7  | 1,351.0     | 194.7           | 900.4       | 162.5                       | 178.3          | -                      | 39.4        |
| 2011/1         | 118.1   | 6,531.5     | 75.0                        | 4,113.6     | -      | 134.7               | 29.7   | 1,219.1     | 0.0             | 808.5       | 13.4                        | 208.2          | -                      | 47.4        |
| 2              | 106.4   | 6,591.4     | 70.0                        | 4,183.6     | -      | 134.7               | 4.1    | 1,220.0     | 0.0             | 806.2       | 32.3                        | 199.5          | -                      | 47.4        |
| 3              | 107.3   | 6,644.6     | 40.0                        | 4,208.6     | -      | 134.7               | 14.0   | 1,229.0     | 40.8            | 831.4       | 12.5                        | 196.5          | -                      | 44.4        |
| 4              | 121.5   | 6,742.7     | 70.0                        | 4,278.6     | -      | 134.7               | 25.9   | 1,249.7     | 11.4            | 837.8       | 14.2                        | 197.5          | -                      | 44.4        |
| 5              | 146.2   | 6,804.3     | 60.0                        | 4,338.6     | -      | 124.8               | 25.1   | 1,248.5     | 31.5            | 852.7       | 29.6                        | 195.3          | -                      | 44.4        |
| 6              | 140.4   | 6,883.1     | 40.0                        | 4,378.6     | -      | 124.8               | 67.6   | 1,278.4     | 25.1            | 867.6       | 7.7                         | 189.3          | -                      | 44.4        |
| 7              | 80.9    | 6,863.2     | 30.0                        | 4,344.6     | -      | 114.9               | 45.0   | 1,309.0     | 4.6             | 869.2       | 1.3                         | 181.1          | -                      | 44.4        |
| 8              | 120.1   | 6,911.8     | 60.0                        | 4,374.7     | -      | 114.8               | 29.1   | 1,319.3     | 12.6            | 876.8       | 18.4                        | 181.8          | -                      | 44.4        |
| 9              | 96.5    | 6,975.1     | 35.0                        | 4,409.6     | -      | 114.8               | 42.2   | 1,336.5     | 18.1            | 891.3       | 1.2                         | 178.5          | -                      | 44.4        |
| 10             | 121.2   | 7,015.5     | 40.0                        | 4,409.6     | 12.5   | 127.2               | 45.2   | 1,365.5     | 18.6            | 895.7       | 4.9                         | 178.1          | -                      | 39.4        |
| 11             | 137.5   | 7,092.8     | 65.0                        | 4,474.6     | -      | 127.2               | 34.5   | 1,365.1     | 14.6            | 901.4       | 23.4                        | 185.1          | -                      | 39.4        |
| 12             | 97.8    | 7,113.5     | 35.0                        | 4,509.6     | 7.5    | 134.8               | 34.3   | 1,351.0     | 17.4            | 900.4       | 3.6                         | 178.3          | -                      | 39.4        |

# Issues and Outstanding Values in Bond Market by Category

Notes: \* Including NT dollar and foreign currency-aenormatics bonds ...... \*\* Including those purchased back by originators for credit enhancement. Including NT dollar and foreign currency-denominated bonds issued in Taiwan by international financial institutions.

Banking Bureau, Financial Supervisory Commission, Executive Yuan. Department of Foreign Exchange, CBC.

Supported by ample market liquidity, the weighted average issuing rates on 3-year, 5-year, 7-year and 10-year corporate bonds fell from the previous year to 1.4487 percent, 1.4075 percent, 1.7499 percent, and 1.6677 percent, respectively. At the end of 2011, the outstanding amount of corporate bonds was NT\$1,351.0 billion, rising by NT\$148.8 billion or 12.38 percent from the previous year-end.

# Moderation in Bank Debenture Growth

A total of 24 financial institutions issued bank debentures in 2011. In addition to subordinated debt issuance to bolster capital adequacy, some financial institutions increased senior debt issues prior to the introduction of new Basel liquidity risk management rules. For the year as a whole, bank debenture issuance totaled NT\$194.7 billion, which was NT\$36.2 billion or 22.84 percent higher than the previous year.

The largest share of bank debenture issues was constituted by those with an issuing amount of NT\$10.0 billion and above, making up more than 75 percent of total issuance. Moreover, 7-year bank debentures continued to be most favored in the market, with an issuance share of 62.94 percent.

However, unsatisfying credit ratings of some banks that issued 7-year debt led the weighted rate to average 1.692 percent, 0.09 percentage points higher than the 1.602 percent issuing rate of 10-year debt. At the end of 2011, the outstanding amount of bank debentures was NT\$900.4 billion, growing by NT\$84.6 billion or 10.37 percent from the end of the previous year.

#### Significant Decline in Asset Securitization

In 2011, a new asset-backed security worth NT\$5.0 billion was issued. However, revolving issuance declined significantly as several financial asset securitization products were not renewed at maturity, thus dragging the amount of total issues of asset-backed securities lower by NT\$94.3 billion or 36.72 percent less than 2010 to NT\$162.5 billion. At the end of 2011, the outstanding amount of asset securitization stood at NT\$178.3 billion, a decrease of NT\$38.5 billion or 17.76 percent compared to the previous year-end.

#### Lower Foreign Bond Issuance

In terms of issuance of foreign and international bonds, new issues were nil in 2011. At the end of the year, the outstanding amount was NT\$39.4 billion, a decline of NT\$13.7 billion or 25.80 percent less than the previous year-end.

# **Bond Transactions and Yields**

The yield on benchmark 10-year government bonds edged down from a year-opening high of



Yield Structure of Central Government Bonds

#### **Yield Curve of Central Government Bonds**

1.5260 percent because of a stabilizing global bond market and TAIEX stock selloffs by foreign investors. Towards March, as a result of the impacts of the Middle East geo-political tension and the Japanese earthquake and its ensuing nuclear crisis, bond markets gained support to end the first quarter of 2011 with a yield of 1.3493 percent.

During the second quarter, ample market liquidity and short-term foreign capital inflows limited bond yield rises following the Bank's policy rate hike. Nonetheless, European debt concerns resurfaced around mid-June and added more uncertainties to the global economic outlook, reducing the 10year bond yield to end the month at 1.5087 percent.

Adverse factors in the third quarter, including the aggravated European debt crisis and the US credit rating downgrade by Moody's, triggered a panic global stock market slump. Investors turned to bond markets for safety, causing the 10-year bond yield to descend.

Although the European debt crisis loomed large again in the fourth quarter with heightened risks to the global economy, investor demand for safety was more subdued. Therefore, the 10-year bond yield recorded a similar but more moderate downtrend to close the year at 1.2856 percent, 0.24 percentage points lower than the start of the year.

For the year 2011, yields on government bonds in every maturity range averaged lower than the previous year. Long-term and short-term yield spreads continued to narrow and the yield curve was more flattened when compared with the previous year.

In 2011, total bond transactions contracted by NT\$8,508.9 billion or 8.0 percent from the previous year to NT\$97,809.1 billion. Of the components, outright transactions decreased by NT\$15,794.8 billion or 37.03 percent over last year. However, repo transactions increased by NT\$7,285.9 billion or
11.44 percent. By type of bonds, government bonds accounted for more than 80 percent of total bond transactions with an annual trading of NT\$81,961.0 billion. Corporate bonds came in second at NT\$14,822.3 billion. Bank debentures, asset-backed securities, and foreign bonds each made up marginal shares of less than 2 percent in total transactions, with their respective annual trading reaching NT\$1,676.7 billion, NT\$152.3 billion, and NT\$61.7 billion.

|        |           |              |            |                  | Unit: NT\$ Billion |
|--------|-----------|--------------|------------|------------------|--------------------|
| Year/  | Total     | Outright Tro | ansactions | Repurchase Agree | ment Transactions  |
| Month  |           | Amount       | Share (%)  | Amount           | Share (%)          |
| 2009   | 97,547.5  | 39,404.7     | 40.4       | 58,142.8         | 59.6               |
| 2010   | 106,318.0 | 42,651.6     | 40.1       | 63,666.4         | 59.9               |
| 2011   | 97,809.1  | 26,856.8     | 27.5       | 70,952.3         | 72.5               |
| 2011/1 | 8,842.2   | 2,735.5      | 30.9       | 6,106.6          | 69.1               |
| 2      | 6,475.8   | 2,041.8      | 31.5       | 4,433.9          | 68.5               |
| 3      | 9,632.6   | 2,860.7      | 29.7       | 6,771.9          | 70.3               |
| 4      | 7,315.0   | 1,746.7      | 23.9       | 5,568.4          | 76.1               |
| 5      | 8,354.2   | 2,306.0      | 27.6       | 6,048.2          | 72.4               |
| 6      | 8,503.8   | 2,543.2      | 29.9       | 5,960.6          | 70.1               |
| 7      | 8,301.0   | 2,331.6      | 28.1       | 5,969.4          | 71.9               |
| 8      | 9,145.8   | 2,583.9      | 28.3       | 6,562.0          | 71.7               |
| 9      | 8,722.0   | 2,967.2      | 34.0       | 5,754.8          | 66.0               |
| 10     | 7,455.6   | 1,873.5      | 25.1       | 5,582.1          | 74.9               |
| 11     | 7,528.5   | 1,486.1      | 19.7       | 6,042.4          | 80.3               |
| 12     | 7,532.6   | 1,380.6      | 18.3       | 6,152.0          | 81.7               |

### Bond Transactions in the Over-the-Counter Market

Source: Taiwan Securities Exchange & GreTai Securities Market.

### Turnover in Bond Market by Category

Unit: NT\$ Billion GreTai Market TWSF Market Year/ Total Corporate Bonds Corporate Bonds Foreign & Bank Beneficiary Government Month Subtotal (Convertible) Bonds int'l Bonds Debentures Securities Convertible Nonconvertible 2009 97,547.5 97,547.5 95,993.3 480.4 861.1 152.5 0.1 60.1 106,318.0 2010 106.318.0 8,405.5 1.155.6 60.5 95.211.4 1.361.8 123.3 \_ 2011 97,809.1 97,809.1 81,096.1 12,820.8 2,001.5 1,676.7 152.3 61.7 2011/1 8,842.2 8,842.2 7,576.6 964.4 154.4 127.0 11.3 8.5 2 6,475.8 6,475.8 5,615.4 658.6 111.2 78.9 6.9 4.8 3 9,632.6 9,632.6 8,216.7 1,020.0 198.6 176.2 16.6 4.5 4 7,315.0 7,315.0 6,058.0 938.6 164.8 142.1 9.3 2.2 5 8,354.2 8,354.2 7,060.4 944.1 167.1 161.0 8.5 13.1 6 8,503.8 8,503.8 7,146.7 1,013.9 181.1 140.6 19.4 2.1 7 8,301.0 8,301.0 6,810.2 1,131.0 209.3 130.7 11.0 8.8 8 9,145.8 1,226.9 9.145.8 7.523.3 220.6 153.5 14.9 6.6 9 8,722.0 \_ 8,722.0 7,242.0 1,146.2 182.6 134.6 13.3 3.3 10 7,455.6 5,994.1 1,179.1 7.455.6 140.4 131.1 2.4 8.5 11 7,528.5 7,528.5 5,923.0 1,305.4 135.7 146.5 15.5 2.4 154.5 12 7,532.6 7,532.6 5,929.7 1,292.6 135.7 17.1 3.0

Source: Taiwan Securities Exchange & GreTai Securities Market.

# **Central Bank Operations**



### **III. Central Bank Operations**

### 1. Overview

In the first half of 2011, the Bank raised its policy rates twice by a total of 25 basis points to curb inflation expectations as international commodity prices rose. During the second half of the year, the ongoing eurozone debt crisis threatened to slow down the global economy. The Bank decided to keep the policy rates unchanged to support the steady growth of the domestic economy.

Furthermore, the Bank continued to issue CD/NCDs and conducted open market operations to absorb excess liquidity and maintain market rates at appropriate levels. During the course of the year, the interbank overnight rate edged up to 0.4 percent at the end of 2011.

To discourage speculative property investments, the Bank continued to implement targeted prudential measures and urge banks to closely monitor mortgage lending risks. To provide assistance for SMEs, the Bank proposed an increase in the SME credit guarantee fund to help them smoothly secure financing from financial institutions.

In terms of foreign exchange management, the Bank steadily promoted the internationalization of capital markets and revised relevant foreign regulations in continual cooperation with the Financial Supervisory Commission (FSC). In view of the lessons learned about credit derivatives from the recent financial crisis, the Bank reviewed and stipulated relevant regulations to control potential risks. Furthermore, to meet the rising needs for renminbi remittances as cross-strait relations grew closer, the FSC and the Bank promulgated jointly the *Directions for Banks in Taiwan Area Conducting Renminbi (RMB) Business* on July 21, 2011. Pursuant to the said *Directions*, offshore banking units (OBUs) and overseas branches of domestic banks may apply for approval to conduct RMB business.

To ensure smooth operation of the payment systems, the Bank closely monitored domestic payment systems and urged settlement institutions to set up backup facilities and adequate contingency plans to provide business continuity. In addition, the Bank further opened the market of treasury bills to more participating institutions by including securities firms as eligible bidders. The Bank also raised the minimum purchasing amount from NT\$300 million per year to NT\$800 million for each eligible bond dealer to encourage active trading.

### 2. Monetary Management

In 2011, due to continued high international raw material prices and a run-up in global inflation risks, the Bank tightened its monetary policy stance by raising policy rates twice in the first half of the year before holding rates unchanged for the rest of the year. The Bank still continued to enhance the financing mechanism for small and medium-sized enterprises (SMEs) in order to expand banks' lending to SMEs while absorbing excess funds from the financial market to an appropriate liquidity level.

### Policy Rate Adjustments to Maintain Price Stability

Owing to sustained high international raw material prices and global inflation risks, the Bank raised policy rates on April 1 and July 1, respectively, by a total 0.25 percentage points to restrain inflation expectations and maintain domestic price and financial stability. In the second half of the year, owing to the gradual spread of the European sovereign-debt problem, an obvious decline in global economic growth and a domestic economic moderation, the Bank kept policy rates unchanged so as to promote economic growth.

At the end of 2011, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral were 1.875 percent, 2.25 percent, and 4.125 percent, respectively.

### **Continuing Macro-prudential policy**

To curb speculative investment in the property market, the Bank continued to conduct macroprudential policies and urged financial institutions to enhance their credit risk control over real estate lending through the *Regulations Governing the Extension of Housing Loans in Specific Areas* 

|                |                  |  | Unit: % (percent per annum)                 |
|----------------|------------------|--|---|
| Effective Date | Discount<br>Rate | Accommodation<br>Rate with<br>Collateral | Accommodation<br>Rate without<br>Collateral |
| 2009 / Jan. 8  | 1.500            | 1.875                                    | 3.750                                       |
| Feb. 19        | 1.250            | 1.625                                    | 3.500                                       |
| 2010 / Jun. 25 | 1.375            | 1.750                                    | 3.625                                       |
| Oct. 1         | 1.500            | 1.875                                    | 3.750                                       |
| Dec. 31        | 1.625            | 2.000                                    | 3.875                                       |
| 2011 / Apr. 1  | 1.750            | 2.125                                    | 4.000                                       |
| Jul. 1         | 1.875            | 2.250                                    | 4.125                                       |

### **CBC Policy Rates**

Source: Financial Statistics Monthly, CBC.

and Land Loans by Financial Institutions. Important measures related to the aforesaid *Regulations* in 2011 include:

- (1) On January 20, the Bank provided related explanations and FAQs for the *Regulations*. The contents were released on the CBC website.
- (2) On August 2, for land collateralized loans to be used to cover living expenses or for financial management, the Bank announced that borrowers who apply for such loans without a specific construction project may only do so on condition that the financial institutions confirm the use of funds and verify the loans are not to be used for investment, purchase of real estate or housing construction.

### Absorbing Excess Liquidity through Open Market Operations

The Bank issued certificates of deposit (CDs)<sub>0.4</sub> and conducted open market operations to maintain reserve money and overnight call-loan interest<sup>0.3</sup> rates at appropriate levels.<sup>0.2</sup>

In 2011, the total value of CDs issued amounted<sup>0.1</sup> to NT\$44,310 billion, among which was NT\$1,200  $_{1}^{1}$ billion worth of 364-day CDs. At the end of the <sup>2009</sup>



Lipit: NTS Billion: %



|          |                     |                       |              |               |                | UNII: INIŞ BIIIION; % |
|----------|---------------------|-----------------------|--------------|---------------|----------------|-----------------------|
| Year/    | Amount<br>Absorbed* | Amount<br>Offered*    | W            | d             |                |                       |
| Month    | lssues<br>of CDs    | Redemptions<br>of CDs | 1-30<br>days | 31-91<br>days | 92-182<br>days | 274-365<br>days       |
| 2009     | 40,416              | 38,823                | 0.575        | 0.616         | 0.715          |                       |
| 2010     | 45,105              | 44,401                | 0.621        | 0.659         | 0.729          | 0.698                 |
| 2011     | 44,310              | 44,279                | 0.818        | 0.879         | 0.988          | 0.948                 |
| 2011 / 1 | 4,277               | 4,481                 | 0.740        | 0.780         | 0.880          | 0.799                 |
| 2        | 3,672               | 3,453                 | 0.740        | 0.780         | 0.880          | 0.839                 |
| 3        | 4,060               | 4,082                 | 0.740        | 0.780         | 0.880          | 0.877                 |
| 4        | 4,161               | 3,939                 | 0.810        | 0.860         | 0.970          | 0.935                 |
| 5        | 3,807               | 3,867                 | 0.810        | 0.860         | 0.970          | 0.975                 |
| 6        | 3,290               | 3,399                 | 0.810        | 0.860         | 0.970          | 1.010                 |
| 7        | 3,850               | 3,818                 | 0.870        | 0.930         | 1.050          | 1.049                 |
| 8        | 3,766               | 3,814                 | 0.870        | 0.930         | 1.050          | 1.054                 |
| 9        | 3,032               | 3,158                 | 0.870        | 0.930         | 1.050          | 0.995                 |
| 10       | 3,526               | 3,382                 | 0.870        | 0.930         | 1.050          | 0.984                 |
| 11       | 3,473               | 3,369                 | 0.870        | 0.930         | 1.050          | 0.960                 |
| 12       | 3,397               | 3,518                 | 0.870        | 0.930         | 1.050          | 0.898                 |

### **Open Market Operations**

*Note*: \* End-of-period data.

Source: Financial Statistics Monthly, CBC.

year, the total outstanding amount of CDs issued by the Bank was NT\$6,682 billion.

Keeping in line with changes in policy rates, the Bank also adjusted its non-competitive bidding rates for new CDs to guide market interest rate movements. Consequently, on July 1, the rates on 30-day, 91-day, and 182-day CDs were increased to 0.87 percent, 0.93 percent, and 1.05 percent, respectively, which represented increases of 0.13, 0.15, and 0.17 of a percentage point for each type of CDs.

As a result of CD bidding rate adjustments, the average overnight interest rate of interbank call loans gradually increased to 0.4 percent in December from 0.239 percent a year ago.

#### **Enhancing the SME Financing Mechanism**

To provide easier access to financing for SMEs, the Bank continued to urge commercial banks to increase lending to SMEs. Furthermore, the Bank asked the government to expand the SME Credit Guarantee Fund (SMEG) in order to improve its credit guarantee capacity and help those SMEs lacking in collaterals for funding. As a consequence, the Ministry of Economic Affairs and the Bankers Association decided to contribute to the fund NT\$5.7 billion in 2011 and NT\$2 billion in 2012.

At the end of 2011, the fund size of the SMEG increased to NT\$536 billion, which was a 14.42 percent gain from 2010. The outstanding loans extended to SMEs by domestic banks increased to NT\$4,076 billion, which was a 10.85 percent rise from 2010.

### **Redeposits of Financial Institutions**

Accepting redeposits from Chunghwa Post Co. and commercial banks is another instrument for the Bank to influence banks' reserve positions to promote financial stability. At the end of 2011, outstanding postal savings redeposits amounted to NT\$1,624 billion. At the same time, banks' redeposits totaled NT\$401 billion.

In addition, Agricultural Bank of Taiwan accepted deposits from community financial institutions and made redeposits with the Bank. At the end of 2011, its outstanding redeposits were NT\$145 billion.

### 3. Foreign Exchange Management

For the year 2011, the Bank followed the established managed float regime to maintain an orderly foreign exchange market. Sufficient seed funds were provided by the Bank for foreign currency swaps and call loans. The Bank's foreign exchange reserves increased by US\$3.5 billion due to a higher return on investment. The Bank also loosened regulations regarding foreign exchange remittances. Moreover, the FSC and the Bank jointly issued provisions for Taiwanese banks to manage reminibility business.

#### Foreign Exchange Market Management

Taiwan's exchange rate is in principle guided by market mechanism, the Bank only steps in when there is excessive exchange rate volatility, and a managed float regime is adopted.

In 2011, the Bank continued to implement the Real-Time Reporting System for Large-Amount Foreign Exchange Transactions to keep the market in order. Moreover, monitoring efforts were reinforced to insure that forward transactions were based only on actual transactions. The Bank also urged authorized banks to enhance their exchange rate risk



management. In addition, the Bank strengthened target examinations related to foreign exchange activities.

### Management of Foreign Currency Call-Loan and Foreign Exchange Swap Business

In order to provide the financial system with sufficient foreign currency liquidity to meet funding needs, including corporate needs to venture into overseas markets, the Bank provided seed funds<sup>1</sup> for the Taipei Foreign Currency Call-Ioan Market.

Furthermore, the Bank continued to carry out foreign currency swap transactions with banks and extended foreign currency call loans to banks so as to facilitate smooth corporate financing. During 2011, the volume of foreign exchange call-loan transactions reached US\$1,856.2 billion, while that of foreign currency-NT dollar swap transactions reached US\$ 968.0 billion.

<sup>&</sup>lt;sup>1</sup> The seed funds include US\$20 billion,  $\bigcirc$ 1 billion and 80 billion.

### Foreign Exchange Reserve Management

In 2011, the Bank's foreign exchange revenues amounted to US\$1,088.6 billion, while foreign exchange expenditures were US\$1,085.1 billion. At the end of 2011, total foreign exchange reserves stood at US\$385.5 billion, a US\$3.5 billion gain from the end of 2010. The increase was mainly attributable to a higher return on investment from foreign exchange reserves.

### **Capital Flow Management**

The Bank's foreign exchange management mainly relies on the market mechanism, and capital can flow freely in and out of Taiwan. As of 2011, foreign currency capital not involving NT dollar conversion can flow freely; there is also no restriction on financial flows involving NT dollar conversion for commodity and service trade, as well as direct and securities investments approved by the authorities. However, regulation exists for short-term remittances: annual remittances for an individual resident within 5 million USD, a juridical person within 50 million USD and a nonresident within 0.1 million USD can be settled by banks directly; annual remittances above these amounts require the approval of the Bank. Key measures with regard to the management of foreign exchange in 2011 included:

- (1) In order to promote the internationalization of Taiwan's capital market, the Bank agreed to the following in 2011:
  - (i) the issuance of overseas depository receipts by 3 corporations with a total of US\$1.1 billion, the issuance of European Convertible Bonds by 14 corporations with a total of US\$3.1 billion and the issuance of European Exchangeable Bonds by 1 corporation with a total of US\$0.1 billion;
  - (ii) 30 foreign corporations may raise funds from Taiwan's stock markets via TWSE listing or GTSM listing, with the total amount reaching NT\$13.4 billion;
  - (iii) the issuance of Taiwan Depository Receipts (TDRs) by 19 foreign corporations, with the total amount reaching NT\$18.8 billion.
- (2) The Bank agreed to an increase in residents' investments in foreign securities as follows:
  - (i) domestic securities investment trust companies were allowed to raise public funds via 48 securities investment trust funds domestically to invest in foreign securities with a total of NT \$558 billion raised;
  - (ii) domestic securities investment trust companies were allowed to raise 3 private trust funds domestically to invest in foreign securities with a total of NT\$9 billion raised;

- (iii) life insurance companies were given consent to invest in foreign securities with the amount totaling US\$4.6 billion through non-discretionary money trusts managed by financial institutions, while their insurance products-related foreign securities investment interests can be hedged by selling forward exchange contracts totaling US\$2.0 billion;
- (iv)four major government pension funds, including Labor Pension Funds, invested in foreign securities with the total amount reaching US\$5.1 billion.
- (3) The Bank loosened the following regulations regarding foreign exchange remittances. The amended Points to Be Noted for Banks to Guide Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions went into force on August 25, with the following key points:
  - (i) to simplify banking reports to the Bank, the verifying documents will be preserved by banks, without the need to send a photocopy to the Bank;
  - (ii) according to various market-opening measures adopted by the FSC, points to be noted were added for banks to take the following declaration of remittances and settlements:
    - the securities investment remittances to Mainland China by investment trust companies and investment consulting companies as qualified institutional investors (QFIIs) for Mainland China;
    - ② foreign currency-denominated international debt repayment remittances underwritten by securities firms;
    - (3) the purchase or buyback remittances of offshore Exchange Traded Funds either entrusted or undertaken by securities firms;
  - (iii) the practice where the Bank would issue official letters to banks to require confirmation documents for the following remittances and settlements was also incorporated in the amended Points:
    - ① remittance outflows and inflows to Mainland China;
    - ② wage remittance declaration by private employment service organizations acting on behalf of foreign laborers.

#### Management of the Foreign Exchange Business of Financial Institutions

(1) At the end of 2011, there were 2,342 authorized foreign exchange banks in total, which included 38 head offices and 2,232 branches of domestic banks, 72 branches of 28 foreign banks, as well as 2,003 authorized money exchangers, postal offices and financial institutions authorized to engage in basic foreign exchange business. In 2011, the Bank approved the issuance of 16 new foreign exchange derivative products. To maintain the stability of bank management, on March 14 the Bank revised the regulations for authorized banks to apply to conduct Credit Default Swap and Credit Default Option business.

- (2) In response to the needs of Mainland Chinese tourist consumption in Taiwan and Taiwanese tourist consumption in Mainland China, renminbi cash has been allowed to be exchanged in Taiwan since June 30, 2008. Along with the gradual opening of cross-strait activities, plus the opening of Mainland Chinese free and independent travel in June 2011, banks' exchange of renminbi cash apparently increased. Between June 30, 2008, and the end of 2011, the government approved 224 financial institutions (with a total of 3,704 branches) and 209 authorized money exchangers to conduct RMB cash exchange business. The total amount of renminbi purchased was RMB17.26 billion, while the total sale was RMB19.57 billion.
- (3) Up to the end of 2011, 19 insurance companies were allowed to engage in foreign currency investment-linked insurance business, and 19 insurance companies were permitted to conduct business in relation to traditional foreign currency insurance products.
- (4) Up to the end of 2011, the Bank allowed one securities firm to be an agent for foreign bond trading, two securities firms to be entrusted as agents for foreign securities trading, three securities firms for making outright purchases and sales of foreign securities not belonging to investment with their own funds or for hedging needs, two securities firms to manage warrants linked to foreign securities or indexes, five securities firms to conduct wealth management business, eight securities firms to manage onshore foreign currency bills. The Bank also permitted three investment trust or investment consulting firms to conduct foreign currency discretionary investments in foreign securities, four administration agencies to raise offshore private trust funds, one securities firm to raise domestic mutual funds or private foreign currency funds.
- (5) In order to meet the need for cross-border renminbi settlement of overseas Taiwanese businessmen, on July 21, 2011, the FSC and the Bank jointly promulgated *Directions for Banks in Taiwan Area Conducting Renminbi (RMB) Business*, opening the channel for banks' OBUs and overseas branches to apply for renminbi business. Along with the expansion of OBU business, its asset scale also continued to grow. Up to the end of 2011, total OBU assets amounted to US\$145.1 billion, an increase of 18% from the previous year. As for remittances, since June 2001, OBUs have been approved to conduct cross-Strait remittances. Steady growth has gradually turned OBUs into funding centers for overseas Taiwanese business. In 2011, cross-Strait remittances increased from US\$243.3 billion in the previous year to US\$282.8 billion, an increase of 16.2 percent.



Source: Department of Foreign Exchange, CBC.

Cross-Strait Remittances through OBUs





### 4. Financial Inspection

Pursuant to the *Central Bank of the Republic of China (Taiwan) Act*, the Bank conducts target examinations to ensure effective enforcement of policies related to monetary, credit, and foreign exchange management, establishes an off-site monitoring system and a financial stability assessment framework to systematically monitor and assess the potential sources of risks in order to deploy appropriate policies and measures in a timely manner to fulfill its mandate of financial stability.

### Implementing On-Site Target Examinations

Target examinations in 2011 inspected the handling of counterfeit money by financial institutions, housing loans in specific areas (Taipei City and 13 other districts in New Taipei City), land collateralized loans, housing credit information disclosure, data warehouse of checking accounts, spot and forward foreign exchange transactions, derivatives, foreign liabilities, the operation of foreign currency exchanges by authorized foreign exchange banks, e-banking of foreign currency business, and correctness of reporting to the Bank, etc.

#### Follow-up on Banks' Compliance with Examination Findings

In light of the Bank's target examination findings and the FSC's examination findings related to the Bank's operations or regulations, the Bank continued to monitor what the examined financial institutions had improved, to urge the financial institutions to rectify related deficiencies, and thus to ensure the successful implementation of the Bank's policies.

#### Off-site Monitoring

Based on financial conditions and amendments to relevant laws and regulations, the Bank reviews and amends as necessary the format and content of periodical statistical data submitted by financial institutions. The collected statistics are compiled mostly on a quarterly basis, and the operating developments of financial institutions were monitored via the following:

- (1) To strengthen financial institutions' liquidity management, domestic banks' core deposits in NT dollars and limits on maturity mismatch of 0-30 day liquidity in US dollars were newly added in the analytic pool.
- (2) In line with the SFAS (Statement of Financial Accounting Standards) No.40: Accounting Guidelines for Insurance Contracts, the relevant monitoring indicators for life insurance companies and property and casualty insurance companies were amended.
- (3) In accordance with the amendments to the Regulations Governing the Credit and Ceiling on

Credit Extension by the Credit of Departments of Farmers' and Fishermen's Associations, the relevant requirements and analytic items were modified.

(4) In consonance with the changes of the BIS statistics format and national classification, the country risk statistics reporting system was amended.

### **Financial Institution Information Transparency**

The Bank regularly compiles and publishes various financial institution statistics and the most up-to-date financial regulations. The Bank also discloses related information on its website. Therefore, the operational transparency of financial institutions has increased, and market self-discipline has been reinforced.

### **Financial Stability Assessment**

The Bank compiles financial soundness indicators 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 2011, the fifth *Financial Stability Report* was published. This would also promote cross-border communication and information sharing of Taiwan's financial stability.

#### International Cooperation in Financial Supervision

The Bank actively engages in international cooperation relating to the area of financial supervision. In 2011, the Bank assigned two researchers for the SEACEN Centre research projects (" Strengthening Financial Stability Indicators in the Midst of Rapid Financial Innovation: Updates and Assessments ", and "Framework for Macro-prudential Policies for Emerging Economies in a Globalised Environment"), answered questionnaires regarding financial stability risks, and provided the Centre with related information for the SEACEN members' "College of Supervisors".

#### Other Important Measures

The Bank collaborated with the academia in the research project titled "Assessments of Financial System's Liquidity Risks" in order to build a qualified liquidity risks assessment model.

### 5. Payment and Settlement Systems

The CBC Interbank Funds-Transfer System (CIFS) is the backbone of Taiwan's payment system, linking the Check Clearing House System (CCHS), the Interbank Remittance System (IRS), the Central Government Securities Settlement System (CGSS), the Bills Clearing and Settlement System (BCSS), the Securities Book-Entry Clearing System (SBECS), and the Electronic Bond Trading System (EBTS) together to constitute a comprehensive payment system.

Accordingly, the Bank, with its mandate for financial stability, plays a key role in the smooth functioning of Taiwan's payment systems. In addition to operating the CIFS and CGSS, the Bank also monitors major payment systems based on international standards to ensure sound operation of these systems and to promote stability of the financial system.

### Funds Transfers via the CIFS

Launched in May 1995, 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 several clearing institutions such as the Taiwan Clearing House (TCH), the Financial Information Service Co. (FISC), the Taiwan Depository and Clearing Corporation (TDCC) and the Taiwan Stock Exchange Corporation (TWSE).

At the end of 2011, participants of the CIFS included 66 banks, 8 bills finance companies, and 5 other institutions including Chunghwa Post Co., the TWSE, and the GreTai Securities Market (GTSM). In the year, the daily average amount of funds transferred via the CIFS was NT\$1,434.4 billion, while the daily average number of transactions reached 3,043.

#### Transactions via the CGSS

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

The CGSS linked 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 Bank for International Settlements (BIS), is an arrangement linking securities delivery with funds settlement 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 16 clearing banks with 1,688 branches that handle the registration of central government securities transfers at the end of 2011. In 2011, 455 thousand transfers with a total amount of NT\$40.8 trillion were processed by this system.

### **Monitoring Payment Systems**

The Bank monitors the payment systems on a periodic basis to maintain their safety and efficiency. Monitoring activities include the following:

- (1) Required payment system operators and payment instrument issuers to provide detailed information on their operations and activities as a basis for monitoring payment systems; ensured clearing institutions set up backup systems and contingency plans for business continuity in case of emergency.
- (2) Invited clearing institutions, the FISC, the TDCC, and the TCH, to jointly hold a conference in March 2011 to promote the sound operation of the payment systems and fortify the mechanism of emergency procedures.
- (3) Urged the TCH and its branches to adhere to the standard operating procedures of bill delivery in order to avoid accidentally missing batches of bills, thus ensuring the rights of note holders and keeping financial market in order.

### Publishing the Payment and Settlement Systems Report

The interconnection between the operation of payment systems and securities settlement systems has become an important issue. The Bank translated the report, "The Interdependencies of Payment and Settlement Systems," which was published by the Committee on Payment and Settlement Systems (CPSS), and released this translation on the CBC website in August 2011.

### 6. Currency Issuance

#### **Currency Issuance Increased**

As the issuing authority for the nation's currency, the Bank has the responsibility for maintaining the supply of currency at an optimum level to meet public demand, which is dependent on the level of economic activity, seasonal factors, and the development of noncash payments instruments, etc.

In 2011, the Bank implemented an appropriate currency issuance plan for delivering banknotes and coins. The currency issued peaked at NT\$1,614.2 billion on February 1, the day before the Chinese Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of the currency issued was NT\$1,320.6 billion, representing an increase of NT\$115.8 billion or 9.61 percent over the previous year-end.

At the end of 2011, the denomination structure of NT dollar banknotes in circulation



was similar to the end of 2010. The NT\$1,000 note accounted for a lion's share at 84.20 percent, followed by the NT\$100 (5.94 percent) and the NT\$500 (4.60 percent) notes.



### Composition of NT Dollar Banknotes Issued (Year-end figure)

# Currency in Circulation to GDP Ratio

Between 2005 and 2007, as credit card defaults weakened private consumption, currency demand for transaction purposes decreased, causing the ratio of currency in circulation to nominal GDP to trend downwards. However, due to the low interest rate environment that existed since September 2008, the public began to increase their currency holdings, and the ratio of currency in circulation to GDP rose significantly. It stood at 7.95 percent in 2011, a 0.64 of a percentage point gain over the previous year.



### **Commemorative Coin Sets Issued Successively**

In addition to normal currency issuance, the Bank may also issue gold and silver coins, and commemorative notes and coins from time to time, such as for important ceremonies, national holidays, major international events or other significant national events. During the year 2011, the Bank issued a commemorative NT\$100 banknote for circulation, uncut commemorative NT\$100 banknote sheets, and the Republic of China centenary commemorative silver coin in celebration of the 100th anniversary of the founding of the Republic of China. In addition, the Bank issued a casting set of coins for the Chinese Zodiac Year of the rabbit, and the 14<sup>th</sup> casting set of coins for the Taiwan Indigenous Peoples Cultural Series- the Sedig tribe.

### 7. Fiscal Agency Functions

The Bank acts as a banker to other banks as well as to the central government. As the fiscal agent of the government, the Bank offers several services for the Treasury. These services include handling the treasury deposit account (TDA) and central governmental agency deposit accounts, and undertaking the issuance, registration, redemption, and interest payment of central government bonds and treasury bills.

### Managing the Treasury Deposit Account

The Bank manages the TDA on behalf of the Ministry of Finance (MOF), processing receipts and disbursements of the central government. The Bank delegates the handling of treasury transactions to 13 financial institutions and their 359 branches, including 5 overseas branches located in New York, Los Angeles, Seattle, and Paris. There are another 4,403 tax collection agencies set in financial institutions, offering convenient services to government agents and the general public. In 2011, the Bank received a total of NT\$3,028.9 billion in treasury deposits, a decrease of NT\$10.7 billion or 3.52 percent over the previous year. Payments made for the Treasury were NT\$3,047.2 billion, mildly decreasing by NT\$1.3 billion or 0.04 percent from 2010. At the end of 2011, the TDA balance was NT\$8.4 billion, decreasing by NT\$18.2 billion or 68.42 percent from the end of 2010, mainly due to the funding allocation considerations of the MOF.

#### Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the Bank or other delegated banks. However, the delegated banks are required by law to redeposit 60 percent of the deposits with the Bank, except those in interest-bearing accounts. At the end of 2011, the balance of central government agencies' deposits with the Bank amounted to NT\$173.3 billion, a decrease of NT\$13.4 billion or 7.17 percent over 2010. Deposits with other delegated banks were NT\$460.4 billion at the end of 2011, an increase of NT\$9.1 billion or 2.02 percent. Among them, redeposits with the Bank registered NT\$10.7 billion, increasing by NT\$0.4 billion or 3.88 percent from the previous year-end.

#### Managing Central Government Bonds

As a fiscal agent, the Bank performs services related to the issuance, registration, transfer, redemption, and interest payment of central government bonds. The Bank also conducts the auctions of central government bonds. There are 65 domestic dealers qualified to directly participate in the auctions, including 25 banks, 26 securities companies, 8 bills finance companies, 5 insurance

companies, and Chunghwa Post Co.

In 2011, the Bank conducted 18 issues of central government bonds in book-entry form worth NT\$620 billion and paid NT\$298 billion in principal and NT\$118.9 billion in interest for central government bonds. At the end of 2011, the outstanding amount of central government bonds was NT\$4,509.6 billion, an increase of NT\$ 322 billion or 7.69 percent from the previous year-end.

### **Managing Treasury Bills**

Treasury bills are issued at a discount through auctions. Effective from April 29, 2011, securities companies were allowed to bid for treasury bills. Currently, direct auction participants include banks, insurance companies, securities companies, bills finance companies, and Chunghwa Post Co.

In 2011, the Bank handled 12 issues of book-entry treasury bills with a total amount of NT\$321.2 billion. At the end of 2011, the outstanding amount of treasury bills was NT\$180.3 billion, a decrease of NT\$59.7 billion or 24.88 percent from the previous year-end.

### 8. Participation in International Activities

The Bank actively took part in international activities during 2011. As a member of various international organizations, the Bank hosts conferences, provides training courses, and attends various forums, including the annual meetings organized by Asian Development Bank (ADB), the Central American Bank for Economic Integration (CABEI), and the South East Asian Central Banks (SEACEN) group. In addition, the Bank also maintains close relationships with the Inter-American Development Bank (IDB), the European Bank for Reconstruction and Development (EBRD) and the Bank for International Settlements (BIS). In 2011, the Bank also strengthened its relationship and interaction with other central banks to exchange views on key issues of current global economic and financial situations.

The Bank is a founding member of ADB and, through this platform, has played an active role in promoting financial cooperation and stability in Asia. In May 2011, the Bank participated in the 44<sup>th</sup> annual meeting of ADB held in Hanoi, Vietnam, and shared views on the management of volatile short-term capital flows and the possibility of a formal regional exchange rate coordination mechanism. In addition, the issue of the formulation of a regional disaster prevention plan and guidelines for reconstruction work was also addressed on the occasion.

The Bank is also a member of SEACEN. In February 2011, the Bank attended the 46<sup>th</sup> annual conference of governors held in Colombo, Sri Lanka. At this conference, the Bank joined other member central banks to discuss policy responses to the global financial crisis, exit strategies and increasing linkages between the macroeconomic environment and the financial sector, and the way forward to face new challenges. Furthermore, the Bank hosted the SEACEN-Deutsche Bundesbank Course on Bank Stress Testing in November 2011.







### IV. Annex

### Movements in the Terms of Trade in Taiwan and Other Selected Economies

### Terms of Trade Definition

Terms of trade, defined as export prices relative to import prices, measures the quantity of imports that can be purchased through the sale of a fixed quantity of exports.

Terms of Trade = 
$$\frac{export \ prices \ (Px)}{import \ prices \ (Pm)}$$

A country's terms of trade improves/deteriorates when its import prices increase less/more than its export prices, which shows that one unit of exports can purchase more/less imports, increasing/ decreasing the purchasing power of its national income. In other words, an improvement in a nation's terms of trade is good in the sense that the nation can buy more imports with any given level of exports.

### Terms of Trade in Selected Economies

In broad terms, movements in the terms of trade depend on the predominant trade structure. According to the World Economic Situation and Prospects released by the United Nations in March 2011, since 2000, fuel exporters and exporters of minerals and other mining products have experienced large swings in their terms of trade as commodities prices have fluctuated. Particularly, economies rich in oil and minerals and mining products, such as the members of the Organization of the Petroleum Exporting Countries (OPEC), Australia and Brazil, gained significant improvement



Source: United Nations, World Economic Situation and Prospects, March 2011. Note: \* Selected Developing and Transition Economies.

### Terms of Trade in Selected Economies 2000-2010



Source: DGBAS, Executive Yuan, March 2011.

in the terms of trade due to hikes in exports prices. In contrast, economies with high shares of imports of energy, food and industrial raw materials like Taiwan, Japan and South Korea, saw declining terms of trade.

### Taiwan: Deteriorating Terms of Trade Due to Rising Import Prices

With stagnant prices for manufactured exports, rising import prices became the predominant factor driving Taiwan's terms of trade between 2000 and 2010. During this period, soaring international oil prices led import prices of fuel to increase, accounting for the largest part of Taiwan's worsening terms of trade.

#### Terms of Trade and Import Prices



Source: DGBAS, Executive Yuan.

#### Contribution of Different Product Groups to Terms of Trade Changes in Taiwan (2000 - 2004)



#### Contribution of Different Product Groups to Terms of Trade Changes in Taiwan (2004 - 2010)

Animal, Vegetable Products and Prepared Foods



### Effects of International Oil Price Changes on Real National Income

Due to Taiwan's heavy dependence on energy imports, surging international oil prices led to significant losses resulting from a deterioration in the terms of trade, thereby reducing Taiwan's real national income. The figure below shows the losses caused by a decline in the terms of trade as OPEC crude oil price climbed.

### Gain or Loss Resulting from Changes in the Terms of Trade versus OPEC Crude Oil Price



### Terms of Trade: A Long-run Determinant of Exchange Rates

In principle, the terms of trade is one of the long-run determinants of open or trade-dependent economies' exchange rates. The chart below exhibits the short-, medium- and long-term factors influencing the exchange rate. Among these factors, several of the most salient determinants of countries' exchange rates are their interest rates, inflation rate differentials, public debts, current account positions, political stability, and persistent trends in the terms of trade. This relationship is illustrated by the equation.

$$e = f(i^d - i^f, \pi^d - \pi^f, CUR, D, TOT, others ...)$$

where  $i^{a}$  and  $\pi^{a}$  are interest rate and inflation rate in home country;  $i^{f}$  and  $\pi^{f}$  are corresponding rates in foreign country; *CUR* is current account balance; *D* is government debt; *TOT* is the terms of trade; and e is the real exchange rate, expressed as the price in foreign currency of a unit of local currency. An increase in e represents an appreciation of the local currency.



Source: Rosenberg (2003) •

While numerous factors affect exchange rates, changes in the terms of trade may, at times, exert a strong influence on the direction that exchange rates take. A rise in the terms of trade in one country can result in an increase in its currency's value, and vice versa. As noted earlier, if the price of a country's exports rises by a greater rate than that of its imports, its terms of trade improves. An improvement in a nation's terms of trade implies greater demand for the country's exports and, in turn, an increase in its export revenues. Rising export revenues provide an increase in demand



for the country's currency and results in currency appreciation. Take one of the world's main oil exporters, Norway, as an example. One finds a strong positive relationship between the movement in oil prices and the value of the Norwegian krone.

### Summary

Over the last decade, commodity prices have surged, significantly improving the terms of trade in resource-rich countries. However, countries highly dependent on imports of oil and raw materials, such as Taiwan, Japan and Korea, experienced a decline in their terms of trade and, in turn, a decrease in their real national incomes.

The movement in a country's terms of trade may be closely linked to that of its exchange rate. Theoretically, a rising terms of trade in one country resulting from strong demand for its exports generally leads to currency appreciation.

The terms of trade can be improved by any means that will increase the prices of exports relative to imports. For a small open economy like Taiwan, these measures include continuously adjusting the industrial structure, developing high value-added manufacturing, services and green industries, and reducing its reliance on imported energy, etc.



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# **Chronology of Events of the CBC in 2011**



# Chronology of Events of the CBC in 2011

| Date    | Events   |
|---------|--|
| Jan. 1  | New Taiwan dollar demand deposits placed by overseas Chinese, foreign,<br>and Mainland Area investors shall be subject to a 90 percent reserve<br>requirement ratio on the amount exceeding the outstanding balance<br>recorded on December 30, 2010. A 25 percent reserve requirement ratio<br>began to be imposed on the portion below the December 30, 2010 level.<br>In addition, a zero remuneration rate will be applied to funds originating<br>from the aforesaid deposits on banks' B reserve accounts with the Bank. |
| Jan. 17 | The remuneration rates on banks' B reserve accounts with the Bank were raised. Reserves from demand deposits would receive interest at 0.203 percent per annum, while those from time deposits 0.986 percent.  |
| Jan. 20 | The Bank announced the Interpretations and FAQs for the <i>Regulations</i><br>Governing the Extension of Housing Loans in Specific Areas and Land<br>Loans by Financial Institutions.  |
| Mar. 31 | The Bank's Board raised the discount rate, the rate on accommodations<br>with collateral, and the rate on accommodations without collateral by<br>12.5 basis points to 1.75 percent, 2.125 percent and 4.0 percent, respectively,<br>effective from April 1, 2011.   |
| Apr. 20 | The remuneration rates on banks' B reserve accounts with the Bank were raised. Reserves from demand deposits would receive 0.233 percent interest, while those from time deposits 1.043 percent.   |
|         | The Bank amended the <i>Directions for the Sale and Buyback of Treasury</i><br><i>Bills</i> to allow securities firms to submit bids in treasury bill auctions, effective<br>immediately.  |
| Apr. 27 | The amendments to the <i>Central Bank of the Republic of China (Taiwan)</i><br><i>Act</i> were promulgated by the President. The major amendments were as<br>follows:  |
|         | <ol> <li>The Bank's Board of Directors has the power to approve policies concerning<br/>money, credit and foreign exchange.</li> </ol>   |
|         | 2. The Bank, if necessary, may undertake the inspection and target examination of the operations of financial institutions and impose new  |

| Date    | Events  |
|---------|---|
|         | regulatory fines on financial institutions.   |
|         | 3. The Bank may establish representative offices overseas, and may propose regulations governing the Bank's personnel management matters.   |
| Jun. 30 | The Bank's Board raised the discount rate, the rate on accommodations<br>with collateral, and the rate on accommodations without collateral by<br>12.5 basis points to 1.875 percent, 2.25 percent and 4.125 percent,<br>respectively, effective from July 1, 2011.             |
| Jul. 7  | The Bank amended the Directions for the Operation of Book-Entry Central<br>Government Securities to strengthen risk management of repo transactions<br>of government securities, effective from January 1, 2012.  |
| Jul. 19 | The Bank raised the required minimum ratio of liquid assets to liabilities ("<br>minimum liquidity ratio") for deposit money banks from 7 percent to 10<br>percent with the liquidity reserve requirement to be calculated on a daily<br>basis, effective from October 1, 2011. |
| Jul. 21 | The Financial Supervisory Commission (FSC) and the Bank jointly promulgated<br>new regulations to allow offshore banking units (OBUs) and overseas<br>branches of Taiwan's domestic banks to apply for permission to conduct<br>RMB business, effective immediately.            |
| Jul. 29 | The Bank amended the <i>Regulations Governing Foreign Exchange Brokers</i> , effective immediately. The major amendments were as follows:   |
|         | 1. Regarding investment in a foreign exchange broker, a domestic or<br>foreign financial institution engaging in deposit and lending businesses<br>shall not hold more than 10% of the total capital of the said broker.  |
|         | 2. The Bank may revoke or void the license of a foreign exchange broker should any regulatory violations occur.   |
| Aug. 1  | The Bank raised the remuneration rates on banks' B reserve accounts with<br>the Bank. Reserves from demand deposits would receive 0.248 percent<br>interest, while those from time deposits 1.113 percent.  |
| Aug. 2  | The Bank announced the interpretations of the terms and conditions that   |

| Date    | Events   |
|---------|--|
|         | individuals' land loans may be exempted from providing concrete<br>construction plans, which are otherwise required pursuant to the <i>Regulations</i><br><i>Governing the Extension of Housing Loans in Specific Areas and Land</i><br><i>Loans by Financial Institutions</i> .   |
| Sep. 7  | The Bank cooperated with the FSC to make the amendments to the<br>Regulations Governing the Banking Activity and the Establishment and<br>the Investment by Financial Institution Between the Taiwan Area and the<br>Mainland Area to broaden the scope of cross-strait banking activities<br>approved to be conducted by OBUs.                                  |
| Sep. 29 | The Bank's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.875 percent, 2.25 percent, and 4.125 percent, respectively.  |
| Dec. 15 | In line with the government's economic stimulus policies, the Bank agreed<br>that for those homeowners who are involuntarily unemployed, their housing<br>loans in the Specific Areas as per the relevant <i>Regulations</i> may be exempted<br>from the prohibition of a grace period.  |
| Dec.22  | The Bank cooperated with the FSC to allow OBUs to invest as entrusted<br>or with their own capital in foreign currency denominated funds issued<br>by domestic securities investment trust enterprises.  |
| Dec.28  | The Bank amended the <i>Directions for the Sales and Buybacks of Central Government Bonds,</i> raising the minimum purchase amount for each delegated auction group member from NT\$300 million to NT\$800 million per year. The Bank may terminate their status as an auction group member those who fail to meet the above requirement, effective immediately. |
| Dec.29  | The Bank's Board decided to leave the discount rate, the rate on<br>accommodations with collateral, and the rate on accommodations without<br>collateral unchanged at 1.875 percent, 2.25 percent, and 4.125 percent,<br>respectively.   |
|         | The Board also set the target zone of M2 growth for 2012 at 2.5 percent to 6.5 percent.  |

# Financial Statements of the CBC

### 1. Balance Sheet

|  |            |             | Unit: NT\$ Mill |        |  |  |
|--|------------|-------------|-----------------|--------|--|--|
|  |            | December 31 | Cha             | nge    |  |  |
|  | 2011       | 2010        | Amount          | %      |  |  |
| Assets   |            |             |                 |        |  |  |
| Foreign Assets                                     | 11,838,777 | 11,422,947  | 415,830         | 3.64   |  |  |
| Due from Domestic Banks                            | 67,890     | 17,756      | 50,134          | 282.35 |  |  |
| Loans and Accommodations to Financial Institutions | 498,384    | 365,419     | 132,965         | 36.39  |  |  |
| Other Assets                                       | 970,040    | 1,675,976   | -705,936        | -42.12 |  |  |
| Total Assets                                       | 13,375,091 | 13,482,098  | -107,007        | -0.79  |  |  |
|  |            |             |                 |        |  |  |
| Liabilities  |            |             |                 |        |  |  |
| Currency Issued                                    | 1,320,609  | 1,204,824   | 115,785         | 9.61   |  |  |
| Deposits of Financial Institutions                 | 1,404,837  | 1,301,101   | 103,736         | 7.97   |  |  |
| Certificates of Deposit Issued                     | 6,682,155  | 6,712,620   | -30,465         | -0.45  |  |  |
| Redeposits of Financial Institutions               | 2,179,942  | 2,180,388   | -446            | -0.02  |  |  |
| Government Deposits                                | 181,742    | 214,155     | -32,413         | -15.14 |  |  |
| Other Liabilities                                  | 827,173    | 1,137,455   | -310,282        | -27.28 |  |  |
| Total Liabilities                                  | 12,596,458 | 12,750,543  | -154,085        | -1.21  |  |  |
| Net Worth  | 778,633    | 731,555     | 47,078          | 6.44   |  |  |
| Total Liabilities and Net Worth                    | 13,375,091 | 13,482,098  | -107,007        | -0.79  |  |  |

### 2. Income Statement

|                                |         | Unit: NT\$ M |
|--------------------------------|---------|--------------|
|                                | 2011    | 2010         |
| Income                         |         |              |
| Interest Income                | 425,984 | 428,654      |
| Fee Income                     | 116     | 119          |
| Subsidiaries Investment Income | 1,178   | 1,142        |
| Foreign Exchange Gains         | 23,133  | 14,917       |
| Revenue from Trust Investment  | 17,088  | 16,762       |
| Others                         | 1,891   | 4,189        |
| Total Income                   | 469,390 | 465,783      |
| Expenses                       |         |              |
| Interest Expenses              | 91,211  | 69,163       |
| Fee Expenses                   | 193     | 179          |
| Expenses for Coin Issuance     | 1,705   | 1,664        |
| Allowances                     | 141,716 | 162,930      |
| Expenses for Currency Issuance | 4,463   | 3,991        |
| Operating Expenses             | 1,519   | 1,554        |
| Administrative Expenses        | 483     | 475          |
| Others                         | 806     | 651          |
| Total Expenses                 | 242,096 | 240,607      |
| Net Income                     | 227,294 | 225,176      |

|            | I. Bu                                  | I. Business Indicators       |        |                    |               | II. N             | ational Incor         | me and Agg                 | regate Demo             | and     |                              |              |
|------------|--|------------------------------|--------|--------------------|---------------|-------------------|-----------------------|----------------------------|-------------------------|---------|------------------------------|--------------|
| Year       | C.E.P.D. <sup>(1)</sup><br>Total Score | T.I.E.<br>Business Clir      |        | Economic<br>Growth | Per<br>Capita | Unemploy-<br>ment | Man                   | ufacturing Se              | ector                   |         | Rate of Cha<br>Production Ir | -            |
| /<br>Month | of<br>Monitoring                       | Nonitoring Manufacturing Sei |        | Rate               | GNP           | Rate              | Labor<br>Productivity | Average<br>Monthly         | Index of                | General | Manufacturing                | Index of     |
|            | indicators                             | Sector<br>(2006              | Sector |                    |               |                   | Index                 | Earnings<br>(Per Employee) | Producer's<br>Inventory | Index   | Index                        | Construction |
|            | (average)                              | (2000<br>(aver               |        | (%)                | (US\$)        | (%)               | (2006=100)            |                            | (2006=100)              |         | (2006=100)                   |              |
| 2002       | 23                                     | 101.97                       | 97.59  | 5.26               | 13,716        | 5.17              | 82.67                 | 38,435                     | 88.4                    | 7.46    | 8.93                         | -20.66       |
| 2003       | 23                                     | 103.05                       | 102.85 | 3.67               | 14,197        | 4.99              | 88.24                 | 39,549                     | 89.5                    | 9.09    | 9.55                         | 9.02         |
| 2004       | 33                                     | 105.63                       | 102.84 | 6.19               | 15,503        | 4.44              | 92.45                 | 40,657                     | 93.3                    | 9.30    | 9.97                         | 4.78         |
| 2005       | 22                                     | 97.71                        | 98.40  | 4.70               | 16,449        | 4.13              | 96.18                 | 41,858                     | 100.8                   | 3.76    | 3.66                         | 11.38        |
| 2006       | 22                                     | 100.00                       | 100.00 | 5.44               | 16,911        | 3.91              | 100.00                | 42,393                     | 100.0                   | 4.70    | 4.50                         | 9.02         |
| 2007       | 25                                     | 102.12                       | 96.05  | 5.98               | 17,596        | 3.91              | 107.12                | 43,169                     | 101.1                   | 7.77    | 8.34                         | -0.48        |
| 2008       | 19                                     | 87.43                        | 89.96  | 0.73               | 17,833        | 4.14              | 106.02                | 43,105                     | 110.8                   | -1.78   | -1.56                        | -9.26        |
| 2009       | 19                                     | 97.36                        | 95.54  | -1.81              | 16,901        | 5.85              | 106.62                | 39,152                     | 103.7                   | -8.08   | -7.97                        | -19.08       |
| 2010       | 37                                     | 101.94                       | 105.90 | 10.72              | 19,175        | 5.21              | 125.00                | 42,420                     | 107.4                   | 26.93   | 28.60                        | -9.81        |
| 2011       | 24                                     | 95.29                        | 99.43  | 4.04               | 20,713        | 4.39              | 129.28                | 43,533                     | 122.3                   | 5.03    | 5.12                         | 7.89         |
| 2011/1     | 34                                     | 103.13                       | 103.83 |                    |               | 4.64              | 132.36                | 77,819                     | 114.8                   | 17.94   | 17.96                        | 43.18        |
| 2          | 34                                     | 98.76                        | 100.76 |                    |               | 4.69              | 146.65                | 47,107                     | 117.1                   | 12.99   | 15.11                        | -58.96       |
| 3          | 31                                     | 99.41                        | 103.79 | 6.62               | 5,187         | 4.48              | 130.88                | 38,202                     | 118.3                   | 14.64   | 15.20                        | 2.67         |
| 4          | 29                                     | 96.09                        | 102.59 |                    |               | 4.29              | 138.92                | 38,154                     | 117.7                   | 8.36    | 8.66                         | 1.66         |
| 5          | 27                                     | 97.33                        | 108.29 |                    |               | 4.27              | 131.24                | 39,765                     | 123.3                   | 8.64    | 8.59                         | 41.33        |
| 6          | 25                                     | 93.80                        | 107.45 | 4.52               | 5,125         | 4.35              | 129.48                | 39,524                     | 124.6                   | 4.36    | 4.26                         | 12.70        |
| 7          | 23                                     | 96.46                        | 105.73 |                    |               | 4.41              | 129.83                | 41,716                     | 126.3                   | 3.85    | 3.60                         | 36.08        |
| 8          | 20                                     | 95.17                        | 98.92  |                    |               | 4.45              | 123.92                | 41,247                     | 127.2                   | 4.46    | 4.45                         | 20.01        |
| 9          | 21                                     | 94.12                        | 93.78  | 3.45               | 5,289         | 4.28              | 124.11                | 40,868                     | 123.2                   | 1.71    | 2.07                         | -14.62       |
| 10         | 19                                     | 90.97                        | 91.23  |                    |               | 4.30              | 129.27                | 38,549                     | 126.4                   | 1.00    | 0.91                         | 7.84         |
| 11         | 16                                     | 89.62                        | 89.18  |                    |               | 4.28              | 120.01                | 37,669                     | 125.2                   | -4.58   | -5.29                        | 28.56        |
| 12         | 14                                     | 88.58                        | 87.65  | 1.89               | 5,112         | 4.18              | 120.19                | 42,503                     | 123.4                   | -8.06   | -8.58                        | 6.13         |

Notes: (1) C.E.P.D.: Council for Economic Planning and Development, Executive Yuan.

 $\left(2\right)$  T. I. E. R. : Taiwan Institute of Economic Research.

|        |                         |             |                   |                     |                        | II. Natic | nal Incom         | e and Ag   | gregate D               | emand  |                          |                       |                      |                |                        |
|--------|-------------------------|-------------|-------------------|---------------------|------------------------|-----------|-------------------|------------|-------------------------|--------|--------------------------|-----------------------|----------------------|----------------|------------------------|
|        | Annual Rate             |             | Rate of<br>ige of | Gross               | Gross                  |           |                   |            | External                |        | Goods on C<br>S Dollars) | Customs Bo            | asis                 |                |                        |
| Year   | of Change of<br>Private | Gross Fixed | •                 | National<br>Savings | Domestic<br>Investment |           | Annual R          | ate of Cho | Change of Total Exports |        |                          |                       | Rate of              | Trade          | Annual Rate            |
| Month  | Consumption             | Capital     | Private           | /                   | /                      |           | Mainland<br>China | U. S.      | lan an                  | Furana | Southeast<br>Asia (3)    | Change<br>of<br>Total | Capital<br>Equipment | Balance        | of Change<br>of Export |
|        | Expenditure             | Formation   | Sector            | GNP                 | GNP                    |           | and H.K.          | 0. 5.      | Japan                   | Europe | Asid 3                   | Imports               |                      |                | Orders                 |
|        | (%)                     | (%)         | (%)               | (%)                 | (%)                    | (%)       | (%)               | (%)        | (%)                     | (%)    | (%)                      | (%)                   | (%)                  | (US\$ Million) | (%)                    |
| 2002   | 3.26                    | 1.12        | 7.12              | 27.03               | 18.90                  | 7.1       | 29.4              | -2.7       | -5.0                    | -5.9   | 7.4                      | 4.9                   | -4.1                 | 22,072         | 11.23                  |
| 2003   | 2.91                    | -0.11       | 1.93              | 28.51               | 19.32                  | 11.3      | 23.6              | -3.0       | 0.5                     | 10.4   | 10.5                     | 13.0                  | 1.0                  | 22,590         | 12.64                  |
| 2004   | 5.17                    | 13.96       | 25.62             | 28.61               | 22.94                  | 21.1      | 28.8              | 8.3        | 11.1                    | 14.7   | 33.0                     | 31.8                  | 38.4                 | 13,613         | 26.50                  |
| 2005   | 2.90                    | 2.66        | 1.53              | 27.94               | 22.17                  | 8.8       | 12.2              | 1.3        | 9.4                     | -0.8   | 13.8                     | 8.2                   | -4.8                 | 15,817         | 19.20                  |
| 2006   | 1.49                    | 0.07        | 3.31              | 29.55               | 22.12                  | 12.9      | 14.8              | 11.2       | 7.9                     | 10.5   | 13.8                     | 11.0                  | -0.5                 | 21,319         | 16.74                  |
| 2007   | 2.08                    | 0.55        | 1.36              | 30.38               | 21.56                  | 10.1      | 12.6              | -0.9       | -2.2                    | 9.7    | 16.7                     | 8.2                   | 3.1                  | 27,425         | 15.54                  |
| 2008   | -0.93                   | -12.36      | -15.58            | 28.36               | 21.85                  | 3.6       | -0.8              | -4.0       | 10.2                    | 4.6    | 7.3                      | 9.7                   | -8.3                 | 15,181         | 1.71                   |
| 2009   | 0.76                    | -11.25      | -18.15            | 27.62               | 17.13                  | -20.3     | -15.9             | -23.5      | -17.4                   | -24.6  | -21.5                    | -27.5                 | -21.4                | 29,304         | -8.33                  |
| 2010   | 3.67                    | 23.99       | 33.84             | 31.62               | 22.11                  | 34.8      | 37.1              | 33.6       | 24.2                    | 30.1   | 37.2                     | 44.1                  | 64.0                 | 23,364         | 26.14                  |
| 2011   | 2.95                    | -3.79       | -2.35             | 29.16               | 20.65                  | 12.3      | 8.1               | 15.6       | 1.2                     | 6.2    | 22.7                     | 12.0                  | -3.2                 | 26,820         | 7.23                   |
| 2011/1 |                         |             |                   |                     |                        | 16.5      | 7.1               | 25.7       | 8.4                     | 9.8    | 32.1                     | 21.9                  | 38.8                 | 1,880          | 13.47                  |
| 2      |                         |             |                   |                     |                        | 27.2      | 31.8              | 24.5       | 14.8                    | 11.4   | 41.4                     | 28.6                  | 27.2                 | 915            | 5.33                   |
| 3      | 4.61                    | 7.74        | 10.55             | 29.83               | 20.00                  | 16.5      | 9.5               | 21.2       | -3.1                    | 25.0   | 30.0                     | 16.6                  | 3.2                  | 1,758          | 13.37                  |
| 4      |                         |             |                   |                     |                        | 24.6      | 15.0              | 39.7       | 15.5                    | 24.5   | 37.6                     | 25.7                  | -1.2                 | 2,949          | 10.14                  |
| 5      |                         |             |                   |                     |                        | 9.4       | 0.1               | 29.9       | 0.3                     | 15.2   | 14.7                     | 19.2                  | 21.5                 | 1,231          | 11.53                  |
| 6      | 3.04                    | 1.41        | 4.76              | 30.16               | 22.67                  | 10.8      | 4.6               | 14.9       | 1.8                     | 9.6    | 20.0                     | 12.5                  | 13.8                 | 1,378          | 9.18                   |
| 7      |                         |             |                   |                     |                        | 17.7      | 15.1              | 22.5       | 4.1                     | 7.4    | 16.6                     | 13.8                  | -3.1                 | 3,386          | 11.12                  |
| 8      |                         |             |                   |                     |                        | 7.2       | 8.3               | 6.2        | -9.3                    | 6.2    | 5.4                      | 6.2                   | -16.1                | 2,645          | 5.26                   |
| 9      | 3.24                    | -9.13       | -9.94             | 27.73               | 20.92                  | 9.9       | 12.0              | 3.8        | -8.4                    | 8.8    | 14.8                     | 10.6                  | -24.3                | 1,808          | 2.72                   |
| 10     |                         |             |                   |                     |                        | 11.7      | 8.1               | 11.9       | 0.0                     | 6.1    | 23.7                     | 11.7                  | -16.1                | 3,340          | 4.38                   |
| 11     |                         |             |                   |                     |                        | 1.2       | -2.5              | -3.1       | -4.2                    | -21.9  | 30.2                     | -10.4                 | -32.6                | 3,212          | 2.54                   |
| 12     | 0.98                    | -12.41      | -12.68            | 28.95               | 19.10                  | 0.6       | -3.0              | 0.9        | 0.6                     | -14.9  | 15.4                     | -2.7                  | -15.6                | 2,319          | -0.72                  |

Note: (3) Only includes six major countries in the region, i.e., Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

|                    |                  |               | III. P                      | rices                    |                          |                          | IV. Money, Banking and Finance |                  |                |                  |                       |                  |  |
|--------------------|------------------|---------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|------------------|----------------|------------------|-----------------------|------------------|--|
|                    | Consumer I       | Price Indices |                             |                          |                          |                          | Reserve<br>(daily av           |                  |                |                  | Aggregates<br>verage) |                  |  |
| Year<br>/<br>Month | General<br>Index | Core CPI (4)  | Wholesale<br>Price<br>Index | Import<br>Price<br>Index | Export<br>Price<br>Index | Unit Labor<br>Cost Index | Amount                         | Annual<br>Growth | М              | 1B               | N                     | 12               |  |
| WOITHIT            | III ICCX         |               |                             | (in NT Dollars)          |                          |                          | (NT\$ Billion)                 | Rate (5)         | Amount         | Annual<br>Growth | Amount (6)            | Annual<br>Growth |  |
|                    |                  | (Annu         | al Rate of Ch               | ange, %; 2006=100)       |                          |                          |                                | (%)              | (NT\$ Billion) | Rate<br>(%)      | (NT\$ Billion)        | Rate<br>(%)      |  |
| 2002               | -0.20            | 0.68          | 0.05                        | 0.40                     | -1.50                    | -9.35                    | 1,417.4                        | 2.39             | 5,190.4        | 17.01            | 19,886.4              | 3.46             |  |
| 2003               | -0.28            | -0.61         | 2.48                        | 5.14                     | -1.49                    | -3.92                    | 1,492.3                        | 5.24             | 5,803.9        | 11.82            | 20,618.6              | 3.68             |  |
| 2004               | 1.61             | 0.71          | 7.03                        | 8.57                     | 1.62                     | -3.04                    | 1,662.2                        | 11.98            | 6,905.4        | 18.98            | 22,117.1              | 7.27             |  |
| 2005               | 2.31             | 0.66          | 0.62                        | 2.43                     | -2.46                    | 0.14                     | 1,792.5                        | 7.63             | 7,395.8        | 7.10             | 23,488.5              | 6.20             |  |
| 2006               | 0.60             | 0.52          | 5.63                        | 8.81                     | 2.49                     | -1.80                    | 1,888.1                        | 5.62             | 7,787.5        | 5.30             | 24,939.0              | 6.18             |  |
| 2007               | 1.80             | 1.35          | 6.47                        | 8.95                     | 3.56                     | -4.94                    | 1,977.1                        | 5.11             | 8,289.2        | 6.44             | 25,975.9              | 4.16             |  |
| 2008               | 3.53             | 3.08          | 5.15                        | 8.84                     | -2.14                    | 2.37                     | 2,084.1                        | 3.35             | 8,045.8        | -2.94            | 26,679.3              | 2.71             |  |
| 2009               | -0.87            | -0.14         | -8.74                       | -9.61                    | -6.60                    | -6.95                    | 2,298.4                        | 11.55            | 9,376.5        | 16.54            | 28,667.1              | 7.45             |  |
| 2010               | 0.96             | 0.44          | 5.46                        | 7.04                     | 2.03                     | -12.29                   | 2,421.7                        | 5.43             | 10,776.6       | 14.93            | 29,966.1              | 4.53             |  |
| 2011               | 1.42             | 1.13          | 4.32                        | 7.65                     | 0.09                     | 1.11                     | 2,632.3                        | 7.24             | 11,547.8       | 7.16             | 31,713.9              | 5.83             |  |
| 2011/1             | 1.10             | 0.80          | 1.97                        | 4.01                     | -2.89                    | 26.04                    | 2,597.9                        | 9.68             | 11,489.8       | 9.35             | 31,129.3              | 5.63             |  |
| 2                  | 1.33             | 0.80          | 3.87                        | 7.01                     | -1.37                    | -32.31                   | 2,733.6                        | 7.44             | 11,627.3       | 9.40             | 31,424.8              | 6.24             |  |
| 3                  | 1.40             | 0.98          | 5.82                        | 9.35                     | 0.58                     | -8.92                    | 2,608.7                        | 6.78             | 11,481.6       | 9.22             | 31,372.0              | 6.02             |  |
| 4                  | 1.31             | 0.96          | 4.66                        | 7.85                     | 0.11                     | -3.70                    | 2,611.3                        | 7.97             | 11,445.9       | 8.17             | 31,485.9              | 6.00             |  |
| 5                  | 1.66             | 1.18          | 3.42                        | 6.79                     | -1.78                    | -0.40                    | 2,604.1                        | 6.58             | 11,475.7       | 8.00             | 31,580.2              | 6.20             |  |
| 6                  | 1.95             | 1.24          | 3.89                        | 7.53                     | -2.05                    | -1.88                    | 2,598.9                        | 6.74             | 11,415.9       | 8.06             | 31,518.4              | 6.07             |  |
| 7                  | 1.33             | 1.12          | 4.04                        | 7.41                     | -1.44                    | 3.35                     | 2,611.7                        | 6.52             | 11,473.4       | 7.60             | 31,712.7              | 6.24             |  |
| 8                  | 1.34             | 1.26          | 4.08                        | 6.93                     | -0.75                    | 4.02                     | 2,641.8                        | 7.15             | 11,672.5       | 7.44             | 31,942.2              | 6.16             |  |
| 9                  | 1.37             | 1.19          | 5.08                        | 8.05                     | 1.25                     | 2.64                     | 2,652.3                        | 7.58             | 11,674.3       | 6.28             | 31,918.6              | 5.85             |  |
| 10                 | 1.26             | 1.53          | 5.75                        | 9.38                     | 3.56                     | 2.29                     | 2,639.1                        | 6.89             | 11,573.3       | 5.12             | 32,041.8              | 5.54             |  |
| 11                 | 1.03             | 1.26          | 4.91                        | 9.38                     | 3.14                     | 8.17                     | 2,632.7                        | 6.74             | 11,582.0       | 4.22             | 32,145.7              | 5.10             |  |
| 12                 | 2.02             | 1.18          | 4.28                        | 8.02                     | 2.97                     | 13.47                    | 2,655.3                        | 6.89             | 11,662.0       | 3.51             | 32,295.0              | 5.01             |  |

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

(6) The data has included the net present value of money market mutual funds since Oct. 2004 .

|            |                          |                                    |                          |                                    | IV. M                                   | loney, Banki                           | ng and Finar      | nce                       |                                |   |                           |                                      |
|------------|--------------------------|------------------------------------|--------------------------|------------------------------------|---|--|-------------------|---------------------------|--------------------------------|---|---------------------------|--------------------------------------|
|            | Мо                       | netary Fina                        | ncial Institutio         | ns                                 | Non-performing                          |  |                   | Inte                      | rest Rates (%                  | )                                       |                           |                                      |
| Year<br>/  | Depo                     | sits (7)                           | Loans & Investments (8)  |                                    | Loan<br>Ratio of                        | CBC's                                  | Interbank         | 31-90 Days<br>CP Rate     | 10-Year<br>Gov't Bond          | Do                                      | Five Major<br>mestic Bank | (S 10                                |
| ,<br>Month | Amount<br>(NT\$ Billion) | Annual<br>Rate of<br>Change<br>(%) | Amount<br>(NT\$ Billion) | Annual<br>Rate of<br>Change<br>(%) | Domestic<br>Banks <sup>(9)</sup><br>(%) | Discount<br>Rate<br>(end of<br>period) | Call-Ioan<br>Rate | In<br>Secondary<br>Market | Rate in<br>Secondary<br>Market | Base<br>Lending<br>Rate (11)<br>(end of | New Loan<br>Rate          | 1-Year<br>Deposit<br>Rate<br>(end of |
| 0000       |                          |                                    |                          |                                    | 0.05                                    |  | 0.04/             | (average)                 | 0.44                           | period)                                 | (average)                 | period)                              |
| 2002       | 20,573.3                 | 2.17                               | 16,078.0                 | -2.49                              | 8.85                                    | 1.625                                  | 2.046             | 2.03                      | 3.46                           | 7.100                                   | 4.04                      | 1.86                                 |
| 2003       | 21,679.7                 | 5.38                               | 16,535.1                 | 2.84                               | 6.08                                    | 1.375                                  | 1.097             | 1.05                      | 2.16                           | 3.429                                   | 2.80                      | 1.40                                 |
| 2004       | 23,148.4                 | 6.77                               | 17,964.0                 | 8.64                               | 3.80                                    | 1.750                                  | 1.061             | 0.99                      | 2.66                           | 3.516                                   | 2.24                      | 1.52                                 |
| 2005       | 24,611.6                 | 6.32                               | 19,360.2                 | 7.77                               | 2.24                                    | 2.250                                  | 1.312             | 1.27                      | 2.05                           | 3.845                                   | 2.31                      | 1.99                                 |
| 2006       | 25,811.5                 | 4.88                               | 20,153.9                 | 4.10                               | 2.13                                    | 2.750                                  | 1.552             | 1.54                      | 1.98                           | 4.115                                   | 2.37                      | 2.20                                 |
| 2007       | 26,052.5                 | 0.93                               | 20,626.9                 | 2.35                               | 1.84                                    | 3.375                                  | 1.998             | 1.90                      | 2.32                           | 4.313                                   | 2.70                      | 2.62                                 |
| 2008       | 27,865.2                 | 6.96                               | 21,331.5                 | 3.42                               | 1.54                                    | 2.000                                  | 2.014             | 1.92                      | 2.29                           | 4.205                                   | 2.80                      | 1.42                                 |
| 2009       | 29,448.6                 | 5.68                               | 21,482.3                 | 0.71                               | 1.15                                    | 1.250                                  | 0.109             | 0.24                      | 1.51                           | 2.563                                   | 1.50                      | 0.89                                 |
| 2010       | 31,005.7                 | 5.29                               | 22,803.7                 | 6.15                               | 0.61                                    | 1.625                                  | 0.185             | 0.38                      | 1.37                           | 2.676                                   | 1.45                      | 1.13                                 |
| 2011       | 32,302.2                 | 4.18                               | 24,172.9                 | 6.00                               | 0.43                                    | 1.875                                  | 0.341             | 0.70                      | 1.38                           | 2.882                                   | 1.54                      | 1.36                                 |
| 2011/1     | 31,092.5                 | 4.90                               | 23,184.4                 | 7.61                               | 0.59                                    | 1.625                                  | 0.257             | 0.55                      | 1.45                           | 2.688                                   | 1.42                      | 1.19                                 |
| 2          | 31,239.5                 | 5.79                               | 23,244.3                 | 7.60                               | 0.58                                    | 1.625                                  | 0.262             | 0.54                      | 1.40                           | 2.718                                   | 1.43                      | 1.19                                 |
| 3          | 31,203.7                 | 5.49                               | 23,259.7                 | 8.17                               | 0.55                                    | 1.625                                  | 0.274             | 0.59                      | 1.38                           | 2.718                                   | 1.49                      | 1.19                                 |
| 4          | 31,398.9                 | 5.75                               | 23,345.9                 | 7.83                               | 0.54                                    | 1.750                                  | 0.296             | 0.65                      | 1.36                           | 2.730                                   | 1.58                      | 1.28                                 |
| 5          | 31,360.7                 | 5.40                               | 23,515.0                 | 7.76                               | 0.50                                    | 1.750                                  | 0.319             | 0.68                      | 1.44                           | 2.766                                   | 1.47                      | 1.28                                 |
| 6          | 31,476.2                 | 5.56                               | 23,511.1                 | 7.50                               | 0.48                                    | 1.750                                  | 0.344             | 0.71                      | 1.49                           | 2.784                                   | 1.53                      | 1.28                                 |
| 7          | 31,761.7                 | 5.78                               | 23,602.7                 | 7.34                               | 0.46                                    | 1.875                                  | 0.375             | 0.73                      | 1.51                           | 2.807                                   | 1.61                      | 1.36                                 |
| 8          | 31,691.4                 | 5.21                               | 23,815.8                 | 7.31                               | 0.47                                    | 1.875                                  | 0.388             | 0.77                      | 1.40                           | 2.855                                   | 1.65                      | 1.36                                 |
| 9          | 31,827.0                 | 5.10                               | 23,931.7                 | 7.94                               | 0.51                                    | 1.875                                  | 0.394             | 0.80                      | 1.26                           | 2.855                                   | 1.60                      | 1.36                                 |
| 10         | 31,913.5                 | 4.63                               | 23,983.5                 | 7.41                               | 0.46                                    | 1.875                                  | 0.395             | 0.82                      | 1.29                           | 2.882                                   | 1.61                      | 1.36                                 |
| 11         | 32,001.0                 | 4.45                               | 24,077.6                 | 6.89                               | 0.45                                    | 1.875                                  | 0.396             | 0.81                      | 1.32                           | 2.882                                   | 1.51                      | 1.36                                 |
| 12         | 32,302.2                 | 4.18                               | 24,172.9                 | 6.00                               | 0.43                                    | 1.875                                  | 0.400             | 0.79                      | 1.27                           | 2.882                                   | 1.53                      | 1.36                                 |

Notes: (7) From Jan. 2001, the carrying values of the host contracts of structured products issued by banks are excluded. (8) From Jan. 2004, includes data for securities acquired under reverse repurchase agreements. Portfolio investments are measured at original costs.

(a) The data are based on the new NPL definition released by the Financial Suervisory Commission, which include loans under surveillance.
 (b) Prior to Oct. 2008, the five major domestic banks are Bank of Taiwan, Taiwan Coorperative 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.
 (c) Prior to Jan. 2003, the figures represent prime lending rates.

|                    | V. Securities Market    |                           |                     |           |                                      | VI. Balance of Payments and Foreign Exchange Market |           |                      |                          |                     |                 |                          |
|--------------------|-------------------------|---------------------------|---------------------|-----------|--------------------------------------|---|-----------|----------------------|--------------------------|---------------------|-----------------|--------------------------|
|                    | TSE Stock Market        |                           | Bond Market         |           |                                      | Balance of Payments                                 |           |                      |                          | Foreign<br>Exchange | Exchange        | Daily<br>Average         |
| Year<br>/<br>Month | Stock<br>Price<br>Index | Total<br>Trading<br>Value | Outstanding Trading |           | Value                                | Current<br>Account                                  |           | Financial<br>Account | Change<br>in CBC's       | Reserves            | Rate            | Value of<br>Foreign      |
|                    |                         |                           | (end of<br>period)  |           | Share of<br>Outright<br>Transactions |   | 710000411 |                      | Net Foreign<br>Assets 12 | (end of period)     | (end of period) | Exchange<br>Transactions |
|                    | (1966=100)<br>(average) | (NT\$ Billion)            | (NT\$ Billion )     |           | (%)                                  | (US\$   |           | Million)             |                          | (US\$ Billion)      | NT\$/US\$       | (US\$ Billion)           |
| 2002               | 5,226                   | 21,874.0                  | 3,599.1             | 134,399.0 | 45.13                                | 26,357  | -139      | 8,749                | -33,664                  | 161.66              | 34.753          | 5.61                     |
| 2003               | 5,162                   | 20,333.2                  | 4,306.6             | 203,624.0 | 62.16                                | 30,504  | -87       | 7,628                | -37,092                  | 206.63              | 33.978          | 7.30                     |
| 2004               | 6,034                   | 23,875.4                  | 4,777.3             | 206,132.4 | 59.89                                | 19,728  | -77       | 7,169                | -26,595                  | 241.74              | 31.917          | 10.24                    |
| 2005               | 6,092                   | 18,818.9                  | 5,145.3             | 319,737.0 | 69.49                                | 17,578  | -117      | 2,302                | -20,056                  | 253.29              | 32.850          | 12.07                    |
| 2006               | 6,842                   | 23,900.4                  | 5,462.1             | 275,833.2 | 61.63                                | 26,332  | -118      | -19,620              | -6,086                   | 266.15              | 32.596          | 15.63                    |
| 2007               | 8,510                   | 33,043.9                  | 5,542.1             | 194,005.5 | 48.34                                | 35,154  | -96       | -38,951              | 4,020                    | 270.31              | 32.443          | 18.62                    |
| 2008               | 7,024                   | 26,115.4                  | 5,771.2             | 135,509.5 | 44.09                                | 27,505  | -334      | -1,660               | -26,274                  | 291.71              | 32.860          | 19.37                    |
| 2009               | 6,460                   | 29,680.5                  | 5,920.3             | 97,547.5  | 40.40                                | 42,923  | -96       | 13,469               | -54,126                  | 348.20              | 32.030          | 16.22                    |
| 2010               | 7,950                   | 28,218.7                  | 6,352.3             | 106,318.0 | 40.12                                | 39,873  | -116      | -309                 | -40,173                  | 382.01              | 30.368          | 20.23                    |
| 2011               | 8,156                   | 26,197.4                  | 6,895.8             | 97,809.1  | 27.46                                | 41,270  | -119      | -31,621              | -6,239                   | 385.55              | 30.290          | 24.17                    |
| 2011/1             | 8,971                   | 2,621.3                   | 6,275.9             | 8,842.2   | 30.94                                |   |           |                      |                          | 387.11              | 29.300          | 23.02                    |
| 2                  | 8,743                   | 1,908.6                   | 6,344.5             | 6,475.8   | 31.53                                |   |           |                      |                          | 390.69              | 29.754          | 24.06                    |
| 3                  | 8,575                   | 2,632.6                   | 6,403.7             | 9,632.6   | 29.70                                | 10,623  | -32       | -3,575               | -4,589                   | 392.63              | 29.418          | 22.49                    |
| 4                  | 8,861                   | 2,130.0                   | 6,500.8             | 7,315.0   | 23.88                                |   |           |                      |                          | 399.54              | 28.762          | 24.16                    |
| 5                  | 8,911                   | 2,172.8                   | 6,564.5             | 8,354.2   | 27.60                                |   |           |                      |                          | 398.68              | 28.772          | 24.40                    |
| 6                  | 8,749                   | 2,067.5                   | 6,649.3             | 8,503.8   | 29.91                                | 8,363   | -24       | -4,126               | -4,903                   | 400.33              | 28.802          | 25.83                    |
| 7                  | 8,681                   | 2,434.8                   | 6,637.7             | 8,301.0   | 28.09                                |   |           |                      |                          | 400.77              | 28.890          | 24.48                    |
| 8                  | 7,763                   | 2,924.8                   | 6,685.6             | 9,145.8   | 28.25                                |   |           |                      |                          | 400.29              | 29.020          | 27.55                    |
| 9                  | 7,385                   | 2,135.9                   | 6,752.2             | 8,722.0   | 34.02                                | 10,189  | -31       | -11,638              | 3,464                    | 389.17              | 30.506          | 26.73                    |
| 10                 | 7,345                   | 1,818.5                   | 6,798.1             | 7,455.6   | 25.13                                |   |           |                      |                          | 393.33              | 29.930          | 26.00                    |
| 11                 | 7,275                   | 1,899.7                   | 6,868.2             | 7,528.5   | 19.74                                |   |           |                      |                          | 387.97              | 30.345          | 22.52                    |
| 12                 | 6,969                   | 1,450.8                   | 6,895.8             | 7,532.6   | 18.33                                | 12,095  | -32       | -12,282              | -211                     | 385.55              | 30.290          | 18.80                    |

Note: (1) The minus sign \*-\* represents an increase. Sources: 1. Taiwan Business Indicators, Council for Economic Planning and Development, Executive Yuan, R.O.C. (Taiwan). 2. Monthly Report on Economic Climate and Trends, Taiwan Institute of Economic Research. 3. Quarterly National Economic Trends, Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, R.O.C. (Taiwan). 4. Monthly Bulletin of Statistics on the DGBAS's website.

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