Minutes of the Monetary Policy Meeting

September 19, 2019

Central Bank of the R.O.C. (Taiwan)

Minutes[1] of the Joint Meeting of the Board of Directors and the Board of Supervisors on September 19, 2019

Date and Time: September 19, 2019, at 2:00 p.m.

Location: Room A606, Main Building, Central Bank of the R.O.C. (Taiwan)

Members Present:

Chairman, Board of Directors: Chin-long Yang

Executive Directors: Jain-rong Su, Jong-chin Shen, Tzung-ta Yen, Nan-kuang Chen, Ming-yih Liang

Directors: Chi-chung Chen, Chen-chia Lee, Chung-dar Lei, Jin-lung Lin, Mei-lie Chu, Chao-hsi Huang, Bih-jane Liu, Shiu-sheng Chen, Hsin-hong Kang

Chairman, Board of Supervisors: Tzer-ming Chu

Supervisors: Ching-fan Chung, Sheng-yao Lin, Tien-wang Tsaur, Kuei-hui Cheng

Staff Present:

E-dawn Chen, Director General, Department of Banking

James T.H. Shih, Director General, Department of Issuing

Hui-huang Yen, Director General, Department of Foreign Exchange

Yue-min Chen, Director General, Department of the Treasury

Tsuey-ling Hsiao, Director General, Department of Financial Inspection

Tzong-yau Lin, Director General, Department of Economic Research

Chien-ching Liang, Director General, Secretariat

Kuei-chou Huang, Director General, Department of Accounting

Jhih-cheng Hong, Director, Personnel Office

Kun-shan Wu, Director, Legal Affairs Office

Chih-cheng Hu, Secretary, Board of Directors

Yu-ming Chang, Secretary, Board of Supervisors

Presiding: Chin-long Yang

[1] This English translation is provided for information purposes only; the Chinese version shall prevail in case of discrepancies.

Agenda Item: Economic and Financial Conditions and Monetary Policy Decision

I. Review of economic and financial conditions

The Department of Economic Research presented the following review.

1. International Economic and Financial Conditions

Since the Board last convened in June 2019, the global economy had witnessed a downturn owing to economic and trade uncertainties across the world – including the ongoing US-China trade conflicts, rising economic and financial risks in China, the Brexit stalemate, and geopolitical tensions – and a weak manufacturing outlook in major economies.

International institutions forecasted that, compared to last year, global economic growth would be slower both this year and next. For this year as a whole, it was expected that major economies would lose some momentum while emerging market economies would also be affected as a result. For the year of 2020, economic growth projections were mixed, but the US, the euro area, and China were all expected to see economic growth running lower than this year. As trade disputes remained unabated around the world, international institutions expected subdued growth in world trade and downgraded their 2019 and 2020 world trade volume forecasts.

With respect to international prices, oil prices were expected to trend lower this and next year compared to last year on account of elevated US crude oil output and further weakening in demand amid a murky global economic outlook. Global grains prices dropped on the back of improving weather conditions. In all, subdued international raw material prices and a slowing global economy led international institutions to forecast that inflation rates in 2019 and 2020 would both run below the levels of 2018.

In regard to monetary policy developments, major economies including the US, the euro area, and China had eased their policy stance amid a cloudy global economic outlook and muted inflation. Meanwhile, some Asian economies had reverted from last year's rate hike path towards rate cuts in recent months in an effort to bolster economic growth.

Across international financial markets, a multitude of uncertainties had markedly heightened volatility in recent months. An escalation in the US-China trade conflicts had sparked downward gyrations in major stock markets in August, but markets had stabilized since early September with both the US and China appearing inclined to resume talks. Exchange rates of major currencies had broadly depreciated against the US dollar. In regard to bond market developments, the yields on major 10-year government bonds had tumbled to a near-term low, owing to a global economic slowdown, renewed monetary easing in major economies, and increased demand for government bonds as safe havens. The yields had also rebounded in September thanks to the possibility of reopening US-China trade talks.

Looking ahead, the global economy could face the following risks, which, if materialized, could impact global financial market stability and economic and trade outlooks:

(1) Weakness in manufacturing activity because of ongoing trade conflicts around the world could spill over to the services sector.

(2) The Chinese economy decelerates and economic and financial risks increase.

(3) High uncertainty remains as the Brexit progress could be mired by political turmoil.

(4) Geopolitical tensions intensify.

2. Domestic Economic and Financial Conditions

(1) Economic situation

Both the leading and coincident indicators for the domestic business outlook had continued to rise in recent months; however, the domestic business climate monitor had signaled a yellow-blue light for seven months in a row, leaving the outlook unclear and warranting close monitoring.

With respect to external demand, exports in most Asian economies (including Taiwan) had contracted since the beginning of this year. More recently, however, as some overseas Taiwanese firms in the information, communications, audio-visual products industries had begun to move production back and some orders had been frontloaded, as well as rising holiday season demand for integrated circuit products, Taiwan’s exports had registered positive growth in total value terms. Export prices had dropped while export volume had increased. Among major export destinations, exports to the US had expanded significantly, whereas exports to China had posted the greatest negative contribution. Looking forward, the Bank projected mild real growth for exports this year on account of emerging business opportunities and diversion and frontloading of orders. For next year, export growth was expected to be slower than this year owing to a higher base effect.

In regard to domestic demand, machinery equipment and construction continued to grow, and the government's rigorous policies and implementation of related programs were expected to encourage the private sector to increase investment. The Bank thus forecasted that real private investment would grow solidly this year. For next year, however, growth would likely soften somewhat because of a higher base effect. In terms of private consumption, weak consumer confidence and sluggish corporate profits were unfavorable for employment and for wage increases, but the government's stimulus measures for domestic demand would help bolster consumer willingness to spend. On balance, real growth in private consumption would likely be moderate this and next year.

In terms of labor market conditions so far this year, the unemployment rate had risen from the same period a year earlier and wage growth had slightly slowed down amid a lukewarm domestic economy.

Overall, underpinned by better-than-expected real growth in goods exports in July-August, the economic growth rate was projected by the Bank to be 2.66% in the second half of the year, higher than the 2.12% in the first half year. For the year as a whole, the economy was forecasted to expand by 2.40%. A slightly lower projection, 2.34%, was made for next year as the Bank expected slower growth in private investment and exports. Major institutions forecasted Taiwan's economy to grow by 1.97%-2.46% this year and by 1.86%-2.58% next year.

(2) Financial conditions

Since the month of August, although bank funding attitudes had become more cautious as more firms distributed cash dividends, overnight call loan rates had merely edged down on the back of ample market liquidity. In recent months, the average bank excess reserves had stayed above NT$40 billion in recent months. Compared to major economies and adjusted for inflation, Taiwan's real interest rate had been around the middle of the range.

In regard to monetary and credit conditions, the monetary aggregate M2 grew at an average rate of 3.26% year on year during the Jan.-Aug. period, within the Bank's target range for this year. Since the beginning of the year, bank lending had increased at a slow pace because of subdued economic activity. However, bank loans and investments averaged an annual growth rate of 4.74% in the Jan.-Aug. period, higher than the sum of this year's projected economic growth rate and CPI inflation rate. This would suggest there were sufficient money and credit to support the need of the real economy.

For the year to date, home sales had increased; building ownership transfers in the top six urban areas had also exceeded the numbers in the same period last year, with central and southern Taiwan recording more transactions than others. Housing prices had also trended up steadily. In addition, the Housing Price Index compiled by the Ministry of the Interior showed that, in the first quarter this year, housing prices in five of the top six urban areas, except Taipei, almost rose to the previous highs.

In respect to real estate lending, the annual growth rate of home-purchase mortgages had climbed steadily to 5.60% as of the end of July, while that of construction lending had risen further to 10.68%. The developments reflected homebuilders' active attempts to acquire more land and offer new housing projects, a potential increase in housing demand from the returning Taiwanese businesses, and greater funding needs for home rebuilding or renovations under urban renewal plans. At the end of July, the ratio of real-estate lending to total bank lending rose to 35.07%, with the asset quality remaining stable.

(3) Price trends

Domestic inflation had been low and stable this year so far, against a backdrop of a fuel rate reduction in reflection of declining international oil and other raw material prices, lower prices in apparel and durable consumer goods, and continued communications fee decreases. For the first eight months of the year, the annual growth rates of CPI and core CPI averaged 0.53% and 0.45%, respectively, mainly owing to upturns in travel agency charges and residential rental rates.

For the second half of the year, inflation would likely to be mild, because the upswings in food prices – especially vegetables and fruit – owing to recent bouts of torrential rain had not been as steep as expected and international oil prices had dropped. Based on the assessment of mild domestic demand, a persistent negative output gap, muted inflationary pressures, and a soft price trend for international raw material prices, the Bank projected the CPI and core CPI annual growth rates to be 0.70% and 0.56% this year, respectively, and 0.88% and 0.77% for next year. The forecasts pointed to a mild inflation outlook.

Looking at the key determinants of future domestic price trends, upside pressures could arise from (1) a lower comparison base, as last year experienced little disruption from typhoons, and an expected surge in vegetables and fruit prices owing to the recent sequence of torrential rain; (2) continued hikes in minimum wages in recent years, which would provide a further boost to prices for away-from-home food and other related services. Downside price pressures include (1) weakened prices of international crude oil and other raw materials because of soft demand amid a slowing global economy; (2) possible further rate cuts in mobile communication rates; (3) an output gap still slightly in the negative territory.

3. Considerations for Monetary Policy

(1) Domestic inflation was mild and the output gap was expected to remain modestly negative, indicating a stable inflation outlook. The CPI growth rate averaged 0.53% for the first eight months this year and was projected by the Bank to register 0.70% for the year as a whole and 0.88% next year.

(2) As sluggish global economic growth and high uncertainties weigh on external demand, the domestic economy was projected to expand with mild momentum in the second half of 2019 through 2020. The Bank forecasted Taiwan’s economic growth rate to be 2.66% in the second half of the year, 2.40% for the year as a whole, and 2.34% for the year of 2020.

(3) Compared to major economies, Taiwan’s real interest rate was in the middle range.

II. Proposition and Decision about Monetary Policy

1. **Policy Proposition: To keep the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.**

2. Board members reached a unanimous vote to keep the policy rates unchanged. The discussions are summarized as follows.

(1) Discussion on domestic economic and financial conditions

With respect to economic situations at home, several board directors gave opinion on the effects of domestic investment on the economic development. One board director stated that the government’s three major programs promoting investment back in Taiwan have altogether attracted more than NT$600 billion, with some investments to be carried out by the end of this year and more to be implemented over the next few years. As the majority of these firms came from the electronics and IT industry and the metal and electrical industry, this was expected to help facilitate domestic supply chain development and induce more investment from related industries. It was also observed that export value of related industries had already increased, boosting domestic employment along the way. Another board director added that the action plan to fast-track SME investments, one of the three major programs, had seen much success.

One board director pointed out that returning Taiwanese firms usually source their funds for investments by borrowing from domestic banks, tapping regular channels, or taking advantage of special channels facilitated by the *Management, Utilization, and Taxation of Repatriated Offshore Funds Act*. When the returning investments are sourced via borrowing from domestic banks and go into the real sector, not only will them bolster domestic investment but also help reduce excess liquidity, contributing positively to the financial system as well as the real economy. Furthermore, the returning investment had helped shore up Taiwan's exports, which, though forecasted to moderate this year over the previous year, had experienced a less steep slowdown than in other Asian economies, while US-bound exports from Taiwan had risen considerably. Similarly, imports of capital equipment had increased in recent months, a potential driver for domestic investment, indicating business optimism about the economic prospects.

One board director noted that domestic institutions forecasted solid investment growth for this year mainly because of increased equipment purchases and plans to upgrade processes in the semiconductor industry, as well as the returning investments by overseas Taiwanese firms. However, data showed that, for the first eight months of the year, imports of machinery equipment for the semiconductor industry had witnessed marked growth, whereas non-semiconductor machinery equipment imports, including those driven by returning Taiwanese investment, had merely posted modest growth. This distinction might indicate that a part of the repatriated capital actually went towards expanding existing capacity or reinstituting idle capacity. Therefore, it remained to be seen whether the returning investments by overseas Taiwanese companies could translate into higher real investment growth at home.

In respect of domestic financial conditions, several board directors presented their views on the domestic housing market and credit risk associated with the real estate sector. One board director noted that home prices and transactions, though trending up, have yet been as heated as in 2013 and 2014, and housing credit risk has not rocketed. The past two years have seen strong growth in the number of building permits issued as a positive outlook prompted home builders to step up project offerings. Nonetheless, in addition to a plentiful supply of vacant housing units, survey-based data also showed that the majority of homebuyers expected prices to be little changed or trending lower. It was therefore projected that housing prices would maintain mild growth.

Another board director noted that the rises in home mortgages and housing prices, albeit seemingly gradual and moderate, had started off from a relatively higher level. Given that the earlier decline had been limited, even a normal pace of acceleration could easily send those readings toward their previous peaks; for instance, housing prices in central and southern Taiwan have already exceeded previous heights. With mortgage concentration currently at 35.1%, a further pickup in housing credit could push the ratio past the historical high of 37.9%. Furthermore, while domestic banks still registered low mortgage default rates, housing credit exposure would pile up collectively if a good deal of them add new housing loans simultaneously, thereby creating potential systemic risk that could spark a banking crisis and impair financial stability. The board director suggested that, at this stage whilst expectations of higher property prices were just beginning to take shape, the Bank should sound an early warning alongside government policies on returning investment and urban renewal and should explore preemptive measures if the situation escalates.

Another board director added that financial instability or crisis stemming from the real estate sector tends to strike fast and hard; early signs should be heeded, closely monitored, and addressed. The ratio of real estate lending to total domestic bank lending was currently higher than that of manufacturing lending (to public and private sectors combined) to total; under the circumstances, it should be noted that the Bank's accommodative monetary policy was taken in response to the short-term business cycle by channeling credit towards capital outlays instead of home mortgages. The board director suggested that the Bank should, in addition to monetary easing, deploy macroprudential tools such as selective credit controls, in order to prevent destabilizing side effects of a low interest rate environment.

One board director pointed out that although some of the housing-related financial indicators now came to levels similar to those back in June 2010 – when the Bank introduced targeted macroprudential measures for real estate lending – it should also be noted that since then banks have, per the Bank's requirement, put in place rigorous internal rules on real estate lending, along with targeted examinations conducted by the Bank and the Financial Supervisory Commission. Furthermore, this issue involves many aspects and many competent authorities and would need more than the central bank's hand to effectively address the related concerns such as deploying housing policies and achieving housing justice, while the Bank strives to manage credit risk associated with banks' real estate lending and to safeguard financial stability. Considering that housing market conditions in major cities varied significantly, further analysis is recommended.

(2) Discussion on interest rate decision

All board directors approved of keeping policy rates at the current levels, based mainly on the assessment that the global economic outlook faced many uncertainties and the domestic economy would expand with mild momentum, along with a stable domestic inflation outlook. One board director stated that despite a high degree of uncertainty, it could still be expected that short- and medium-term domestic investment has good momentum to underpin economic growth. Ample liquidity in the domestic market and high excess saving in the corporate sector suggested that Taiwan's businesses had no shortage of funds but a deficiency of investment opportunities. The government should address it by improving the domestic investment environment to create more opportunities for them. Compared to monetary easing, measures to promote investment would provide a more effective boost to economic growth. Therefore the board director supported the proposed policy rate hold.

One board director gave the reason for approval that mild economic growth momentum and a continued hike in the minimum wage next year meant that monetary conditions should be kept adequately accommodative to support banks in providing lifelines to small- and medium-sized enterprises. Another board director viewed that a rate hold would be the reasonable policy decision, citing near-term considerations including muted inflationary pressures and limited effects for a rate cut in the current low interest rate and ample liquidity environment.

One board director favoring a rate hold pointed out that domestic recession forecast model results showed that the probability of a recession occurring in Taiwan next year was lower than the likelihood of a 2020 US recession as estimated by two Federal Reserve Banks. Combined with the assessment of current domestic economic conditions, a relatively stable and accommodative monetary policy stance would be appropriate.

Several board directors cited monetary policy actions in major economies as reasons warranting a rate hold. One board director noted that while the US and some Asia-Pacific economies had reduced their policy rates, Taiwan's overall economic performance delivered cause for cautious optimism relative to major economies: the housing market was gaining traction, investment had benefited from diverted orders amid US-China trade tensions, and exports resumed positive growth from an earlier sequence of contractions. Inflation was also mild, along with a negative but narrowing output gap. This cautiously optimistic outlook offered little ground for a rate reduction.

Another board director added that despite numerous uncertainties over the economic outlook, Taiwan's economy fared reasonably well compared to other economies and there was hardly need for a rate cut just for the sake of following others. On the other hand, a rate hike would not be justified either since the economic activity was not overheating. According to empirical findings, low interest rates and easy monetary policies do not create a pronounced lift to economic growth. However, the Taiwan public also had raised some concerns about potential adverse implications from high interest rates and monetary tightening, a faint reminder of the situation before the Fed went for a rate cut when it saw disruptions to the economic activity after previous rate hikes.

One board director presented similar opinion on this point. The present environment faced many uncertainties, including the US-China trade conflicts, the Brexit talks, geopolitical developments in the Middle East, and major elections next January in Taiwan. As regards interest rate decisions, the Bank had kept rates unchanged when the US instituted a succession of rate increases; likewise, US rate reductions did not render a rate cut decision necessary for Taiwan. Closer to home, several central banks launched rate cuts recently; nonetheless, Taiwan's interest rates were still lower than China and South Korea, an indication that a "wait-and-see" approach should be in order. Therefore, the board director favored a rate hold.

Several board directors supported the decision to maintain current interest rate levels and expressed their views on future monetary policy considerations. One board director opined that if major economies implement more rate cuts afterwards, the Bank should carefully consider whether to follow suit. The board director turned to the example of Japan, stating that the country's attempt to combat its protracted downturn with low interest rates had proved ineffective in the past three decades. In a world of secular stagnation, an easy monetary policy with low rates, which were still in place in many economies, not only had only limited efficacy but could also carry adverse implications for the economy in the long term as funds might end up spilling into the real estate sector instead of business entities. Rate-setters should realize that in the battle against secular stagnation, monetary policy should go hand in hand with fiscal policy and structural measures. Policymakers should contemplate on this point of view as the conventional approach of monetary stimulus through sufficient money supply has not proved genuinely effective.

Another board director noted that as Taiwan’s policy rates were kept steady, it should be examined whether loans granted by financial institutions are used in productive assets such as machinery equipment or the real estate sector. If, in a steadily low interest rate environment, the use of funds was predominantly in home building or sales, then it would require caution and should be prudently tackled.

One board director viewed a rate hold to be the viable action and noted that there has been a good amount of research on the long term effect of low interest rates. Some of the findings pointed to the possibility that protracted low interest rates could led to resource misallocation and allow those companies running deficits for years to survive in the market, dragging down overall productivity of the corporate sector and holding down wages.

One board director also approved of a rate hold, citing an upward revision to the forecast of this year’s domestic economic growth, mild inflation running below 1%, and easy money conditions. However, as some slowdown was expected for the domestic economy in the future and uncertainties remain abundant, any future rate adjustment decisions could be given great thought about the implications of low interest rates on real consumption and real investment.

Another board director pointed out that the recent attacks on Saudi oil facilities had caused crude oil prices to surge; as the domestic interest rate stood steady, an escalation in the Middle East geopolitical conflicts could sharply prod up domestic prices through oil price upswings, potentially bringing the real interest rate into negative territory. Therefore, the Bank should keep close watch of this issue.

3. **Monetary Policy Decision:** The board directors reached a unanimous vote to keep the discount rate, the rate on accommodations with collateral, and the rate on accommodations

without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.

Voting for the proposition:

Chin-long Yang, Jain-rong Su, Jong-chin Shen, Tzung-ta Yen, Nan-kuang Chen, Ming-yih Liang, Chi-chung Chen, Chen-chia Lee, Chung-dar Lei, Jin-lung Lin, Mei-lie Chu, Chao-hsi Huang, Bih-jane Liu, Shiu-sheng Chen, Hsin-hong Kang

Voting against the proposition: None.

III. The Press Release

The board directors and supervisors approved unanimously to issue the following press release in the post-meeting press conference, together with the Supplementary Materials for the Post-Monetary Policy Meeting Press Conference prepared by the Bank.

Central Bank of the Republic of China (Taiwan)

PRESS RELEASE Release Date: September 19, 2019

<Website：http://www.cbc.gov.tw>

Monetary Policy Decision of the Board Meeting

I. Global economic and financial conditions

Since the Board met in late June this year, heightened uncertainties such as ongoing US-China trade conflicts, rising economic and financial risks to the Chinese economy, the Brexit stalemate, and geopolitical tensions, have weighed on the global economy and weakened trade growth. Global financial markets have experienced dramatic volatility, leading to a flight of international capital to safe-haven assets and thereby dragging down government bond yields in major economies. International institutions have revised down growth forecasts for the world economy and trade volume this year, and major economies have broadly adopted a more accommodative monetary policy stance.

Looking ahead to next year, the global economic outlook seems clouded by multiple uncertainties including unclear international trade conditions, China's economic slowdown, and lingering geopolitical risks. Furthermore, monetary policy of major economies could also affect international capital movements and financial market stability.

II. Domestic economic and financial conditions

1. Since mid-2019, the global economy and world trade have continued to exhibit tepid growth, whereas Taiwan's exports have gradually rebounded on account of diverted orders from the US-China trade conflicts and elevated domestic production by Taiwanese businesses operating overseas, as well as a lower base effect. Although the unemployment rate in recent months slightly picked up and wage growth somewhat moderated, the government's active implementation of policies to boost domestic demand may help enhance consumers' willingness for consumption. In addition, with an anticipated increase in capital spending by manufacturers and returning Taiwanese investment, private investment is likely to expand steadily. As a result, the Bank forecasts Taiwan's economy to advance by 2.66% for the second half of the year, and 2.40% for the entire year (Appendix Table 1).

Projections for next year include steady growth in private consumption and higher government spending, contrasted by economic slowdowns in major economies and softer year-on-year growth in Taiwan's exports and private investment. The Bank therefore forecasts the domestic economy to expand by 2.34% in 2020.

2. Domestic inflation has stayed low and stable since entering 2019. For the first eight months of the year, the consumer price index (CPI) and the core CPI (excluding fruit, vegetables, and energy items) posted average annual growth rates of 0.53% and 0.45%, respectively. For the second half of the year, inflation is expected to register mild growth as recent rises in fruit and vegetables prices owing to torrential rain would be somewhat offset by the subdued price trends for international crude oil and other raw materials. For the year as a whole, the Bank forecasts the CPI and core CPI annual growth rates to be 0.70% and 0.56%, respectively (Appendix Table 2).

   Looking at inflation next year, prices of away-from-home food and services thereof are likely to be lifted by the minimum wage hike announced for the coming year. By contrast, international oil prices are projected by foreign institutions to remain below the levels of this year amid a weaker global economic outlook, and domestic demand is expected to be mild. These factors combine to support a stable inflation outlook, with the CPI and core CPI rising by 0.88% and 0.77% year on year according to the Bank's own forecasts.

3. For the first seven months of the year, the average annual growth rate of the monetary aggregate M2 was 3.24% and that of bank loans and investments was 4.86%, indicating that money and credit conditions were sufficient to support domestic economic activity.

   In recent months, global financial markets have witnessed higher volatility, along with increased capital movements across the borders. Nonetheless, the NT dollar exchange rate has continued to show dynamic stability vis-à-vis the US dollar. Meanwhile, the domestic financial market has enjoyed ample liquidity, and both short- and long-term rates have held steady. Excess reserves of financial institutions have been maintained at a level of over NT$40 billion. Overall, domestic financial conditions remain accommodative.

III. Monetary policy decisions

Based on the assessment of the latest economic and financial developments at home and abroad, the Board considers that domestic inflation is moderate, a marginal negative output gap continues for this and next year, and the inflation outlook is stable; as the global economy moves slowly ahead and uncertainties remain high, external demand could be dampened. In sum, it is expected that the domestic economy would advance with mild growth momentum in the second half of 2019 and in the year of 2020. Furthermore, Taiwan's real interest rates register around the middle range among a host of economies (Appendix Table 3). Therefore, the Board judges that a policy rate hold and a continued accommodative monetary policy stance will help ensure price stability and foster sound development of the economy and the financial sector.

At the Meeting today, the Board reached the following decision unanimously:

> The discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral are kept unchanged at 1.375%, 1.75%, and 3.625%, respectively.

IV. In light of elevated economic and financial uncertainties overseas, the Bank will closely monitor the implications of global developments – including the US-China trade talks, monetary policy moves in major economies, geopolitical tensions, and global financial market situation – for Taiwan's economy and financial conditions and act timely as appropriate to fulfill its statutory mandate.

V. Recently, international foreign exchange markets have become more volatile, but, compared with other major currencies, the NT dollar has been relatively stable in terms of exchange rate movements vis-à-vis the US dollar.

In principle, the NT dollar exchange rate is determined by market forces. Nonetheless, if irregular factors (such as massive inflows or outflows of short-term capital) as well as seasonal ones lead to excess volatility and disorderly movements in the NT dollar exchange rate with adverse implications for economic and financial stability, the Bank will, in accordance with its mandate, step in to maintain an orderly foreign exchange market.

Appendix

Table 1 Taiwan's Economic Growth Forecasts by Major Institutions

Unit: %

Forecast institutions		2019 (f)	2020 (f)
Domestic institutions	**CBC (2019/9/19)**	**2.40**	**2.34**
	NTU/Cathay (2019/9/9)	2.20	2.00
	DGBAS (2019/8/16)	2.46	2.58
	TIER (2019/7/25)	2.12	n.a.
	Academia Sinica (2019/7/19)	2.01	n.a.
	CIER (2019/7/17)	2.06	2.27
	Forecast Average	**2.21**	**2.30**
Foreign institutions	IHS Markit (2019/9/17)	1.97	1.86
	Goldman Sachs (2019/9/16)	2.20	2.10
	Standard Chartered (2019/9/16)	2.10	2.20
	JP Morgan (2019/9/16)	2.10	1.70
	HSBC (2019/9/16)	2.10	2.00
	Barclays Capital (2019/9/13)	2.40	2.30
	BofA Merrill Lynch (2019/9/13)	1.70	1.90
	Morgan Stanley (2019/9/13)	1.80	1.50
	Credit Suisse (2019/9/12)	2.00	2.20
	Citi (2019/9/12)	2.10	1.90
	Deutsche Bank (2019/9/12)	2.20	2.10
	EIU (2019/9/5)	2.40	1.70
	ADB (2019/7/18)	2.20	2.00
	Forecast Average	**2.10**	**1.96**

Table 2 Taiwan's Inflation Forecasts by Major Institutions

Unit: %

Forecast institutions		2019 (f)	2020 (f)
Domestic institutions	**CBC (2019/9/19)**	**0.70 (CPI)** **0.56 (Core CPI*)**	**0.88 (CPI)** **0.77 (Core CPI*)**
	DGBAS (2019/8/16)	0.67	0.82
	TIER (2019/7/25)	0.85	n.a.
	Academia Sinica (2019/7/19)	0.85	n.a.
	CIER (2019/7/17)	0.87	1.11
	Forecast Average	**0.79**	**0.94**
Foreign institutions	IHS Markit (2019/9/17)	0.66	0.95
	Goldman Sachs (2019/9/16)	1.00	1.30
	Standard Chartered (2019/9/16)	1.00	1.30
	JP Morgan (2019/9/16)	1.00	1.50
	HSBC (2019/9/16)	0.50	0.90
	Barclays Capital (2019/9/13)	0.70	1.30
	BofA Merrill Lynch (2019/9/13)	0.70	1.10
	Morgan Stanley (2019/9/13)	0.90	1.20
	Credit Suisse (2019/9/12)	0.90	1.30
	Citi (2019/9/12)	0.90	1.20
	Deutsche Bank (2019/9/12)	0.70	0.80
	EIU (2019/9/5)	0.50	0.20
	ADB (2019/7/18)	1.10	1.20
	Forecast Average	**0.81**	**1.10**

* Excluding vegetables, fruit, and energy.

Table 3 Real Deposit Rates of Selected Economies

Unit: %

Economies	(1) 1-year **time deposit rate*** (As of 2019/9/19)	(2) CPI annual growth rate ** (2019 forecast)	(3)=(1)-(2) **Real interest rate**
Malaysia	2.750	0.93	1.820
Indonesia	4.750	3.18	1.570
South Korea	1.100	0.32	0.780
Thailand	1.500	0.94	0.560
Taiwan	**1.065**	**0.70**	**0.365**
US	1.980	1.82	0.160
Singapore	0.700	0.78	-0.080
Switzerland	0.000	0.52	-0.520
Japan	0.010	0.69	-0.680
China	1.500	2.53	-1.030
Euro area	0.050	1.31	-1.260
UK	0.700	2.00	-1.300
Philippines	0.500	2.61	-2.110
Hong Kong	0.300	2.69	-2.390

* 1-year interest rates on small-amount deposits of selected major banks in respective economies, except for Taiwan, of which the figure is the 1-year time deposit floating rate of the five major domestic banks.

** IHS Markit projections, as of September 17, 2019. Forecast for Taiwan's CPI annual growth rate is the CBC's projection.