



HONG KONG MONETARY AUTHORITY
香港金融管理局

2016

ANNUAL REPORT



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The chapter on Banking Stability in this Annual Report is the report on the working of the Banking Ordinance and the activities of the office of the Monetary Authority during 2016 submitted by the Monetary Authority to the Financial Secretary in accordance with section 9 of the Banking Ordinance.

The full text of this Report is available on the HKMA website.

Chief Executive's Statement



In 2016, there were no lack of “black swans” in global political and economic arenas. While the results of the Brexit referendum and the US presidential election turned various opinion polls into laughing stocks, the reaction of the financial markets was even more surprising. Take the US presidential election as an example. The news of Donald Trump’s victory led to an immediate plunge in the three major US stock futures before the market opened. Yet the stock indexes rallied shortly after the market opened and have since been trending upward and hitting new highs. These events highlight the limitations of conventional wisdom and mindsets in predicting market trends. They also suggest that the global outlook will remain highly uncertain.

Last year, various major financial data reflected that market sentiment was extraordinarily sensitive. After falling to a historical low of 1.36% in July, the 10-year US Treasury yield surged to 2.6% in mid-December after the US presidential election. The US dollar index, reflecting the movements of the US dollar against a basket of major currencies, rose to its highest level in 14 years at the end of the year. Meanwhile, crude oil futures prices in New York rebounded to US\$54 a barrel at the end of

2016 from a low of US\$26 at the beginning of the year. In Hong Kong, the Hang Seng Index recorded a slight increase of 86 points in 2016 as a whole, but the peak-valley difference during the year was more than 6,000 points. The extremely volatile external environment underscores the importance of maintaining financial stability, in particular monetary and banking stability.

In January 2016, rumours of international hedge funds planning an attack on the renminbi and the Hong Kong dollar spread quickly. To quell the speculation, the HKMA promptly communicated to the markets with a clear and loud message that the HKMA was confident and capable of defending the Linked Exchange Rate System and maintaining Hong Kong’s financial stability. The timely assurance quickly restored market confidence. Throughout the year, the Hong Kong dollar exchange rate stayed close to the strong-side Convertibility Undertaking. As there was ample liquidity in the banking system, interest rate hikes by the US Federal Reserve in December last year and March this year had no immediate noticeable impact on Hong Kong dollar interest rates or exchange rate.

Chief Executive's Statement

The banking sector in Hong Kong continued to grow steadily. Total loans grew moderately by 6.5% in 2016, while asset quality remained sound with the classified loan ratio staying at a healthy level of 0.85%, well below the long-run historical average of about 2% since 2000. The capital adequacy ratios and liquidity ratios of the banking sector remained at high levels, well above the relevant statutory minimum requirements. As for mortgage lending business, after seven rounds of countercyclical prudential measures, the average loan-to-value ratio for new residential mortgage loans declined to 51% at the end of 2016 from 64% in September 2009. The average debt servicing ratio also dropped to 34% at the end of 2016 from 41% in August 2010. This provides necessary buffer for the banking system to withstand shocks arising from a reversal of the property market cycle. The HKMA will continue to closely monitor developments in the property market and implement appropriate measures in the light of the developments of market cycle to ensure banking stability.

There was encouraging progress last year in the legislative work to further promote banking stability. Two bills aimed at enhancing the Deposit Protection Scheme and dealing with the “too big to fail” risk of financial institutions were enacted by the end of the previous term of the Legislative Council. The former bill sought to further strengthen depositors’ confidence in the banking system by streamlining and expediting the payout process. The latter provided a legal basis for establishing a resolution regime for financial institutions, including banks, to guard against

systemic risks posed by failing financial institutions and avoid the use of public funds to bail them out. The HKMA set up a Resolution Office on 1 April 2017 to implement the relevant statutory requirements and follow-up work.

The banking sector plays a pivotal role in our economic activities, providing essential channels for deposit-taking and payment services, and serving as an important source of funding for both the real economy and the general public. During the year, there were comments from the representatives of some small and medium-sized enterprises (SMEs) about difficulty in obtaining loans. The HKMA promptly communicated with banks and impressed upon them that, while maintaining their prudent risk management, banks should as far as possible continue to provide funding support for the operation and development of SMEs. We also stepped up the promotion of the Government’s SME Financing Guarantee Scheme to the business sector via our subsidiary the Hong Kong Mortgage Corporation (HKMC). At the same time, the HKMC worked closely with banks to address their concerns and clarify misunderstanding, and streamlined the claim process for default cases with a view to motivating banks to participate in the scheme. Our multi-pronged approach has been effective. According to the results of our survey with banks, the total credit facility limits granted to SMEs remained stable last year with over 90% of the enterprises seeing their credit limits unchanged or raised. Meanwhile, the total number of applications received under the SME Financing Guarantee Scheme also increased notably.

Chief Executive's Statement

The HKMA is fully committed to promoting financial inclusion, as basic banking services have become indispensable to businesses and individuals. Last year, when it came to our attention that some foreign companies and start-ups had difficulty in opening bank accounts in Hong Kong, we took immediate actions to follow up and liaise with various international chambers of commerce and SME associations. We also had in-depth discussions with banks to address the issue head-on. Last September, I issued a circular to all banks in Hong Kong to provide guidance on how to interpret the HKMA's "risk-based" supervisory approach in combating money laundering and terrorist financing activities, and how to apply this approach to account-opening applications and due diligence procedures for existing customers. We emphasised that banks should not adopt a one-size-fits-all approach by applying a single standard of requirements and procedures to all customers. There have been some improvements in the situation after our liaison with banks and the business sector. Yet there is still room for further improvement, and this will be one of our work priorities this year.

The coverage of banks' branch networks is also part of financial inclusion. The HKMA has been urging banks that, in addition to making profit, they should also cater for the public's need for

basic banking services. The advancement in fintech has helped diversify the channels for delivering banking services. Apart from the increasingly popular internet banking, several banks last year also launched mobile bank branches or video teller machines to provide more targeted and comprehensive banking services than traditional automatic teller machines. With our encouragement, several banks also plan to set up physical branches in some remote areas to enhance their services for residents.

The continued development of a financial centre is, to borrow a Chinese proverb, sailing against the current. Over the years, the HKMA has always been looking for new opportunities and exploring new frontiers to promote the development of Hong Kong's financial industry. Remarkable achievements were made in 2016, especially with regard to fintech and infrastructure financing.

On fintech, Hong Kong's retail payment services entered a new era in 2016 with the granting of 13 stored value facility licences. The licensing and supervisory regime has helped create a conducive business environment for retail payment services. This, coupled with a series of public education campaigns, enables consumers to enjoy the benefits and convenience brought by new technology and affords reasonable protection to their rights and interests.

Chief Executive's Statement

In addition, the HKMA established the Fintech Facilitation Office in March 2016 to promote the development of fintech related to the banking industry. Within a few months, we have introduced several new initiatives, including the Cybersecurity Fortification Initiative, which is a new platform comprising three pillars — cybersecurity risk assessment, intelligence sharing, and talent development — to enhance the cyber resilience of the banking system. In collaboration with the Hong Kong Applied Science and Technology Research Institute (ASTRI), we embarked on a specialised research project on distributed ledger technology to explore its potential for application in the local banking industry, and established the Fintech Innovation Hub at ASTRI premises to provide technical support for the banking and fintech sectors. The HKMA's Banking Supervision Department also initiated the Fintech Supervisory Sandbox (FSS) for banks to conduct pilot trials of the applications of new technology in a smaller and controlled environment, which would facilitate speedier development of new products and services. From September 2016 to March 2017, 14 pilot trials of fintech initiatives had been conducted through the FSS by six banks. Some of these initiatives have been rolled out to the market, providing the public with more new fintech products.

There is increasing demand for infrastructure financing globally. Echoing the Belt and Road Initiative, infrastructure financing has attracted much attention. As an international financial centre in Asia, Hong Kong has unparalleled strength in

the infrastructure financing arena. Last July, the HKMA set up the Infrastructure Financing Facilitation Office (IFFO) to provide a new, unique platform that brings together more than 60 world-class multilateral organisations, institutional investors, banks, insurance companies and other financial institutions, infrastructure project developers and operators, and various professional firms. The platform seeks to facilitate information exchange, experience sharing and collaboration in infrastructure investment and financing. Since the launch of IFFO, more than ten large-scale conferences, seminars and workshops have been organised. The HKMA also concluded Memorandums of Understanding with International Finance Corporation, Global Infrastructure Hub, China Development Bank and the Export-Import Bank of China respectively to jointly promote infrastructure investment and financing. While still in its infancy, IFFO has helped lay a solid foundation for developing Hong Kong into an infrastructure investment and financing centre.

Removing barriers is the key to enhancing competitiveness. During the year, the HKMA actively participated in and supported the Government's work in amending the tax law to create a conducive tax environment for multinational companies to base their corporate treasury centres in Hong Kong. We also actively reached out to these companies and encouraged them to develop or expand their corporate treasury activities here, thereby further strengthening Hong Kong's financial services.

Chief Executive's Statement

The offshore renminbi market underwent a period of consolidation in 2016. Weighed by volatilities and market expectations about renminbi exchange rate, the global offshore renminbi liquidity pool generally shrank in size. This notwithstanding, Hong Kong firmly maintained its lead as the global offshore renminbi business hub with the world's largest renminbi liquidity pool. Its renminbi settlement system continued to register a high level of turnover, averaging about RMB860 billion daily. To further enhance the liquidity facility for Hong Kong's offshore renminbi (CNH) market, we increased the number of Primary Liquidity Providers (PLPs) from seven to nine and expanded the total PLP facility from RMB14 billion to RMB18 billion in October to facilitate two-way fund flows. These measures help ensure the orderly operation of the CNH market in times of liquidity stress. The launch of Shenzhen-Hong Kong Stock Connect last December added further impetus to Hong Kong's renminbi business. The HKMA is also working with the Mainland authorities on the Bond Connect initiative, with a view to further facilitating Mainland and Hong Kong investors' access to each other's bond market and improving linkages in bond market infrastructures.

Despite the various uncertainties surrounding the global investment landscape in 2016, the Exchange Fund recorded an investment income of HK\$68.1 billion, due partly to a series of defensive measures deployed by us over the years. The compounded annual investment return of the Exchange Fund since 1994 was 4.8%, higher than the local inflation rate of 2.1% during the same period.

The Exchange Fund will continue to pursue investment diversification through expanding into more asset classes and increasing holdings of credit assets, inflation-linked investment products and emerging market assets. As the flagship of our diversification strategy, the Long-Term Growth Portfolio (LTGP) invests in alternative assets, such as private equity and real estate projects. Its performance has been encouraging, achieving an annualised internal rate of return of about 12% since its inception in 2009. As part of the Government's Future Fund was allocated to the LTGP, we have quickened the pace of investment under the LTGP. As a result, the asset size of the LTGP increased to about HK\$181.8 billion and outstanding investment commitments amounted to about HK\$133.8 billion at the end of 2016. The Exchange Fund will continue to adhere to the investment objective of "Capital Preservation First, Long-Term Growth Next", striving to maintain ample liquidity and sufficient resources, while pursuing a stable return over a long-term horizon.

Chief Executive's Statement

Clouded by a host of uncertainties, the global economic and political outlook is expected to be even more complex in 2017. The UK has formally triggered the Brexit process, while France and Germany are set to hold national elections. The future paths of the UK and the European Union are subject to many variables. There are great uncertainties in the new US administration's economic and fiscal policies. There are also questions as to whether globalisation and liberalisation, which have steered the global economic order for decades, will pull back, and whether structural adjustments in the Mainland economy can proceed smoothly and related financial risks can be duly managed. All these could have a huge impact on small and open economies like Hong Kong. Under the Linked Exchange Rate System, the pace of US interest rate normalisation will have a direct impact on the speed of fund outflows from Hong Kong. Accumulated fund inflows of US\$130 billion into the Hong Kong dollar since 2008 will start to reverse course sooner or later. By then the Hong Kong dollar will weaken, triggering the weak-side Convertibility Undertaking, and local interest rates will rise gradually along with their US counterparts. We should expect to see increasing risk of correction in Hong Kong's asset markets, including the property market, although the extent, timing and pace of such a reversal are hardly predictable.

2017 marks the 20th anniversary of the establishment of the Hong Kong Special Administrative Region (HKSAR). There will be a new administration on 1 July. My colleagues and I will, as always, use our best endeavours to perform our duties and render our full support to the HKSAR Government in further consolidating and strengthening Hong Kong's role and competitiveness as an international financial centre.



Norman T.L. Chan
Chief Executive

HKMA at a Glance

The Hong Kong Monetary Authority (HKMA) is the government authority in Hong Kong responsible for maintaining monetary and banking stability.

The HKMA's policy objectives are

- ◆ to maintain currency stability within the framework of the Linked Exchange Rate System;
- ◆ to promote the stability and integrity of the financial system, including the banking system;
- ◆ to help maintain Hong Kong's status as an international financial centre, including the maintenance and development of Hong Kong's financial infrastructure; and
- ◆ to manage the Exchange Fund.

The HKMA is an integral part of the Hong Kong Special Administrative Region Government but operates with a high degree of autonomy, complemented by a high degree of accountability and transparency. The HKMA is accountable to the people of Hong Kong through the Financial Secretary and through the laws passed by the Legislative Council that set out the Monetary Authority's powers and responsibilities. In his control of the Exchange Fund, the Financial Secretary is advised by the Exchange Fund Advisory Committee.

The HKMA's offices are at

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The HKMA Information Centre is located at 55/F, Two International Finance Centre, 8 Finance Street, Central, Hong Kong and is open from 10:00 a.m. to 6:00 p.m. Monday to Friday and 10:00 a.m. to 1:00 p.m. on Saturday (except public holidays). The Centre consists of an exhibition area and a library containing materials on Hong Kong's monetary, banking and financial affairs and central banking topics.

The HKMA's bilingual website (www.hkma.gov.hk) provides comprehensive information about the HKMA including its main publications and many other materials.

HKMA at a Glance

KEY FIGURES FOR 2016

Monetary Stability

Monetary Base	HK\$1,642 billion
Aggregate Balance	HK\$259.6 billion
Base Rate	1.00%
Backing Ratio	106.7%

Banking Stability

Total assets	HK\$20.7 trillion
Capital adequacy ratio	19.2%
Liquidity coverage ratio	156.3%
Liquidity maintenance ratio	51.0%
Growth in loans and advances	6.5%
Classified loan ratio	0.85%
Loan-to-deposit ratio	68.4%
Loan-to-value ratio for new residential mortgage loans (RMLs)	51%
Debt servicing ratio for new RMLs	34%
Authorized institutions	156 licensed banks 22 restricted licence banks 17 deposit-taking companies

Reserves Management

Compounded annual investment return of the Exchange Fund	4.8% since 1994, higher than compounded annual HK composite consumer price index of 2.1% over the same period (return in 2016: 2%)
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International Financial Centre

Renminbi customer deposits and outstanding certificates of deposit	RMB625.1 billion (World's largest offshore renminbi liquidity pool)
Dim sum bonds outstanding	RMB318.8 billion (World's largest offshore renminbi bond market)
Renminbi foreign exchange instrument turnover per day (Bank for International Settlements survey)	US\$77.1 billion equivalent (Highest in the offshore markets)
Percentage of world's renminbi payment processed by Hong Kong (SWIFT survey)	about 70%
Offshore Renminbi Primary Liquidity Provider (PLP) scheme	9 PLPs (Total funding support under the scheme: RMB18 billion)
Number of Infrastructure Financing Facilitation Office partners	more than 60 (as at end-January 2017)
Availability of four Real Time Gross Settlement (RTGS) systems and the Central Moneymarkets Unit	100%
Average daily turnover of Hong Kong dollar RTGS system	HK\$598.4 billion
Average daily turnover of renminbi RTGS system	RMB863.6 billion
Number of stored value facility licences issued	13

Annualised internal rate of return of the Long-Term Growth Portfolio (LTGP)	about 12% since inception in 2009
Total assets of the Exchange Fund	HK\$3,618.7 billion
Market value of investments under the LTGP	HK\$181.8 billion

Figures in this section refer to data for 2016 or positions as at end-2016 as appropriate, unless otherwise stated.

Highlights of 2016

Economic and Financial Environment

The Hong Kong economy softens alongside subdued global economic and trade activities. The local stock market and residential property market see volatility during the year, while housing affordability remains stretched.

The Hong Kong banking sector remains sound and stable despite increased risks and shocks in the global markets. The capital and liquidity positions of banks are strong. Their asset quality, while showing slight signs of deterioration, remains at healthy levels.

Monetary Stability

The Hong Kong dollar exchange rate trades in an orderly manner despite a turbulent external environment, reflecting resilience of the Linked Exchange Rate System to external shocks.

The money market continues to operate smoothly with ample interbank liquidity. In December, following the decision of the US Federal Reserve to raise the target range for the Federal Funds Rate, the Base Rate in Hong Kong is adjusted upwards by 25 basis points to 1.00%.

Banking Stability

The HKMA steps up its supervisory efforts on banks' risk governance framework, as well as credit, liquidity and technology risk management. The HKMA also takes concrete steps to foster financial inclusion and address the difficulties encountered by corporates in opening and maintaining bank accounts in Hong Kong.

On the policy side, substantial progress is made on the preparatory work for the local implementation of international supervisory and accounting standards, including the resolution framework under the Financial Institutions (Resolution) Ordinance.

Highlights of 2016

International Financial Centre

Hong Kong remains the global hub for offshore renminbi business and asset management centre. The tax regime has been refined to foster a more conducive environment for multinational companies to establish their corporate treasury centres in Hong Kong.

The Infrastructure Financing Facilitation Office and the Fintech Facilitation Office are established as part of the HKMA's efforts to develop Hong Kong as an infrastructure financing centre and a fintech hub respectively. The HKMA commences the implementation of the regulatory regime for stored value facilities (SVFs) and retail payment systems smoothly, with a total of 13 SVF licences granted.

Reserves Management

Despite a challenging investment environment which is full of black swan events, the Exchange Fund achieves an overall investment return of 2%, thanks to a series of defensive measures deployed by the HKMA over the years that have enhanced the resilience of the Exchange Fund.

The HKMA quickens the pace of investment diversification, especially through investments under the Long-Term Growth Portfolio.

Corporate Functions

The HKMA maintains effective communications with the community and the market through the media, public education programmes, and other various channels to facilitate public understanding of its policies and operations.

The HKMA continues to improve corporate governance by supporting professional development of staff, instituting rigorous financial discipline, and enhancing information technology security to help cope with challenges arising from the implementation of new initiatives and the increasing complexity of work.

Calendar of Events 2016

JANUARY

14 January

The HKMA announces that the Countercyclical Capital Buffer rate for Hong Kong will increase to 1.25% with effect from 1 January 2017.

FEBRUARY

5 February

The HKMA and the Securities and Futures Commission (SFC) publish conclusions to the proposals on introducing mandatory clearing and expanding mandatory reporting for the over-the-counter derivatives regulatory regime.

MARCH

21 March

The HKMA establishes the Fintech Facilitation Office to promote Hong Kong as a fintech hub in Asia.

MAY

16 May

The HKMA announces the extension of the Coin Collection Programme for another two years to September 2018.



18 May

The HKMA announces the launch of the Cybersecurity Fortification Initiative at the "Cyber Security Summit 2016" to further enhance the cyber resilience of the banking sector in Hong Kong.



Calendar of Events 2016

JUNE

1–2 June

The HKMA and the China Banking Regulatory Commission jointly organise a high-level seminar for independent non-executive directors of Hong Kong banks.



3 June

The Inland Revenue (Amendment) (No. 2) Ordinance 2016 is gazetted to allow the deduction of interest expenses for intra-group financing business under specified conditions and provide tax incentives for corporate treasury centres (CTCs) in Hong Kong.

10 June

The Securities and Futures (Amendment) Ordinance 2016 is gazetted to introduce a new open-ended fund company structure to diversify the fund domiciliation platform in Hong Kong.

20 June

The sixth inflation-linked retail bond, or iBond, is issued under the Government Bond Programme.

30 June

The Financial Institutions (Resolution) Ordinance is gazetted to provide the legal basis for the establishment of a cross-sector resolution regime for financial institutions in Hong Kong.

Calendar of Events 2016

JULY

4 July



The HKMA sets up the Infrastructure Financing Facilitation Office (IFFO) to promote Hong Kong as an infrastructure financing hub.

The HKMA signs Memorandums of Understanding (MOUs) with the International Finance Corporation and the Global Infrastructure Hub respectively to facilitate investment and financing of infrastructure projects in Asia via the IFFO platform.



5 July

The HKMA and the Boao Forum for Asia co-organise the Financial Cooperation Conference with the theme "Stimulating Growth in the Real Economy: the Role of Finance" in Hong Kong.



20 July

The joint e-Cheque clearing between Guangdong Province (including Shenzhen) and Hong Kong is launched.

Calendar of Events 2016

AUGUST

- 12 August** The first Silver Bond is issued under the Government Bond Programme.
- 25 August** The HKMA announces the issuance of the first batch of stored value facility (SVF) licences to five SVF issuers under the Payment Systems and Stored Value Facilities Ordinance (PSSVFO).

SEPTEMBER

- 6 September** The HKMA and the Treasury Markets Association jointly organise "The Treasury Markets Summit 2016" in Hong Kong.



The HKMA launches the Fintech Supervisory Sandbox to facilitate the pilot trials of fintech and other technology initiatives of banks before they are launched on a fuller scale.

- 28 September** The HKMA chairs in a seminar in Frankfurt, Germany, to promote Hong Kong's role in capitalising the rising China opportunities.



OCTOBER

- 24–25 October** The HKMA, Bank of England, and International Monetary Fund (IMF) jointly organise a high-level conference on "Monetary, Financial and Prudential Policy Interactions in the Post-Crisis World" in Hong Kong.
- 26–28 October** The IFFO hosts the first executive workshop on infrastructure financing with the theme of "Private Participation in Infrastructure Project Finance in Emerging Markets" and announces the inclusion of 13 organisations as IFFO partners, bringing the total number of partners to over 50.
- 27 October** The HKMA expands the Primary Liquidity Provider (PLP) scheme by increasing the number of PLPs from seven to nine, bringing the total amount of funding support under the scheme to RMB18 billion. Transparency of the usage of HKMA's Renminbi Liquidity Facility is also enhanced.

Calendar of Events 2016

NOVEMBER

4 November

The HKMA announces the issuance of the second batch of SVF licences under the PSSVFO, bringing the total number of SVF licensees to 13.

8 November

The IFFO organises a high-level business seminar, featuring President Jin Liqun of Asian Infrastructure Investment Bank (AIIB) to talk about AIIB's operations and projects.



11 November



The HKMA organises the Fintech Day and releases a white paper on the Distributed Ledger Technology.

The HKMA and the Hong Kong Applied Science and Technology Research Institute (ASTRI) jointly launch the Fintech Innovation Hub for brainstorming innovative ideas and trying out new fintech solutions.

22 November

The Financial Services and the Treasury Bureau, in conjunction with the HKMA, the SFC and the Insurance Authority, jointly publish a consultation paper on the proposed regulation on protected arrangements under the Financial Institutions (Resolution) Ordinance.

The HKMA and the Hong Kong Chinese Enterprises Association enter into an MOU to help more Chinese enterprises to establish their CTCs in Hong Kong.



Calendar of Events 2016

DECEMBER

5 December Shenzhen-Hong Kong Stock Connect is launched.

6–7 December The HKMA co-hosts the Hong Kong-London Financial Services Forum 2016 with the HM Treasury in London, expanding the Hong Kong-London Renminbi Forum to cover new financial developments such as infrastructure financing, the Belt and Road Initiative and fintech.

Leveraging on the Forum, the HKMA and the UK Financial Conduct Authority enter into a Co-operation Agreement to foster collaboration on fintech.

7 December An IMF Staff Mission's Concluding Statement reaffirms IMF's continued support for the Linked Exchange Rate System, and acknowledges the countercyclical macroprudential measures implemented by the HKMA.

15 December The HKMA announces an upward adjustment of the Base Rate by 25 basis points to 1.00% according to a pre-set formula, following a hike in the US Federal Funds Rate on 14 December (US time).

16 December The HKMA and ASTRI jointly launch the Fintech Career Accelerator Scheme to nurture talents to meet the growing needs of fintech in Hong Kong.



20 December The HKMA enters into MOUs with the China Development Bank and the Export-Import Bank of China respectively to facilitate investment and financing of infrastructure projects via the IFFO platform.

30 December The HKMA completes its annual assessment of the list of Domestic Systemically Important Banks (D-SIBs) and announces that the list of D-SIBs remains unchanged.

About the HKMA

The Hong Kong Monetary Authority is Hong Kong's central banking institution. The HKMA has four main functions: maintaining currency stability within the framework of the Linked Exchange Rate System; promoting the stability and integrity of the financial system, including the banking system; helping to maintain Hong Kong's status as an international financial centre, including the maintenance and development of Hong Kong's financial infrastructure; and managing the Exchange Fund.

THE HKMA'S LEGAL MANDATE

The HKMA was established on 1 April 1993 after the Legislative Council passed amendments to the Exchange Fund Ordinance in 1992 empowering the Financial Secretary to appoint a Monetary Authority.

The powers, functions and responsibilities of the Monetary Authority are set out in the Exchange Fund Ordinance, the Banking Ordinance, the Financial Institutions (Resolution) Ordinance¹, the Deposit Protection Scheme Ordinance, the Payment Systems and Stored Value Facilities Ordinance and other relevant Ordinances. The division of functions and responsibilities in monetary and financial affairs between the Financial Secretary and the Monetary Authority is set out in their Exchange of Letters dated 25 June 2003. This Exchange of Letters discloses the delegations made by the Financial Secretary to the Monetary Authority. The letters are public documents and can be found on the HKMA website.

The Exchange Fund Ordinance establishes the Exchange Fund under the control of the Financial Secretary. According to the Ordinance, the Fund shall be used primarily for affecting the exchange value of the Hong Kong dollar. It may also be used for maintaining the stability and integrity of the monetary and financial systems of Hong Kong, with a view to maintaining Hong Kong as an international financial centre.

The Monetary Authority is appointed under the Exchange Fund Ordinance to assist the Financial Secretary in performing his functions under the Exchange Fund Ordinance and to perform such other functions as are assigned by other Ordinances or by the Financial Secretary. The office of the Monetary Authority is known as the HKMA, and the Monetary Authority is the Chief Executive of the HKMA.

The Banking Ordinance provides the Monetary Authority with the responsibility and powers for regulating and supervising banking business and the business of taking deposits. Under the Ordinance, the Monetary Authority is responsible for the authorization of licensed banks, restricted licence banks and deposit-taking companies in Hong Kong.

The Financial Institutions (Resolution) Ordinance designates the Monetary Authority as the resolution authority for authorized institutions and certain financial market infrastructure. Under the Ordinance, the Monetary Authority is vested with a range of powers to effect the orderly resolution of a non-viable systemically important bank for the purpose of maintaining financial stability, while seeking to protect public funds.

The Securities and Futures Ordinance and the Mandatory Provident Fund Schemes Ordinance empower the Monetary Authority to regulate the selling of securities and mandatory provident fund products by banks.

¹ The Financial Institutions (Resolution) Ordinance was enacted by the Legislative Council in June 2016. It will come into effect in 2017 on a date to be appointed by the Secretary for Financial Services and the Treasury.

About the HKMA

The Insurance Companies Ordinance confers on the Monetary Authority the supervisory power in respect of insurance selling activities of banks.

The Anti-Money Laundering and Counter-Terrorist Financing (Financial Institutions) Ordinance (AMLO) empowers the Monetary Authority to supervise banks' compliance with the legal and supervisory requirements under AMLO and the relevant guideline.

Under the Deposit Protection Scheme Ordinance, the Monetary Authority is charged with the responsibility to decide on triggering of the Deposit Protection Scheme (DPS) for making compensation to depositors of a failed bank and to assist in the operation of the DPS.

The Payment Systems and Stored Value Facilities Ordinance provides a statutory regime for the Monetary Authority to designate and oversee clearing and settlement systems that are material to the monetary or financial stability of Hong Kong or to the functioning of Hong Kong as an international financial centre. It also empowers the Monetary Authority to implement a licensing regime for stored value facilities and to designate retail payment systems to ensure their operations are safe and efficient.

THE HKMA AND THE HONG KONG SPECIAL ADMINISTRATIVE REGION GOVERNMENT

The HKMA is an integral part of the Hong Kong Special Administrative Region Government, but is able to employ staff on terms different from those of the civil service in order to attract personnel of the right experience and expertise. The Chief Executive of the HKMA and his staff are public officers. In its day-to-day work the HKMA operates with a high degree of autonomy within the relevant statutory powers conferred upon, or delegated to, the Monetary Authority.

The Financial Secretary is responsible for determining the monetary policy objective and the structure of the monetary system of Hong Kong: a letter from the Financial Secretary to the Monetary Authority dated 25 June 2003 specifies that these should be currency stability defined as a stable exchange value at around HK\$7.80 to one US dollar maintained by Currency Board arrangements. The Monetary Authority is on his own responsible for achieving the monetary policy objective, including determining the strategy, instruments and operational means for doing so. He is also responsible for maintaining the stability and integrity of the monetary system of Hong Kong.

The Financial Secretary, assisted by the Secretary for Financial Services and the Treasury, has responsibility for policies for maintaining the stability and integrity of Hong Kong's financial system and the status of Hong Kong as an international financial centre. In support of these policies, the Monetary Authority's responsibilities include:

- ◆ promoting the general stability and effective working of the banking system
- ◆ promoting the development of the debt market, in co-operation with other relevant bodies
- ◆ matters relating to the issuance and circulation of legal tender notes and coins
- ◆ promoting the safety and efficiency of the financial infrastructure through the development of payment, clearing and settlement systems and, where appropriate, the operation of these systems
- ◆ seeking to promote, in co-operation with other relevant bodies, confidence in Hong Kong's monetary and financial systems, and market development initiatives to help strengthen the international competitiveness of Hong Kong's financial services.

The Exchange Fund is under the control of the Financial Secretary. The Monetary Authority, under delegation from the Financial Secretary, is responsible to the Financial Secretary for the use of the Exchange Fund, and for the investment management of the Fund.

About the HKMA

ACCOUNTABILITY AND TRANSPARENCY

The autonomy given to the HKMA in its day-to-day operations, and in the methods it uses to pursue policy objectives determined by the Government, is complemented by a high degree of accountability and transparency.

The HKMA serves Hong Kong by promoting monetary and banking stability, by managing the official reserves effectively, and by developing and overseeing a robust and diverse financial infrastructure. These processes help to strengthen Hong Kong's role as an international financial centre and to foster Hong Kong's economic well-being.

The HKMA must have the confidence of the community if it is to perform its duties well. The HKMA therefore takes seriously the duty of explaining its policies and work to the general public and makes every effort to address any concerns within the community relevant to the HKMA's responsibilities.

The HKMA is accountable to the people of Hong Kong through the Financial Secretary, who appoints the Monetary Authority, and through the laws passed by the Legislative Council that set out the Monetary Authority's powers and responsibilities. The HKMA also recognises a broader responsibility to promote a better understanding of its roles and objectives and to keep itself informed of community concerns. In its day-to-day operations and in its wider contacts with the community, the HKMA pursues a policy of

transparency and accessibility. This policy has two main objectives:

- ◆ to keep the financial industry and the public as fully informed about the work of the HKMA as possible, subject to considerations of market sensitivity, commercial confidentiality and statutory restrictions on disclosure of confidential information
- ◆ to ensure that the HKMA is in touch with, and responsive to, the community it serves.

The HKMA seeks to follow international best practices in its transparency arrangements. It maintains extensive relations with the mass media and produces a range of regular and special publications in both English and Chinese. The HKMA's bilingual website (www.hkma.gov.hk) carries a large number of HKMA publications, press releases, speeches and presentations, in addition to special sections on research, statistics, consumer information and other topics. The HKMA maintains an Information Centre at its offices, consisting of a library and an exhibition area, which is open to the public six days a week. The HKMA also organises public education programmes to inform the public, and in particular students, about the work of the HKMA through seminars and guided tours at the Information Centre. Further information on the HKMA's media work, publications and public education programmes is contained in the chapter on *Corporate Functions*.

About the HKMA

Over the years the HKMA has progressively increased the detail and frequency of its disclosure of information on the Exchange Fund and Currency Board Accounts. Since 1999 the HKMA has participated in the International Monetary Fund's Special Data Dissemination Standard project for central banks. The HKMA publishes records of meetings of the Currency Board Sub-Committee of the Exchange Fund Advisory Committee (EFAC) and the reports on Currency Board operations. The supervisory policies and guidelines on banking have been published on the website since 1996.

The relations between the HKMA and the Legislative Council play an important part in promoting accountability and transparency. There is a formal commitment from the Chief Executive of the HKMA to appear before the panel on Financial Affairs of the Legislative Council three times a year to brief Members and to answer questions on the HKMA's work. Representatives from the HKMA attend Legislative Council panel meetings from time to time to explain and discuss particular issues, and committee meetings to assist Members in their scrutiny of draft legislation.

ADVISORY AND OTHER COMMITTEES

Exchange Fund Advisory Committee

In his control of the Exchange Fund, the Financial Secretary is advised by EFAC. EFAC is established under section 3(1) of the Exchange Fund Ordinance, which requires the Financial Secretary to consult the Committee in his exercise of control of the Exchange Fund. The Financial Secretary is ex officio Chairman of EFAC. Other members, including the Monetary Authority, are appointed in a personal capacity by the Financial Secretary under the delegated authority of the Chief Executive of the Hong Kong Special Administrative Region. Members of EFAC are appointed for the expertise and experience that they can bring to the Committee. Such expertise and experience include knowledge of monetary, financial and economic affairs and of investment issues, as well as of accounting, management, business and legal matters.

EFAC is assisted in its work by five Sub-Committees, which monitor specific areas of the HKMA's work and report and make recommendations to the Financial Secretary through EFAC. The Committee held five meetings in 2016 to discuss a full range of issues relating to the work of the HKMA, most of which had been previously discussed by the relevant Sub-Committees.

About the HKMA

The *Governance Sub-Committee* monitors the performance of the HKMA and makes recommendations on remuneration and human resources policies, and on budgetary, administrative and governance issues. The Sub-Committee met six times in 2016 to consider a range of subjects including the HKMA's expenditure budget, the HKMA's performance assessment, the annual pay review and strategic planning matters. The Sub-Committee also received regular reports on the work of the HKMA.

The *Audit Sub-Committee* reviews and reports on the HKMA's financial reporting process and the adequacy and effectiveness of the internal control systems of the HKMA. The Sub-Committee reviews the HKMA's financial statements, and the composition and accounting principles adopted in such statements. It also examines and reviews with both the external and internal auditors the scope and results of their audits. None of the members of the Sub-Committee performs any executive functions in the HKMA. The Sub-Committee met two times in 2016 and received reports on the work of the Internal Audit Division.

The *Currency Board Sub-Committee* monitors and reports on the Currency Board arrangements that underpin Hong Kong's Linked Exchange Rate System. It is responsible for ensuring that Currency Board operations are in accordance with established policy, recommending improvements to the Currency Board system, and ensuring a high degree of transparency in the operation of the system. Records of the Sub-Committee's meetings and the reports on Currency Board operations submitted to the Sub-Committee are published. In 2016 the Sub-Committee met four times.

The *Investment Sub-Committee* monitors the HKMA's investment management work and makes recommendations on the investment policy and strategy of the Exchange Fund and on risk management and other related matters. The Sub-Committee held five meetings during 2016.

The *Financial Infrastructure Sub-Committee* makes recommendations on measures to further develop Hong Kong's status as an international financial centre and strengthen the international competitiveness of Hong Kong's financial services, including promoting the development, operational excellence, safety and efficiency of the financial infrastructure in Hong Kong; and promoting the development of Hong Kong as an offshore renminbi centre and fostering the development of other enabling factors. It also makes recommendations on initiatives for the HKMA and monitors the work of the HKMA. In 2016 the Sub-Committee met four times.

Brief biographies of EFAC Members and the Code of Conduct for EFAC Members can be found on the HKMA website. A Register of Members' Interests, which contains the declarations of interests by Members, is available for public inspection during 10:00 a.m. to 6:00 p.m. Monday to Friday (except public holidays) at the HKMA offices.

About the HKMA

Banking Advisory Committee

The Banking Advisory Committee is established under section 4(1) of the Banking Ordinance to advise the Chief Executive of the Hong Kong Special Administrative Region on matters relating to the Banking Ordinance, in particular matters relating to banks and the carrying on of banking business. The Committee consists of the Financial Secretary as the Chairman, the Monetary Authority, and other persons appointed by the Financial Secretary under the delegated authority of the Chief Executive of the Hong Kong Special Administrative Region.

Deposit-Taking Companies Advisory Committee

The Deposit-taking Companies Advisory Committee is established under section 5(1) of the Banking Ordinance to advise the Chief Executive of the Hong Kong Special Administrative Region on matters relating to the Banking Ordinance, in particular matters relating to deposit-taking companies and restricted licence banks and the carrying on of a business of taking deposits by them. The Committee consists of the Financial Secretary as the Chairman, the Monetary Authority, and other persons appointed by the Financial Secretary under the delegated authority of the Chief Executive of the Hong Kong Special Administrative Region.

Chief Executive's Committee

The Chief Executive's Committee comprises the Chief Executive of the HKMA, who chairs the Committee, the Deputy Chief Executives, the Senior Executive Directors and the Executive Directors of the HKMA. The Committee meets regularly to report to the Chief Executive on the progress of major tasks being undertaken by the various departments of the HKMA and to advise him on policy matters relating to the operations of the HKMA.

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE

Chairman

1 February 2017



The Honourable Paul CHAN Mo-po, GBS, MH, JP
The Financial Secretary
(from 16 January 2017)



The Honourable John TSANG Chun-wah, GBM, JP
The Financial Secretary
(until 15 January 2017)

Members



Mr Norman T.L. CHAN, GBS, JP
The Monetary Authority



Professor Lawrence J. LAU, GBS, JP
Ralph and Claire Landau Professor of Economics
The Chinese University of Hong Kong



Mr Benjamin HUNG Pi-cheng, BBS, JP
Regional Chief Executive Officer, Greater China & North Asia
Standard Chartered Bank (Hong Kong) Limited



Mr Peter WONG Tung-shun, JP
Deputy Chairman and Chief Executive
The Hongkong and Shanghai Banking Corporation Limited



Mr Carlson TONG, SBS, JP
Chairman
Securities and Futures Commission



Dr David WONG Yau-kar, BBS, JP
Managing Director
United Overseas Investments Limited

Advisory Committees



Dr LO Ka-shui, GBS, JP
Chairman and Managing Director
Great Eagle Holdings Limited



Professor Stephen CHEUNG Yan-leung, BBS, JP
President
The Education University of Hong Kong



Mrs Angelina LEE WONG Pui-ling, SBS, JP
Partner
Woo, Kwan, Lee & Lo



Mr Philip TSAI Wing-chung, JP
Chairman
Deloitte China



Mr T. Brian STEVENSON, SBS, JP



Mr Nicky LO Kar-chun, SBS, JP

Advisory Committees



Mr YUE Yi

Vice Chairman and Chief Executive
Bank of China (Hong Kong) Limited



Mr Silas YANG Siu-shun, JP



Mr Anthony CHOW Wing-kin, SBS, JP

Senior Partner
Guantao & Chow Solicitors and Notaries



Dr Moses CHENG Mo-chi, GBM, GBS, JP

Consultant

P. C. Woo & Co.
(from 1 February 2016)



Mr Lester HUANG, JP

Managing Partner
P. C. Woo & Co.
(until 29 February 2016)



Ms Teresa KO Yuk-yin, JP

Partner and China Chairman
Freshfields Bruckhaus Deringer
(until 29 February 2016)



Mr PANG Yiu-kai, GBS, JP

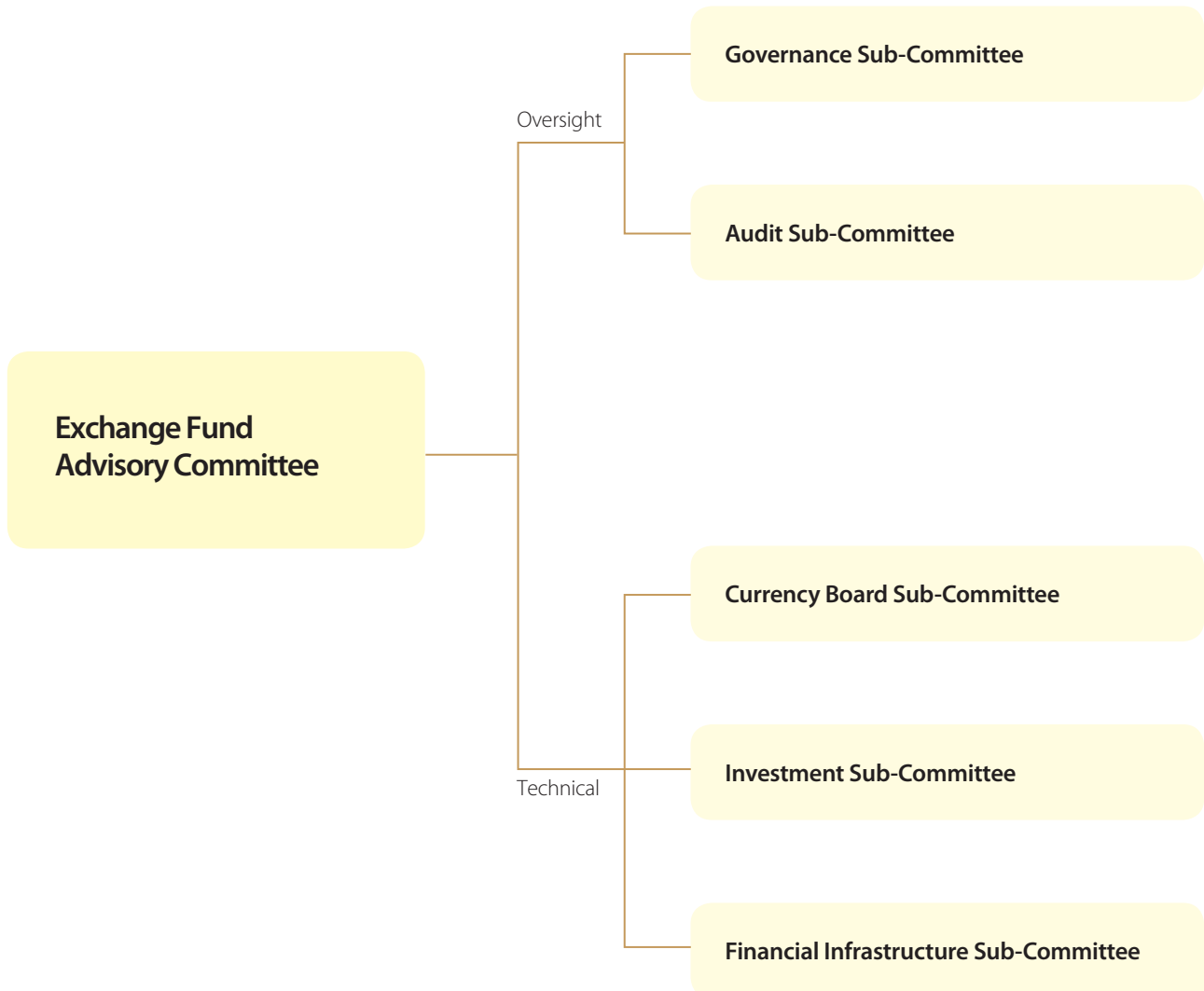
Chief Executive
Hongkong Land Holdings Limited
(until 29 February 2016)

Secretary

Ms Carrie CHAN

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE SUB-COMMITTEE STRUCTURE



Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE GOVERNANCE SUB-COMMITTEE

Chairman

Professor Lawrence J. LAU, GBS, JP
Ralph and Claire Landau Professor of Economics
The Chinese University of Hong Kong

Members

Mr Carlson TONG, SBS, JP
Chairman
Securities and Futures Commission

Dr LO Ka-shui, GBS, JP
Chairman and Managing Director
Great Eagle Holdings Limited

Mrs Angelina LEE WONG Pui-ling, SBS, JP
Partner
Woo, Kwan, Lee & Lo

Mr T. Brian STEVENSON, SBS, JP

Mr Anthony CHOW Wing-kin, SBS, JP
Senior Partner
Guantao & Chow Solicitors and Notaries

Mr Lester HUANG, JP
Managing Partner
P. C. Woo & Co.
(until 29 February 2016)

Mr PANG Yiu-kai, GBS, JP
Chief Executive
Hongkong Land Holdings Limited
(until 29 February 2016)

Dr David WONG Yau-kar, BBS, JP
Managing Director
United Overseas Investments Limited

Professor Stephen CHEUNG Yan-leung, BBS, JP
President
The Education University of Hong Kong

Mr Philip TSAI Wing-chung, JP
Chairman
Deloitte China

Mr Nicky LO Kar-chun, SBS, JP

Dr Moses CHENG Mo-chi, GBM, GBS, JP
Consultant
P. C. Woo & Co.
(from 1 February 2016)

Ms Teresa KO Yuk-yin, JP
Partner and China Chairman
Freshfields Bruckhaus Deringer
(until 29 February 2016)

Mr Silas YANG Siu-shun, JP
(until 14 April 2016)

Secretary

Ms Carrie CHAN

Advisory Committees

Terms of Reference

- (1) To monitor the performance of the HKMA in carrying out its functions and responsibilities and in its use of resources, and to formulate recommendations to the Financial Secretary through the Exchange Fund Advisory Committee on
 - (a) the remuneration and human resources policies of the HKMA;
 - (b) remuneration for HKMA staff, taking account of the Sub-Committee's assessment of the quality and effectiveness of the HKMA's work; and
 - (c) the use of resources of the HKMA, including its annual administrative budget.
- (2) To consider recommendations and provide advice to the Financial Secretary on the appointment and dismissal of staff at the level of Executive Director and above.
- (3) To keep under review the governance arrangements for the HKMA and to make recommendations to the Financial Secretary through Exchange Fund Advisory Committee as appropriate.

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE AUDIT SUB-COMMITTEE

Chairman

Mr Carlson TONG, SBS, JP
Chairman
Securities and Futures Commission

Members

Mr Philip TSAI Wing-chung, JP
Chairman
Deloitte China

Mr T. Brian STEVENSON, SBS, JP

Mrs Angelina LEE WONG Pui-ling, SBS, JP
Partner
Woo, Kwan, Lee & Lo

Mr Silas YANG Siu-shun, JP

Secretary

Ms Carrie CHAN

Advisory Committees

Terms of Reference

- (1) The objectives of the Audit Sub-Committee are as follows:
 - (a) to help Members of the Exchange Fund Advisory Committee to discharge their responsibilities for ensuring the proper and smooth running of the HKMA operations and management of the Exchange Fund;
 - (b) to consider any matters relating to the financial affairs of the HKMA and the internal and external audit of the HKMA's financial statements as the Sub-Committee may think necessary or desirable;
 - (c) to encourage higher quality accounting and audit and provide more credible and objective financial reporting of the HKMA; and
 - (d) to consider any other matters referred to it by the Committee; and to report on all such matters to the Committee.
- (2) The functions of the Sub-Committee include, but are not restricted to, the following:
 - (a) reviewing the HKMA's financial statements, the composition and accounting principles adopted in such statements, whether these are intended to be audited or published or not;
 - (b) advising on the form and content of the financial statements of the HKMA;
 - (c) examining and reviewing with both the external and internal auditors the scope and results of their audits;
 - (d) reviewing the findings, recommendations or criticisms of the auditors, including their annual management letter and management's response;
 - (e) reviewing the HKMA's management procedures to ensure the effectiveness of internal systems of accounting and control, and management's efforts to correct deficiencies discovered in audits; and
 - (f) initiating investigations or audit reviews into any activities of the HKMA which may be of concern or interest to the Sub-Committee.
- (3) Authority

The Sub-Committee shall be entitled to obtain any information it requires from any member or employee of the HKMA, and all such members and employees shall be instructed to assist the Sub-Committee to the fullest extent possible. The Sub-Committee may also take such independent legal or other professional advice as it considers necessary. The Sub-Committee shall have no executive powers as regards its findings and recommendations.
- (4) Meetings

The Sub-Committee shall meet at least twice a year. The Secretary to the Exchange Fund Advisory Committee shall attend its meetings and take minutes, copies of which shall be circulated to the Committee. The Chief Executive of the HKMA shall be entitled to attend the Sub-Committee's meetings. In all other respects, the Sub-Committee shall decide its own procedures.

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE CURRENCY BOARD SUB-COMMITTEE

Chairman

Mr Norman T.L. CHAN, GBS, JP

The Monetary Authority

Members

Mr Eddie YUE, JP

Deputy Chief Executive
Hong Kong Monetary Authority

Mr Peter PANG, JP

Deputy Chief Executive
Hong Kong Monetary Authority
(until 25 February 2016)

Dr John GREENWOOD

Group Chief Economist
INVESCO Asset Management Limited

Dr David WONG Yau-kar, BBS, JP

Managing Director
United Overseas Investments Ltd

Professor LIN Chen

Chair of Finance and Stelux Professor in Finance
Faculty of Business and Economics
The University of Hong Kong
(from 1 January 2017)

Mr YUE Yi

Chairperson
The Hong Kong Association of Banks
(from 1 January 2017)

Mr KWOK Kwok-chuen, BBS, JP

Honorary Senior Research Fellow
School of Economics and Finance
The University of Hong Kong
(until 31 December 2016)

Ms May TAN Siew-boi

Chairperson
The Hong Kong Association of Banks
(until 31 December 2016)

Secretary

Ms Carrie CHAN**Mr Arthur YUEN, JP**

Deputy Chief Executive
Hong Kong Monetary Authority

Mr Howard LEE, JP

Senior Executive Director
Hong Kong Monetary Authority
(from 26 February 2016)

Professor Lawrence J. LAU, GBS, JP

Ralph and Claire Landau Professor of Economics
The Chinese University of Hong Kong

Dr PENG Wensheng

Global Chief Economist and Head of Research
Everbright Securities Limited

Professor CHEUNG Yin-wong

Hung Hing Ying Chair Professor of International Economics
Department of Economics and Finance
City University of Hong Kong
(from 1 January 2017)

Professor Stephen CHEUNG Yan-leung, BBS, JP

President
The Education University of Hong Kong
(until 31 August 2016)

Professor XIE Danyang

Professor
Department of Economics
The Hong Kong University of Science and Technology
(until 31 December 2016)

Advisory Committees

Terms of Reference

- (1) To ensure that the operation of the Currency Board arrangements in Hong Kong is in accordance with the policies determined by the Financial Secretary in consultation with the Exchange Fund Advisory Committee.
- (2) To report to the Financial Secretary through the Exchange Fund Advisory Committee on the operation of the Currency Board arrangements in Hong Kong.
- (3) To recommend, where appropriate, to the Financial Secretary through the Exchange Fund Advisory Committee, measures to enhance the robustness and effectiveness of the Currency Board arrangements in Hong Kong.
- (4) To ensure a high degree of transparency in the operation of the Currency Board arrangements in Hong Kong through the publication of relevant information on the operation of such arrangements.
- (5) To promote a better understanding of the Currency Board arrangements in Hong Kong.

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE INVESTMENT SUB-COMMITTEE

Chairman

Mr Norman T.L. CHAN, GBS, JP
The Monetary Authority

Members

Mr Eddie YUE, JP
Deputy Chief Executive
Hong Kong Monetary Authority

Dr LO Ka-shui, GBS, JP
Chairman and Managing Director
Great Eagle Holdings Limited

Mr T. Brian STEVENSON, SBS, JP

Professor Lawrence J. LAU, GBS, JP
Ralph and Claire Landau Professor of Economics
The Chinese University of Hong Kong

Mr Nicky LO Kar-chun, SBS, JP
(from 18 July 2016)

Mr Lester HUANG, JP
Managing Partner
P. C. Woo & Co.
(until 29 February 2016)

Mr PANG Yiu-kai, GBS, JP
Chief Executive
Hongkong Land Holdings Limited
(until 29 February 2016)

Mr Benjamin HUNG Pi-cheng, BBS, JP
Regional Chief Executive Officer
Greater China & North Asia
Standard Chartered Bank (Hong Kong) Limited

Mrs Angelina LEE WONG Pui-ling, SBS, JP
Partner
Woo, Kwan, Lee & Lo

Mr Silas YANG Siu-shun, JP

Dr David WONG Yau-kar, BBS, JP
Managing Director
United Overseas Investments Limited

Mr Peter WONG Tung-shun, JP
Deputy Chairman and Chief Executive
The Hongkong and Shanghai Banking Corporation Limited
(until 31 January 2016)

Ms Teresa KO Yuk-yin, JP
Partner and China Chairman
Freshfields Bruckhaus Deringer
(until 29 February 2016)

Secretary

Ms Carrie CHAN

Advisory Committees

Terms of Reference

- (1) To monitor the investment management work of the HKMA.
 - (a) the investment benchmark for the Exchange Fund;
 - (b) the investment policy and risk management of the Fund;
 - (c) the investment strategy for the Fund; and
 - (d) any other matters referred to the Sub-Committee in connection with the investment management of the Exchange Fund.
- (2) To make recommendations to the Financial Secretary, through the Exchange Fund Advisory Committee, on

Advisory Committees

THE EXCHANGE FUND ADVISORY COMMITTEE FINANCIAL INFRASTRUCTURE SUB-COMMITTEE

Chairman

Mr Norman T.L. CHAN, GBS, JP
The Monetary Authority

Members

Mr Eddie YUE, JP
Deputy Chief Executive
Hong Kong Monetary Authority

Mr Peter PANG, JP
Deputy Chief Executive
Hong Kong Monetary Authority
(until 25 February 2016)

Mr Howard LEE, JP
Senior Executive Director
Hong Kong Monetary Authority
(from 26 February 2016)

Ms Anita FUNG Yuen-mei, BBS, JP
Director
Hong Kong Exchanges and Clearing Limited

Mr Lawrence LAM Yuk-kun
Senior Advisor, Greater China
National Australia Bank

Mr LAU Ming-wai, BBS, JP
Chairman
Chinese Estates Holdings Limited

Mr TSE Kam-keung
Chief Executive Officer
Tradelink Electronic Commerce Limited

Mr Jack CHEUNG Tai-keung
Chief Executive Officer
Treasury Markets Association

Mrs Ayesha MACPHERSON LAU, JP
Head of Local Market
Head of Tax
KPMG

Mr Vincent CHUI Yik-chiu
Chief Executive
Morgan Stanley Asia International Limited

Ms DING Chen
Chief Executive Officer
CSOP Asset Management Limited

Mr Harold WONG Tsu-hing
Managing Director and Chief Executive
Dah Sing Banking Group Limited

Mr Joseph NGAI
Senior Partner and Managing Partner, Hong Kong
McKinsey & Company, Inc. Hong Kong

Professor Kalok CHAN
Dean, CUHK Business School
Wei Lun Professor of Finance
The Chinese University of Hong Kong

Ms Jacqueline LEUNG
President & Managing Director
Leighton Textiles Co., Ltd.
Leighton Investments Ltd.

Secretary

Ms Carrie CHAN

Advisory Committees

Terms of Reference

- (1) To recommend to the Financial Secretary through the Exchange Fund Advisory Committee measures to further develop Hong Kong's status as an international financial centre and strengthen the international competitiveness of Hong Kong's financial services, including –
 - (a) measures to promote the development, operational excellence, safety and efficiency of the financial infrastructure in Hong Kong, particularly payment and settlement arrangements;
 - (b) measures to promote the development of Hong Kong as an offshore renminbi centre;
 - (c) measures to foster the development of other enabling factors that would help enhance the competitiveness of Hong Kong's financial services; and
 - (d) initiatives for the HKMA, in discharging its responsibilities for maintaining the stability and integrity of the monetary and financial systems of Hong Kong, to promote the development of the financial infrastructure and financial markets in Hong Kong under (a) to (c) above.
- (2) To monitor the work of the HKMA in relation to the initiatives identified in (1) above.

Advisory Committees

THE BANKING ADVISORY COMMITTEE

1 February 2017

Chairman

The Honourable Paul CHAN Mo-po, GBS, MH, JP
The Financial Secretary
(from 16 January 2017)

The Honourable John TSANG Chun-wah, GBM, JP
The Financial Secretary
(until 15 January 2017)

Ex Officio Member

Mr Norman T.L. CHAN, GBS, JP
The Monetary Authority

Members

Professor the Honourable K C CHAN, GBS, JP
Secretary for Financial Services and the Treasury

Mr YUE Yi
Vice Chairman and Chief Executive
Bank of China (Hong Kong) Limited
Representing Bank of China (Hong Kong) Limited

Ms May TAN
Chief Executive Officer
Standard Chartered Bank (Hong Kong) Limited
Representing Standard Chartered Bank (Hong Kong) Limited

Ms Diana CESAR
Group General Manager
Chief Executive, Hong Kong
The Hongkong and Shanghai Banking Corporation Limited
Representing The Hongkong and Shanghai Banking Corporation Limited
(from 1 December 2016)

Mr Carlson TONG, SBS, JP
Chairman
Securities and Futures Commission
Representing Securities and Futures Commission

The Honourable CHAN Chun-ying
Member
Legislative Council
(from 1 December 2016)

Mr Toshihide MOTOSHITA
Executive Officer
Regional Head for Hong Kong and General Manager
The Bank of Tokyo-Mitsubishi UFJ, Limited
Hong Kong Branch

Mr Peter LO Chi-wai
Chief Country Officer, Hong Kong
Deutsche Bank AG
(from 1 December 2016)

Ms KWANG Kam-shing
Managing Director
Senior Country Officer, Hong Kong
J.P. Morgan
(from 1 December 2016)

Ms Helen WONG Pik-kuen
Group General Manager
Chief Executive, Greater China
The Hongkong and Shanghai Banking Corporation Limited
Representing The Hongkong and Shanghai Banking Corporation Limited
(until 30 November 2016)

The Honourable NG Leung-sing, SBS, JP
Member
Legislative Council
(until 30 November 2016)

Mrs Kathryn SHIH
CEO Wealth Management Asia Pacific
Group Managing Director
UBS AG
(until 30 November 2016)

Mr Weber LO Wai-pak
Country Officer and Chief Executive Officer
Hong Kong and Macau
Citibank, N.A.
(until 30 November 2016)

Secretary

Ms Jasmin FUNG

Advisory Committees

THE DEPOSIT-TAKING COMPANIES ADVISORY COMMITTEE

1 February 2017

Chairman

The Honourable Paul CHAN Mo-po, GBS, MH, JP
The Financial Secretary
(from 16 January 2017)

The Honourable John TSANG Chun-wah, GBM, JP
The Financial Secretary
(until 15 January 2017)

Ex Officio Member

Mr Norman T.L. CHAN, GBS, JP
The Monetary Authority

Members

Professor the Honourable K C CHAN, GBS, JP
Secretary for Financial Services and the Treasury

Mr LEE Huat-oon
Acting Chairman
The DTC Association (The Hong Kong Association of
Restricted Licence Banks and Deposit-taking Companies)
Representing The DTC Association

Ms Gilly WONG Fung-han
Chief Executive
Consumer Council
Representing the Consumer Council

Dr the Honourable Elizabeth QUAT, JP
Member
Legislative Council
(from 1 December 2016)

Mr Vincent CHUI Yik-chiu
Chief Executive
Morgan Stanley Asia International Limited

Mr Andy POON Shiu-chung
Chief Executive
Scotiabank (Hong Kong) Limited
(from 1 December 2016)

Mr Jack CHAN Hoi
Managing Director, Financial Services
Greater China
EY
(from 1 December 2016)

The Honourable CHAN Kam-lam, SBS, JP
Member
Legislative Council
(until 30 November 2016)

Ms Joan HO Yuk-wai
Partner
Financial Services
KPMG
(until 30 November 2016)

Ms Rebecca CHAN Sze-oi
Executive General Manager
Assets & Liabilities
Personal & Business Banking Group
China CITIC Bank International Limited
(until 30 November 2016)

Secretary

Ms Jasmin FUNG

Chief Executive's Committee

1 April 2017



Norman T.L. CHAN, GBS, JP
Chief Executive



Eddie YUE, JP
Deputy Chief Executive



Arthur YUEN, JP
Deputy Chief Executive



Peter PANG, JP
Deputy Chief Executive
(until 25 February 2016)



Howard LEE, JP
Senior Executive Director
(from 26 February 2016)
Executive Director (Monetary Management)
(until 25 February 2016)



Raymond LI, JP
Senior Executive Director
(from 26 February 2016)
Chief Executive Officer
Hong Kong Mortgage Corporation

Chief Executive's Committee



Stefan GANNON, JP
Commissioner, Resolution Office
(from 1 April 2017)
General Counsel
(until 31 March 2017)



Francis CHU, JP
Executive Director (Reserves Management)



Karen KEMP, JP
General Counsel
(from 1 April 2017)
Executive Director (Banking Policy)
(until 31 March 2017)



Meena DATWANI, JP
Executive Director (Enforcement and AML)



Carmen CHU, JP
Executive Director (Banking Conduct)



Vincent LEE, JP
Executive Director (External)

Chief Executive's Committee



Henry CHENG, JP
Executive Director (Monetary Management)
(from 26 February 2016)
Executive Director (Banking Supervision)
(until 25 February 2016)



Darryl CHAN, JP
Executive Director (Corporate Services)



Grace LAU, JP
Executive Director (Risk and Compliance)



Lillian CHEUNG, JP
Executive Director (Research)



Raymond CHAN
Executive Director (Banking Supervision)
(from 26 February 2016)



LI Shu-pui
Executive Director (Financial Infrastructure)
(from 7 August 2016)



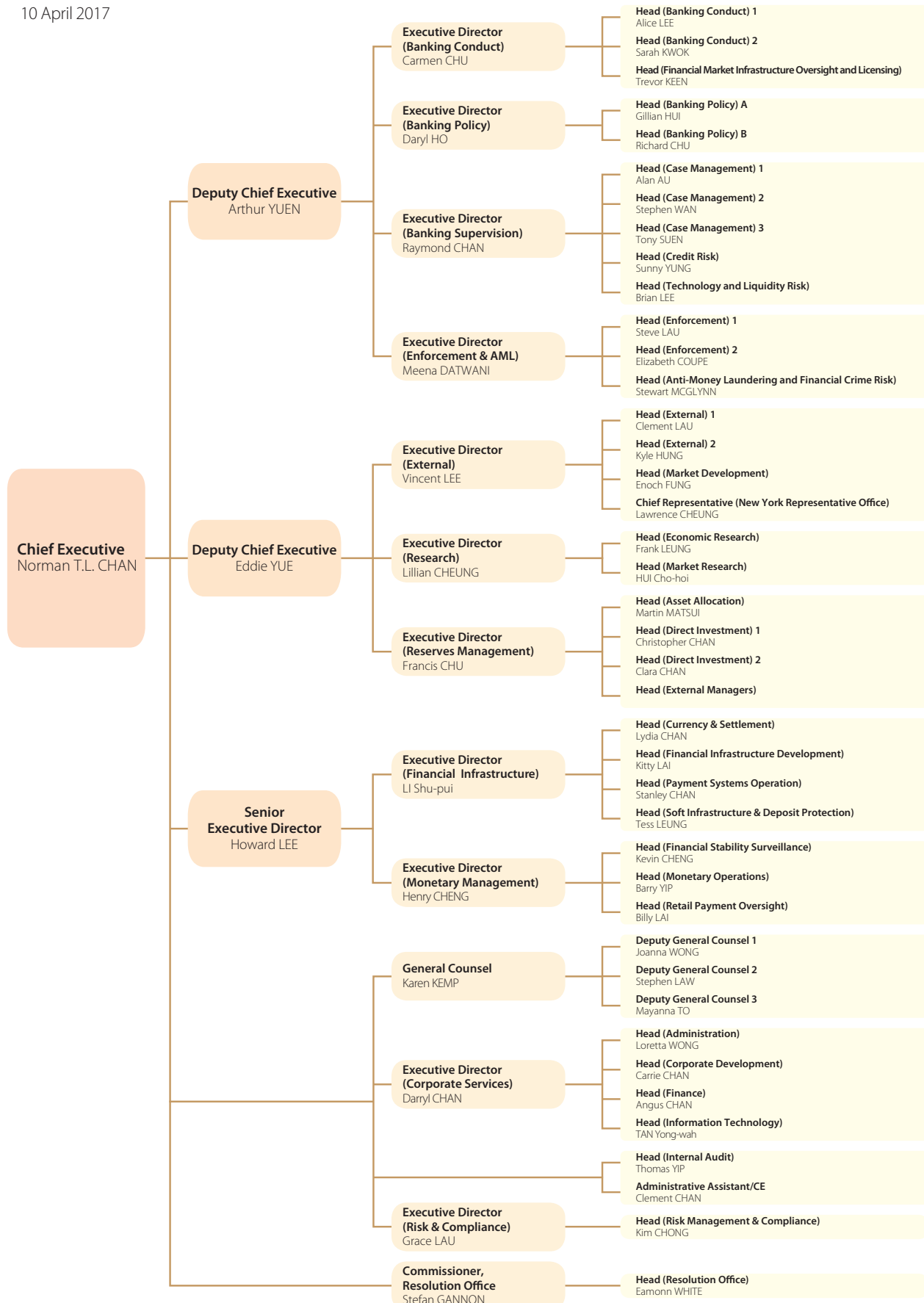
Daryl HO
Executive Director (Banking Policy)
(from 1 April 2017)



Esmond LEE, JP
Executive Director (Financial Infrastructure)
(until 6 August 2016)

HKMA Organisation Chart

10 April 2017



Economic and Financial Environment

Hong Kong's economic growth softened in 2016 alongside subdued global economic and trade activities. Economic growth for 2017 is expected to remain moderate amid heightened uncertainties surrounding the external environment.

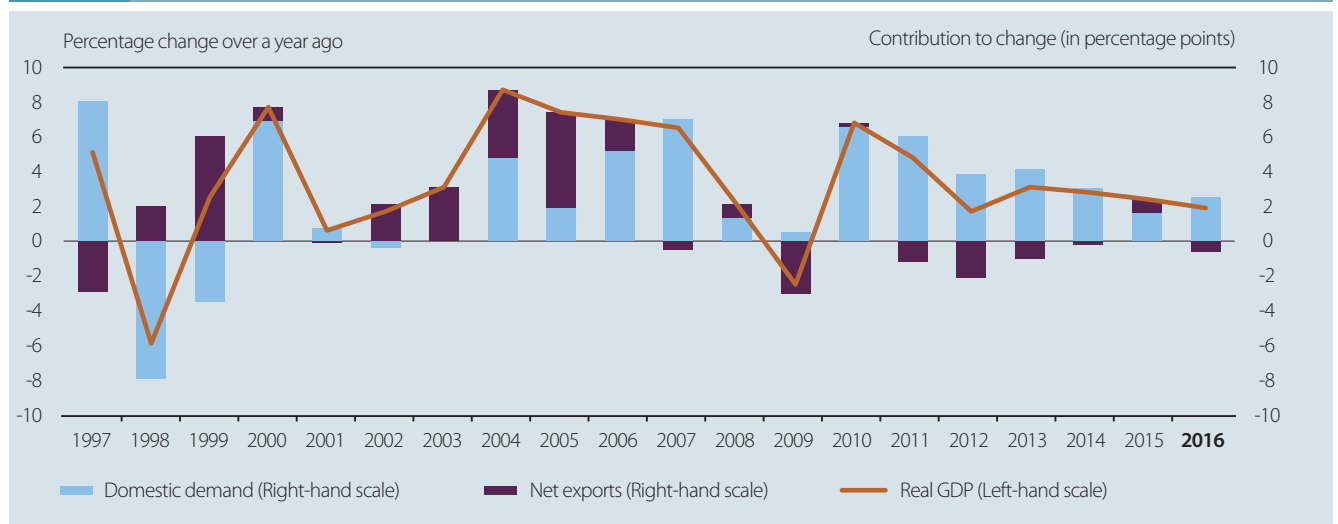
THE ECONOMY IN REVIEW

Overview

The Hong Kong economy grew at a slower pace in 2016 with real Gross Domestic Product (GDP) growth declining to 1.9% from 2.4% in 2015 (Table 1). Net exports were the main drag, weighed down by exports of services alongside weak inbound tourism (Chart 1). Domestic demand also showed slackened momentum, although it continued to provide the major support to overall GDP growth. The labour market remained broadly stable with the unemployment rate staying low at 3.3–3.4%. Consumer price inflation moderated further, attributable to easing pressures on domestic costs and external prices. Amid a volatile external environment and shifts in market sentiments, the asset markets recorded more fluctuations. In view of the renewed buoyancy in the residential property market, the Government introduced a new stamp duty measure in November.

The local foreign exchange and money markets continued to operate smoothly despite a turbulent external environment and higher US dollar interest rates. After some easing in January, the Hong Kong dollar spot exchange rate hovered near 7.75 thereafter. The Convertibility Undertakings were not triggered during the year, and the Aggregate Balance and the outstanding Exchange Fund paper combined remained virtually unchanged at around HK\$1,200 billion. Following the US rate hike in mid-December, the HKMA Base Rate was adjusted upward from 0.75% to 1%. While remaining at relatively low levels, the Hong Kong dollar interbank interest rates and longer-dated bond yields picked up towards the end of the year, partly reflecting the movements in their US dollar counterparts. Total bank loans grew at a faster rate of 6.5% in 2016. Although the overall loan quality weakened slightly, the classified loan ratios were still very low.

Chart 1 Real GDP growth by contribution



Source: Census and Statistics Department.

Economic and Financial Environment

Table 1 Real GDP growth by expenditure component (period-over-period)

(%Period-over-period, unless otherwise specified)	2016					2015				
	Q1	Q2	Q3	Q4	2016	Q1	Q2	Q3	Q4	2015
Gross Domestic Product	-0.3	1.4	0.8	1.2	1.9	0.6	0.7	0.6	0.1	2.4
(year-on-year growth)	1.0	1.7	2.0	3.1		2.3	3.1	2.3	1.9	
Private consumption expenditure	0.2	0.6	0.9	1.5	1.6	1.4	1.8	0.0	-0.4	4.8
Government consumption expenditure	0.9	0.9	0.5	1.0	3.3	1.1	0.7	0.6	0.9	3.5
Gross domestic fixed capital formation	-	-	-	-	-0.5	-	-	-	-	-3.2
Exports										
Exports of goods	-2.4	2.8	0.7	3.9	1.7	-0.1	-3.0	0.7	1.6	-1.7
Exports of services	-1.1	-0.3	1.6	1.2	-3.1	1.1	-0.1	-1.9	-2.5	0.3
Imports										
Imports of goods	-3.7	3.5	1.8	4.0	1.0	-1.7	-2.8	-0.6	1.8	-2.7
Imports of services	1.5	-1.0	-0.3	1.6	1.9	2.4	1.8	-0.1	0.6	5.1
Overall trade balance (% of GDP)	2.0	-3.1	5.6	3.1	2.0	0.2	-4.3	8.3	4.6	2.4

Note: The seasonally adjusted quarter-on-quarter rates of change in the gross domestic fixed capital formation are not available.

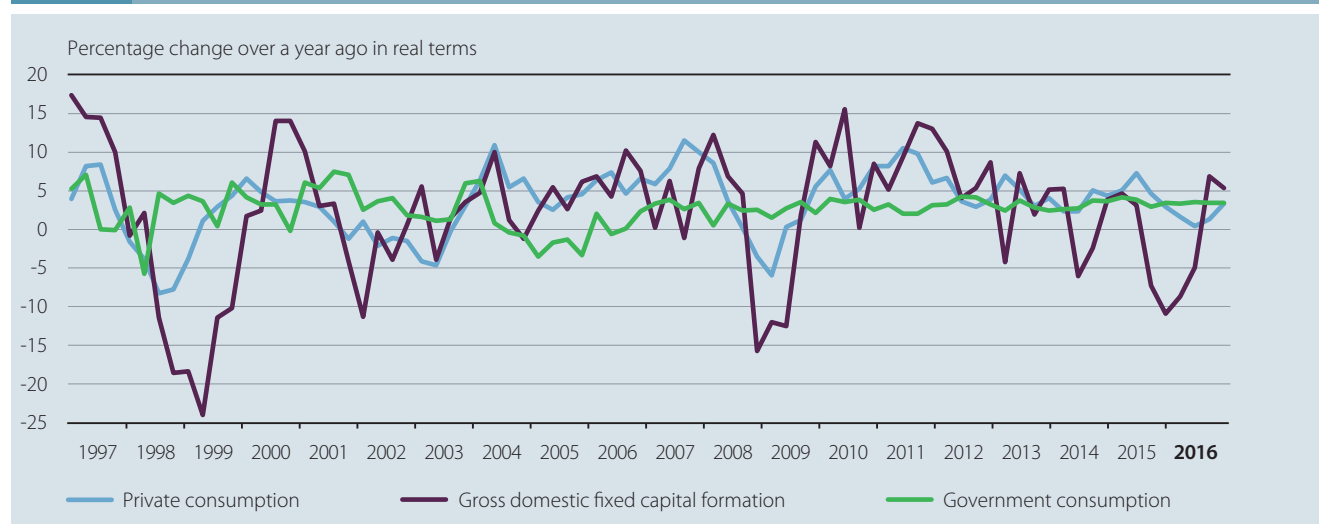
Source: Census and Statistics Department.

Domestic demand

Domestic demand showed moderated momentum in 2016. Despite the continued support from stable employment and earnings conditions, growth in private consumption slowed to 1.6%, partly reflecting heightened economic uncertainty. Government consumption also increased at a slightly slower rate of 3.3%. Gross domestic fixed capital formation continued

to display large quarterly swings (Chart 2), culminating in a full-year contraction of 0.5%. The drag came mainly from private-sector machinery and equipment acquisition, which contracted for the third straight year amid unfavourable business prospects, while building and construction activities strengthened, along with the increase in housing commencement.

Chart 2 Domestic demand



Source: Census and Statistics Department.

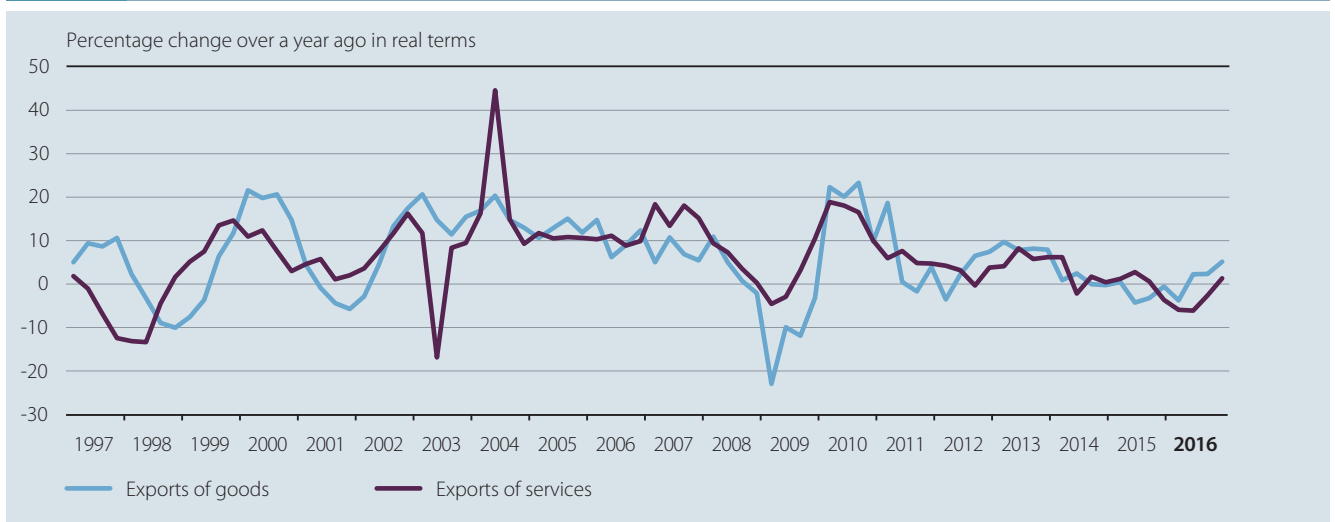
Economic and Financial Environment

External demand

Despite some signs of stabilisation towards the end of 2016, Hong Kong's export performance remained lacklustre for the year (Chart 3).¹ Exports of goods increased by 1.7% from a low base in 2015. Exports to the advanced economies remained sluggish, while exports to Mainland China, India, South Korea, Singapore and Taiwan performed relatively better compared to 2015, along with a stabilisation of regional trade flows.

Partly reflecting the normalisation of retail sales from the extraordinary growth in earlier years, Hong Kong's exports of services contracted markedly by 3.1% in 2016. Imports of goods recouped some ground after a contraction in 2015, and imports of services grew further, owing in part to residents' interest to travel overseas. On a net basis, overall trade surplus shrank in 2016, making a negative contribution to GDP growth.

Chart 3 Exports of goods and services



Source: Census and Statistics Department.

¹ The change of ownership principle was adopted in recording trade in goods and services. More details can be found in *Gross Domestic Product (Quarterly), Fourth Quarter 2016* published by the Census and Statistics Department.

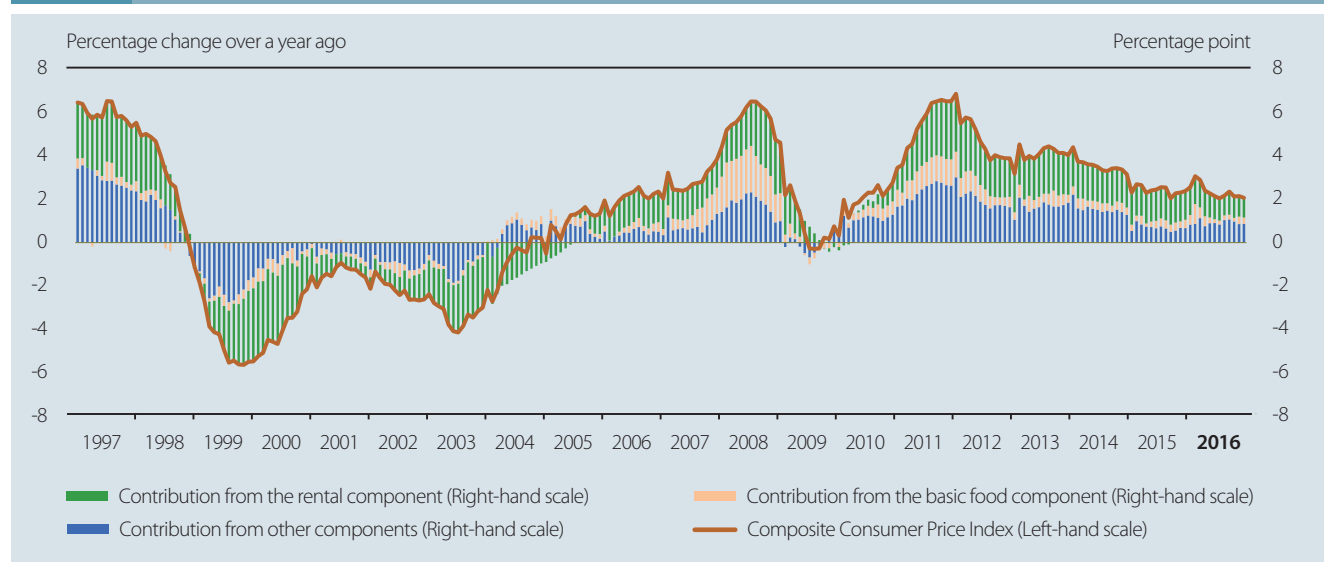
Economic and Financial Environment

Inflation

Inflationary pressures remained contained in 2016. After netting out the effects of the Government's one-off relief measures, the underlying inflation rate edged down to 2.3% in 2016 from 2.5% in 2015 (Chart 4). The inflation of the Composite Consumer Price Index (CCPI) rental component eased amid the feed-through of the earlier decline in fresh-

letting private residential rentals. Import price inflation was restrained by soft global commodity prices and the strong Hong Kong dollar. Meanwhile, domestic cost pressures stayed moderate along with the steady growth in labour costs, as well as softened rental cost pressures, particularly in the retail segment.

Chart 4 Underlying consumer price inflation



Source: Census and Statistics Department.

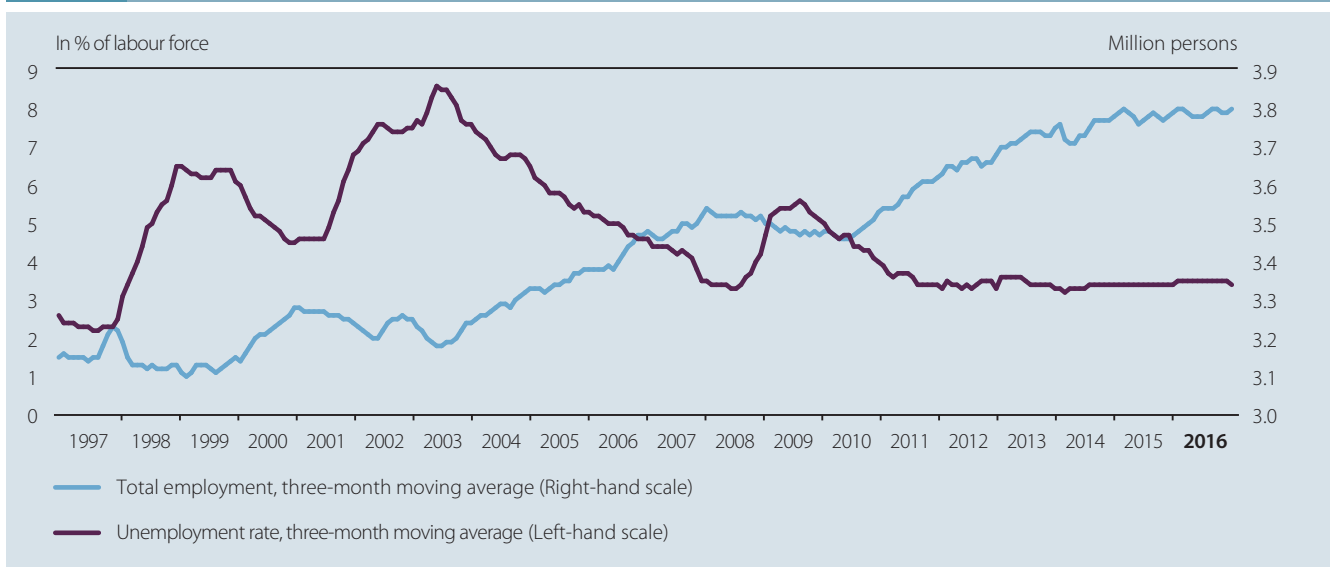
Economic and Financial Environment

Labour market

Labour market conditions remained broadly stable in 2016, with labour supply and demand growing at a similar pace. Analysed by sector, labour market conditions in the tourism-related sectors worsened, while those in other sectors were largely stable. Overall, the seasonally adjusted unemployment

rate edged up slightly to 3.4% from 3.3% in 2015 (Chart 5). Given the stable labour market, labour earnings in nominal terms rose by 3.8% in the first three quarters, compared with 4.6% in 2015. Real labour earnings also rose by 0.9% in the first three quarters, compared with an increase of 1.5% in 2015.

Chart 5 Labour market conditions



Source: Census and Statistics Department.

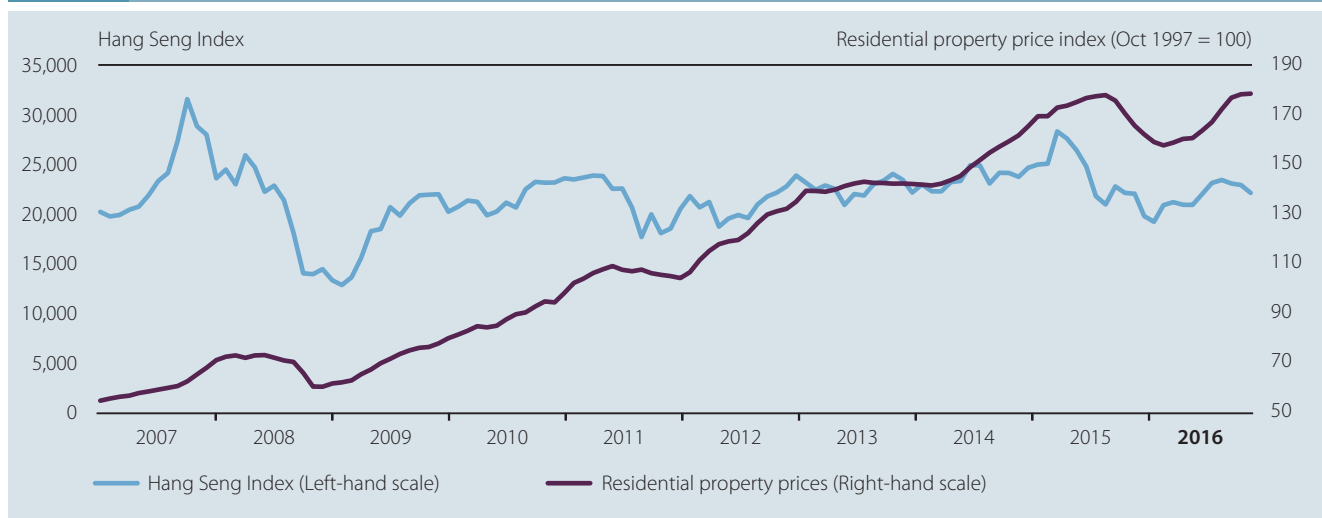
Economic and Financial Environment

Stock market

The Hong Kong stock market was volatile in 2016. The Hang Seng Index fell to a three-year low in February amid depreciation pressure in the renminbi and turbulence in the Mainland equity market (Chart 6). The local stock market recovered in March along with the solid gains in the US and other major stock markets. Although the UK's referendum on Brexit triggered market volatilities, sentiments improved quickly amid expectation of more gradual rate hikes by the US Federal Reserve and monetary easing in other major

central banks. The Hang Seng Index climbed to a year-high of 24,100 in September. However, the local stock market came under pressure again in the last quarter in response to the outcome of the US presidential election and expectations of a faster pace of US rate hikes. Overall, the Hang Seng Index picked up slightly by 0.4% in 2016 following a fall of 7.2% in 2015. The average daily turnover declined to HK\$66.9 billion from HK\$105.6 billion in the previous year, and the overall equity fund raised from the local market contracted to HK\$490.1 billion from HK\$1,115.6 billion a year earlier.

Chart 6 Asset prices



Sources: Rating and Valuation Department and Hong Kong Exchanges and Clearing Limited.

Property market

The residential property market experienced some volatility in 2016. After registering a record low in the first quarter, transaction volume picked up in subsequent months before declining again after the introduction of a new stamp duty measure in November. Overall, transaction volume fell slightly from a year ago to 54,701 units in 2016. Meanwhile, housing prices have increased since the second quarter, surpassing the peak in September 2015 and bringing the cumulative increase in 2016 to 7.8% (Chart 6). Housing affordability remained stretched, with a price-to-income ratio of 15.9, higher than the previous peak in 1997, and an income-gearing ratio of 72.0%, far above its long-term average.² After some decreases due to the offering of competitive mortgage

plans by banks, mortgage rates picked up somewhat towards the end of the year, along with the increase in Hong Kong Interbank Offered Rates (HIBORs). As for the commercial and industrial property markets, trading activities remained broadly stable throughout the year. With non-residential property prices below their peak in 2015, the corresponding rental yields edged up from a year earlier, though remaining at low levels.

² The price-to-income ratio measures the average price of a typical 50 square-metre flat relative to the median annual income of households living in private housing, from a potential home buyer's perspective. The income-gearing ratio compares the mortgage payment for a typical flat of 50 square metres (under a 20-year mortgage scheme with a 70% loan-to-value ratio) to the median income of households living in private housing, from a potential home buyer's perspective. The income-gearing ratio is not the same as a borrower's actual debt-servicing ratio, which is subject to a maximum cap by the HKMA prudential measures.

Economic and Financial Environment

OUTLOOK FOR THE ECONOMY

Economic environment

Real GDP growth for 2017 is anticipated to remain moderate. The Government forecasts growth in the range of 2–3%, while private-sector analysts project the economy to expand at an average rate of 2.0%. Externally, global economic and trade growth may remain moderate amid increased uncertainty in the global macro-financial environment. This, coupled with the appreciation of the Hong Kong dollar real exchange rate due to the US dollar strength, would restrain Hong Kong's export performance. Domestically, private consumption is expected to grow moderately, supported by stable employment and earnings conditions, while dragged by rising interest rates. Building and construction activities should progress steadily on the back of rising housing supply and infrastructure projects in the pipeline, but weak business sentiment and a pick-up in interest rates will weigh on business capital spending.

Inflation and the labour market

Inflationary pressures are expected to remain moderate in 2017. While higher global commodity prices and inflation in Mainland China could increase import prices, the strengthening of the Hong Kong dollar could keep such pressures in check. Domestic cost pressures will likely remain contained amid moderate economic momentum, but the inflation of the CCPI rental component may pick up somewhat amid the increase in fresh-letting housing rentals in early 2017. Market consensus forecasts the headline inflation rate at 1.9% in 2017, and the Government projects the underlying inflation rate at 2.0%. While heightened uncertainties could weigh on hiring sentiments, private-sector analysts expect the unemployment rate to stay at 3.4% in 2017.

Uncertainties and risks

The economic outlook for 2017 is subject to heightened uncertainties, particularly from the external environment. Policy uncertainties surrounding the new US administration will cloud the global economic outlook, while potential protectionist policies will pose headwinds to global trade flows. The Brexit process and national elections in several major European countries may also result in asset market volatilities and could affect the directions of Hong Kong dollar fund flows. Moreover, the US interest rate normalisation will tighten domestic monetary conditions and pose downward pressure on both the real economy and asset prices. In particular, the property market continues to be stretched and the market outlook remains highly uncertain. In the near term, the still-low mortgage interest rates, stable job and income conditions and the release of pent-up demand amid increased incentives offered by property developers such as discounts and cash rebates could render support to housing demand. On the other hand, the new stamp duty measure, possible pick-up in the pace of US rate hikes and the steady catch-up in housing supply may continue to pose headwinds to the housing market.

Economic and Financial Environment

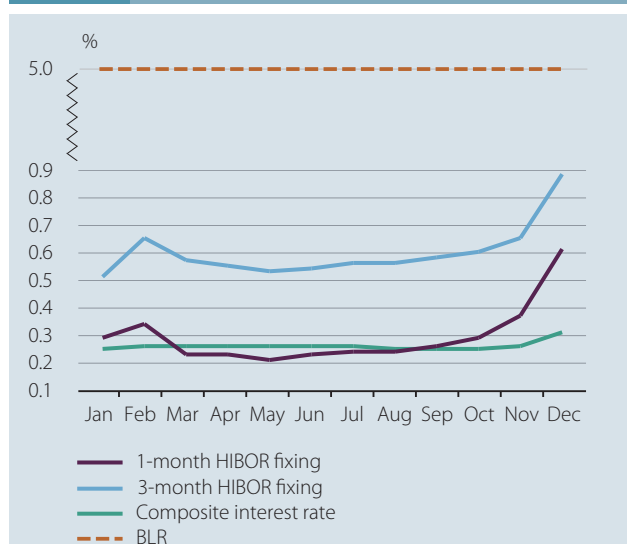
PERFORMANCE OF THE BANKING SECTOR

The Hong Kong banking sector remained safe and sound in 2016 despite headwinds facing the local economy and increased market volatilities caused by unexpected outcome of political events overseas. The capital and liquidity positions of authorized institutions (AIs) continued to be strong. Asset quality deteriorated slightly, but is still at a healthy level.

Interest rate trends

In tandem with a rise in US interest rates, HIBORs increased notably in November and December. The Hong Kong-dollar funding cost of retail banks, as measured by the composite interest rate, increased modestly (Chart 7).

Chart 7 HIBOR fixings, composite interest rate and best lending rate (BLR)



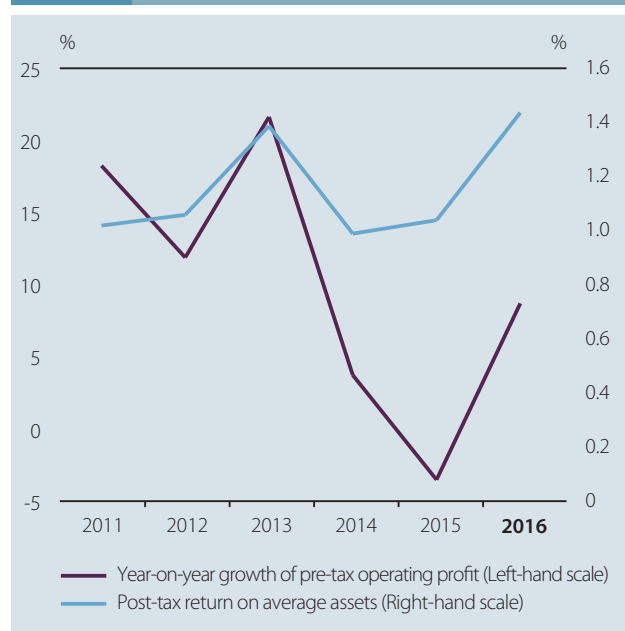
Notes:

1. HIBOR fixings (monthly averages) refer to the Hong Kong Interbank Offered Rates released by the Hong Kong Association of Banks.
2. BLR (monthly averages) refers to the best lending rate quoted by the Hongkong and Shanghai Banking Corporation Limited.

Profitability trends

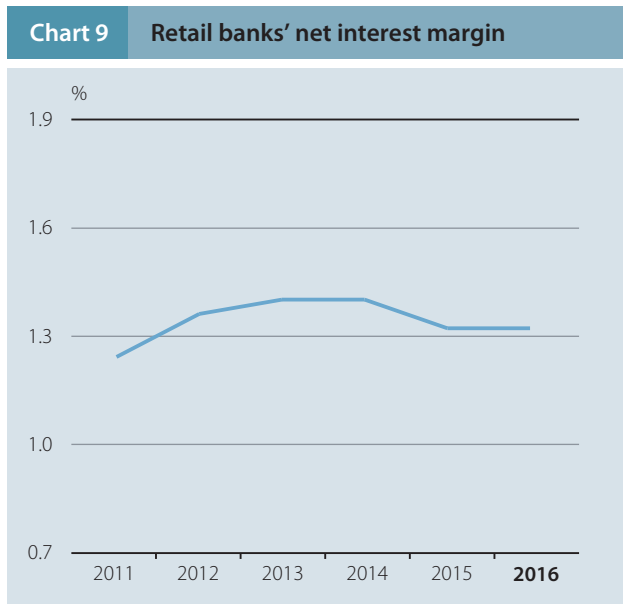
The profitability of retail banks improved slightly in 2016 with the aggregate pre-tax operating profits of their Hong Kong offices growing by 8.7%. The growth was mainly driven by increases in income from foreign exchange and derivatives operations (+39.7%), dividends received from subsidiaries (+123.5%) and net interest income (+2.8%). The increases were partly offset by an 11.3% fall in fee and commission income. The post-tax profit of retail banks increased by 44.4% largely due to non-recurring items. Correspondingly, the post-tax return on average assets of retail banks rose to 1.44% from 1.04% in 2015 (Chart 8).

Chart 8 Retail banks' performance

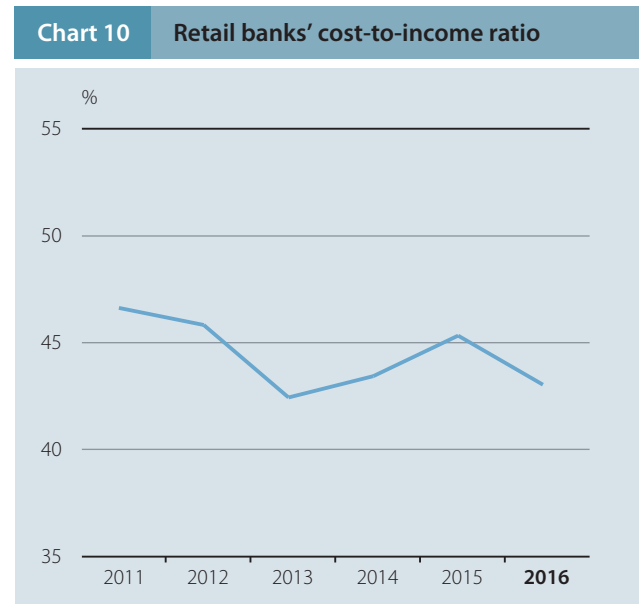


Economic and Financial Environment

Retail banks' net interest margin stayed at 1.32% in 2016, the same level as 2015 (Chart 9). Although retail banks continued to deploy surplus funds in relatively lower-yielding but more liquid financial investments, the reduction in interest yield was offset by lower interest costs.



Retail banks' cost-to-income ratio dropped to 43.0% in 2016 from 45.3% in 2015, as operating costs decreased by 2.9% while operating income grew by 2.5% (Chart 10). Retail banks' loan impairment charges decreased to HK\$8.2 billion from HK\$9.8 billion in 2015.



The share of retail banks' non-interest income to total operating income remained broadly stable at 44.3%. While fee and commission income dropped by 11.3%, dividend income and income from foreign exchange and derivatives operations rose by 123.5% and 39.7% respectively.

Economic and Financial Environment

Asset quality

The overall loan quality of retail banks deteriorated slightly during the year, but remained healthy by historical standards. The classified loan ratio rose to 0.72% from 0.69% a year earlier. The overdue and rescheduled loan ratio also increased to 0.53% from 0.45% (Chart 11). Similarly, the classified loan ratio and the overdue and rescheduled loan ratio of the whole banking sector increased to 0.85% and 0.67%, from 0.73% and 0.47% respectively.

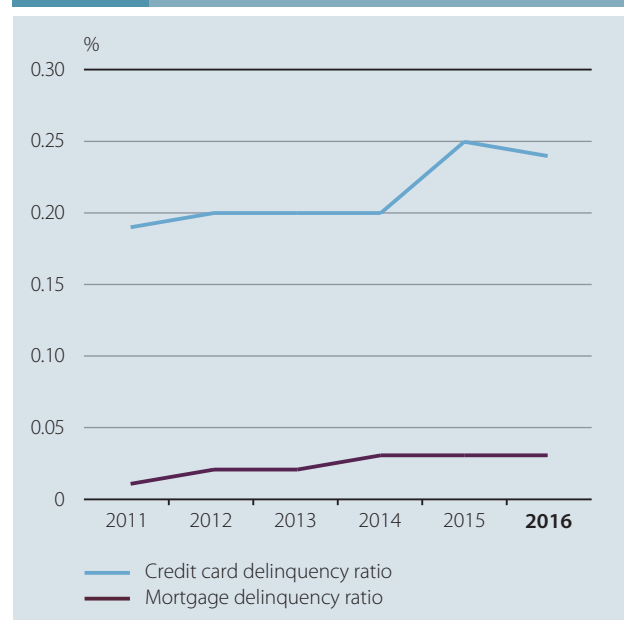
Chart 11 Asset quality of the banking sector



The quality of banks' residential mortgage lending portfolios continued to be good with the delinquency ratio staying at a low level of 0.03% at the end of 2016 (Chart 12). The rescheduled loan ratio was close to 0%. There were only four residential mortgage loans in negative equity at the end of the year, as compared with 95 a year ago.

The delinquency ratio of credit card lending remained low at 0.24% at the end of 2016, down from 0.25% a year ago (Chart 12). The combined delinquent and rescheduled loan ratio edged up to 0.33% from 0.32% a year earlier. The charge-off ratio also increased slightly to 1.92% from 1.82% in 2015.

Chart 12 Delinquency ratios of residential mortgages and credit card lending of banks



Economic and Financial Environment

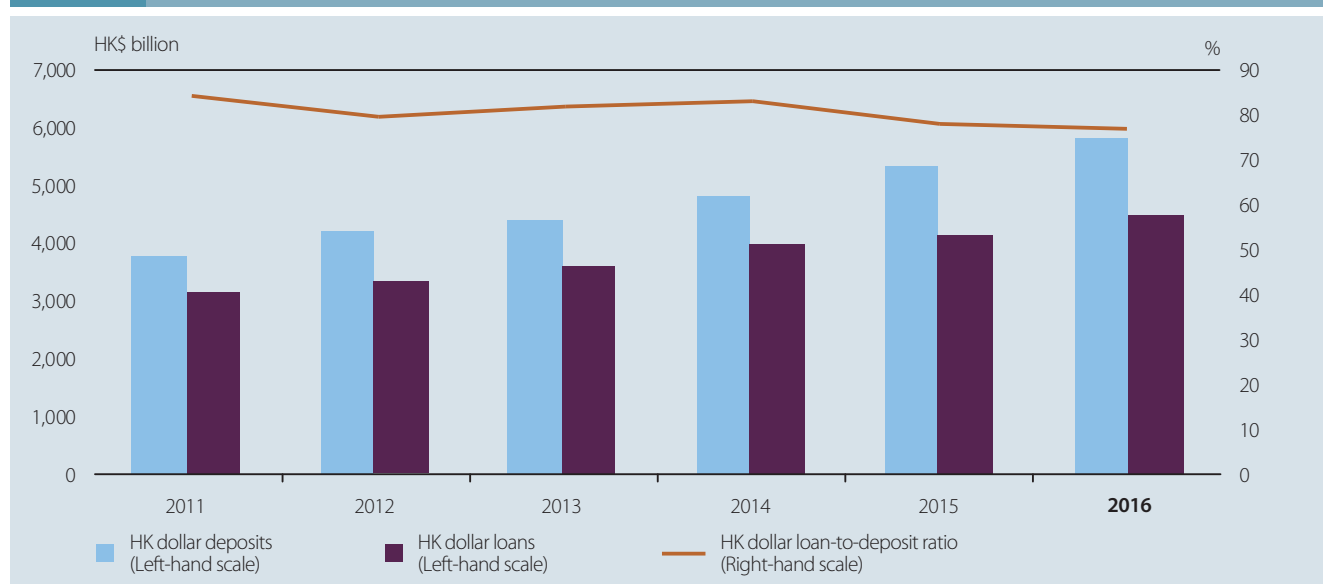
Balance sheet trends

Total loans of the banking sector grew moderately by 6.5% in 2016, faster than a 3.5% growth recorded in 2015. Corporate customers remained cautious in seeking credits given the uncertain macroeconomic outlook. The overall loan-to-deposit ratio fell to 68.4% at the end of 2016 from 70.1% a year earlier. The Hong Kong-dollar loan-to-deposit ratio

edged down to 77.1% from 78.2% during the same period (Chart 13).

Mainland-related lending (including loans booked in the Mainland subsidiaries of locally incorporated banks) increased by 7% in 2016, compared with a growth of 3.3% recorded in 2015.

Chart 13 Hong Kong-dollar loans and deposits of the banking sector



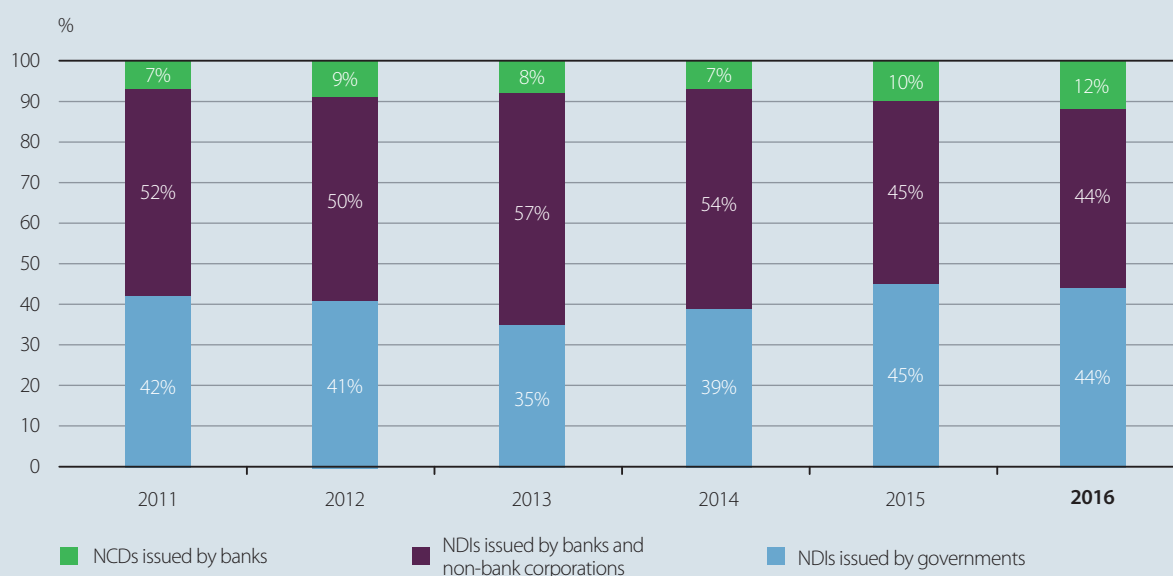
Economic and Financial Environment

Holdings of negotiable debt securities

Holdings of negotiable debt instruments (NDIs) and negotiable certificates of deposit (NCDs) of the banking sector increased by 12.8% in 2016, and accounted for 22% of the

total assets at the end of the year. Around 44% of the holdings were NDIs issued by governments (45% at end-2015), 44% were NDIs issued by banks and non-bank corporations (45% at end-2015), and 12% were NCDs issued by banks (10% at end-2015) (Chart 14).

Chart 14 Holdings of NDIs and NCDs of the banking sector



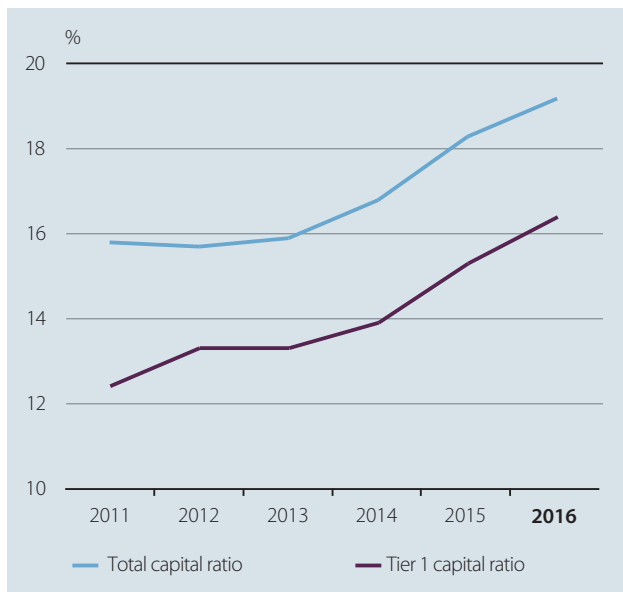
Note: Figures may not add up to 100% due to rounding.

Economic and Financial Environment

Capital adequacy and liquidity

Locally incorporated AIs continued to be well capitalised. Their consolidated total capital ratio rose to 19.2% at the end of 2016 from 18.3% at the end of 2015, as capital base grew faster than the amount of risk-weighted assets (Chart 15). The Tier 1 capital ratio of locally incorporated AIs increased to 16.4% from 15.3% during the period.

Chart 15 Consolidated capital adequacy ratios of locally incorporated AIs

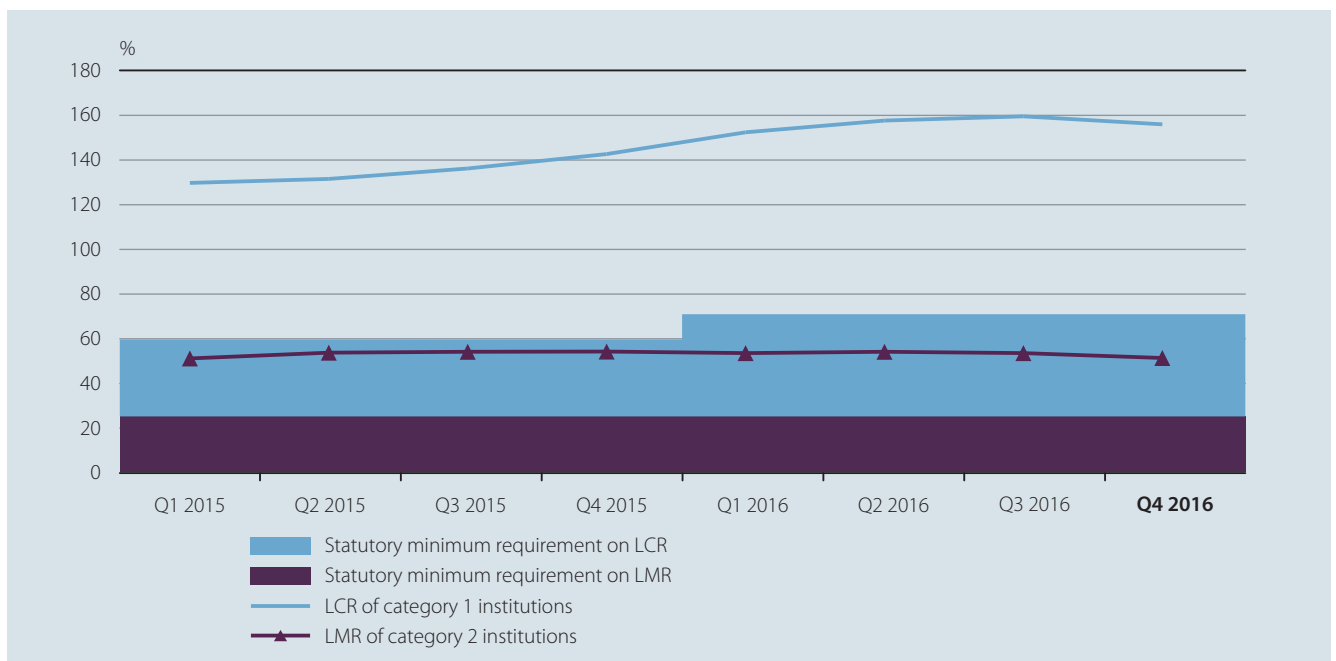


The liquidity position of AIs remained generally sound. The average Liquidity Coverage Ratio (LCR) of category 1 institutions was 156.3% in the fourth quarter of 2016, well above the statutory minimum requirement of 70% applicable for the year. The average Liquidity Maintenance Ratio (LMR) of category 2 institutions was 51.0%, also well above the statutory minimum requirement of 25% (Chart 16).

PROSPECTS FOR 2017

The outlook for the Hong Kong banking sector remains challenging in 2017. The headwinds facing the Hong Kong and Mainland economies will continue to put pressure on asset quality and profitability. In the US, the interest rate normalisation process may gather pace and this may affect global fund flows. In Europe, the upcoming national elections in France and Germany, as well as the Brexit process in the UK, may lead to increased market volatilities. Given these uncertainties, banks are advised to stay vigilant and manage their business prudently.

Chart 16 Liquidity ratios (quarterly averages)



Monetary Stability

The Hong Kong dollar exchange rate traded in an orderly manner in 2016 despite a turbulent external environment and higher US dollar interest rates. The money market continued to operate smoothly with ample interbank liquidity. Being highly resilient against various shocks, the Linked Exchange Rate System continued to serve as an anchor for Hong Kong's monetary and financial stability.

OBJECTIVES

The overriding objective of Hong Kong's monetary policy is currency stability. This is defined as a stable external exchange value of Hong Kong's currency, in terms of its exchange rate in the foreign-exchange market against the US dollar, within a band of HK\$7.75–7.85 to US\$1. The structure of the monetary system is characterised by Currency Board arrangements, requiring the Monetary Base to be at least 100% backed by US dollar reserves held in the Exchange Fund, and changes in the Monetary Base to be 100% matched by corresponding changes in US dollar reserves.

The Monetary Base (Table 1) comprises:

- ◆ Certificates of Indebtedness, which provide full backing to the banknotes issued by the three note-issuing banks
- ◆ Government-issued notes and coins in circulation
- ◆ the Aggregate Balance, which is the sum of clearing account balances of banks kept with the HKMA
- ◆ Exchange Fund Bills and Notes (EFBNs) issued by the HKMA on behalf of the Government.

Table 1 **Monetary Base**

HK\$ million	31 December 2016	31 December 2015
Certificates of Indebtedness ¹	407,795	360,165
Government-issued currency notes and coins in circulation ¹	12,000	11,408
Balance of the banking system	259,593	391,343
EFBNs issued ²	962,579	829,791
Total	1,641,967	1,592,707

1. The Certificates of Indebtedness and the government-issued currency notes and coins in circulation shown here are stated at Hong Kong dollar face values. The corresponding items shown in the balance sheet of the Exchange Fund in this Annual Report are in Hong Kong dollars equivalent to the US dollar amounts required for their redemption at the prevailing exchange rates on the balance sheet date. This arrangement is in accordance with the accounting principles generally accepted in Hong Kong.
2. The amount of EFBNs shown here is different from that in the balance sheet of the Exchange Fund in this Annual Report. In accordance with the accounting principles generally accepted in Hong Kong, the EFBNs held by the HKMA on behalf of the Exchange Fund in relation to its trading of the EFBNs in the secondary market are offset against the EFBNs issued, and the net amount is recorded in the balance sheet.

The stability of the Hong Kong dollar exchange rate is maintained through an automatic interest rate adjustment mechanism and the firm commitment by the HKMA to honour the Convertibility Undertakings (CUs). When the demand for Hong Kong dollars is greater than the supply and the market exchange rate strengthens to the strong-side CU of HK\$7.75 to one US dollar, the HKMA stands ready to sell Hong Kong dollars to banks for US dollars. The Aggregate Balance will then expand to push down Hong Kong dollar interest rates, creating monetary conditions that move the

Hong Kong dollar away from the strong-side limit to within the Convertibility Zone of 7.75 to 7.85. Conversely, if the supply of Hong Kong dollars is greater than demand and the market exchange rate weakens to the weak-side CU of HK\$7.85 to one US dollar, the HKMA will buy Hong Kong dollars from banks. The Aggregate Balance will then contract to drive Hong Kong dollar interest rates up, pushing the Hong Kong dollar away from the weak-side limit to stay within the Convertibility Zone.

Monetary Stability

REVIEW OF 2016

Exchange rate stability

After experiencing some volatility during the first two months of the year, the Hong Kong dollar exchange rate moved within a narrow range for the rest of 2016. The Hong Kong dollar weakened notably against the US dollar in early 2016, easing from 7.7510 on 4 January to 7.8196 on 20 January (Chart 1). The movements were in line with the normal functioning of the Linked Exchange Rate System (LERS) given widened negative spreads between the Hong Kong dollar and the US dollar interest rates following the US interest rate lift-off in December 2015. Other market-related factors, such as sell-off in the domestic equity market, less optimistic

outlook for the Mainland and Hong Kong economies, heightened volatility of the renminbi exchange rate, and general weakness in Asian currencies also dampened demand for the Hong Kong dollar. The Hong Kong dollar exchange rate regained some strength in February, underpinned by improved market sentiment, and traded within a narrow range of 7.753–7.776 from March onward despite market volatilities stemming from the Brexit referendum and the US presidential election. Weakening pressures on the Hong Kong dollar exchange rate arose briefly in May due to market expectation of US interest rate hike in the summer. Overall, the Hong Kong dollar exchange market continued to function normally throughout the year.

Chart 1 Market exchange rate in 2016

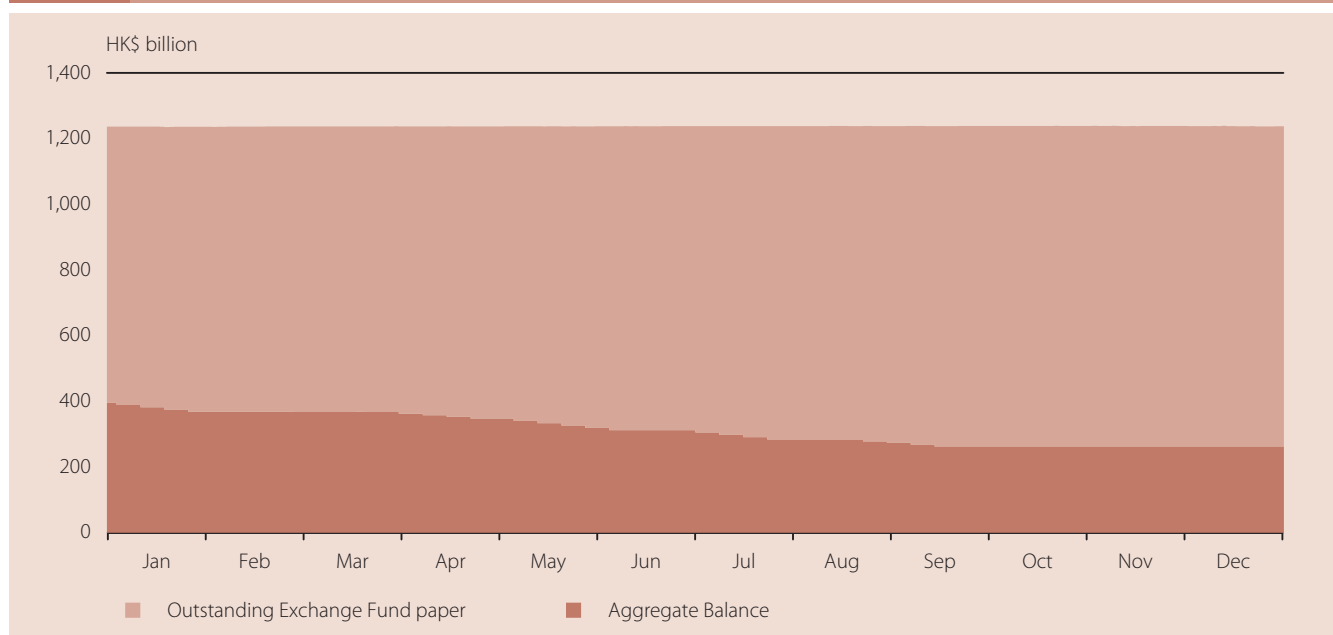


Monetary Stability

As the CUs were not triggered, the total of the Aggregate Balance and outstanding EFBNs remained virtually unchanged at around HK\$1,222.2 billion throughout 2016 (Chart 2). During the year, the HKMA issued a total of HK\$132 billion of additional Exchange Fund Bills to meet banks' strong demand for liquidity management purpose, leading to a corresponding contraction of the Aggregate

Balance to HK\$259.6 billion at the end of 2016. The additional issuance of Exchange Fund Bills was consistent with Currency Board principles, as it represented a change in the composition of the Monetary Base with a shift from the Aggregate Balance to the outstanding EFBNs. The Monetary Base remained fully backed by foreign exchange reserves.

Chart 2 Aggregate Balance and outstanding Exchange Fund paper in 2016



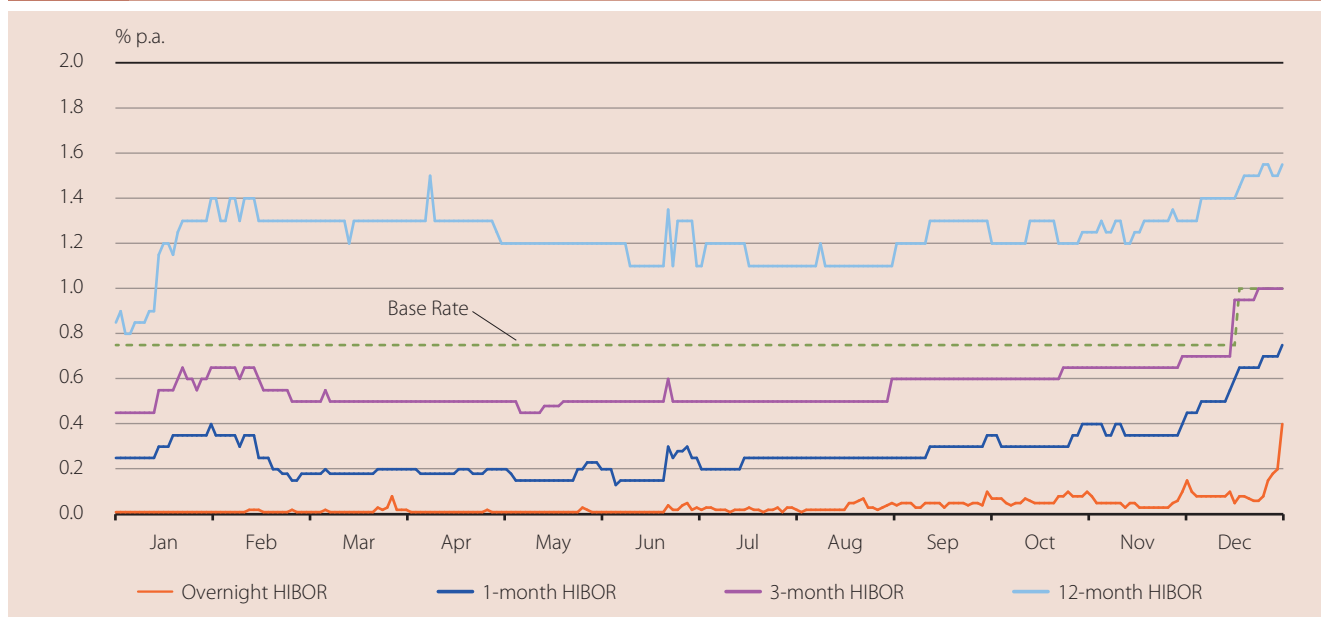
Money market

The Hong Kong dollar interbank interest rates were relatively low in most of 2016 (Chart 3). After facing some upward pressures in January and February amid heightened financial market volatilities, the Hong Kong dollar interbank rates stabilised in March as the financial environment restored calm. During the second and third quarters, the Hong Kong dollar interbank rates remained largely stable despite concerns about the outcome of the Brexit referendum and US money market fund reforms. In the fourth quarter, the Hong Kong dollar interbank rates registered larger pick-ups, partly reflecting year-end funding demand, as well as a catch-up with the increases in the US dollar interbank rates. Nevertheless, the short-dated interbank rates mostly traded below the Base Rate in 2016.

On 15 December, the Base Rate was adjusted upward from 0.75% to 1.00% as the target range for the US Federal Funds Rate moved upwards from 0.25–0.50% to 0.50–0.75% on 14 December (US time). The adjustment of the Base Rate was in accordance with the revised formula announced on 26 March 2009, where the Base Rate is set at either 50 basis points above the lower bound of the prevailing target range for the US Federal Funds Rate or the average of the five-day moving averages of the overnight and one-month Hong Kong Interbank Offered Rates (HIBORs), whichever is the higher.

Monetary Stability

Chart 3 Hong Kong dollar interbank interest rates in 2016



The Hong Kong dollar forward points recorded notable premiums in January, roughly tracking the movement of the Hong Kong dollar-US dollar interest rate spreads, and partly reflecting investors' currency hedging demand for their Hong Kong equity portfolio (Chart 4). The forward premiums started to decline in February. In line with the stabilisation in market conditions, the Hong Kong dollar forward points remained largely steady between March and November, before picking up again in December along with the narrowing of the Hong Kong dollar-US dollar interest rate spreads. Overall, Hong Kong's money markets operated smoothly and interbank liquidity remained ample. Discount Window borrowing was not active, amounting to only HK\$5.3 billion in 2016.

The Linked Exchange Rate System

The LERS has continued to be a cornerstone of Hong Kong's monetary and financial stability over the past few decades, despite a series of regional and global financial crises. Amid heightened market volatilities in early 2016, there was renewed discussion among commentators about the weakening of the Hong Kong dollar and resemblance of the situation to the Asian financial crisis. To promote better understanding of the LERS, the HKMA explained the technical details of the LERS to the public and highlighted the robustness of Hong Kong's financial system against shocks.¹ The Government also reiterated its full commitment to the LERS. Stability in the foreign exchange and money markets further reinforced public confidence in the Government's commitment and the use of Hong Kong dollar as a means of payment and store of value. In its annual Article IV consultation with Hong Kong, the International Monetary Fund strongly endorsed the LERS as the best exchange rate arrangement for Hong Kong, as it is underpinned by a flexible economy, ample fiscal and reserve buffers, and strong financial regulation and supervision.

¹ For more details, see the inSight articles on "The Hong Kong Dollar Linked Exchange Rate System" and "Get a Full Grasp of the Situation and Stay Calm" published on 27 January and 1 February 2016 respectively.

Monetary Stability

Chart 4 Hong Kong dollar forward points in 2016

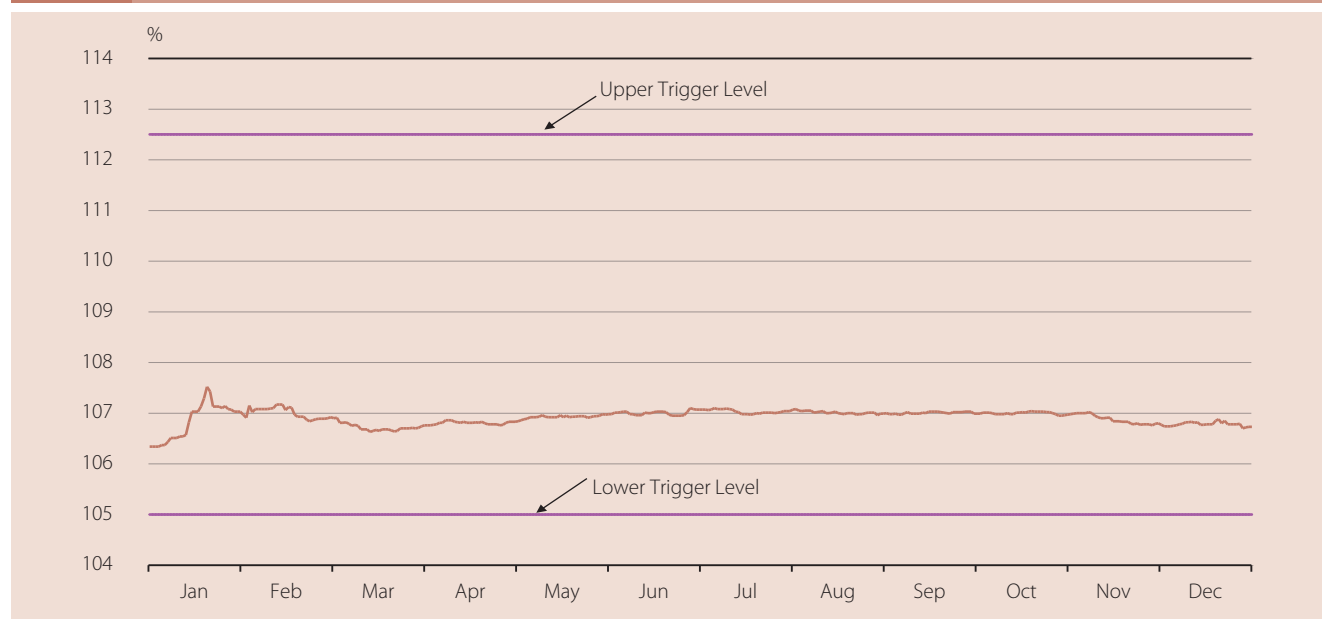


As a robust banking system is crucial to the normal functioning of the LERS, the HKMA continued to closely monitor banks' credit, liquidity and interest rate risk management and stress-test results, and strengthened its supervisory efforts on household, corporate, and Mainland-related lending to ensure the resilience of the banking sector. As the Hong Kong dollar interbank rates have started to pick up amid the US monetary policy normalisation, the HKMA reminded the public to stay vigilant and be well-prepared for potential volatilities and risks.

To improve the transparency of the Currency Board Account, a specific portion of Exchange Fund assets has been allocated to back the Monetary Base since October 1998. The Backing Ratio (defined as the Backing Assets divided by the Monetary Base) moved within a narrow range of 106.3–107.5% during 2016, without touching the Upper or Lower Trigger Level. The ratio closed at 106.7% on 31 December (Chart 5). Under the LERS, while specific Exchange Fund assets have been designated for the Backing Portfolio, all Exchange Fund assets are available to support the Hong Kong dollar exchange rate. In the event of abrupt shocks, the sizeable amount of financial resources of the Exchange Fund provides a powerful support to Hong Kong's monetary and financial stability.

Monetary Stability

Chart 5 Daily movement of the Backing Ratio in 2016



Research

The Currency Board Sub-Committee (CBC) of the Exchange Fund Advisory Committee monitors and reviews issues relevant to monetary and financial stability in Hong Kong. In 2016, the CBC considered issues including Hong Kong's growth synchronisation with Mainland China and the US, external demand for the Hong Kong dollar currency, and financial conditions indexes for Hong Kong. Records of the CBC's discussions on these issues and the reports on Currency Board operations submitted to the CBC are published on the HKMA website.

The Hong Kong Institute for Monetary Research (HKIMR) continued to sponsor research in the fields of monetary policy, banking and finance. In 2016, the HKIMR hosted 18 research fellows and published 20 working papers.

The HKIMR organised six international conferences and workshops during the year. The major events included:

- ◆ The Seventh Annual International Conference on the Chinese Economy in January, under the title "The Growing Influence of China in the World Economy". Eight research papers were presented at the conference, covering a wide variety of issues including rebalancing and potential for growth in China, economic spill-overs from China, global and regional influence of renminbi, and carry trade dynamics and information flow between renminbi markets.
- ◆ The HKUST-Keio-HKIMR Conference on Exchange Rates and Macroeconomics jointly organised with the Hong Kong University of Science and Technology and Keio University in March. The conference covered many different economic issues, including global imbalances, exchange rate dynamics, capital controls and monetary policies.

Monetary Stability

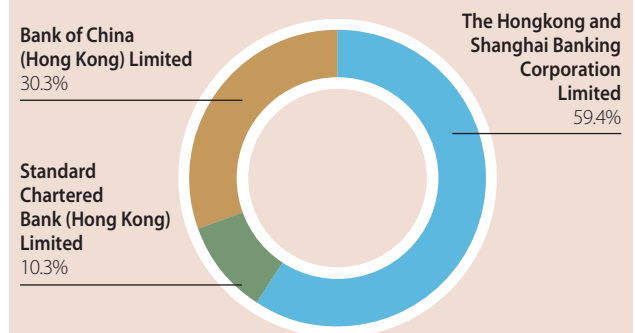
- ◆ The Real Estate and Financial Stability Conference jointly organised by the HKIMR and the City University of Hong Kong in August. The conference featured papers on topics covering age, demographics and the housing demand, the effect of large investors on asset quality, Hong Kong's housing price dynamics, housing market affordability, the impacts of mortgage regulations on households' life-cycle housing decisions and the residential property market in Mainland China.
- ◆ The HKMA and the Bank for International Settlements joint conference on Asia-Pacific Economies in October. The theme of the conference was "The Resilience of the Regional Economies in a Turbulent Global Environment". The conference brought together senior policy makers from various central banks, leading academics and experts from international organisations and the private sector to share their views in an interactive roundtable discussion on the most pressing issues facing the Asia-Pacific economies. The conference examined a wide range of issues including financial imbalances in Asia, capital flows, spill-overs of Mainland's slowdown to the rest of the region, and the implications and prospects for potential growth in Asia.

The HKIMR also hosted its 14th HKIMR Summer Workshop in August and the 14th HKIMR Conference on the Mainland Economy in September which addressed issues on the asset quality of Mainland banks and financial stability. The conferences and workshops were attended by participants from academia, the financial services industry and global central banks. In addition, the HKIMR held 21 public seminars during the year covering a broad range of economic, monetary and financial issues.

Notes and coins

At the end of 2016, the total value of banknotes (notes issued by note-issuing banks) in circulation was HK\$407.8 billion, an increase of 13.2% from a year earlier (Charts 6, 7 and 8). The total value of government-issued notes and coins in circulation amounted to HK\$11.8 billion, up 5.3% (Charts 9 and 10). Among the government-issued notes and coins, the value of HK\$10 notes in circulation was HK\$4.4 billion, of which 86% were polymer notes.

Chart 6 Banknotes in circulation by note-issuing banks at the end of 2016



Monetary Stability

Chart 7 Distribution of banknotes in circulation at the end of 2016

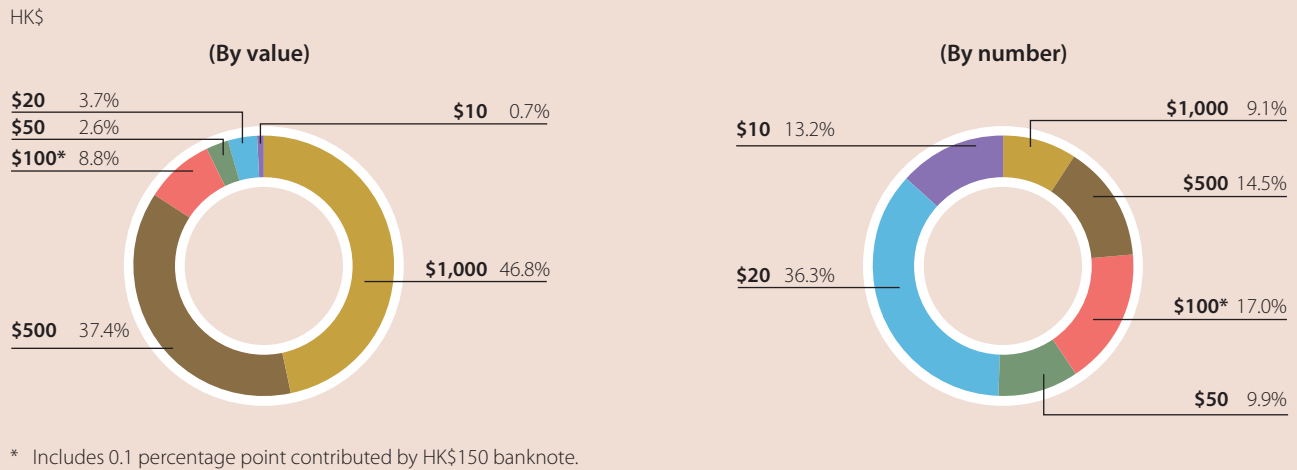


Chart 8 Banknotes in circulation at the end of 2016

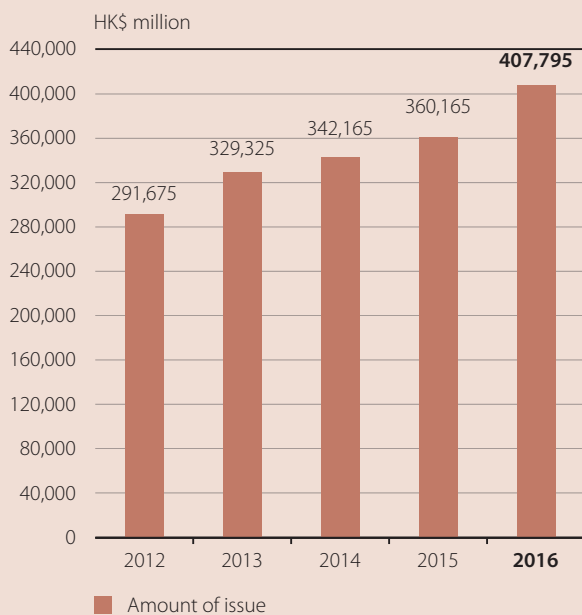
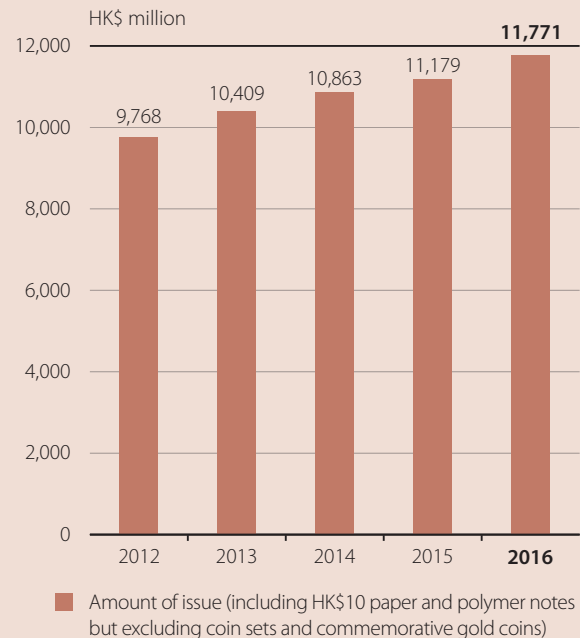
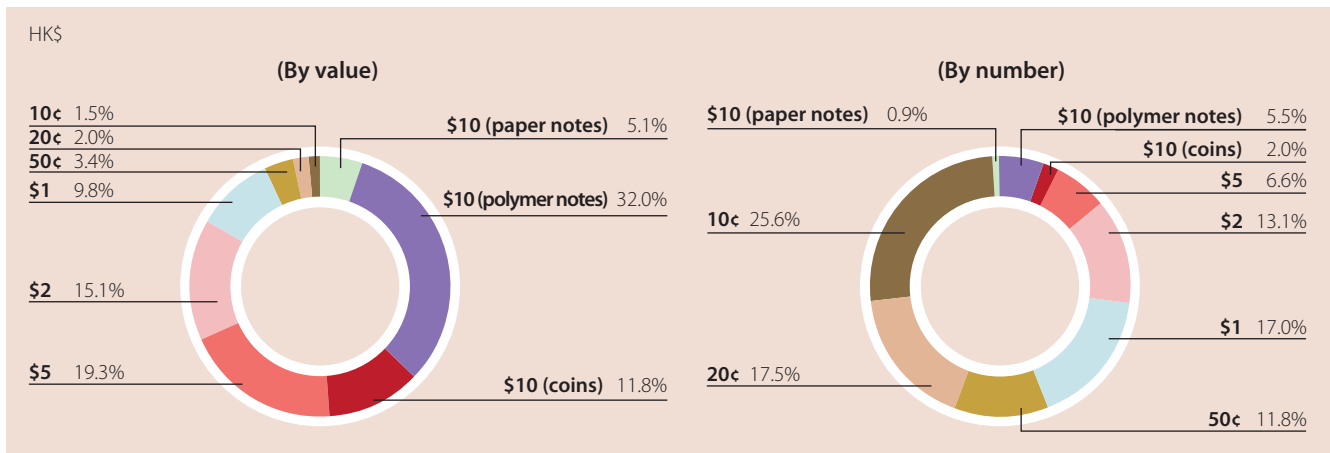


Chart 9 Government-issued notes and coins in circulation at the end of 2016



Monetary Stability

Chart 10 Government-issued notes and coins in circulation at the end of 2016



Hong Kong banknotes

In pursuit of the plan to update Hong Kong's banknotes to stay ahead of counterfeiters, the HKMA and the three note-issuing banks have begun preparatory work for a series of banknotes with completely new designs and advanced security features.

The HKMA also continued its public education programme to promote awareness of the designs and security features of Hong Kong's banknotes. During the year, 28 seminars were organised for more than 4,500 bank tellers, retailers and students giving them the knowledge and skills to authenticate banknotes.

Coin Collection Programme

The Coin Collection Programme, launched in October 2014, continued to be well received by the public. It is the world's first structured coin collection scheme with two mobile trucks, known as Coin Carts, visiting the public across all 18 districts on a rotation basis. Each Coin Cart is equipped with two high-speed coin counting machines and an electric wheelchair lift. The public may choose to exchange their spare coins for banknotes, top up their Octopus cards, or donate such coins to the Community Chest box on board. Working with the Hong Kong Council of Social Service, the Coin Carts collected coins on flag days for non-governmental organisations. The Coin Carts also visited schools to raise the awareness of the programme. The original two-year pilot programme was very successful and the HKMA decided to extend the programme to September 2018.

The two Coin Carts have served about 256,000 people and collected 217 million coins with a total face value of HK\$263 million since inception. Details of the programme and up-to-date information, including the service schedule, are available on a designated page of the HKMA website at coincollection.hkma.gov.hk.



A Coin Cart visits a school on 22 June 2016.

Monetary Stability

Exchange Fund Bills and Notes

With ample liquidity in the interbank market, demand for short-dated Exchange Fund Bills from banks remained strong. A total of HK\$132 billion worth of additional Exchange Fund Bills were issued by the HKMA in the first three quarters to meet such demand. The additional issuance resulted in a corresponding decrease in the Aggregate Balance. At the end of 2016, the amount of outstanding Exchange Fund paper stood at HK\$963.1 billion (Table 2).

PLANS FOR 2017 AND BEYOND

The global macro-financial environment is expected to remain challenging in 2017. Policy uncertainties surrounding the new US administration, the Brexit process and national elections in European Union member countries will overshadow the global financial markets. These uncertainties, together with the US interest rate normalisation and rebalancing of the Mainland economy, may lead to renewed

financial turbulences. Against this backdrop, the Hong Kong dollar exchange rate may ease to the weak-side CU of 7.85 and outflows from the Hong Kong dollar may occur in accordance with the design of the LERS, hence raising the Hong Kong dollar interest rates with ramifications for the domestic economy.

Given the heightened uncertainties, the HKMA will continue to monitor risks and vulnerabilities closely in the domestic and external environment and stand ready to deploy appropriate measures where necessary to maintain Hong Kong's monetary and financial stability. Research programmes in 2017 will study issues affecting the Hong Kong economy and assess their potential risks. The CBC will continue to examine issues relevant to Hong Kong's monetary and financial stability, review the technical aspects of the Currency Board arrangements and, where appropriate, recommend measures to strengthen them.

Monetary Stability

Table 2 Outstanding issues of EFBNs

HK\$ million	2016	2015
Exchange Fund Bills (by original maturity)		
28 days	2,200	3,000
91 days	524,998	447,621
182 days	338,000	277,000
364 days	49,700	42,200
Sub-total	914,898	769,821
Exchange Fund Notes (by remaining tenor)		
1 year or below	15,200	15,200
Over 1 year and up to 3 years	16,000	20,800
Over 3 years and up to 5 years	3,200	7,200
Over 5 years and up to 10 years	10,200	10,600
Over 10 years	3,600	4,800
Sub-total	48,200	58,600
Total	963,098	828,421

Banking Stability

The banking sector in Hong Kong remained sound and stable in 2016 despite increased risks and shocks in the global markets. During the year, the HKMA stepped up its supervisory efforts on the effectiveness of the risk governance framework, as well as the credit and liquidity risk management systems of authorized institutions. As cyber attacks became increasingly prevalent, the HKMA strengthened the supervision of authorized institutions' technology risk management. The effectiveness of authorized institutions' anti-money laundering and counter-terrorist financing controls remained a key supervisory focus of the HKMA as part of its effort to combat financial crime. On conduct supervision, the HKMA took concrete steps to promote a customer-centric culture and foster financial inclusion, and address the difficulties encountered by foreign small and medium-sized enterprises and start-up companies in opening and maintaining bank accounts in Hong Kong. More efforts were also made to supervise authorized institutions' selling practices for investment and insurance products to further enhance customer protection.

On the policy side, substantial progress was made on the preparatory work for the local implementation of international supervisory and accounting standards, including the Net Stable Funding Ratio, large exposure limits, International Financial Reporting Standard 9, and the resolution framework after the enactment of the Financial Institutions (Resolution) Ordinance.

REVIEW OF 2016

Overview of supervisory activities

In 2016, 188 off-site reviews were conducted covering a broad range of issues, including CAMEL ratings¹, corporate governance, business operations and risk management of authorized institutions (AIs). The HKMA stepped up its engagement with the boards of directors of AIs in order to strengthen risk governance and culture in the banking sector. Apart from meetings with boards of directors or board-level committees, separate meetings with the independent non-executive directors (INEDs) were held to exchange views on culture and risk governance issues. Tripartite meetings among the HKMA, AIs and their external auditors were also conducted. A review was undertaken to assess whether the remuneration systems of AIs are conducive to promoting effective risk management.

In respect of capital adequacy, the HKMA reviewed the capital plans of AIs, including their multi-year capital targets in preparation for the full implementation of Basel III capital buffers in 2019. The solvency stress testing programme was refined, having regard to the prevailing macroeconomic environment. The HKMA also critically assessed the recovery plans of major retail banks and provided feedback on areas requiring enhancement.

In addition to off-site activities, the HKMA continued to conduct regular on-site examinations supplemented with thematic reviews on areas assessed to be of higher risks. This approach has allowed the HKMA to prioritise its supervisory resources to focus on emerging and more significant risks faced by AIs. In 2016, the HKMA conducted 377 on-site examinations and thematic reviews. Credit risk management and controls, particularly those over Mainland-related business, continued to be the focus of these examinations and reviews. Another major focus was anti-money laundering and counter-terrorist financing (AML/CFT) controls. The HKMA also increased the number of on-site examinations and thematic reviews on liquidity, operational and technology risk management. AIs' activities in securities, investment products, insurance and Mandatory Provident Fund (MPF)-related businesses were also subject to on-site examinations by specialist teams during the year.

Table 1 contains an overall summary of the HKMA's supervisory activities in 2016.

Table 1	Summary of supervisory activities	
	2016	2015
1 Off-site reviews and prudential interviews	188	196
2 Meetings with boards of directors or board-level committees of AIs	30	23
3 Tripartite meetings	27	20
4 On-site examinations	164	193
<i>Credit risk management and controls</i>	71	71
<i>Technology risk and operational risk management</i>	20	27
<i>AML/CFT controls</i>	17	21
<i>Liquidity risk management</i>	8	2
<i>Implementation of Basel capital adequacy framework</i>	6	8
<i>Market risk, counterparty credit risk and treasury activities</i>	4	23
<i>Securities, investment products, insurance and MPF-related businesses</i>	20	22
<i>Deposit Protection Scheme-related representation</i>	12	12
<i>Code of Banking Practice/Consumer Protection</i>	–	1
<i>Overseas examinations</i>	6	6
5 Thematic reviews	213	152
<i>Credit risk management and controls</i>	62	69
<i>Technology risk and operational risk management</i>	64	45
<i>AML/CFT controls</i>	30	22
<i>Implementation of Basel capital adequacy framework</i>	4	7
<i>Selling of investment products</i>	3	3
<i>AIs' systems of control over sales agents and sales/marketing staff in relation to customer data protection</i>	50	–
<i>New product reviews</i>	–	6
Total number of off-site reviews and prudential interviews, meetings, on-site examinations and thematic reviews	622	584

Supervision of credit risk

Credit growth and asset quality

Bank lending increased moderately in 2016. Total outstanding loans grew by 6.5%, compared with a growth of 3.5% in 2015 (Table 2). As the increase in customer deposits outpaced the increase in bank lending, the overall loan-to-deposit ratio decreased to 68.4% at the end of 2016 from 70.1% a year earlier.

¹ Comprising the **C**apital adequacy, **A**sset quality, **M**anagement, **E**arnings and **L**iquidity components.

Banking Stability

Table 2 Growth in loans and advances

% change	2016	2015
Total loans and advances	6.5	3.5
Of which:		
– for use in Hong Kong	8.0	6.3
– trade finance	0.2	–16.3
– for use outside Hong Kong	4.5	2.8

Mainland-related lending grew by 7% to HK\$3,564 billion at the end of 2016 (Table 3). This included HK\$545 billion of loans booked with Mainland subsidiaries of banks incorporated in Hong Kong.

Table 3 Growth in Mainland-related lending

% change	2016	2015
Total Mainland-related lending	7.0	3.3
Of which:		
– Mainland-related lending excluding trade finance	7.7	6.5
– trade finance	–1.1	–22.3

The asset quality of the banking sector remained healthy in 2016. Retail banks' classified loan ratio edged up from 0.69% at the end of 2015 to 0.72% at the end of the year, but well below the long-run historical average of 2.4% since 2000. For the banking sector as a whole, the classified loan ratio

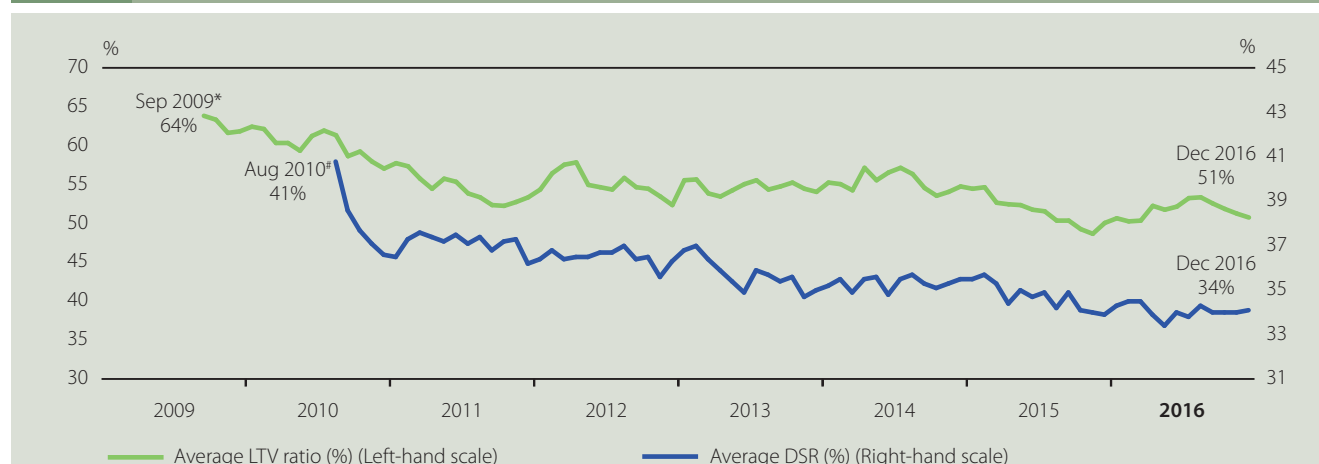
increased from 0.73% to 0.85%. The asset quality of the industry's Mainland-related lending showed a similar trend during the year. Retail banks' classified loan ratio of such lending edged up to 0.82% from 0.78% over the same period. For the banking sector as a whole, the ratio increased to 0.80% from 0.77% a year ago.

The HKMA devoted a significant amount of its supervisory effort to ensure that Als continued to adopt prudent underwriting standards, and maintained effective loan classification and provisioning systems. Specifically, supervisory attention on credit risks associated with growing exposures to privately owned enterprises in Mainland China and investment in debt securities for yield enhancement purposes was intensified. Thematic reviews on credit risk management in relation to the distribution of high-risk investment products was undertaken.

Property mortgage lending

The HKMA continued to maintain a high degree of vigilance over Als' property lending business. Following the correction in property prices beginning in September 2015, the prices of residential properties reverted to an upward trend in March and rose by 8% in 2016. In December 2016, the average loan-to-value (LTV) ratio for new residential mortgage loans (RMLs) approved reduced to 51%, compared to 64% in September 2009, before the HKMA first introduced countercyclical measures on property lending. The average debt servicing ratio (DSR) for new RMLs approved dropped to 34% in December 2016, from 41% in August 2010, when a cap on DSR was first applied (Chart 1).

Chart 1 Average LTV ratio and DSR of new RMLs



* Before the introduction of the first round of the HKMA's countercyclical measures on property lending

† Introduction of a cap on DSR

Banking Stability

As part of the seventh round of countercyclical measures introduced in February 2015, Als using an Internal Ratings-Based (IRB) approach to calculate credit risk capital charge were required to extend the application of a risk-weight floor of 15% to their entire RML portfolios rather than only newly granted mortgage loans. This requirement came into effect in June 2016.

During the year, more property developers provided direct mortgage financing to property buyers. The LTV ratios of these mortgage facilities were often higher than that permitted under the prudential requirements applied by the HKMA on Als. The HKMA monitored the development closely and maintained regular dialogue with Als to assess whether banks continued to maintain effective risk management over their exposures to property developers. Separately, the Land Registry (LR), at the request of the HKMA, agreed to develop an “e-Alert” service for Als. Als that have subscribed to this service will receive electronic notifications when further mortgage documents in respect of properties mortgaged to them are registered with the LR. The introduction of this service will help address the issue of mortgagors seeking further mortgage financing without obtaining the mortgagee Als’ consent. The LR rolled out the e-Alert service in the first quarter of 2017.

Supervision of operational and technology risks

Similar to other global financial centres, Hong Kong faced growing cyber threats. In 2016, the HKMA received reports from Als about cases of unauthorised online share trading transactions and attempts to compromise their payment systems. The HKMA took immediate action to address the risks posed by these attacks. The HKMA issued an e-banking alert to raise the public’s awareness of online share trading frauds and advised them on the precautionary measures they should take. The HKMA also issued a circular to provide Als with guidance on possible measures to further strengthen their security controls over internet banking services. On the attempts to compromise banks’ payment systems, the HKMA alerted Als to this type of fraud when these attempts were first detected in Hong Kong. With the help of the Police, the HKMA shared the modus operandi used in these frauds and required Als to take them into account in strengthening their controls over payment operations.

To further enhance the cyber resilience of the banking sector, the HKMA rolled out a Cybersecurity Fortification Initiative (CFI) in May 2016. The CFI comprises three pillars, namely a Cyber Resilience Assessment Framework (C-RAF), a Professional Development Programme and a Cyber Intelligence Sharing Platform (see *Fintech Facilitation Office* in the chapter on *International Financial Centre* for more details). In December, the HKMA issued a circular to Als setting out the C-RAF implementation timeline.

During 2016, the development of fintech gathered pace in the banking sector. Many Als rolled out new fintech products, particularly in the areas of person-to-person (P2P) small-value payment services, contactless mobile payments and biometric authentication. In September, a Fintech Supervisory Sandbox (FSS) was introduced to enable Als to conduct pilot trials of their fintech initiatives under a controlled environment without the need to achieve full compliance with the HKMA’s supervisory requirements. The FSS arrangement enabled real-life data and user feedback to be gathered at an early stage so that refinements to the fintech initiatives could be made before the full launch. Up to the end of 2016, six requests for access to the FSS, in respect of new fintech products involving biometric authentication, securities trading and blockchain technology for use in mortgage valuation, were granted. In November, the HKMA also raised the maximum transaction limit for P2P small-value payment services conducted via internet banking without two-factor authentication to HK\$5,000 per day per account, in a bid to meet growing demand for convenient P2P payment services.

A series of property-related frauds were reported in 2016 in which fraudsters impersonated property owners and attempted to obtain benefits by seeking mortgage financing or disposing of the properties. Although these cases did not involve Als, the HKMA worked closely with the Police and the Hong Kong Association of Banks (HKAB) to provide guidance to Als on ways to detect these frauds and stop them from occurring in the banking sector. Over the year, the HKMA published two issues of its *Operational Incidents Watch*, sharing with the industry lessons learned from past Als’ operational incidents. The HKMA also conducted on-site examinations and thematic reviews on Als’ operational risk management frameworks, fraud management practices, trustee/custodian operations, and risk management controls for guarding against rogue or unauthorised trading activities.

Banking Stability

Supervision of treasury activities and liquidity risk

Several major political events took place in 2016, causing significant volatilities in financial markets at various times during the year. Meanwhile, the interest rate normalisation process in the US continued to advance at a slow pace, with the Federal Open Market Committee deciding in December to raise the Federal Funds Rate for the second time since the global financial crisis. In preparation for these political events, the HKMA maintained a close dialogue with overseas regulators, assessed the implications for the banking sector in Hong Kong and required banks to stay alert and strengthen their risk management to cope with adverse market developments.

On liquidity risk management, the HKMA conducted additional liquidity stress tests to assess the resilience of the banking sector to cope with severe but plausible liquidity stress scenarios. Follow-up actions were taken to enhance the capability of Als in coping with these scenarios. After a round of on-site examinations focused on interest rate risk management in 2015, the HKMA conducted additional on-site examinations to evaluate Als' market risk management. Als with identified control weaknesses were asked to take corrective actions.

Prevention of money laundering and terrorist financing (ML/TF)

The HKMA's risk-based AML supervision included on-site examinations and desk-based reviews (including event-driven supervisory engagement with Als), which targeted areas presenting higher ML/TF risks. The examinations and reviews covered Als' assessment of ML/TF risks, implementation of the risk-based approach, as well as systems and processes for transaction monitoring and sanctions compliance. In 2016, the HKMA's specialist supervisory resources undertook 17 on-site examinations and 30 desk-based reviews.

In terms of policy development, priority was given to addressing difficulties encountered by certain businesses and individuals when opening bank accounts; guidance and frequently asked questions were issued to clarify certain customer due diligence (CDD) requirements as well as the

HKMA's supervisory expectations on the risk-based approach. Meanwhile, the HKMA continued to work closely with industry associations in issuing guidance to assist Als to address risks in certain areas, such as trade-based money laundering.

To fully align our AML/CFT regime and risk-based supervision with the latest international standards and practices, the HKMA continued to be active in various international and regional AML/CFT forums and participated in the mutual evaluation of Thailand's AML/CFT regime led by the Asia/Pacific Group on Money Laundering. The HKMA also continued to work with both domestic and international partners to develop Hong Kong's first jurisdiction-wide ML/TF risk assessment, which is expected to be published in 2017.

Supervision of wealth management and MPF-related businesses

The HKMA co-operated closely with the other financial regulators in Hong Kong to provide guidance and supervise Als' selling of securities, investment products, insurance products and MPF schemes. Regular contact was maintained with regulators through bilateral and multilateral meetings, as well as under the auspices of the Council of Financial Regulators, to ensure more co-ordinated and effective supervisory actions. In 2016, the HKMA and the Securities and Futures Commission (SFC) conducted a joint review of a financial group's controls and management over possible conflict of interest arising from the selling of in-house investment products.

During the year, the HKMA conducted 20 on-site examinations, 3 thematic reviews and 14 industry analyses of Als. These covered the selling of investment products, settlement of securities transactions and the safe custody of client securities. It also covered the selling of non-investment-linked long-term insurance (NLI) products and MPF-related products involving retail, private banking and corporate banking customers. The HKMA also maintained close communications with the banking industry in relaying and clarifying regulatory standards and its risk-based supervisory approach through meetings with management of Als and joint workshop with the industry association.

Banking Stability

In April, a circular was issued to share some key observations and good practices on the selling of investment products identified in the course of the HKMA's supervisory work, and to remind AIs to review their selling practices and promptly implement necessary enhancement measures. Following industry consultation, an updated Supervisory Policy Manual (SPM) module "Supervision of regulated activities of SFC-registered authorized institutions" was gazetted in May 2016. The revisions mainly include an elaboration of the HKMA's supervisory and enforcement approaches for enhanced transparency, and highlights of relevant major regulatory requirements. Guidance was also provided in the year to AIs regarding suitability obligations.

The HKMA processed six applications to become Registered Institutions (RIs) and three applications from RIs to engage in additional regulated activities. It granted consent to 203 executive officers responsible for supervising the securities activities of RIs, and conducted background checks on 8,557 individuals whose information was submitted by RIs for inclusion in the register maintained by the HKMA.

Other supervisory activities

The Banking Supervision Review Committee considered six cases in 2016. Five of these cases concerned the authorization of AIs or the approval of money brokers. The remaining one was about the lifting of the restrictions imposed on an AI under section 52 of the Banking Ordinance (see Table 4 for details).

During the year, the HKMA commissioned two reports under section 59(2) of the Banking Ordinance. The AIs were required to appoint external auditors to report on the effectiveness of their controls over a specified area of operation. One of the reports covered credit risk management and the other was related to the distribution of financial products.

In 2016, no AIs breached the requirements of the Banking Ordinance relating to capital adequacy or liquidity ratio. There were, however, 23 breaches under various sections of the Banking Ordinance, but none affected the interests of depositors and these breaches were promptly rectified by AIs.

On 24 June 2016, the Monetary Authority lifted the restrictions imposed on the Hong Kong Branch of Melli Bank Plc under 52(1)(A) of the Banking Ordinance in respect of its affairs, business and property, as the circumstances and considerations leading to the imposition of the restrictions no longer existed.

As in past years, the CAMEL ratings of AIs were reviewed and determined by the CAMEL Approval Committee. AIs were notified of the ratings and given the opportunity to request a review. An AI requested for a review of its rating. The request is being considered by the CAMEL Approval Review Committee.

Table 4 Summary of other supervisory activities

	2016	2015
1 Cases considered by the Banking Supervision Review Committee	6	4
2 Reports commissioned under section 59(2) of the Banking Ordinance	2	6
3 AIs subject to the exercise of powers under section 52 of the Banking Ordinance	–	1
4 Approval of applications to become controllers, directors, chief executives or alternate chief executives of AIs	193	291
5 Reports commissioned under section 21(2)(b) of the Anti-Money Laundering and Counter-Terrorist Financing (Financial Institutions) Ordinance	–	1

International co-operation

Co-operation with overseas supervisors

The HKMA participated in 31 college-of-supervisors meetings organised by the home supervisors of 22 banking groups with significant operations in Hong Kong. A broad range of issues were discussed at these meetings, covering areas such as financial soundness, corporate governance, recovery and resolution planning and risk management controls. During the year, the HKMA assisted the home supervisors of three global systemically important banks (G-SIBs) in organising supervisory college meetings in Hong Kong.

Banking Stability

Bilateral meetings were held during the year with banking supervisors from Australia, the European Union, India, Indonesia, Japan, Mainland China, Malaysia, Switzerland, Taiwan, the UK and the US. There were also regular exchanges with overseas authorities on institution-specific issues and developments in financial markets.

Participation in international and regional forums

The HKMA continued to participate in a range of international and regional forums for banking supervisors. The HKMA is a member of the Basel Committee on Banking Supervision (Basel Committee) and its governing body, the Group of Governors and Heads of Supervision, and is represented on various Basel Committee working groups, including the Policy Development Group (PDG), the Macroprudential Supervision Group (MPG), the Supervision and Implementation Group (SIG) and the AML/CFT Expert Group. The HKMA is also a member of several sub-groups under (i) the PDG, including the Working Group on Capital (which the HKMA also co-chairs), the Trading Book Group, the Working Group on Liquidity, the Working Group on Disclosure, and the Task Force on Standardised Approaches; and (ii) the SIG, including the Working Group on Supervisory Colleges, the SIG Trading Book Task Force, the SIG Banking Book Task Force, the Task Force on Impact and Accountability, the Working Group on Stress Testing and the Workstream on Future Regulatory Consistency Assessment Programme (RCAP). The HKMA also chairs the Risk Data Network under the SIG to monitor the implementation progress of the *Principles for effective risk data aggregation and risk reporting* by G-SIBs. From 2017, the HKMA will also be a member of a new Market Risk Group (formed by the merger of the Trading Book Group and the SIG Trading Book Task Force) and a new Credit Risk Group (formed by the merger of the Task Force on Standardised Approaches, the SIG Banking Book Task Force and another Basel Committee working group – the Risk Measurement Group). In addition, the HKMA participates in the Joint Working Group on Margining Requirements formed by the Basel Committee and the International Organization of Securities Commissions (IOSCO).

The HKMA is a member of the Financial Stability Board (FSB) Plenary Meeting, FSB Standing Committee on Assessment of Vulnerabilities and FSB Standing Committee on Supervisory and Regulatory Co-operation. It also participates in several FSB working groups, including the Over-the-counter (OTC) Derivatives Working Group, the Compensation Monitoring Contact Group, the Working Group on Governance Frameworks, and the Workstream on Other Shadow Banking Entities. In the area of resolution, and addressing the problem of “Too Big To Fail”, the HKMA is a member of the FSB’s Resolution Steering Group and Cross-Border Crisis Management Working Group.

At the regional level, the HKMA is a member of the Executives’ Meeting of East Asia-Pacific Central Banks (EMEAP), the South East Asia, New Zealand and Australia Forum of Banking Supervisors and the South-East Asian Central Banks group. As part of its work in the EMEAP Working Group on Banking Supervision, the HKMA is the Champion of the Interest Group on Liquidity (IGL). During the year, the IGL conducted surveys and engaged in discussions regarding the implementation of the Basel III liquidity standards in the EMEAP jurisdictions.

Under the Basel Committee’s RCAP, each of its member jurisdictions’ capital and liquidity regulations are compared against the corresponding Basel standards. During the year, the HKMA participated in an RCAP review team evaluating assessments conducted by technical experts from other countries on both the implementation of the Basel III framework for systematically important banks in the European Union, Japan, Mainland China, Switzerland and the US, and the liquidity standards adopted in Japan and Singapore. The reports of these assessments were published in June and December respectively.

Banking Stability

Implementation of Basel standards in Hong Kong

Capital standards

On 14 January 2016, the HKMA announced a jurisdictional Countercyclical Capital Buffer (CCyB) for Hong Kong at a rate of 1.25% (reflecting the Basel III phase-in provisions), effective from 1 January 2017. On 27 January 2017, the HKMA increased the CCyB rate for Hong Kong to 1.875% with effect from 1 January 2018. In line with the Basel Committee's framework for dealing with domestic systemically important banks (D-SIBs), the HKMA announced in December an updated list of D-SIBs for 2017, together with their corresponding higher loss absorbency capital requirements, to take effect from 1 January 2018.

The HKMA, together with the Department of Justice, worked on a set of amendments to the Banking (Capital) Rules (BCR) for the purpose of implementing the Basel Committee's: *Capital requirements for banks' equity investments in funds* (December 2013); *The standardised approach for measuring counterparty credit risk exposures* (April 2014); and *Capital requirements for bank exposures to central counterparties* (April 2014). The original intention was to implement these three standards on 1 January 2017 in accordance with the schedule set by the Basel Committee. However, the HKMA ultimately decided in September to defer implementation of these standards (tentatively to 1 January 2018) to better align with the progress made by other major markets.

During the year, the HKMA developed policy proposals for the local implementation of the *Revisions to the securitisation framework* issued by the Basel Committee in December 2014 (and updated in July 2016). An industry consultation paper was issued in January 2017. Reflecting the Basel implementation timeline, the HKMA has proposed to introduce the revised framework from 1 January 2018 through amendments to the BCR.

Disclosure standards

The Basel Committee's *Revised Pillar 3 disclosure requirements* issued in January 2015 were the outcome of the first phase of a review of the existing regulatory disclosure standards. The purpose of the review was to enhance user-relevance, consistency and comparability (between banks and across jurisdictions) of banks' public disclosures through, among other things, a greater use of standard templates and tables. The new requirements were implemented locally by the Banking (Disclosure) (Amendment) Rules 2016 which took effect on 31 March 2017, supplemented by a set of standard templates and tables specified by the Monetary Authority under the Rules.

Liquidity standards

In November, the HKMA consulted the banking industry on policy proposals for the local implementation of the Net Stable Funding Ratio (NSFR), which is the second of the two Basel III liquidity standards alongside the Liquidity Coverage Ratio (LCR). The HKMA has proposed that AIs designated as "category 1 institutions" under the Banking (Liquidity) Rules (BLR) should observe the NSFR requirements in addition to the LCR. Other AIs would be required to implement a modified version of the NSFR (referred to as "Core Funding Ratio" or "CFR") unless otherwise exempted on specified grounds. Both of these new stable funding requirements are intended to take effect from 1 January 2018.

Banking Stability

Improving Supervisory Policy Framework

Credit risk transfer

Following industry consultation, the HKMA issued a module for the SPM on “Credit Risk Transfer Activities” (CRT activities) in June, reflecting developments in risk management standards and best practices for CRT activities. The module superseded a former SPM module on “Credit Derivatives” and Guideline No. 4.6 on “Supervisory treatment on asset securitisation and mortgage backed securities”.

Liquidity standards

The HKMA revised the guidance in the SPM module “Regulatory Framework for Supervision of Liquidity Risk” in July to provide further elaboration on the implementation of the LCR and the local Liquidity Maintenance Ratio. The guidance contained in the SPM module on “Sound Systems and Controls for Liquidity Risk Management” was also updated accordingly in November.

Corporate governance and risk controls

In August, the HKMA consulted the industry on revisions to three SPM modules relating to corporate governance and risk controls (namely “Corporate Governance of Locally Incorporated Authorized Institutions”, “Risk Management Framework” and “Internal Audit Function”) to reflect the latest international standards. The revised modules are expected to be issued in 2017.

Regulation of OTC derivatives transactions

The HKMA finalised a new SPM module on “Non-centrally Cleared OTC Derivatives Transactions — Margin and Other Risk Mitigation Standards” to adopt global margin and risk mitigation standards for AIs involved in non-centrally cleared OTC derivatives transactions. These standards, developed jointly by the Basel Committee and the IOSCO, are designed to reduce counterparty credit risk and limit contagion by ensuring collateral is available to offset losses following the default of a derivatives counterparty; promote legal certainty over the terms of derivatives contracts; and facilitate timely resolution of disputes. The new module was issued in

January 2017 and took effect from 1 March 2017, with a 6-month transitional period.

To facilitate the implementation of the new margin and risk mitigation standards, the HKMA also revised the Banking (Specification of Class of Exempted Charges) Notice so that legal charges created over an AI’s assets arising from the AI’s provision of initial margin for OTC derivatives transactions would be exempted, to a specified limited extent, from the general restrictions imposed under the Banking Ordinance on the creation of charges over AIs’ assets. This exemption took effect from 3 March 2017 to coincide with the start of the margin and risk mitigation standards.

Exposure limits

In March, the HKMA consulted the industry on proposed approaches to locally implement the Basel Committee’s “*Supervisory framework for measuring and controlling large exposures*” (April 2014) and updating certain other exposure limits contained in the Banking Ordinance.

The Basel large exposures framework consists of a comprehensive minimum standard for internationally active banks, which is designed as a simple backstop to complement the Basel III risk-based capital standard. Aggregate exposures to single or linked counterparties will, for the most part, be limited to 25% of a bank’s Tier 1 capital. A stricter 15% limit will apply to exposures between G-SIBs.

During the year, the HKMA conducted a quantitative impact study (QIS) to calibrate proposed revisions to the existing limits in section 87 (Limitation on shareholding by authorized institutions) of the Banking Ordinance.

Updating other supervisory policies and risk management guidelines

The HKMA updated and re-issued the SPM module on the “Supervisory Review Process” in April to reflect changes to the supervisory framework (such as the CCyB and its interaction with the Pillar 2 capital requirement).

Banking Stability

Accounting standards

Following the release of International Financial Reporting Standard 9 (IFRS 9) *Financial Instruments* by the International Accounting Standards Board in July 2014, various initiatives have been undertaken by standard-setting bodies to promote the robust and consistent application of IFRS 9 (or of its counterpart, the expected credit loss accounting framework of the US Financial Accounting Standards Board) across jurisdictions. These include the issuance of supervisory guidance on credit risk and accounting for expected credit losses by the Basel Committee in December 2015, and two subsequent documents in October 2016 relating to the regulatory treatment of accounting provisions based on expected credit loss (i.e. the Consultative Document on *“Regulatory treatment of accounting provisions — interim approach and transitional arrangements”* and the Discussion Paper on *“Regulatory treatment of accounting provisions”*). Domestically, the HKMA conducted a survey in June 2016 to facilitate its assessment of locally incorporated Als’ progress in adopting the new IFRS 9 requirements and their potential impact on Als’ business operations. Discussions are ongoing with auditors on Als’ preparation for the implementation of IFRS 9.

During the year, the HKMA also continued its regular dialogue with the Banking Regulatory Liaison Group of the Hong Kong Institute of Certified Public Accountants (HKICPA) on topics of common interest. These included international and domestic developments in relation to new or revised accounting, auditing and financial reporting standards and their implications for banks, as well as major international and domestic banking regulatory developments.

Resolution

The Financial Institutions (Resolution) Ordinance (FIRO) was enacted by the Legislative Council on 22 June 2016 for the purpose of establishing a cross-sectoral resolution regime in Hong Kong reflecting the standards set out in the FSB’s *Key Attributes of Effective Resolution Regimes for Financial Institutions*. The regime is designed to mitigate the risks which a failing financial institution may pose to the stability and effective working of the local financial system. It provides the authorities with a set of tools targeted at securing continuity of critical financial services whilst still imposing the cost of failure on the shareholders and creditors of the financial institution, thereby minimising the risks posed to public

funds. The FIRO appoints the sectoral regulators in Hong Kong as resolution authorities for institutions under their respective purviews. Accordingly, once the FIRO comes into force, the Monetary Authority will be the resolution authority for Als with responsibility for setting resolution strategies for individual Als, conducting resolution planning, assessing whether the conditions for initiating resolution are met and, if so, applying the appropriate resolution tools to achieve the objectives of the regime.²

The FIRO will start operation on a date to be appointed by the Secretary for Financial Services and the Treasury. At the same time, a regulation is intended to be made as subsidiary legislation under the FIRO, designed to preserve the economic effect of certain structured finance, security, set-off, netting and title transfer arrangements and the operation of specified clearing and settlement systems when a resolution authority deploys selected resolution tools under the Ordinance. A public consultation on the proposed treatment of these arrangements was launched in November 2016 and concluded in January 2017.³

From an international and regional perspective, the HKMA actively participated during the course of the year in a range of forums focused on establishing international standards for resolution and developing operational cross-border resolution plans for systemically important banks. On resolution policy, as a FSB member, the HKMA contributed to the development of standards on bail-in execution, continuity of access to financial market infrastructures (FMIs) for entities in resolution and internal Total Loss-Absorbing Capacity (i-TLAC). On resolution planning, the HKMA attended the crisis management groups (CMGs) of 12 G-SIBs organised by the relevant home authorities to develop resolution strategies for individual banks, assess the resolvability of each banking group and identify any structural changes required to remove barriers to resolvability. The HKMA also took the lead in organising an annual regional CMG for a local banking subsidiary of a major international bank attended by the host regulators from the Asia Pacific region.

² The Monetary Authority will also be the resolution authority for a small number of financial market infrastructures which are designated by the Monetary Authority as a designated clearing and settlement system under section 4(1) of the Payment Systems and Stored Value Facilities Ordinance (Cap. 584) (other than those which are wholly owned or operated by the Monetary Authority).

³ http://www.hkma.gov.hk/media/eng/doc/key-functions/banking-stability/resolution/Protected_Arrangements_Regulations_CP_eng.pdf

Banking Stability

Bank consumer protection

Code of Banking Practice

The HKMA followed up with AIs in the first quarter of 2016 to monitor their implementation of the revised code, which took effect on 6 February 2015, with full compliance expected by 5 February 2016. The HKMA will continue to monitor AIs' compliance as part of its ongoing supervisory process.

Financial inclusion

In line with the spirit of promoting a customer-centric culture and fostering financial inclusion, the banking industry responded positively to the HKMA's call for the provision of adequate basic banking services to the public. Several retail banks have leveraged on new technology while retaining human touch in customer interface, and launched initiatives, including mobile branches and video teller machines in remote areas and public housing estates, to enhance access to basic banking services.



HKMA Chief Executive, Mr Norman Chan, officiates at the opening ceremony of a mobile bank branch.



HKMA Chief Executive, Mr Norman Chan, officiates at the launching ceremony of a bank's video teller machine at Shui Chuen O Estate.

Banking Stability

Opening and maintaining bank accounts

During the year, there were comments made through different sources that some corporate customers, most notably small and medium-sized enterprises (SMEs) and start-up companies from overseas, have experienced difficulties in opening and maintaining bank accounts in Hong Kong. While this problem does not appear to be an industry-wide issue but is pertinent among one or two AIs, the concern expressed by the business community was strong and the situation could affect the perception about Hong Kong as a welcoming financial and business hub.

It is recognised that the international community had tightened the requirements and standards for combating money laundering, tax evasion and terrorist financing over the past decade. Therefore, in line with the global trend, banks in Hong Kong have put in place more stringent controls in their account-opening and CDD procedures for existing and new customers. Apart from local requirements, some AIs in Hong Kong, for a variety of reasons, also need to comply with requirements or standards mandated by their head offices or overseas authorities.

The HKMA is concerned that SMEs and start-up companies which are planning to carry out bona fide businesses in Hong Kong – no matter established locally or in overseas jurisdictions – may be subject to overly stringent requirements and treatment when opening and maintaining bank accounts. A series of steps have therefore been taken to deal with the matter. The HKMA engaged various stakeholders to gather specific incidents of the problem and followed up with the AIs concerned. A list of about 20 AIs of different niches and a variety of local or foreign backgrounds, which indicated interests in exploring businesses with foreign SMEs and start-ups, has been provided to InvestHK for sharing with interested foreign companies that may wish to seek assistance to open bank accounts in Hong Kong. We also hosted several sharing sessions in August and September to facilitate direct exchange of views and foster co-operative relationships among the business community and AIs.

On 8 September, the HKMA issued a circular to AIs, explaining how the risk-based approach should be applied to CDD process at account opening and maintenance. The

circular emphasised that the risk-based approach was not a “zero failure” regime and AIs were not required to implement overly stringent CDD processes with a view to eliminating, ex-ante, all risks. It also emphasised the importance of AIs’ engaging with customers to ensure they were treated fairly, particularly with respect to transparency, reasonableness and efficiency. On 29 September, the HKMA further issued a circular to AIs to clarify some commonly misinterpreted CDD requirements.

In response to the HKMA’s guidance, AIs have taken steps to improve the account opening process, for example, by shortening the turnaround time, providing interim updates about the progress of applications and establishing review mechanisms for unsuccessful applications. Some AIs also adjusted their practices to be more risk-based so that they would no longer request customers to provide decades-old information as proof of their source of wealth. At the same time, some local and international AIs have actively expanded their SME business in Hong Kong, providing greater convenience from account opening to business support. The HKMA has also requested the banking industry to explore opportunities to further co-operate with, and leverage on, the government platform to reach out to the SME community and provide SMEs with up-to-date information about banking services.

Based on the feedback received from different sources, customer experience is beginning to improve in some aspects. Execution issues and inconsistent application of information requirements by different bank staff were noted in some cases, and the banks concerned were required to scrutinise their policies, procedures and practices to identify gaps and make improvements to execution issues, e.g. review the design of letter templates for greater clarity and avoid mis-understanding on documentation requirements, and to step up staff training to enhance professional knowledge and effective customer communications. While there is no easy quick fix, the HKMA will continue to work with the banking industry, business community and relevant stakeholders to deal with this global and complex issue. Our aim is to maintain a robust AML/CFT regime in Hong Kong that does not undermine access by legitimate businesses and ordinary citizens to basic banking services.

Banking Stability

Engagement of intermediaries by AIs

Various policies and measures were introduced to help further protect the interests of bank consumers. In particular, following the HKMA's reminders to the public to stay alert to bogus phone calls, retail banks' hotlines have been widely and effectively used by the public to verify callers' identity, with 2,400 to 3,400 of such enquiries received by banks' hotlines each month. In addition to requiring all AIs to cease the use of intermediaries for sourcing customers for retail non-collateralised financial products or services, the HKMA introduced in November measures to further enhance customer protection. When proceeding with a loan application referred by a third party, AIs have to ensure that the third party concerned is appointed by the AIs and that the prospective borrowers are not charged any loan-related fees by that third party. AIs are also expected to join efforts to educate the public about responsible borrowing.

Enhancing customer communication regarding US Foreign Account Tax Compliance Act (FATCA) and Automatic Exchange of Information (AEOI)

In view of the developments in relation to global efforts on tax transparency, which also require co-operation with bank customers particularly in terms of information collection and updating, the HKMA has worked closely with the industry to improve customer communication. The HKMA has worked with HKAB to enhance the FATCA Fact Sheet previously developed by HKAB so as to better address the commonly asked questions by bank customers on what is required of them under FATCA. Regarding AEOI, the HKMA worked closely with the industry through the Joint Working Group under HKAB and the Private Wealth Management Association (PWMA) to set out high-level guiding principles for banks to take into account the customers' perspective when developing customer communication channels and materials for AEOI implementation. On 11 October, the HKMA issued a circular reminding AIs to adopt a balanced approach in meeting the statutory obligations under the AEOI regime, while treating customers fairly in the process. The HKMA also participated in three briefing sessions organised by HKAB and PWMA in October and December for their members, covering, among other topics, customer engagement principles that banks need to pay attention to when implementing AEOI.

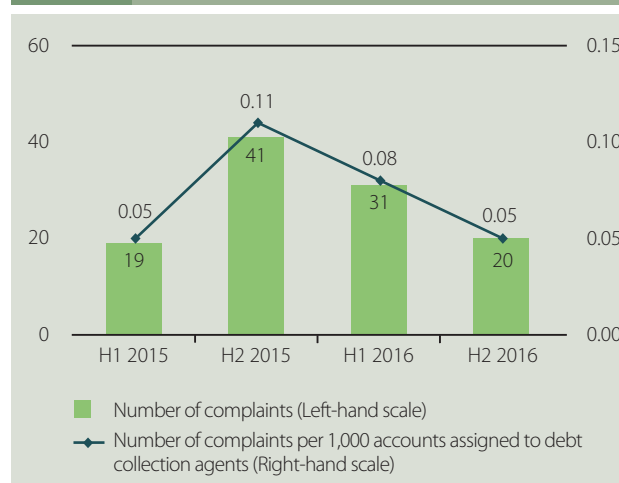
Credit data sharing

At the end of 2016, 110 AIs and AI subsidiaries shared commercial credit data through the Commercial Credit Reference Agency. The scheme contains the credit data of more than 121,300 business enterprises, about 15% of which were sole proprietorships and partnerships.

Customer complaints relating to debt collection agents employed by AIs

The number of complaints received by AIs about their debt collection agents decreased to 51 from 60 in 2015 (Chart 2). The HKMA will continue to monitor AIs' engagement with debt collection agents.

Chart 2 Complaints received by AIs about their debt collection agents



Deposit protection

The Deposit Protection Scheme (DPS) continued to provide protection to each depositor up to a limit of HK\$500,000 per bank. The Deposit Protection Scheme (Amendment) Ordinance 2016 (Amendment Ordinance) was passed by the Legislative Council on 17 March and took effect on 24 March.

Banking Stability

The Amendment Ordinance allows the adoption of a gross payout approach for determining compensation payments to speed up the process. Adjustments were conducted on the operations of the DPS, including updating payout policy and procedures, and revising the contribution assessment and reporting requirements, to improve efficiency. These improvements have resulted in the target payout time frame for making full compensation payments to depositors being significantly shortened from the previous six weeks to within seven days in most cases.

The efforts on publicity and community education continued during the year and helped maintain a high level of public awareness of the DPS. To tie in with the 10th anniversary of the DPS, a Deposit Story Competition was held and attracted overwhelming support from different walks of life. A new series of promotional videos was produced from the winning stories and aired at multifaceted channels from social media to out-of-home platforms to enhance the emotional connection with the value of DPS protection.

Licensing and director empowerment

At the end of 2016, Hong Kong had 156 licensed banks, 22 restricted licence banks, 17 deposit-taking companies and 16 approved money brokers (AMBs). During the year, the HKMA granted banking licences to three foreign banks and approved one money broker incorporated outside Hong Kong. Four licensed banks, two restricted licence banks and one deposit-taking company had their authorization revoked during the year.

As part of the wider efforts to promote board governance and help empower INEDs to play their important roles, the HKMA commissioned a small group of experts on corporate governance in July 2015 to undertake a study of the role of INEDs in the local banking sector and to provide with their observations and recommendations to ensure there are sufficient suitably qualified people willing to serve as INEDs on AI boards. After consultations with the banking industry and relevant stakeholders on recommendations by the expert group, a circular “Empowerment of independent non-executive directors in the banking industry in Hong Kong”

was issued on 14 December. It set out guidance covering six areas, namely (i) constituting the board and its committees; (ii) INEDs of AIs: roles, qualities and background, time commitment; (iii) independence and tenure; (iv) remuneration of INEDs; (v) board practices in relation to INEDs; and (vi) training and development requirements for INEDs. AIs are expected to implement the guidance within one year of the date of the circular.

Enforcement

Banking complaints

The HKMA received 1,745 complaints against AIs and their staff members, a 9% increase from the previous year, and completed the handling of 1,729 cases in 2016. At the end of the year, the total number of outstanding cases was 555 (Table 5).

Table 5 Banking complaints received by the HKMA

	2016			2015
	Conduct-related issues	General banking services	Total	Total
In progress on 1 January	218	321	539	400
Received during the year	247	1,498	1,745	1,608
Completed during the year	(222)	(1,507)	(1,729)	(1,469)
In progress on 31 December	243	312	555	539

Complaints relating to the provision of banking services continued to rank highest in 2016 with a slight decrease of 3% to 231 cases. Complaints concerning AIs’ refusal to open accounts dropped significantly by 47% to 48 cases in 2016. This was offset by a rise in complaints concerning freezing of accounts and closure of accounts. Changes in the mix of these complaints reflected that, in complying with the local and overseas regulatory requirements, AIs adopted stringent CDD measures in ongoing transaction monitoring and review of customer profiles to identify high-risk customers, particularly for corporate accounts.

Banking Stability

Complaints relating to mis-selling of investment, insurance and investment-linked assurance scheme (ILAS) products decreased by 6% to 164 cases due to a decrease in complaints relating to mis-selling of insurance and ILAS products. However, due to the continued depreciation of the renminbi, there were additional complaints relating to mis-selling of foreign exchange accumulators linked to renminbi from corporate customers.

Complaints concerning disputes over credit card transactions surged by 104% to 147 cases in 2016 mainly due to the closure of a fitness gymnasium chain in July.

Complaints concerning client agreements increased by 86% to 136 cases. These included termination of banking facilities or changes to or insufficient disclosure of the terms and conditions of existing contracts (Chart 3).

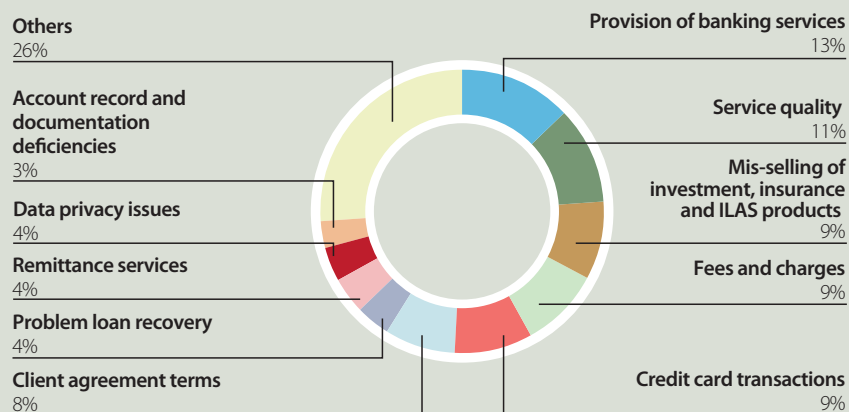
Enforcement action

The HKMA has continued to investigate or otherwise follow up issues arising from banking complaints or examinations during the year that raised possible concerns regarding compliance with laws and regulatory requirements and fitness and properness. This has resulted in referral of over 30 cases to relevant financial regulators for appropriate action, issuance of 48 compliance advice letters to AIs and their staff who were found not to have acted in full compliance with the relevant regulatory requirements, and other supervisory outcomes. Disciplinary sanctions, ranging from suspension to life ban, were imposed during the year by the SFC on seven former relevant individuals following referrals by the HKMA.

Complaints Watch

As a continuing initiative to promote proper standards of conduct and prudent business practices among AIs, three issues of *Complaints Watch* were published in 2016, drawing AIs' attention to trends in banking complaints and emerging topical issues. The topics covered in *Complaints Watch* included: selling of foreign exchange accumulators linked to renminbi; leakage of customers' personal data; verification of customer's permanent residency status based on Hong Kong Identity Card; effective handling of complaints related to SMS messages sent to unrelated third-parties; Automated Teller Machine/Cash Deposit Machine disputes; and imposition of Below Balance Fee.

Chart 3 Types of services or products concerned in banking complaints received by the HKMA



Banking Stability

Oversight of financial market infrastructures

The HKMA issued a policy statement in 2013 setting out its approach to the oversight of FMIs under its purview. The policy objectives of the HKMA in overseeing these FMIs are to promote their general safety and efficiency, limit systemic risk and foster transparency. The aim is to make the FMIs more resilient to financial crises and protect the monetary and financial systems in Hong Kong from possible destabilising effects arising from disruption to the FMIs. The policy statement, which is available on the HKMA website, is updated from time to time to reflect changes to the oversight framework.

The Payment Systems and Stored Value Facilities Ordinance (PSSVFO) empowers the Monetary Authority to designate and oversee clearing and settlement systems that are material to the monetary or financial stability of Hong Kong, or to the functioning of Hong Kong as an international financial centre. The purposes of the PSSVFO include promoting the general safety and efficiency of the designated clearing and settlement systems: the Central Moneymarkets Unit (CMU), the Hong Kong dollar Clearing House Automated Transfer System (CHATS), the US dollar CHATS, the Euro CHATS, the Renminbi CHATS and the Continuous Linked Settlement (CLS) System.

The HKMA is also responsible for overseeing the OTC Derivatives Trade Repository (HKTR). Since it is not a clearing or settlement system, the HKTR is not designated as such under the PSSVFO. However, it is the policy intention of the HKMA to oversee the HKTR in the same way, and applying, where relevant, the same standards, as the other designated clearing and settlement systems under its purview. All the designated clearing and settlement systems and the HKTR are treated as FMIs in Hong Kong.

The HKMA adopts international standards in its oversight framework for FMIs. The Committee on Payments and Market Infrastructures (CPMI) of the Bank for International Settlements and the Technical Committee of the IOSCO published the Principles for Financial Market Infrastructures (PFMI) in 2012. The PFMI constitutes the latest international standards for the oversight of FMIs, including systemically important payment systems, central securities depositories,

securities settlement systems, central counterparties and trade repositories. The HKMA and the SFC jointly issued a policy statement in March 2013 on the adoption of the PFMI for the systemically important FMIs in Hong Kong. To implement the requirements under the PFMI, the HKMA issued a new statutory guideline on “Application of Principles for Financial Market Infrastructures to Designated Clearing and Settlement Systems” under the PSSVFO and revised the guidelines on designated clearing and settlement systems and trade repository.

Except for the CLS System, the HKMA oversees other FMIs under its purview through off-site reviews, continuous monitoring, on-site examinations and meetings with management. All the FMIs continued to comply with relevant requirements.

During the year, the HKMA continued to work with FMIs under its purview to ensure observance of the PFMI. Substantive progress has been made by the FMIs to align with the PFMI requirements. The HKMA has completed PFMI assessments on FMIs under its oversight and published the assessment results on its website. All the FMIs have also published Disclosure Frameworks, which is a key requirement under the PFMI to improve transparency by disclosing system arrangements principle by principle.

International participation

The HKMA is a member of the CPMI and participates in meetings, working groups and forums on FMI oversight matters. It also participates in the CPMI-IOSCO Implementation Monitoring Standing Group, which is responsible for monitoring and assessing the implementation of the PFMI by different jurisdictions.

In addition to participating in the monitoring and assessment of other jurisdictions, the HKMA is also one of the parties being assessed. In 2016, the HKMA participated in the Level 2 assessment, which examined whether a regulatory authority had effectively implemented the principles for overseeing FMIs. The assessment found that the HKMA had duly implemented the PFMI into its oversight framework, and obtained the highest rating in all relevant principles for the FMIs under its purview. The assessment report will be published in the first half of 2017.

Banking Stability

The HKMA is also a member of the Oversight Forum of the global message carrier SWIFT, which discusses relevant oversight matters and shares SWIFT-related information. Hong Kong's AIs and FMIs use and rely on SWIFT's services and may be exposed to risks in the event of any disruption to its operations. During the year, the HKMA attended meetings and teleconferences to discuss matters of interest with other members of the Forum including cybersecurity.

The HKMA participates in the international co-operative oversight of the CLS System through the CLS Oversight Committee. The CLS System is a global clearing and settlement system operated by the CLS Bank for cross-border foreign exchange transactions. It enables foreign exchange transactions involving the CLS-eligible currencies, including the Hong Kong dollar, to be settled on a payment-versus-payment (PvP) basis. During the year, the HKMA attended various meetings and teleconferences of the CLS Oversight Committee to discuss operational and development matters as well as Hong Kong dollar-specific issues to ensure the CLS System continued to meet the safety and efficiency requirements under the PSSVFO.

The HKMA also held discussions with relevant overseas authorities to further strengthen the co-operative oversight of links between the FMIs in Hong Kong and those overseas. In particular, the HKMA has established co-operative oversight arrangements with overseas regulators for the PvP links between the US dollar CHATS and the Malaysian ringgit, Indonesian rupiah, and Thai baht Real Time Gross Settlement systems. The HKMA also held bilateral meetings with the National Bank of Belgium to discuss matters concerning the links between the CMU and the international central securities depository, Euroclear.

Independent tribunal and committee

An independent Payment Systems and Stored Value Facilities Appeals Tribunal has been established to hear appeals against decisions of the Monetary Authority on licensing and designation matters under the PSSVFO. There has been no appeal since the establishment of the tribunal. An independent Process Review Committee (Committee), whose

members are appointed by the Chief Executive of the Hong Kong Special Administrative Region, reviews processes and procedures adopted by the HKMA in applying standards under the PSSVFO to systems in which the HKMA has a legal or beneficial interest. The Committee assesses whether the HKMA has applied the same procedures to all designated clearing and settlement systems. The Committee met twice in 2016 and reviewed four regular reports and 22 accompanying oversight activities management reports. The Committee concluded that it was not aware of any case where the HKMA had not duly followed the internal operational procedures, or where the HKMA had not been procedurally fair in carrying out its oversight activities. Under its terms of reference, the Committee submitted its annual report to the Financial Secretary, which is available on the HKMA website.

Compliance with the regulatory regime for OTC derivatives market

The HKMA monitors AIs' and AMBs' compliance with the mandatory reporting and related record keeping requirements on OTC derivatives transactions stipulated in the Securities and Futures Ordinance that came into effect in July 2015. Where necessary, the HKMA will follow up with AIs and AMBs on matters of compliance concern.



HKMA Deputy Chief Executive, Mr Arthur Yuen, speaks at the press conference on 2016 Year-end Review and Priorities for 2017 for the Hong Kong Banking Sector.

Banking Stability

PLANS FOR 2017 AND BEYOND

Supervisory focus

Supervision of operational and technology risks

The HKMA will devote more resources to the supervision of technology risk to keep pace with the fintech initiatives of the banking industry and to cope with the growing threats posed by cyber attacks. In 2017, the HKMA will monitor the industry's implementation of the CFI. A round of thematic reviews focused on Als' cybersecurity controls will be undertaken. In addition, the HKMA plans to conduct a review of its supervisory guidance on business continuity planning and outsourcing, having regard to technological advancement and industry development.

Supervision of treasury activities and liquidity risk

After the interest rate hike in the US in December 2016, the financial markets expect the pace of interest rate normalisation to pick up in 2017. The new US administration, which assumed office in January, is expected to make changes to its fiscal and trade policies. These have led to renewed volatilities in financial markets. Upcoming political events in Europe, including the Brexit negotiations and the presidential and parliamentary elections in other European countries, may present further challenges to the financial sector. The risk of fund outflow from Hong Kong should not be underestimated.

The HKMA will continue to be vigilant and further step up its supervision of liquidity risk. The HKMA will assess Als' preparedness to cope with significant fund outflow more critically and enhance its liquidity stress testing. On-site examinations and thematic reviews will be conducted on Als' liquidity risk management controls, as well as controls over interest rate risk and counterparty credit risk associated with Als' debt securities portfolios.

Supervision of credit risk

The uncertain business environment in Hong Kong and Mainland China is expected to present continued challenges to Als in managing their asset quality. The supervision of credit risk will therefore remain a key supervisory focus of the HKMA in 2017. Proactive steps will be taken to ensure that Als have in place adequate and effective systems for managing credit risk. On-site examinations and thematic reviews will be undertaken to assess the robustness of Als' loan classification and provisioning systems.

Prevention of money laundering and terrorist financing

The HKMA will continue its work in the implementation of the risk-based approach to ensure Als focus on those customers and activities that genuinely present the highest risk of ML/TF. The HKMA's risk-based supervisory work will also include thematic reviews on Als' sanctions compliance controls and quality assurance functions, including internal audit and compliance functions.

The HKMA will continue to support AML/CFT policy development and review Hong Kong's legal and regulatory requirements for AML/CFT purposes to ensure they are up to date and aligned with the latest international standards and practices. A collaborative partnership with the industry will continue to be maintained in various areas including, for example, developing industry guidance.

Supervision of wealth management and MPF-related businesses

The HKMA will:

- ◆ continue to communicate closely with other regulators and the banking industry to provide guidance on the regulatory standards in relation to the sale of investment and insurance products;
- ◆ continue to collaborate with the SFC on supervision of financial groups consisting of RIs and licensed corporations;
- ◆ continue to conduct on-site examinations and off-site surveillance of Als' conduct in the selling of securities, MPF and other investment and insurance products, including accumulators, debt securities, investment funds and NLTI products, as well as Als' compliance with new regulatory requirements;
- ◆ co-operate with the Government and the Insurance Authority on the preparatory work for implementing the new statutory regime for regulating insurance intermediaries; and
- ◆ maintain dialogue with, and provide guidance to, the industry to promote a customer-centric culture and good conduct of the banking sector.

Banking Stability

Implementation of Basel standards in Hong Kong

Capital standards

The HKMA intends to amend the BCR to incorporate a collection of the Basel Committee capital standards scheduled to take effect from 1 January 2018. These include:

- ◆ the revised securitisation framework;
- ◆ the Basel III leverage ratio (currently Als are required to disclose their leverage ratio and it will become a binding minimum capital requirement from 2018); and
- ◆ the regulatory capital treatment of expected loss provisions required under the new (IFRS 9) accounting framework.

The amendments to the BCR should also, depending on the implementation schedules in other major markets, include those standards that were originally due for implementation in January 2017 but were deferred, tentatively, to January 2018 to better align with progress overseas (namely the capital standards on Als' counterparty credit risk exposure and in respect of their exposure to central counterparties and equity investments in funds).

The final elements of the Basel Committee's post-crisis regulatory reform package were initially expected to be issued in January 2017. Ultimately, issuance was deferred pending further negotiations. The objectives of these final reforms are to reduce excessive variability in the risk-weighted asset (RWA) side of the regulatory capital ratios, enhance the risk-sensitivity of the capital framework for credit and operational risk and finalise the calibration of certain elements of the Basel III leverage ratio.

The proposed reforms include a revised standardised approach for credit risk with increased granularity and risk-sensitivity; a revised IRB approach for credit risk that reduces excessive RWA variability by further constraining the use of internal models in respect of exposure types or model parameters that are less amenable to being estimated sufficiently reliably; a streamlined operational risk framework removing the existing model-based Advanced Measurement Approaches and introducing a new standardised approach to replace the three existing non-model-based approaches; a capital output floor to replace the existing Basel I-based capital floor; and the finalised calibration of certain aspects of the Basel III leverage ratio designed to eventually replace those in the existing standard Basel III leverage ratio framework and disclosure requirements published by the Basel Committee in January 2014.

Once the final elements of the reform package are issued, the HKMA intends to consult the banking industry locally on their implementation in Hong Kong.

With regard to market risk, the Basel Committee issued revised standards on the minimum capital requirements for market risk in January 2016 following the completion of its fundamental review of the trading book. The HKMA's intention is to implement the revised market risk capital framework in accordance with the Basel Committee's timetable by 1 January 2019 with reporting by banks under the new standards from 31 December 2019. The HKMA expects to consult the industry on its implementation proposals for Hong Kong in 2017.

Banking Stability

Implementation of Basel standards in Hong Kong (continued)

Interest rate risk in the banking book

In April 2016, the Basel Committee issued new standards on interest rate risk in the banking book, fundamentally updating its earlier 2004 principles on this important risk category. The new standards continue to follow an “outlier-based” Pillar 2 approach, but include a more sophisticated and more comprehensive set of measures to identify banks with significant exposures to interest rate risk in their banking books. The HKMA intends to consult the industry on its planned approach for local implementation of the standards in 2017. The standards are scheduled by the Basel Committee to be implemented by 1 January 2018.

Disclosure standards

The HKMA will, following industry consultation, revise the SPM module “Guideline on the Application of the Banking (Disclosure) Rules” to reflect the changes made to the Banking (Disclosure) Rules (BDR) by the Banking (Disclosure) (Amendment) Rules 2016.

In March 2017, the Basel Committee released the *Pillar 3 disclosure requirements — consolidated and enhanced framework* to consolidate the disclosure requirements associated with the existing Basel III capital and liquidity standards, and with those arising from the Committee’s later policy development work relating, for instance, to the regulatory capital treatment of banks’ holdings of other banks’ TLAC instruments and to interest rate risk in the banking book. The HKMA will implement these requirements through appropriate amendment of the BDR, coupled with the release of additional templates and tables, following consultation with the industry.

Liquidity standards

The HKMA will develop a set of Banking (Liquidity) (Amendment) Rules 2017 to incorporate into the BLR the requirements for the calculation of the NSFR (for category 1 institutions) and the CFR (for certain category 2 institutions). New returns will be developed to facilitate the reporting of the NSFR and the CFR by different categories of AIs.

Banking Stability

Development of Supervisory Policies

Counterparty credit risk

The HKMA will update the SPM module on “Counterparty Credit Risk Management” with a view to conducting industry consultation during 2017. The primary objective of the revision is to bring the guidance into line with the latest capital treatment and risk management practices for counterparty credit risk arising from derivative contracts and securities financing transactions.

Exposure limits

Following the industry consultation on the proposed revisions to the exposure limits framework in March 2016, the HKMA is conducting local QIS in the first half of 2017 to test the impact of the policy proposals. A legislative bill will be prepared to amend Part XV of the Banking Ordinance to grant the Monetary Authority a power to make rules prescribing the proposed new exposure limits.

External audits of banks

In March 2014, the Basel Committee issued revised supervisory guidance on the *External audits of banks*. The guidance aims to improve audit quality by raising the bar in relation to what supervisors expect from banks’ external auditors and audit committees. The HKMA intends to issue updated supervisory guidance for AIs reflecting the Basel Committee’s revisions.

Updating other supervisory policies and risk management guidelines

In addition to the SPM modules specifically mentioned above, the HKMA also plans to update a selection of other modules to incorporate the latest guidance issued by the Basel Committee and other international standard-setters. These include the SPM module on the validation of risk-rating systems under the IRB approach for credit risk.

Banking Stability

Accounting standards

With the impending application of IFRS 9 to banks, the HKMA will update its prudential framework for AIs as appropriate, taking into account the related standards and guidance issued by the Basel Committee. This will involve consideration of the allocation of expected credit losses pertaining to exposures that are classified under IFRS 9, as general or specific provisions for the purposes of the regulatory capital framework; as well as the interaction between the regulatory reserve requirement and the expected loss provisions to be made by AIs under the new accounting standard. The HKMA will maintain close contact with the HKICPA and the banking industry in preparation for the implementation of IFRS 9.

Resolution Office

The HKMA established a Resolution Office on 1 April 2017 that is operationally independent and reports directly to the Chief Executive of the HKMA.⁴

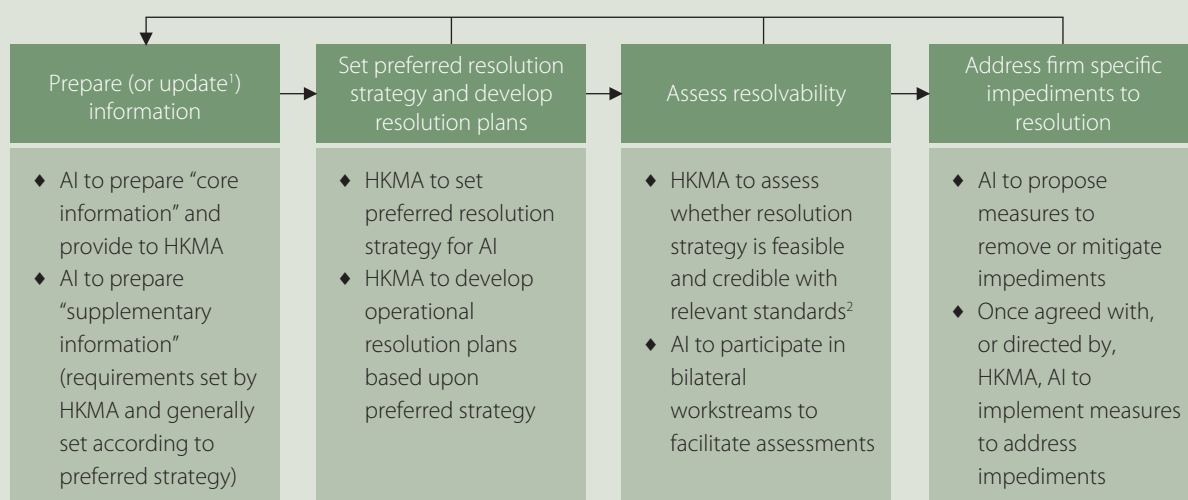
A key priority for the new Resolution Office in 2017 will be to begin the development of rules relating to the loss absorbing capacity (LAC) of AIs (see Table 6) and to the contractual recognition of the application of certain resolution actions as envisaged under the FIRO. The intention is to begin consultation on proposals for the former by the end of 2017.

Under the FIRO the resolution authorities may issue a code of practice relating to their functions under the Ordinance. A chapter of this code regarding the core information requirements underpinning resolution planning for AIs, is expected to be published once the FIRO comes into effect.

The Resolution Office will continue to advance resolution planning with individual AIs with a focus on those posing the greatest systemic risk in Hong Kong. Chart 4 sets out an overview of the HKMA's intended approach to resolution planning.

The Resolution Office will also focus on enhancing the HKMA's organisational readiness for resolution, including cross-border arrangements for co-operation in resolution and the practical operation of the resolution tools under the FIRO.

Chart 4 Resolution planning



1. Resolution planning is a continuous process and core information should be updated at least every two years.

2. Resolution standards will be defined in relation to matters that have been found to commonly result in impediments to resolution, for example: loss absorbing and recapitalisation capacity; operational services continuity in resolution; termination rights risk in financial contracts; resolution valuations capability; access to payment, settlement and clearing services; liquidity & collateral reporting capability; and post-stabilisation restructuring capability.

⁴ <http://www.hkma.gov.hk/eng/key-information/press-releases/2017/20170317-3.shtml>

Banking Stability

Table 6 **Loss absorbing capacity**

LAC requirements are intended to ensure that financial institutions are financed in such a way that, if they were to fail, a resolution authority could use the financial institution's financial resources contributed by its shareholders and certain creditors to absorb losses and recapitalise the institution, ultimately avoiding the cost of failure being borne by the public purse.

The FIRO provides for resolution authorities in Hong Kong to make rules prescribing minimum LAC requirements for institutions within the scope of the ordinance. The HKMA intends to issue LAC rules that align with international best practices but are tailored to the local context. The HKMA's objective will be to devise minimum LAC requirements such that Als have in place sufficient LAC to support the execution of the HKMA's preferred resolution strategy for them.

Key LAC design considerations will include:

- ◆ Defining the scope of Als required to meet a minimum LAC requirement;
- ◆ Defining minimum LAC requirements under different resolution strategies;
- ◆ Defining eligible instruments for the purposes of meeting LAC requirements, including the nature of LAC subordination requirements and any minimum debt (as opposed to equity) requirement within such instruments;
- ◆ Interaction between the LAC rules and the regulatory capital framework; and
- ◆ Treatment of Als' holdings of other banks' LAC instruments to minimise contagion risk.

Recovery planning

The HKMA will continue with the implementation of the recovery planning requirements for Als that were first introduced in June 2014. In 2017, the HKMA intends to roll out recovery planning requirements to Als more widely, including foreign bank branches. The HKMA also intends to take the opportunity of a Banking (Amendment) Bill to incorporate more explicit recovery planning provisions into the Banking Ordinance.

Bank consumer protection

The HKMA will continue to promote good banking practices through participating in, and providing advice to, the Code of Banking Practice Committee of HKAB. It will continue to monitor Als' compliance with the code through Als' self-assessment, on-site examinations, mystery shopping programmes and handling relevant complaints on Als. The HKMA has also started working with the industry associations in reviewing some of the code provisions, based on customer complaints and enquiries it has received, in order to further enhance protection for customers.

Banking Stability

The HKMA will continue its effort to develop a customer-centric culture among AIs and foster financial inclusion by retail banks, especially securing reasonable access to basic banking services by the public. Recognising the importance of banks' corporate cultures in shaping the behaviour of their staff, the HKMA has provided in March 2017 further guidance to the industry and shared effective practices that help promote sound bank culture. The HKMA will also continue to participate in international efforts to drive better protection for financial consumers through participation in the Organisation for Economic Co-operation and Development Task Force on Financial Consumer Protection.

Opening and maintaining bank accounts

The HKMA plans to commission mystery shopping programmes in 2017 to monitor the effectiveness of banks' measures in improving customer experience in account opening. The HKMA is also working with the industry association and international standard setting bodies to seek to better manage some of the burden associated with CDD requirements through innovation and technology, including the use of Know-Your-Customer Utilities in account opening processes.

Credit data sharing

The HKMA will work with the industry to promote credit data sharing, as its continued development will help strengthen the credit risk management capacity of AIs.

Deposit protection

Continued efforts will be made to ensure and improve the payout readiness of the DPS. A full-scope payout rehearsal is planned to be conducted to test the capability of the Hong Kong Deposit Protection Board (the Board) and its network of service providers to meet the new target payout timeframe under the gross payout approach. Payout infrastructure will be upgraded with enhanced servers to further improve the resilience and performance of the payout system. The Board will continue to execute the compliance programme for monitoring DPS members' readiness in submitting the data and information in accordance with the Information System Guideline.

Annual self-assessments and on-site examinations will continue for monitoring the compliance of DPS members with the representation requirements on DPS membership and protection status of financial products. Publicity and community education campaigns will be undertaken to reinforce public understanding of the DPS.

Enforcement

In addition to focusing on mis-selling affecting the interests of the investing public and cases involving misconduct and dishonesty on the part of regulated persons, the HKMA will continue to deploy resources to enforce compliance with the AMLO, to pursue material contraventions of the OTC derivatives regime involving damage or potential damage to the integrity of the securities market or the financial stability of Hong Kong and to enforce the new statutory framework for stored value facilities. The HKMA will continue its close co-operation and dialogue with other local and overseas financial regulators to further strengthen the enforcement framework.

Oversight of financial market infrastructures

The HKMA will continue to promote the safety and efficiency of the FMIs under its oversight in accordance with the PSSVFO and the PFMI.

The HKMA will work with the FMIs on their observance of the PFMI. Assessments will be conducted and updated as required, and the HKMA will continue participating in the CPMI-IOSCO PFMI implementation monitoring and assessment exercise. Where appropriate, oversight requirements will be strengthened to reflect international practices or in response to market developments. The HKMA will continue to work with the relevant authorities to further strengthen co-operative oversight arrangements where appropriate.

Compliance with the regulatory regime for OTC derivatives market

The HKMA will continue to monitor AIs' and AMBs' compliance with the regulatory regime for OTC derivatives market in accordance with the statutory requirements.

International Financial Centre

Hong Kong remained the global hub for offshore renminbi business. The tax changes last year helped create a conducive environment to attract multinational companies to establish their corporate treasury centres in Hong Kong. The Infrastructure Financing Facilitation Office and the Fintech Facilitation Office were established last year as part of our efforts to develop Hong Kong as an infrastructure financing centre and a fintech hub respectively. During the year, the HKMA granted 13 licences to stored value facility issuers. Hong Kong's robust fiscal performance and strong external positions continued to be recognised by credit rating agencies, with Standard & Poor's maintaining its AAA rating for Hong Kong.

OVERVIEW

Offshore renminbi business moderated globally in 2016 due to volatilities in global financial markets and uncertainties surrounding the renminbi exchange rate outlook. Despite this, Hong Kong remained the global hub for offshore renminbi business, processing about 70% of renminbi payment activities worldwide. The Shenzhen-Hong Kong Stock Connect was launched in December, representing another milestone in Mainland's capital account liberalisation and a key step in enhancing Hong Kong's position as an international financial centre. The HKMA also strengthened financial infrastructure by expanding renminbi liquidity support to the market and introducing measures to enhance the transparency of renminbi market liquidity.

The HKMA set up the Infrastructure Financing Facilitation Office (IFFO) in July to build and work with a cluster of key stakeholders to promote infrastructure development and develop Hong Kong as an infrastructure financing centre. As at the end of January 2017, more than 60 organisations have joined IFFO as partners. During the year, the HKMA also secured the passage of legislative changes to remove tax asymmetry and provide tax incentives to encourage multinational and Mainland companies to establish their corporate treasury centres in Hong Kong, thereby bringing more business opportunities to the financial and professional service sectors. There are also a growing number of asset owners setting up footprints in Hong Kong. In particular, Abu Dhabi Investment Authority, the third largest sovereign wealth fund in the world, announced that it had set up an overseas office in Hong Kong in October, its only office outside Abu Dhabi.

In the Article IV Consultation last year, the International Monetary Fund (IMF) spoke positively on our efforts to develop Hong Kong as an international financial centre. During the year, the HKMA actively contributed to international efforts to advance global and regional financial stability. It also maintained close dialogue with international credit rating agencies. Its efforts contributed to the affirmation of Hong Kong's credit rating by major credit rating agencies in 2016.

The safe and efficient operation of Hong Kong's financial infrastructure and its continued development play a significant role in reinforcing the competitive edge of Hong Kong as an international financial centre and the global offshore renminbi business hub. The four interbank Real Time Gross Settlement (RTGS) systems and the Central Moneymarkets Unit (CMU) achieved 100% system availability in 2016, as compared to the target of 99.95%.

Hong Kong's retail payment financial infrastructure was further enhanced by the HKMA in 2016. A total of 13 stored value facility (SVF) licences were granted under the Payment Systems and Stored Value Facilities Ordinance (PSSVFO), which commenced full operation in November 2016. The coverage of e-Cheque was also expanded to include cross-boundary payments between Hong Kong and Guangdong province (including Shenzhen).

To facilitate the development of fintech in Hong Kong, the HKMA set up the Fintech Facilitation Office (FFO) in March. A number of important initiatives were implemented with encouraging progress.

The HKMA implemented several initiatives to strengthen the soft power of the banking industry, which included (i) the launch of the Director Empowerment Programme, (ii) the development of an industry-wide Enhanced Competency Framework (ECF) for banking practitioners, and (iii) the implementation of a Consumer Education Programme.

International Financial Centre

REVIEW OF 2016

Offshore renminbi business

Financial market volatilities and uncertain outlook for the renminbi exchange rate weighed on offshore renminbi business globally in 2016. At the end of the year, renminbi customer deposits and outstanding certificates of deposit in Hong Kong stood at RMB625.1 billion, representing a year-on-year reduction of 38% (Chart 1). Offshore renminbi bond issuance moderated to RMB52.8 billion in the year, while renminbi trade settlement handled by Hong Kong banks dropped to RMB4,542.1 billion. On the other hand, renminbi lending by banks in Hong Kong amounted to RMB294.8 billion at the end of the year, similar to the level a year before (Chart 2). Turnover in the renminbi RTGS system remained at high levels, averaging RMB863.6 billion daily in 2016. This demonstrates that Hong Kong continued to support a large amount of renminbi financial intermediation activities despite the shrinkage of the renminbi liquidity pool. According to SWIFT statistics, Hong Kong processed some 70% of renminbi payment activities in 2016, a testament to Hong Kong's position as the global hub for offshore renminbi business.

Chart 1 Renminbi customer deposits and certificates of deposit

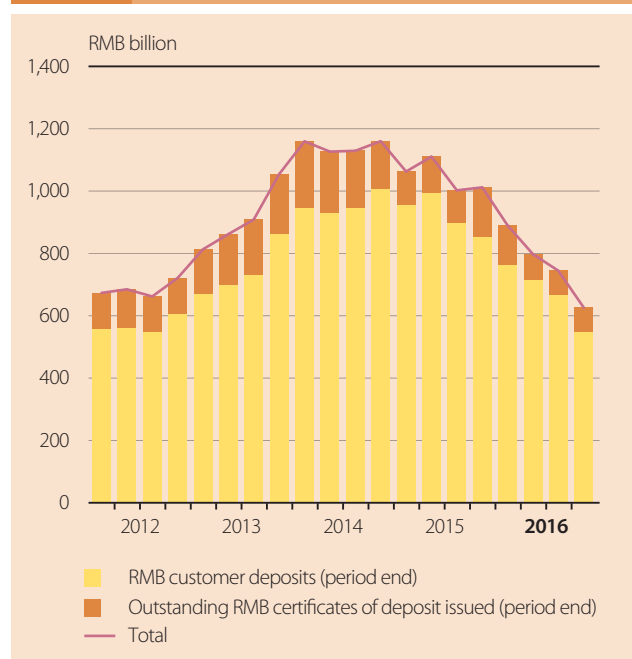
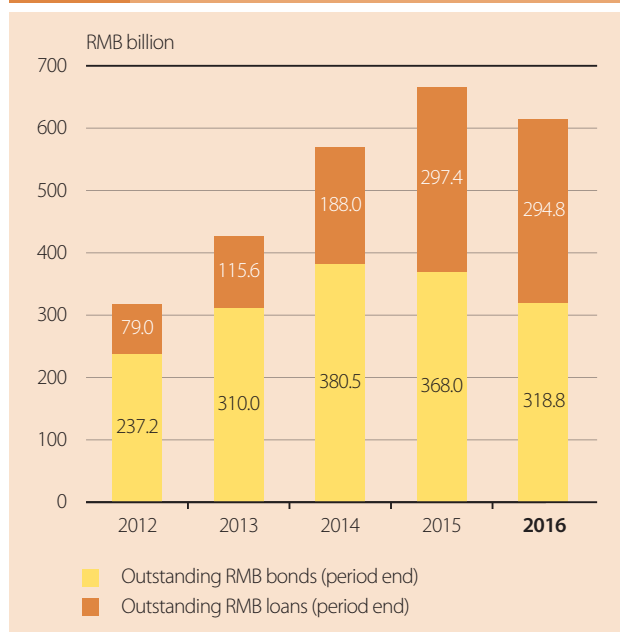


Chart 2 Renminbi financing activities



During the year the HKMA worked closely with the relevant Mainland authorities to gain more policy headroom for renminbi business in Hong Kong. New policy measures were rolled out, including further opening of Mainland's onshore interbank bond and foreign exchange markets to foreign participants, and the launch of Shenzhen-Hong Kong Stock Connect in December. To cater for the increasing cross-border investment channels and liquidity management needs, the HKMA expanded the renminbi liquidity facilities. In October, it increased the number of Primary Liquidity Providers (PLPs) from seven to nine and the overall amount available under the PLP scheme from RMB14 billion to RMB18 billion. Transparency in the use of the HKMA's renminbi liquidity facilities was also enhanced, thereby facilitating more effective liquidity management by the participating banks.

In the national 13th Five-Year Plan promulgated in March, Hong Kong's status as the global offshore renminbi business hub is reaffirmed, demonstrating support of the Central Government for Hong Kong to further develop its offshore renminbi business.

International Financial Centre

At the same time, the HKMA continued to strengthen collaboration with other economies in the development of offshore renminbi business. It also actively participated in events to promote Hong Kong as the global hub for offshore renminbi business, as well as the key springboard in Mainland's "go global" strategy, including through local events organised by industry associations and the private sector, and events outside Hong Kong, such as in Mainland China, Germany, Kazakhstan and the UK.

Closer Economic Partnership Arrangement (CEPA)

The agreement to achieve basic liberalisation of trade in services between Mainland China and Hong Kong was signed in 2015 under the framework of the CEPA. The HKMA continued to monitor implementation of the existing CEPA measures and worked with the Administration to explore room for further liberalisation and facilitation measures for Hong Kong's financial industry to enter the Mainland market.

Infrastructure Financing Facilitation Office (IFFO)

Mission of IFFO

The mission of IFFO is to facilitate infrastructure investments and their financing by working with a cluster of key stakeholders. The functions of IFFO are to:

- ◆ provide a platform for information exchange and experience sharing;
- ◆ build capacity and knowledge on infrastructure investments and financing;
- ◆ promote market and product development; and
- ◆ facilitate infrastructure investment and financing flows.



HKMA Chief Executive, Mr Norman Chan (seventh from left), joins other guests in proposing a toast at the launch of IFFO.

International Financial Centre

In July, the HKMA set up IFFO with a mission to facilitate infrastructure investments and their financing by building and working with a cluster of key stakeholders. As at the end of January 2017, more than 60 organisations from Mainland

China, Hong Kong and overseas have joined IFFO as partners. They include multilateral financial agencies and development banks, public sector investors, private sector investors, asset managers, banks, insurance companies, project developers and operators, professional service firms and an international business council (Table 1).

Table 1 IFFO Partners (in alphabetical order)

Actis	CNIC Corporation Limited
Agricultural Bank of China Limited Hong Kong Branch	Eastspring Investments
AIA Group Limited	Export-Import Bank of China (The)
AIG Insurance Hong Kong Limited	General Electric
Airport Authority Hong Kong	Global Infrastructure Hub
Allen & Overy	Hong Kong Trade Development Council
Aon Hong Kong Limited	HSBC Holdings Plc
APG Asset Management	Hongkong and Shanghai Banking Corporation Limited (The)
Asian Academy of International Law	Industrial and Commercial Bank of China Limited
Asian Development Bank	Industrial and Commercial Bank of China (Asia) Limited
Astana International Financial Centre	International Finance Corporation, a member of
Bank of China Limited	the World Bank Group
Bank of China (Hong Kong) Limited	King & Wood Mallesons
Bank of Communications Co., Ltd.	KPMG
Bank of Tokyo-Mitsubishi UFJ, Ltd. (The)	Macquarie Group
BlackRock	Marsh (Hong Kong) Limited
Blackstone Group	Mayer Brown JSM
Brookfield Asset Management	Mitsubishi Corporation (Hong Kong) Ltd.
Canada Pension Plan Investment Board	Mizuho Bank, Ltd.
China Construction Bank Corporation	MTR Corporation Limited
China Construction Bank (Asia) Corporation Limited	Multilateral Investment Guarantee Agency, a member of
China Development Bank Corporation	the World Bank Group
China Export and Credit Insurance Corporation	Ontario Teachers' Pension Plan
China Hua Neng Group Hong Kong Limited	Pinsent Masons
China Investment Corporation	PwC
China National Petroleum Corporation	Silk Road Fund
China Three Gorges Corporation	Standard Chartered Bank
China-Africa Development Fund	Standard Chartered Bank (Hong Kong) Limited
China-Britain Business Council	State Grid Corporation of China
CITIC Capital	Sumitomo Mitsui Banking Corporation
Citigroup	TPG Capital
Clifford Chance	Zurich Insurance Company Ltd.
CLP Group	

International Financial Centre

IFFO has made good progress since its launch. As part of capacity building, it hosted an executive workshop co-organised with International Finance Corporation (IFC) under the World Bank Group and Eastspring Investments in October with the theme “Private Participation in Infrastructure Project Finance in Emerging Markets”. The workshop received very positive feedback from participants in terms of helping to build knowledge and networking. A business seminar was held in November featuring Jin Liqun, President of the Asian Infrastructure Investment Bank, to share experience in project planning, operation and management to build capacity for the business sector. In July, IFFO entered into Memorandums of Understanding (MOUs) with IFC and Global Infrastructure Hub (GIH) to establish frameworks of co-operation. Two more MOUs were signed in December with China Development Bank (CDB) and Export-Import Bank of China to facilitate the financing of infrastructure projects by these banks via the IFFO platform. These activities served to strengthen Hong Kong’s role and international profile as an infrastructure financing centre.



HKMA Chief Executive, Mr Norman Chan (front left), and Executive Vice President and CEO of IFC, Mr Philippe Le Houérou (front right), sign an MOU under which IFC and the HKMA will co-operate in using the IFFO platform to promote a more efficient and conducive market environment for infrastructure investment and financing in the region.



HKMA Chief Executive, Mr Norman Chan (front left), and Chief Executive Officer of GIH, Mr Chris Heathcote (front right), sign an MOU with respect to establishing a strategic framework of co-operation to facilitate the financing of infrastructure projects.



HKMA Chief Executive, Mr Norman Chan (left), and Chairman of CDB, Mr Hu Huaibang, sign an MOU to foster collaboration between CDB and HKMA.

International Financial Centre

Corporate treasury centres (CTCs)

To further attract multinational companies to establish their CTCs in Hong Kong, the HKMA worked with the Administration to create a conducive tax environment for CTCs. Specifically, the Inland Revenue (Amendment) (No. 2) Ordinance 2016 (Revised Tax Regime), enacted in June, allows, under specified conditions, the deduction of interest expenses in calculating profits tax for the intra-group financing business of corporations, and reduces profits tax rate for specified treasury activities by 50% (i.e. to 8.25%) for qualifying CTCs. Table 2 summarises some key features of the Revised Tax Regime.

Table 2	Key features of Revised Tax Regime
Applicable date	Relevant sums accrued/ interest payable on or after 1 April 2016
Application procedure	No separate application and approval process required CTCs may claim the interest deductions and/or half rate concession in their annual profits tax returns
Any headcount or spending requirement?	No specific requirement. CTCs should, however, exercise their central management and control and carry out their profit-generating activities in Hong Kong

In addition to the legislative work, the HKMA has been actively promoting Hong Kong as the preferred location for CTCs to multinational and Mainland corporates. By the end of the year, the HKMA had reached out to nearly 400 corporations, financial institutions and industry associations. In November, the HKMA signed an MOU with the Hong Kong Chinese Enterprises Association to help Chinese enterprises in Hong Kong to better understand and make more use of our CTC platform.

Promotion of asset management business

The HKMA continued its efforts to promote Hong Kong as an asset management hub. According to the Securities and Futures Commission (SFC), the number of licensed corporations in asset management increased nearly 15% year-on-year to 1,300 as of the end of 2016. According to the Asian Venture Capital Journal, the number of private equity firms in Hong Kong (including SFC licensed and non-SFC licensed corporations) also increased by 4.6% to 431 in 2016. To date, close to 70 out of the top 100 global asset managers and the majority of Mainland's top 20 mutual fund companies have presence or associated companies in Hong Kong. There are also a growing number of asset owners setting up footprints in Hong Kong. In particular, Abu Dhabi Investment Authority, the third largest sovereign wealth fund in the world, announced that it had set up an overseas office in Hong Kong in October, its only office outside Abu Dhabi.

Introduction of an open-ended fund company structure

The HKMA continued to work with the Administration and industry to provide a more favourable tax and regulatory environment for fund domiciliation. In June, the Securities and Futures (Amendment) Bill 2016 was passed to introduce an open-ended fund company structure to diversify the fund domiciliation platform of Hong Kong and create a more flexible business environment for fund managers with a view to enhancing Hong Kong's competitiveness as an international asset management centre.

Islamic finance

The HKMA continued to raise market awareness and knowledge of Islamic finance by organising and participating in Islamic finance conferences and seminars in collaboration with industry associations, and sharing its sukuk issuance experience with market players to encourage them to use the local platform. Following the success of the past two sukuk issuances, the HKMA has been working with the Administration to look for opportunities to launch the third sukuk when market conditions are conducive.

International Financial Centre

Government Bond Programme

During the year, the HKMA arranged eight tenders of institutional government bonds amounting to HK\$16.4 billion. By the end of 2016, the total amount of outstanding institutional bonds was HK\$68.3 billion.

Following the announcement of the Government's 2016–17 Budget, the HKMA arranged in June the issuance of HK\$10 billion 3-year inflation-linked retail bonds (iBonds) to Hong Kong residents. It was the sixth consecutive series of iBonds. The latest issue attracted more than 507,000 applications with investment monies exceeding HK\$22 billion. The HKMA arranged in August the inaugural issuance of HK\$3 billion 3-year Silver Bond to Hong Kong senior residents aged 65 or above. It attracted more than 76,000 applications with investment monies exceeding HK\$8.9 billion. The amount of retail bonds outstanding at the end of the year was HK\$33 billion.

IMF's Article IV Consultation

The HKMA rendered full support to the IMF Mission's work in the annual Article IV Consultation exercise, which was concluded in November. The IMF praised the Administration's strong policy frameworks, including prudent fiscal policy and vigorous regulation and supervision of the financial system, and also reiterated its long-standing support for the Linked Exchange Rate System. In particular, it also commended our efforts in maintaining Hong Kong's role as an international financial centre and the global offshore renminbi business hub. The Staff Report, released by the IMF, says that *"As well as maintaining its position as the leading RMB offshore centre, the authorities have a strategy of developing the asset management industry, encouraging corporate treasury centres to domicile in Hong Kong SAR... The HKMA's Infrastructure Financing Facilitation Office should help facilitate Hong Kong SAR's role as a financing centre for regional infrastructure investment, and mainland China's 'One Belt One Road initiative' will help expand activity."*

International and regional co-operation

The increased interconnectedness of the global financial system and the transmission of risk it entailed called for deeper international co-operation to promote sustainable economic growth and financial system stability. During the year, the HKMA continued to play an active part in international and regional forums, including the Financial

Stability Board (FSB)¹, the Bank for International Settlements (BIS) and the Asia-Pacific Economic Cooperation (APEC). The HKMA is also committed to implement global financial regulatory reforms, including the recommendations of the Group of Twenty (G20), to help strengthen the resilience of the global financial system.

As the co-chair of the FSB Regional Consultative Group for Asia (RCG(A)), the HKMA hosted a workshop on Fintech and Cybersecurity in May and the RCG(A)'s 11th meeting in December in Hong Kong. RCG(A) aims to promote interaction between FSB members and non-members on policy initiatives, encourage implementation of financial reforms and facilitate the exchange of views on financial stability issues. Senior representatives from finance ministries, central banks and financial regulators of 16 Asian jurisdictions attended the RCG(A) meeting to discuss risks facing the region, macroprudential policy framework, impact of fintech on retail payment systems (RPSs), management of non-performing loans and de-risking by financial institutions.

In October, the HKMA co-hosted the second joint conference with the Bank of England and the IMF in Hong Kong. The conference covered the challenges that central banks and other policymakers face in choosing the optimal mix of monetary, macroprudential and microprudential policies in the post-crisis world. The conference was attended by more than a hundred participants, including representatives from academia, central banks and international financial institutions.

The HKMA took an active part in the donor negotiations on the 11th replenishment of the Asian Development Fund, which serves as a concessional financing window and will become a grant-only facility of the Asian Development Bank for the region's poorest economies from 2017 onward. Funding approval will be sought from the Legislative Council for Hong Kong's contribution to the replenishment in the first half of 2017.

¹ The FSB was established in April 2009 as the successor to the Financial Stability Forum to address vulnerabilities in the global financial systems, and to develop and promote implementation of effective regulatory, supervisory and other policies in the interest of financial stability. Its membership comprises senior representatives of national financial authorities (central banks, regulatory and supervisory authorities and ministries of finance), international financial institutions, standard-setting bodies, and committees of central bank experts.

International Financial Centre

Promoting monetary and financial stability in Asia

The HKMA worked closely with the ASEAN+3² authorities to strengthen the operations of the ASEAN+3 Macroeconomic Research Office (AMRO), which is now an international organisation³, to monitor and analyse regional economies and support decision-making of the Chiang Mai Initiative Multilateralisation (CMIM)⁴.

The HKMA was the Chair of the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP)⁵ Working Group on Payment and Settlement Systems for a 2-year term up to July 2016. During the period, the HKMA worked closely with the Deputy Chair to co-ordinate the Working Group's effort in sharing experiences and exchanging information on risk management, oversight, standards and best practices, and developments in domestic and cross-border payment and settlement systems. The HKMA also led the Working Group's sub-group on cross-border co-operation and development.

The HKMA remained a committed member in regional co-operative efforts to promote financial stability and to harness the region's collective voice in international financial affairs. It also took a leading role in some of the work of EMEAP. Apart from chairing the EMEAP Working Group on Payment and Settlement Systems, the HKMA continued to provide analyses to support the macro-monitoring work of the EMEAP Monetary and Financial Stability Committee (MFSC)⁶. It hosted the 51st EMEAP Deputies' Meeting, the 20th EMEAP MFSC Meeting, the 27th EMEAP Asian Bond Fund (ABF) Oversight Committee Meeting, and the 23rd ABF Pan Asia Bond Index Fund Supervisory Committee Meeting in Hong Kong in November. The meetings were attended by Deputy Governors and representatives from 11 central banks and monetary authorities from the region.

Hong Kong's credit ratings

The HKMA maintained close dialogue with international credit rating agencies to present a balanced and objective picture of Hong Kong's credit strength. These efforts contributed to the affirmation of Hong Kong's credit ratings by major credit rating agencies in 2016. Standard & Poor's affirmed its highest AAA rating for Hong Kong, reflecting the agency's recognition of Hong Kong's above-average growth prospects, sizeable fiscal reserves, healthy fiscal performance and strong net external asset position. Moody's and Fitch also maintained Hong Kong's ratings at Aa1 and AA+ respectively, just one notch below triple-A.

Training

To foster knowledge and experience sharing, the HKMA continued to provide training for staff from the People's Bank of China, the State Administration of Foreign Exchange and the China Banking Regulatory Commission. In addition to programmes on central banking and general risk management, the topics were expanded to cover management of special assets, risk management practices in retail and small and medium-sized enterprise banking, control measures in wealth management and selling of investment products, and sharing of onsite examination issues and practices. The HKMA also collaborated with international organisations to provide training, including co-hosting a training course on Risk-Focused Supervision and Risk Assessment with the Asian Development Bank under the APEC Financial Regulators Training Initiative, and a training course on Advanced Capital Planning and Stress Testing with the South East Asian Central Banks Research and Training Centre.

² ASEAN+3 comprises 10 ASEAN member countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam), together with Mainland China, Japan and South Korea.

³ AMRO was upgraded to an international organisation effective from February 2016.

⁴ Effective March 2010, the CMIM has become a regional mechanism that provides short-term US dollar support to participants facing liquidity shortages. In May 2012, the facility was enhanced by doubling the access fund to US\$240 billion and introducing a crisis prevention facility.

⁵ EMEAP is a co-operative forum of 11 central banks and monetary authorities in the East Asia and Pacific region, comprising the Reserve Bank of Australia, the People's Bank of China, the Hong Kong Monetary Authority, Bank Indonesia, the Bank of Japan, the Bank of Korea, Bank Negara Malaysia, the Reserve Bank of New Zealand, Bangko Sentral ng Pilipinas, the Monetary Authority of Singapore and the Bank of Thailand.

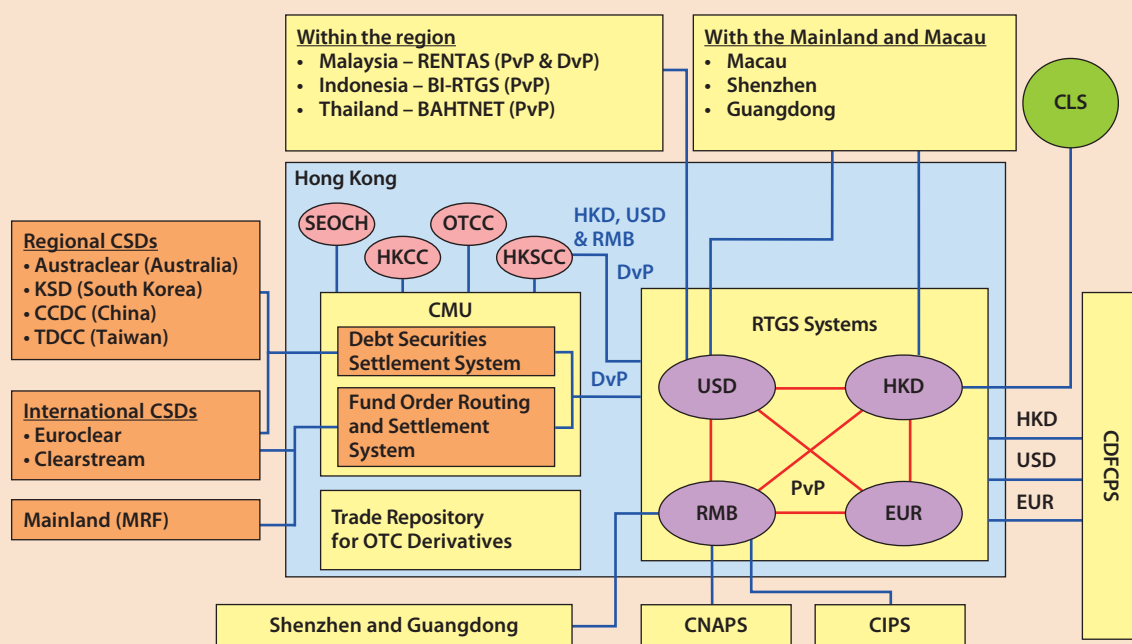
⁶ The EMEAP MFSC reviews economic and financial developments in the Asia-Pacific region, discusses issues of common interest and reflects common views.

International Financial Centre

Hong Kong's financial infrastructure

The HKMA continued to develop a robust and efficient multi-currency, multi-dimensional payment and settlement platform, with extensive domestic and overseas system linkages, to maintain Hong Kong as a regional hub for payment and settlement of funds and securities (Chart 3).

Chart 3 Hong Kong's multi-currency payment and settlement infrastructure



BAHTNET – Bank of Thailand Real Time Gross Settlement (Thailand's baht RTGS system)
 BI-RTGS – Bank Indonesia Real Time Gross Settlement (Indonesia's rupiah RTGS system)
 CCDC – China Central Depository & Clearing Co., Ltd. (settlement system for fixed income securities in China)
 CDFCPS – China's Domestic Foreign Currency Payment System (RTGS system for foreign currency payment in China)
 CIPS – Cross-Border Inter-Bank Payment System in China
 CLS – Continuous Linked Settlement (global multicurrency cash settlement system)
 CMU – Central Money Markets Unit (settlement system for debt securities)
 CNAPS – China National Advanced Payment System (RMB RTGS system in China)
 HKCC – HKFE Clearing Corp Ltd (central counterparty providing clearing and settlement for futures)
 HKSCC – HK Securities Clearing and Co Ltd (operator of the clearing and settlement system for shares)
 KSD – Korean Securities Depository (Korea's central securities depository)
 MRF – Mutual Recognition of Funds
 OTCC – OTCC Clearing Hong Kong Limited (central counterparty providing clearing and settlement for OTC derivatives)
 RENTAS – Real Time Electronic Transfer of Funds and Securities (Malaysia's ringgit RTGS system)
 SEIOCH – SEHK Options Clearing House Ltd (central counterparty providing clearing and settlement for options)
 TDCC – Taiwan Depository and Clearing Corporation (Taiwan's securities settlement system)

DvP – Delivery-versus-Payment
 PvP – Payment-versus-Payment

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Development highlights over the years include the establishment of RTGS systems for the Hong Kong dollar, the US dollar, the euro and the renminbi. Other highlights include the development of bilateral links between the local RTGS systems and overseas RTGS systems, and between the CMU and regional and international Central Securities Depositories (CSDs), such as Euroclear, Clearstream, and the depositories in Australia, South Korea, Mainland China and Taiwan.

In response to industry demands and international developments, new components have been added to broaden the scope and increase the depth of Hong Kong's financial infrastructure. For example, the CMU's order routing and settlement service for investment funds was expanded in 2015 to support the Mainland-Hong Kong Mutual Recognition of Funds (MRF) between Mainland China and Hong Kong. Also, a trade repository (HKTR) for over-the-counter (OTC) derivatives was introduced in 2012.

The infrastructure has been implemented in line with relevant international standards and best practices. Disclosure reports for Hong Kong's RTGS systems, the CMU and the HKTR were published in July 2014, October 2014 and September 2015 respectively, and updated as appropriate, in accordance with the disclosure framework under the international principles on financial market infrastructures jointly issued by the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions.

Hong Kong dollar RTGS system

The Hong Kong dollar Clearing House Automated Transfer System (CHATS), which operates on an RTGS basis, is responsible for clearing all Hong Kong dollar interbank payments. It continued to run smoothly and efficiently in 2016. It has a direct link with the CMU to provide delivery-versus-payment settlement services. Hong Kong Interbank Clearing Limited (HKICL), the operator of the RTGS systems, was established in 1995 and is owned jointly by the HKMA and the Hong Kong Association of Banks (HKAB). In 2016, the HKICL processed a daily average of HK\$598.4 billion in CHATS transactions (28,615 items), compared with HK\$626.8 billion (28,125 items) in 2015.

In addition to settling large-value payments, CHATS also handles daily bulk clearings of stock market transactions, Mandatory Provident Fund schemes' switching transactions, credit card transactions, cheques, small-value bulk electronic payment items (EPS, auto-credit and auto-debit transactions) and automatic teller machine transfers (Chart 4).

Besides, banks can use their Exchange Fund Bills and Notes (EFBNs) to obtain interest-free intraday liquidity through intraday repo transactions with the HKMA to settle their interbank payments through its platform.

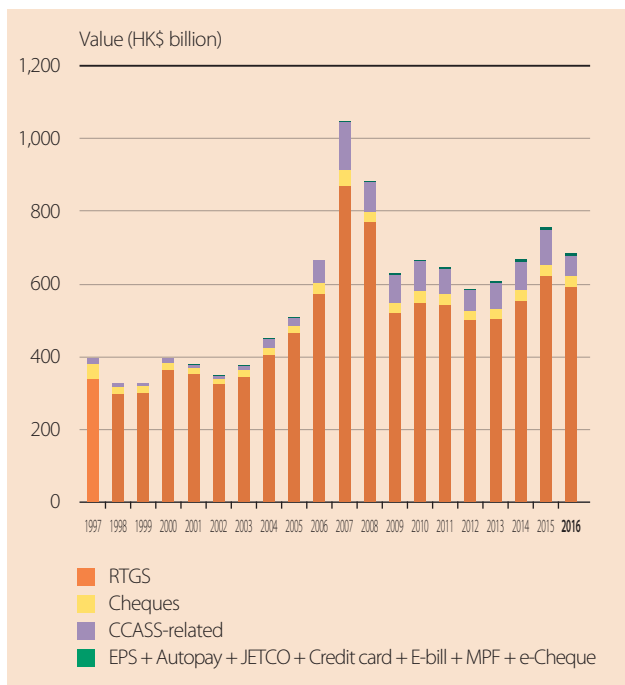
Foreign currency RTGS systems in Hong Kong

The US dollar, euro and renminbi RTGS systems all operated smoothly. The cut-off time of the renminbi RTGS system has been extended in phases since June 2012 from 6:30 p.m. to 5:00 a.m. the next day (Hong Kong time), providing a total of 20.5 hours for same-day value payments. The extension allows financial institutions in other parts of the world a much longer operating window to settle offshore and cross-border renminbi payments through Hong Kong's infrastructure. The average daily value of Mainland-Hong Kong cross-border renminbi payments amounted to around RMB119 billion in 2016, which accounted for 14% of the total turnover.

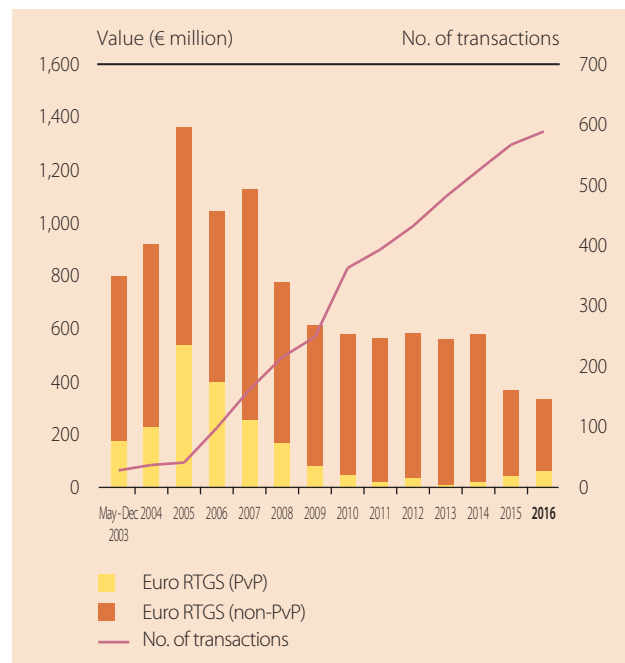
The average daily turnover and other details of the foreign currency RTGS systems are set out in Charts 5–7 and Table 3.

International Financial Centre

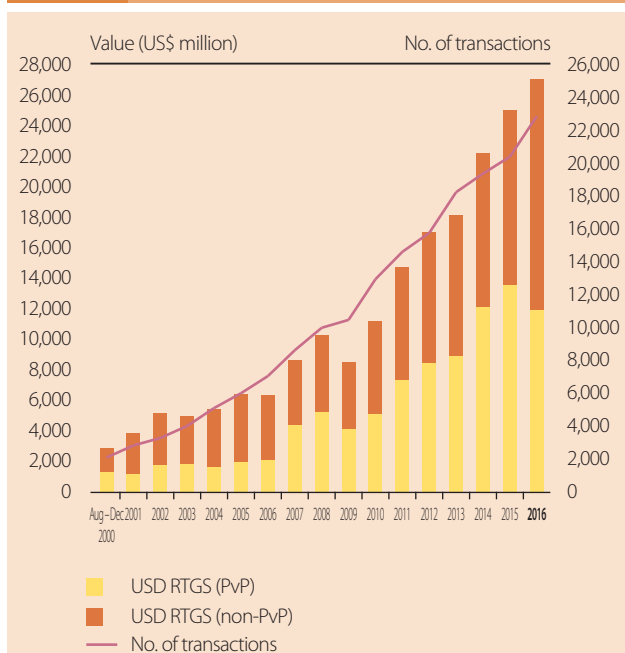
**Chart 4 Hong Kong dollar RTGS system
average daily turnover**



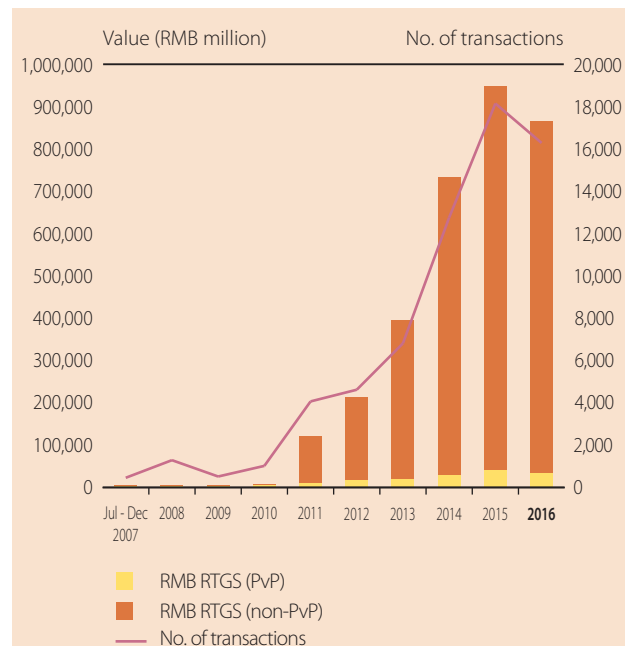
**Chart 6 Euro RTGS system
average daily turnover**



**Chart 5 US dollar RTGS system
average daily turnover**



**Chart 7 Renminbi RTGS system
average daily turnover**



International Financial Centre

Table 3 Foreign currency RTGS systems

RTGS systems	Launch date	Settlement institution or Clearing Bank	Number of participants at the end of 2016	Average daily turnover in 2016	Average daily transactions in 2016
US dollar RTGS system	August 2000	The Hongkong and Shanghai Banking Corporation Limited	Direct: 105 Indirect: 112	US\$27.2 billion	22,833
Euro RTGS system	April 2003	Standard Chartered Bank (Hong Kong) Limited	Direct: 38 Indirect: 17	€334 million	594
Renminbi RTGS system	June 2007	Bank of China (Hong Kong) Limited	Direct: 212	RMB863.6 billion	16,232

Payment-versus-payment (PvP)

PvP is a mechanism for settling a foreign exchange transaction to ensure that payments in two currencies involved are settled simultaneously. Within Hong Kong, six cross-currency PvP links have been established among the Hong Kong dollar, US dollar, euro and renminbi RTGS systems. Hong Kong's US dollar RTGS system has also established three cross-border PvP links with Malaysia's ringgit RTGS system (2006), Indonesia's rupiah RTGS system (2010) and Thailand's baht RTGS system (2014). PvP greatly improves settlement efficiency and eliminates settlement risk arising from time lags in settlements and time-zone differences (known as Herstatt risk). In 2016, the transaction value of Hong Kong dollar, US dollar, euro and renminbi-related PvP transactions amounted to about HK\$5,415 billion, US\$2,829 billion, €14 billion and RMB7,857 billion respectively.

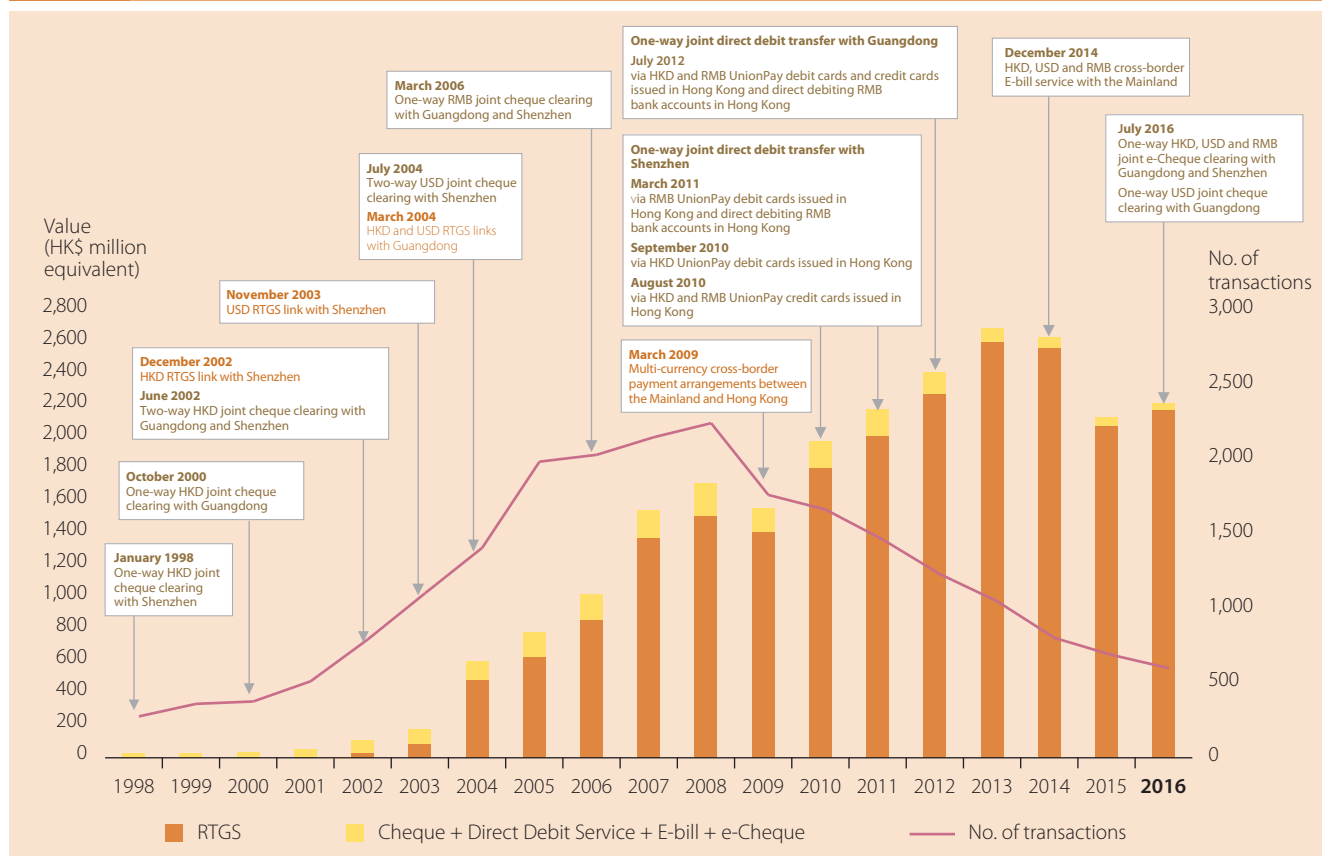
Payment links with Mainland China

The HKMA continued to work closely with Mainland authorities to provide efficient cross-border payment links (Chart 8) to meet growing demand. In 2016, the average daily turnover handled by the various system links, including the RTGS cross-border links with the Mainland's Domestic Foreign Currency Payment Systems launched in 2009, exceeded a total value equivalent to HK\$2 billion. The Hong Kong dollar and US dollar RTGS system links with Shenzhen and Guangdong handled more than 14,000 transactions during the year, with a total value equivalent to HK\$504.4 billion.

The two-way joint cheque-clearing facilities provided a clearing service for cheques drawn on banks in Hong Kong and presented in Shenzhen and Guangdong. In 2016, such facilities processed about 119,000 Hong Kong dollar and US dollar cheques, with a value equivalent to HK\$10 billion, and renminbi cheques with a total value equivalent to around HK\$2 million.

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Chart 8 Average daily turnover in cross-border arrangements with Mainland China



Payment links with Macau

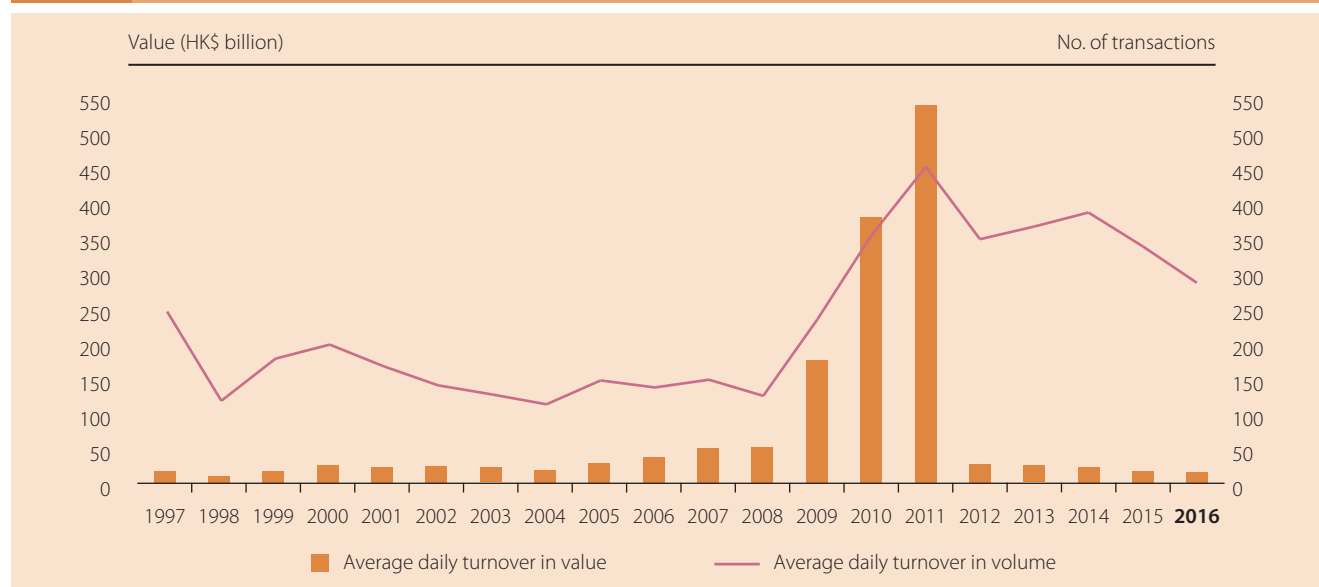
The one-way joint clearing facility for Hong Kong dollar and US dollar cheques between Hong Kong and Macau was launched in 2007 and 2008 respectively. In 2016, Hong Kong dollar cheques with a total value of about HK\$17 billion and US dollar cheques with a total value of about US\$65 million were cleared.

Debt settlement systems

The CMU provides an efficient, one-stop clearing, settlement and depository service for Hong Kong dollar and foreign currency-denominated debt securities issued in Hong Kong. Through the linkages between the CMU and international/regional CSDs, investors outside Hong Kong can hold and settle securities lodged with the CMU, while Hong Kong investors can hold and settle foreign securities held with CSDs outside Hong Kong. In 2016, the CMU processed an average daily value of HK\$15.2 billion (297 transactions) in secondary market transactions (Chart 9). Among the debt securities lodged with the CMU at the end of the year, the outstanding amount of EFBNs was HK\$963.1 billion and the total amount of other debt securities was equivalent to HK\$1,011.9 billion, of which renminbi debt securities amounted to RMB279.6 billion.

International Financial Centre

Chart 9 CMU secondary market turnover



Financial infrastructure development

The HKMA completed a number of projects in 2016 to improve the safety and efficiency of Hong Kong's financial infrastructure, and to capture new business opportunities.

Interbank intraday liquidity facility for Hong Kong's RTGS systems

The RTGS systems were enhanced to support lending and borrowing among direct participants starting from 18 January. The facility allows participants to obtain intraday loans from registered liquidity providers more efficiently.

New renminbi Central Clearing and Settlement System night settlement run

To streamline the northbound settlement arrangement between participating custodians and brokers for the northbound trade of Shanghai-Hong Kong Stock Connect, a renminbi bulk settlement run at night (Hong Kong time) was launched on 18 April amid the collaboration of the HKMA and the Hong Kong Exchanges and Clearing Limited.

Centralised corporate action platform

The HKMA launched, on schedule, a centralised corporate action platform in the CMU in August. It enables CMU to support corporate action events, such as corporate action announcements (e.g. offer of call options) and the execution of custody instructions (such as voting), for debt securities lodged with the CMU. This helps both issuers and investors process corporate action events of CMU securities in a more effective and efficient manner.

CMU tendering platform and central bank placement co-ordinating window

The Chinese Ministry of Finance continued to leverage on CMU's bond tendering platform to issue two batches of offshore renminbi sovereign bonds to institutional investors on 29 June and 8 December, worth RMB14 billion and RMB10 billion respectively. It also used the CMU central bank placement co-ordinating window to offer its offshore renminbi sovereign bonds to overseas central banks and monetary authorities, with a placement size of RMB2 billion. The HKMA's assistance in promoting the acceptance of renminbi sovereign bonds among a diverse group of investors for the offshore renminbi bond market further supported the role of Hong Kong as the global hub for offshore renminbi business.

International Financial Centre

Trade repository for OTC derivatives

The HKTR launched a new phase in June. The new phase aims to complete the reporting product coverage by adding OTC derivative products relating to credit and commodities, to support the reporting of valuation information of transactions, and to meet the requirements of local and international regulatory authorities on sharing and aggregation of trade repository data. The HKMA has also enhanced the HKTR to support the reporting of all five asset classes of derivative transactions by reporting entities. The Phase 2 mandatory reporting requirements would commence in July 2017. Separately, the HKMA participated in a number of international discussions and working groups on reporting standards for trade repositories to keep abreast of relevant developments and ensure the local trade repository continued to meet international standards and best practices.

Retail payment initiatives

Throughout the year, the HKMA continued its efforts to improve Hong Kong's retail payment infrastructure. The initiatives and their progress are summarised below.

New regulatory regime for stored value facilities and retail payment systems

Following the enactment of the PSSVFO in November 2015, the HKMA commenced the implementation of the regulatory regime for SVFs and RPSs. Under the PSSVFO, the HKMA is empowered to implement the SVF licensing and supervisory regime and designate important RPSs to ensure their safe and efficient operation under prudential regulation.

Two batches of SVF licences were granted on 25 August and 4 November respectively to a total of 13 SVF issuers providing services ranging from mobile and internet payments to prepaid card payments to the public (Table 4). There were a few SVF issuers that failed to fulfil the minimum criteria for obtaining a licence or decided to leave the market due to commercial considerations. The HKMA has facilitated these SVF issuers to implement their exit plans in an orderly manner.

In implementing supervision on SVF licensees, the HKMA developed a principle-and-risk-based supervisory approach focusing on areas of significant risk to the SVF industry and individual SVF licensees with a view to enabling the HKMA to preempt any serious threat to the safety and efficiency of the industry and licensees. Supervisory guidelines and practice notes were issued in September to facilitate SVF licensees' compliance with the regulatory requirements, including those on anti-money laundering and counter-terrorist financing. Meanwhile, the HKMA continued to process SVF licence applications in the pipeline.

Table 4 **Register of SVF Licensees** (in alphabetical order)
(as at 31 December 2016)

SVF Licensees

33 Financial Services Limited
Alipay Financial Services (HK) Limited
Autotoll Limited
ePaylinks Technology Co., Limited
HKT Payment Limited
K & R International Limited
Money Data Limited
Octopus Cards Limited
Optal Asia Limited
PayPal Hong Kong Limited
TNG (Asia) Limited
Transforex (Hong Kong) Investment Consulting Co., Limited
UniCard Solution Limited

Licensed Banks (currently issuing SVFs)¹

Bank of Communications Co., Ltd
Dah Sing Bank, Limited

1. Pursuant to Section 8G of the PSSVFO, a licensed bank is regarded as being granted a licence.

To promote public awareness of the SVF regulatory regime, the HKMA conducted a series of educational programmes during the year. Three rounds of media briefings were held in April, August and November respectively to arouse interest from the press. In addition to publishing articles on the subject in various HKMA publications, the HKMA launched an advertising campaign through various media channels, including TV, radio, social media, popular websites and apps, to enhance public awareness of the SVF regulatory regime and issues associated with the use of SVFs.

International Financial Centre



HKMA Senior Executive Director, Mr Howard Lee (left), and Executive Director, Mr Henry Cheng, speak on the licensing of SVFs at a media briefing on 4 November 2016.



HKMA Senior Executive Director, Mr Howard Lee (third from left), Governor of Guangzhou Branch of People's Bank of China, Mr Wang Jingwu (third from right), and senior officials of other Mainland authorities officiate the launching ceremony for joint e-Cheque clearing between Hong Kong and Guangdong Province in Guangzhou.

In respect of implementation of the RPS regulatory regime, during the year the HKMA maintained close dialogues with the operators of important RPSs in Hong Kong, in particular credit card schemes, on various policy and implementation issues of the regulatory regime. In December 2016, the HKMA formally started the designation process under the PSSVFO to determine which RPSs were to be designated. The HKMA also started developing an oversight approach to regulate designated RPSs.

Implementation of e-Cheque

The acceptance and coverage of e-Cheque has steadily increased since its launch in December 2015. On 20 July 2016, the service was expanded to cover cross-boundary payments following the implementation of joint e-Cheque clearing between Hong Kong and Guangdong province (including Shenzhen). A number of organisations, including various Government departments, Mandatory Provident Fund Schemes Authority and public utilities, have accepted payment by e-Cheque. Enhancement was also made to the e-Cheque Drop Box to facilitate corporates to deposit e-Cheques in bulk. To help the public better understand the service, the HKMA and HKAB carried out a wide range of consumer education campaigns. These included roving exhibitions at major shopping malls, advertisements on TV, bus bodies, bus shelters, TV network along the MTR trackside and a mobile application.



HKMA collaborates with HKAB to hold a series of e-Cheque roving exhibitions in November 2016 to enhance the public awareness of e-Cheques.

International Financial Centre

Fintech Facilitation Office (FFO)

Mission of the FFO

The HKMA established the FFO in March to facilitate the healthy development of the fintech ecosystem in Hong Kong. The new office acts as:

- ◆ an initiator of industry research in fintech applications;
- ◆ a platform for industry liaison and outreach;
- ◆ a regulatory interface between the HKMA and the industry; and
- ◆ a platform for fintech talent development.

Since its establishment, the FFO has been actively engaging the industry to promote and develop Hong Kong as a fintech hub in Asia.

Research and applications

The Cybersecurity Fortification Initiative (CFI) was launched on 18 May with a view to enhancing the cyber resilience of the banking system in Hong Kong. The three pillars of CFI, namely (i) a risk-based cybersecurity assessment framework; (ii) a professional training and certification programme for cybersecurity professionals; and (iii) a cyber intelligence sharing platform, were implemented in December after the completion of industry consultation in August. In parallel with the CFI, a module on cybersecurity under the ECF for banking practitioners was launched in December to ensure that banking practitioners engaging in cybersecurity duties would acquire adequate knowledge and qualifications to discharge their responsibilities.



HKMA Chief Executive, Mr Norman Chan, announces the launch of CFI at the Cyber Security Summit 2016.

The HKMA commissioned the Hong Kong Applied Science and Technology Research Institute (ASTRI) to conduct a research project on distributed ledger technology (DLT). The research consisted of three proof-of-concept exercises, including mortgage loan application, trade finance and digital identity management. In this connection, a white paper was released on 11 November as the first deliverable. The white paper provided the fintech industry in Hong Kong with a reasonably comprehensive study of the key features, benefits, issues and risks associated with DLT. The white paper attracted significant attention from the international community, IT consultancy firms and vendors, and other central banks.

Industry liaison and outreach

Together with the three strategic partners: ASTRI, Cyberport and the Hong Kong Science and Technology Parks, and other industry players such as InvestHK and industry associations, the HKMA organised activities to bring together banks and fintech solution providers to build an ecosystem to promote the adoption of fintech. Eight fintech events were organised, including conferences, training, workshops and seminars, which attracted more than 2,000 participants from around the world. In particular, the HKMA Fintech Day, which formed part of the Hong Kong Fintech Week, attracted more than 500 participants from the fintech community in Hong Kong and overseas on 11 November.

International Financial Centre



The HKMA signs an MOU with ASTRI, Cyberport and Hong Kong Science and Technology Parks to form a strategic partnership on fintech development during the HKMA Fintech Day.

Regulatory interface with the industry

The HKMA launched the Fintech Supervisory Sandbox (FSS) on 6 September in order to create a regulatory environment conducive to fintech development. The FSS enables banks to conduct pilot trials of fintech initiatives with customers in a controlled environment without the need to achieve full compliance with the HKMA's usual supervisory requirements. From its launch to the end of 2016, the FSS has been used by banks in six cases of pilot trials of their new fintech initiatives.

The HKMA-ASTRI Fintech Innovation Hub (the Hub) is a facility to support research and adoption of fintech by the industry and was launched on 11 November. The Hub is intended to be a neutral ground for the fintech industry where various stakeholders can collaborate to brainstorm innovative ideas and try out and evaluate new fintech solutions in order to gain an early understanding of creative solutions for banking and payment services.

The HKMA and the UK Financial Conduct Authority entered into a Co-operation Agreement on 7 December to explore and foster collaboration between the two regulatory authorities in promoting financial innovation, including referrals of fintech firms, joint innovation projects, information exchange, experience sharing and secondment to facilitate financial innovation in the two jurisdictions.

Fintech talent development

On 16 December, the HKMA collaborated with ASTRI to launch the Fintech Career Accelerator Scheme to nurture local talent to ensure the development of the fintech ecosystem is sustainable. The scheme, supported by 12 banks, provides about 100 internships of six-month or one-year duration in the summer of 2017 to students in ten tertiary education institutes.



HKMA Chief Executive, Mr Norman Chan, gives welcoming remarks at the launching ceremony of the Fintech Career Accelerator Scheme.



HKMA Chief Executive, Mr Norman Chan, Chairman of ASTRI, Mr Wong Ming-yam (sixth and fifth from right of the first row), senior executives of banks and presidents/senior staff members of universities officiate at the launch of the Fintech Career Accelerator Scheme.

International Financial Centre

Soft power

Director Empowerment Programme

Following the global financial crisis, there has been greater emphasis globally on the role of the board of financial institutions in setting cultural expectations and risk management. The HKMA sees the role of independent non-executive directors (INEDs) as being especially important in providing independent and objective advice, and acting as a check and balance on management proposals.

Given the success of the inaugural seminar in Beijing in October 2015 for INEDs of banks, we organised a second seminar in Xi'an with the China Banking Regulatory Commission in June for another group of INEDs. Concurrently we also organised a Senior Bankers' Seminar with the Shaanxi Provincial Government and the China Banking Regulatory Commission in Xi'an for INEDs and bank Chief Executives, covering the opportunities and challenges arising from the Belt and Road Initiative in addition to other topics relevant to banks.

The HKMA also launched a newly structured development programme for INEDs, which was designed to better equip and empower them in performing their functions. Under the programme, experience and insight sharing conference and thematic seminars were organised for INEDs to share knowledge and experience, and to prepare for the challenges ahead. To make the seminars more engaging and effective, industry experts and senior staff from the HKMA also led case-sharing and discussion with the INEDs. Topics of mutual interests covered in the seminars included financial inclusion, account opening, automatic exchange of financial account information, cybersecurity and International Financial Reporting Standard 9 implementation.



Publicity on different platforms disseminates smart tips on using SVFs.

Talent development

In 2016, the HKMA continued to work closely with the banking industry to develop the ECF covering major operations central to the safety and soundness of authorized institutions (AIs). The objectives of the ECF are to help develop a talent pool across the industry, build capacity in banking skills and knowledge, and meet the increasing demand of qualified and experienced banking professionals.

During the year, the industry consultations on the ECF on anti-money laundering and counter-terrorist financing (AML/CFT) and the ECF on cybersecurity were completed. The core level of ECF on AML/CFT (targeting entry-level staff) and the ECF on cybersecurity were launched at the end of 2016 to set out the competency standards of different roles in these two areas for ensuring AML/CFT compliance and cyber resilience of AIs.

Consumer education

Under the HKMA's Consumer Education Programme, various thematic campaigns were launched in 2016 with the aim of encouraging the public to be smart and responsible financial consumers. These campaigns, in the form of video and radio clips, comics, animations, print and online advertisements, etc. cover the following topics:

- ◆ A thematic campaign on the new regulatory regime for SVFs was launched to give the public useful tips, in particular the need to understand the terms and conditions (including fees, privacy policy, user rights and obligations) and to properly manage the float stored in their SVFs.



International Financial Centre

- ◆ The HKMA launched a campaign to promote responsible borrowing. Members of the public were reminded to assess their financial needs and repayment ability, and to consider the terms and conditions carefully before taking on a loan.



A thematic campaign on responsible borrowing.

International Financial Centre

- ◆ There were also initiatives to further promote the public awareness of security in using Internet banking services. Smart tips on using credit cards and ATM cards during the festive season, and personal loans for tax payment, and reminders on staying vigilant when receiving fraudulent calls purportedly from banks were also publicised during the year.

To promote financial literacy among senior secondary school students, the HKMA co-organised with various stakeholders the "Hong Kong Liberal Studies Financial Literacy Championship". This initiative included an online quiz that attracted more than 12,000 submissions, and six school tours featuring an interactive game.



An online quiz co-organised with various stakeholders.



Comics and animations conveying security tips on making peer-to-peer small-value funds transfer via bank smartphone apps.

International Financial Centre

Treasury Markets Association (TMA)

The HKMA collaborated with and provided necessary strategic support to the TMA in promoting the professionalism and competitiveness of the Hong Kong treasury markets. At the end of 2016, the TMA had 75 Institutional Members and 1,438 Individual Members from banks, investment houses, asset managers, money brokers, information services providers, exchanges and large corporations. Some major tasks undertaken by the TMA during the year are set out below.

Strengthening the robustness and transparency of Hong Kong's major financial benchmarks

The TMA took up the administration of the Hong Kong Dollar Overnight Index Average, the underlying benchmark for Hong Kong Dollar Overnight Index Swap, in April. Subsequently, the TMA refined the governance and surveillance arrangements of the benchmark having regard to prevailing international recommendations and practices. Further, with broad support from the industry, the TMA successfully implemented a more transaction-based determination mechanism for its foreign exchange benchmarks, with effect from 1 August. This enables the benchmarks to better follow the prevailing international recommendations on benchmark determination.

Enhancing the conduct and professionalism of market participants

The TMA contributed to a new global initiative in establishing a single set of principles and good practices for the wholesale foreign exchange market, i.e. the Foreign Exchange Global Code. The work has strong support from the BIS, and is planned for completion and release in 2017. During the year, the TMA also promoted broad market awareness of the work through workshops and other market engagements.

Raising the profile of the Hong Kong treasury markets

The TMA co-organised its annual landmark event, the Treasury Markets Summit, with the HKMA in September in Hong Kong. The discussions focused on Hong Kong's unique edges under the Belt and Road strategy, the new normal of treasury markets, and the impact of fintech on treasury operations. The TMA also co-organised with other partners another summit in Shenzhen in November to promote the profile of the Hong Kong treasury markets and the TMA among market practitioners in Southern China.

OTC derivatives market regulation

The HKMA continued to work closely with the SFC to develop detailed rules for implementing the regulatory regime for the OTC derivatives market in Hong Kong. This regime aims to reduce systemic risk and enhance transparency in the OTC derivatives market. The rules for introducing mandatory clearing and expanding the product scope of mandatory reporting were passed at the Legislative Council in February. The first phase of mandatory clearing took effect in September.

In addition, the HKMA participated in several international forums, including the OTC Derivatives Working Group established under the FSB, and the OTC Derivatives Regulators' Forum, contributing to the relevant international initiatives and monitoring closely the international regulatory developments. Close dialogue was also maintained with overseas regulators, through both bilateral and multilateral channels, to discuss cross-border issues arising from the implementation of the OTC derivatives reforms.

International Financial Centre

PLANS FOR 2017 AND BEYOND

The HKMA will continue to work closely with other central banks, government agencies and the private sector, both locally and internationally, to implement initiatives that enhance Hong Kong's status as an international financial centre.

Development of Hong Kong as a global offshore renminbi business hub

The Central Government's commitment to take forward renminbi internationalisation and capital account liberalisation will continue to be important drivers for Hong Kong's offshore renminbi business. The inclusion of renminbi in the IMF's Special Drawing Right currency basket in October will generate increasing offshore demand for renminbi assets over the medium to long term. The implementation of the Belt and Road Initiative will further spur the international use of renminbi and demand for renminbi products and services. As the global offshore renminbi business hub with the deepest pool of offshore renminbi deposits, highly efficient and reliable renminbi payment infrastructure and a financial industry well-versed in renminbi business, Hong Kong is well placed to capture the business opportunities. In the coming year, the HKMA will closely engage Mainland authorities with a view to further enhancing mutual access to the financial markets of the two places and broadening policy headroom for the further development of renminbi business in Hong Kong.

At the same time, the HKMA will work closely with the industry to promote Hong Kong's renminbi financial platform and to step up collaboration with other overseas markets on renminbi business, especially targeting opportunities brought forth by the Belt and Road Initiative and Chinese enterprises "going global".

Financial market development

The HKMA will seek to promote a more conducive infrastructure financing environment in Hong Kong. In particular, IFFO will organise Debt Financing and Investors' Roundtables in March 2017.

The HKMA will also explore ways to further enhance the competitiveness of Hong Kong's financial sector, particularly in the development of Hong Kong as an international asset management hub and regional destination for CTCs, and fund investment activities.

The HKMA will continue its effort in developing the local debt market, and in implementing the Government Bond Programme to broaden its investor base and enhance its liquidity. Further steps will be taken to expand Islamic finance in Hong Kong by encouraging product development, raising market awareness and knowledge of Islamic finance, and forging closer ties with key Islamic financial centres and international Islamic financial organisations.

International and regional co-operation

Policy uncertainties in some advanced economies and the normalisation of US interest rates continue to pose challenges to the global financial system. Cross-border capital flows could become volatile as monetary policy tightens in the US and the US dollar strengthens. Despite relatively strong fundamentals in Asia, its resilience may be tested in situations of disorderly capital outflows or sharp repricing of assets. Against this backdrop, there is a need to strengthen cross-border co-operation in market surveillance and enhance the resilience of financial systems. The HKMA will continue to play its part in driving international and regional initiatives to promote financial stability.

Financial infrastructure

Introduction of CMU Optimiser runs

In accordance with IMF's recommendations in the Financial Sector Assessment Programme, the CMU system is being enhanced for the introduction of CMU Optimiser runs around mid-2017 to raise the proportion of real time Delivery-versus-Payment settlement for securities transactions.

International Financial Centre

Trade repository for OTC derivatives

The HKMA will continue to enhance the trade repository system to meet the evolving international reporting standards and requirements from regulators.

Faster Payment System (FPS)

To address the increasing market needs for more efficient retail payment services, the HKMA planned to implement a FPS in Hong Kong in late 2018. The FPS will be a multi-currency system that enables the public to make round-the-clock retail payments in a real-time manner. There are a number of benefits for Hong Kong to implement the FPS. It will enhance payment convenience and efficiency for individuals and corporations, promote healthy competition between banks and non-bank payment service providers, enhance the resilience of the RTGS system by providing a non-similar facility for backing up the RTGS system, and reinforce Hong Kong's status as an international financial centre.

Retail payment initiatives

Further steps will be taken to improve Hong Kong's retail payment infrastructure. On the regulatory regime for SVFs and RPSs, the HKMA will determine whether any of the existing RPSs in Hong Kong should be designated pursuant to the PSSVFO and implement designation and oversight work as appropriate. Where necessary, guidelines on RPS designation and regulatory requirements applicable to designated RPSs will be issued. The HKMA will continue its supervision of SVF licensees and update or issue supervisory guidelines where necessary to facilitate SVF licensees' compliance with the regulatory requirements. It will also conduct educational programmes to further enhance public awareness of the SVF and RPS regulatory regime.

On the e-Cheque service, both the HKMA and HKAB will continue to support educational campaign to enhance public awareness of the service. We will also participate in seminars and trade fairs to promote e-Cheque service to corporations.

Fintech development

The HKMA will maintain close collaboration with the banking and SVF industry and the fintech community to explore the application of new technologies to financial services and to facilitate the healthy development of the fintech industry.

The HKMA will monitor the implementation of the CFI. The first phase of implementation is scheduled for completion in September 2017 for risk and maturity assessments and in June 2018 for simulation testing.

The second white paper on the DLT is scheduled for publication in the second half of 2017, covering the lessons learned from the proof-of-concept exercise of mortgage loan application, trade finance and digital identity management, and addressing the regulatory implications and control principles of the DLT for the banking and payment industry.

The HKMA will continue to organise and oversee the Fintech Career Accelerator Scheme, including delivering regulatory briefings, to ensure students get the most out of the 2017 internship. The HKMA will also review its effectiveness and lessons learned with a view to enhancing the scheme.

The HKMA will explore ways to collaborate with overseas counterparts in fintech development, including possible secondment, joint projects and information sharing.

Soft power

Director Empowerment Programme

The HKMA will continue its efforts on director empowerment, such as organising thematic seminars, to keep INEDs abreast of the banking sector development. An experience and insight sharing conference dedicated for INEDs has been scheduled for March 2017. This event is an important platform for INEDs to keep abreast of the banking sector developments and the regulatory policy landscape. It also provides an excellent opportunity for a constructive exchange of views among INEDs and with the senior executives of the HKMA on issues of mutual interest.

International Financial Centre

Talent development

The HKMA will maintain close collaboration with the banking industry to develop the professional level of ECF on AML/CFT for more experienced practitioners. In addition, the HKMA will consult the banking industry and professional bodies to prepare for the launch of similar competency frameworks in other banking functions in the coming years, including credit risk management, retail wealth management, treasury management, and risk and compliance.

Consumer education

Further publicity initiatives will be launched under the HKMA's Consumer Education Programme, including videos and other publicity materials, to promote smart and responsible use of banking and other financial services under the HKMA's supervision. In addition, the HKMA will further collaborate with other stakeholders to promote financial literacy and maximise the impact of consumer education.

Treasury Markets Association

The HKMA will maintain close relations with the private sector and industry associations to enhance the professionalism and competitiveness of Hong Kong treasury markets, particularly in relation to financial benchmarks and the adoption of the Foreign Exchange Global Code.

OTC derivatives market regulation

The HKMA will continue to work with the SFC to develop detailed rules for implementing other aspects of the regulatory regime for the OTC derivatives market. The second phase of mandatory reporting will commence in July 2017. The HKMA will also continue its participation in various international forums, including the OTC Derivatives Working Group of the FSB and the OTC Derivatives Regulators' Forum, to keep abreast of, and contribute to, regulatory developments in the international arena.

Reserves Management

2016 was full of surprises and black swan events. The global financial markets were highly volatile and turbulent. Market concerns over a hard landing of the Mainland economy and global economic slowdown in early 2016 prompted global equity markets to fall sharply. The result of the Brexit referendum in June and the outcome of the US presidential election in November also took the market completely by surprise. Despite such a difficult investment environment, the Exchange Fund recorded an overall investment return of 2% in 2016, thanks to a series of defensive measures deployed by the HKMA over the years that have enhanced the resilience of the Exchange Fund.

THE EXCHANGE FUND

The Exchange Fund's primary objective, as laid down in the Exchange Fund Ordinance, is to affect, either directly or indirectly, the exchange value of the currency of Hong Kong. The Fund may also be used to maintain the stability and integrity of Hong Kong's monetary and financial systems to help maintain Hong Kong as an international financial centre. The Exchange Fund is under the control of the Financial Secretary and may be invested in securities or other assets he considers appropriate, after consulting the Exchange Fund Advisory Committee (EFAC).

MANAGEMENT OF THE EXCHANGE FUND

Investment objectives and portfolio structure

EFAC has set the following investment objectives for the Exchange Fund:

- (a) to preserve capital;
- (b) to ensure that the entire Monetary Base, at all times, is fully backed by highly liquid US dollar-denominated assets;
- (c) to ensure that sufficient liquidity is available for the purposes of maintaining monetary and financial stability; and
- (d) subject to (a)–(c), to achieve an investment return that will help preserve the long-term purchasing power of the Fund.

These objectives take full account of the statutory purposes of the Exchange Fund, and are incorporated into the portfolio structure and the target asset mix of the Fund.

Broadly speaking, the Exchange Fund has two major portfolios: the Backing Portfolio (BP) and the Investment Portfolio (IP). The BP holds highly liquid US dollar-denominated assets to provide full backing to the Monetary Base as required under the Currency Board arrangements. The IP is invested primarily in the bond and equity markets of the member countries of the Organisation for Economic Co-operation and Development to preserve the value and long-term purchasing power of the assets. The long-term target bond-to-equity mix for the two portfolios as a whole is 71:29. In terms of target currency mix, 91% of the assets are allocated to the US dollar and the Hong Kong dollar, and the remaining 9% to other currencies¹.

To better manage risks and enhance returns in the medium and long term, the HKMA has been diversifying part of the Exchange Fund's investment, in a prudent and incremental manner, into a wider variety of asset classes, including emerging market and Mainland bonds and equities, private equity and overseas investment properties. Emerging market and Mainland bonds and equities are held under the IP, while private equity and real estate investments are held under the Long-Term Growth Portfolio (LTGP). The cap for the market value of investments under the LTGP is set at one-third of the accumulated surplus of the Exchange Fund, with further capacity arising from the allocation of a part of the Future Fund to long-term assets.

The Strategic Portfolio, established in 2007 to hold shares in Hong Kong Exchanges and Clearing Limited that were acquired by the Government for the account of the Exchange Fund for strategic purposes, is not included in the assessment of the Fund's investment performance because of the unique nature of this Portfolio.

¹ The target currency mix has taken into account the impact of a measure approved by EFAC to reduce the non-US dollar/Hong Kong dollar holdings of the Exchange Fund during the year.

Reserves Management

Placements with the Exchange Fund

The Exchange Fund accepts placements by fiscal reserves, Government funds and statutory bodies from time to time, with the interest rate generally linked with the performance of the IP² with the exception of the Future Fund whose interest rate is linked with both the IP and the LTGP depending on the portfolio mix. As at the end of 2016, the portfolio mix of the Future Fund between the IP and the LTGP was 80:20. The portion linked with the LTGP is expected to be gradually built up to around 50% of the Future Fund placement by the end of 2018.

The investment process

The investment process of the Exchange Fund is underpinned by decisions on two types of asset allocation: the strategic asset allocation and the tactical asset allocation. The strategic asset allocation, reflected in the investment benchmark, represents the long-term optimal asset allocation given the investment objectives of the Exchange Fund. Guided by the strategic allocation, assets are tactically allocated in an attempt to achieve an excess return over the benchmark. This means the actual allocation is often different from the benchmark, or strategic, allocation. The differences between the actual and the benchmark allocations are known as “tactical deviations”. While the benchmark and the limits for tactical deviations are determined by the Financial Secretary in consultation with EFAC, tactical decisions are made by the HKMA under delegated authority. Within the limits allowed for tactical deviations, portfolio managers may take positions to take advantage of short-term market movements.

Investment management

Direct investment

HKMA staff in the Reserves Management Department directly manage the investment of about 74% of the Exchange Fund, which includes the entire BP and part of the IP. This part of the IP includes a set of portfolios invested in global fixed-income markets and various derivative overlay portfolios implementing macro risk management strategies for the Fund.

Use of external managers

In addition to managing assets internally, the HKMA employs external fund managers to manage about 26% of the Exchange Fund’s assets, including all of its listed equity portfolios and other specialised assets. The purpose of appointing external managers is to tap the best investment expertise available in the market to capture a diverse mix of investment styles, and transfer knowledge and information from the market to in-house professionals.

Expenditure relating to the use of external managers includes fund management and custodian fees, transaction costs, and withholding and other taxes. The expenditure is primarily determined by market factors, and may fluctuate from year to year.

The HKMA supports the Principles of Responsible Ownership (Principles) issued by the Securities and Futures Commission on 7 March 2016, which are voluntary and assist investors to determine how best to meet their ownership responsibilities in relation to their investments in Hong Kong-listed companies. For the management of the Exchange Fund, the HKMA has encouraged the appointed external fund managers for its Hong Kong equity portfolio to adopt the Principles in managing the investments.

Risk management and compliance

The high volatility of the financial markets in recent years has highlighted the importance of risk management. Stringent controls and investment guidelines have been established for both internally and externally managed portfolios, and compliance with guidelines and regulations is closely monitored. Risk-control tools are deployed to assess market risks under both normal and adverse market conditions. The HKMA also conducts detailed performance attribution analyses to make the best use of the investment skills of both internal and external managers.

² The rate is the average annual investment return of the IP for the past six years or the average annual yield of three-year Government Bond for the previous year subject to a minimum of zero percent, whichever is the higher.

Reserves Management

PERFORMANCE OF THE EXCHANGE FUND

The financial markets in 2016

The global financial markets were highly volatile and turbulent in 2016. In the equity markets, market concerns over a hard landing of the Mainland economy and a slowdown in the global economic growth in January prompted the Hong Kong and other major equity markets to fall sharply. It was not until mid-February that the equity markets were stabilised. However, the result of the Brexit referendum in June and the outcome of the US presidential election in November took the market completely by surprise. That said, the equity markets only experienced short-lived setbacks and quickly recovered lost ground. For the year as a whole, the global equity markets performed well in general.

In the bond markets, sovereign bond markets performed quite well in the first half of 2016, on the back of safe haven demand arising from concerns about global growth slowdown and disinflation exacerbated by a further drop in

commodity prices in the first quarter, uncertainties arising from the Brexit referendum and expectations of continued accommodative central bank policies in the second quarter. In particular, the 10-year US Treasury yield fell to a record low of 1.36% in July. However, in the second half of the year, with the heightened expectations of US interest rate hikes, in particular after the US presidential election, US Treasury yields shot up. Yields of other major sovereign bonds also rose, though by a smaller extent.

In the currency markets, the US dollar continued to strengthen in 2016, with the US dollar index rising to its highest level in 14 years. The continued US dollar strength was supported by the widening interest rate gap between the US and other major economies. While the yen appreciated by about 3% against the US dollar in 2016, the euro depreciated by around 3% against the US dollar. The British pound also weakened by 16% against the US dollar during the year, posting its biggest fall since 2008, on the lingering uncertainties over the result of the Brexit referendum.

The performance of major currency, bond and equity markets in 2016 is shown in Table 1.

Table 1 2016 market returns

Currencies

Appreciation (+)/depreciation (–) against US dollar

Euro –2.9%

Yen +3.1%

Bond markets

Relevant US Government Bond (1–30 years) Index +1.1%

Equity markets¹

Standard & Poor's 500 Index +9.5%

Hang Seng Index +0.4%

1. Market performance on equities is based on index price change during the year.

Reserves Management

The Exchange Fund's performance

Despite the highly volatile financial markets, the Exchange Fund recorded an investment income of HK\$68.1 billion in 2016. This comprised gains of HK\$28.6 billion on overseas equities, HK\$5.3 billion on Hong Kong equities, HK\$33.1 billion on bonds, and HK\$16.9 billion on other investments held by the investment holding subsidiaries of the Fund, as well as a negative currency translation effect of HK\$15.8 billion on non-Hong Kong dollar assets. The negative currency translation effect was unavoidable when translating the Fund's non-US dollar investments into Hong Kong dollars amid the sharp strengthening of the US dollar last year. Separately, the Strategic Portfolio recorded a valuation loss of HK\$0.7 billion.

The total assets of the Exchange Fund reached HK\$3,618.7 billion at the end of 2016. The market value of investments under the LTGP totalled HK\$181.8 billion, made up of HK\$116.8 billion in private equity and HK\$65 billion in real estate, with outstanding investment commitments amounted to HK\$133.8 billion.

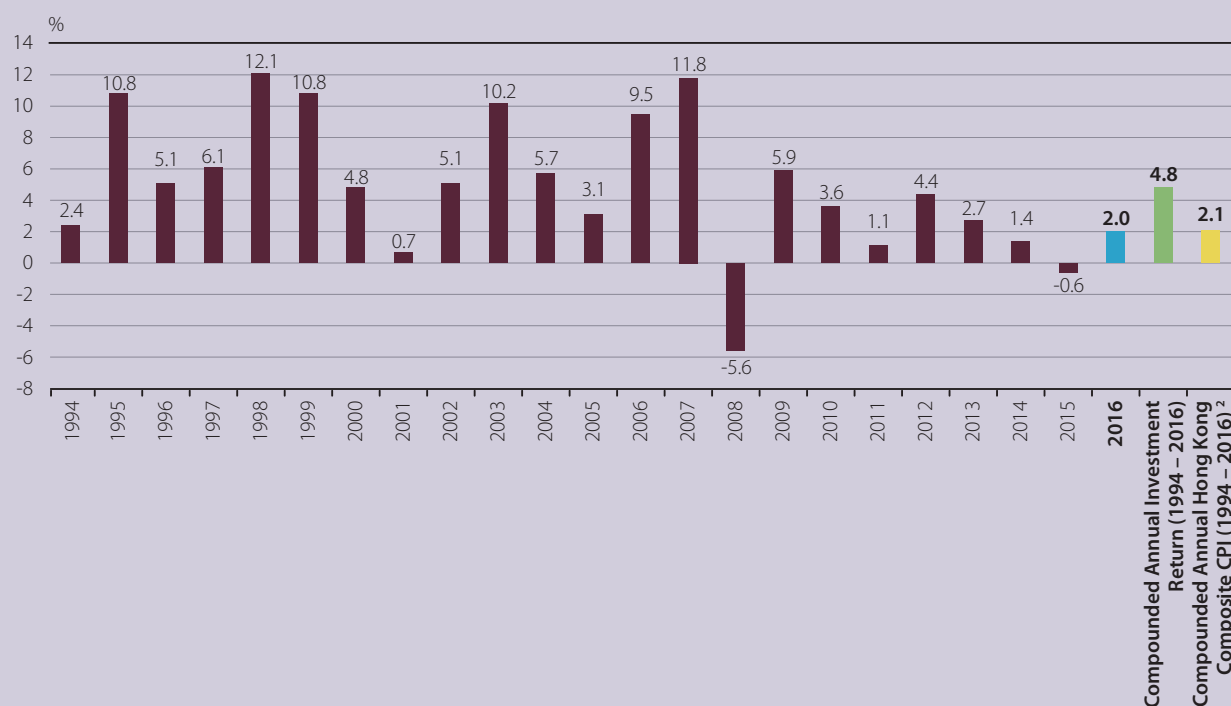
The investment return of the Exchange Fund (excluding the Strategic Portfolio) in 2016 was 2%, despite a very challenging investment environment. The LTGP recorded an annualised internal rate of return of about 12% since its inception in 2009.

In view of the worsening external investment environment, the HKMA has deployed a series of defensive measures over the past years, which include shortening the duration of bond portfolios, increasing cash holdings and significantly reducing assets denominated in currencies other than the US dollar and the Hong Kong dollar. It has also quickened the pace of investment diversification, especially through investments under the LTGP. These moves have enhanced the resilience of the Exchange Fund against market fluctuations.

The annual return of the Fund from 1994 to 2016 is set out in Chart 1. Table 2 shows the 2016 investment return and the average investment returns of the Fund over several different time horizons. The average return was 0.9% over the past three years, 2.0% over the past five years, 2.6% over the past ten years and 4.8% since 1994.³ Table 3 shows the currency mix of the Fund's assets on 31 December 2016.

³ Averages over different time horizons are calculated on an annually compounded basis.

Reserves Management

Chart 1 Investment return of the Exchange Fund (1994–2016)¹

1. Investment return calculation excludes the holdings in the Strategic Portfolio.

2. Composite Consumer Price Index is calculated based on the 2014/2015-based series.

Table 2 Investment return of the Exchange Fund in Hong Kong dollar terms¹

	Investment return ^{2 & 3}
2016	2.0%
3-year average (2014–2016)	0.9%
5-year average (2012–2016)	2.0%
10-year average (2007–2016)	2.6%
Average since 1994	4.8%

1. The investment returns for 2001 to 2003 are in US dollar terms.

2. Investment return calculation excludes the holdings in the Strategic Portfolio.

3. Averages over different time horizons are calculated on an annually compounded basis.

Table 3 Currency mix of the Exchange Fund's assets on 31 December 2016 (including forward transactions)

	HK\$ billion	%
US dollar	3,050.2	84.3
Hong Kong dollar	286.9	7.9
Others ¹	281.6	7.8
Total	3,618.7	100.0

1. Other currencies included mainly euro, renminbi, pound sterling and Japanese yen.

Corporate Functions

The HKMA maintains effective communication with the community and the market through the media, public education programmes, and other various channels to facilitate public understanding of its policies and operations. During the year, the HKMA continued to improve corporate governance by supporting professional development of staff, instituting rigorous financial discipline, and enhancing IT security to help cope with challenges arising from the implementation of new initiatives and the increasing complexity of work.

ENGAGING THE COMMUNITY CORPORATE DEVELOPMENT

Public communications

The HKMA works closely with the media to enhance its transparency and promote public understanding about its policies and work. In 2016, a total of 81 open press events were held, comprising 14 press conferences, 13 stand-up interviews and 54 other public functions. A further 30 media interviews were arranged. A total of 326 bilingual press releases were issued and a large number of media enquiries were handled every day.

Within the year, the HKMA launched two important initiatives, namely the Infrastructure Financing Facilitation Office (IFFO) and Fintech Facilitation Office (FFO). To introduce the mandates and work plans of the two offices, a variety of public communication initiatives were conducted. In addition, the HKMA organised media briefings and workshops to facilitate in-depth understanding of the HKMA's operations and initiatives on a wide range of topics, such as financial inclusion, reserves management, Fintech Supervisory Sandbox, cybersecurity, and small and medium-sized enterprises financing.



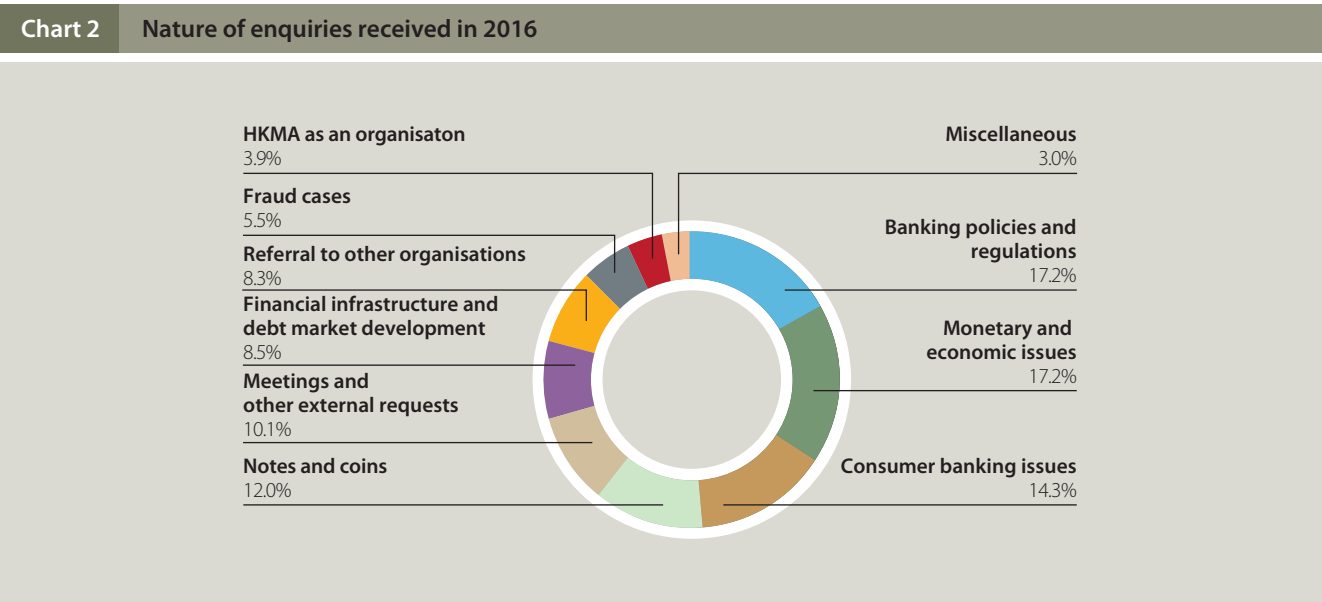
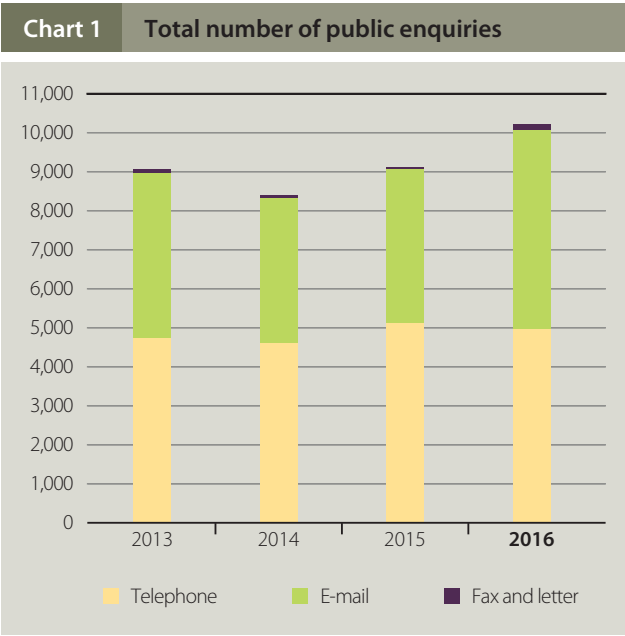
HKMA Chief Executive, Mr Norman Chan, meets with the press in Beijing during the annual Hong Kong Association of Banks trip in December 2016.

Corporate Functions

Public enquiries

The Public Enquiry Service provides an effective means for the public to obtain information about the role and work of the HKMA. The Service handled 10,170 enquiries in 2016, representing an increase of 12% over 2015. About half of them were related to banking policies and regulations, monetary and economic issues, and consumer banking matters. Notable examples included banking products and services, the coin collection programme, banking-related guidelines and circulars, stored value facilities (SVFs) and retail payment systems (RPSs), prevention of money laundering and terrorist financing, and prudential measures for property mortgage loans.

Chart 1 shows the number of public enquiries received since 2013 and Chart 2 provides a breakdown by nature of the enquiries in 2016.



Corporate Functions

Publications

Apart from the *HKMA Annual Report*, the HKMA published two issues of the *Half-Yearly Monetary and Financial Stability Report*, four issues of the Quarterly Bulletin, and released regular updates of the *Monthly Statistical Bulletin* over the past year to provide up-to-date and thematic information and analyses on monetary, banking and economic issues in Hong Kong. In addition, the HKMA published a total of 32 *inSight* articles in 2016, a significant increase from 14 articles in 2015, covering various topical issues related to the work of the HKMA.

The *HKMA Annual Report 2015* received a Silver award in the “Non-Profit Making and Charitable Organisations” category in the Hong Kong Management Association’s 2016 Best Annual Reports Awards.

Public Education Programme

The HKMA Information Centre on the 55th Floor of Two International Finance Centre is an important resource for introducing the work of the HKMA to the community and promoting public awareness of monetary and banking matters. The Centre consists of an exhibition area and a library, and is open to the public six days a week. The exhibition area introduces the work of the HKMA and the development of money and banking in Hong Kong. It also contains reading materials and exhibits for the study of Hong Kong’s monetary, banking and financial affairs.

In the fourth quarter of 2016, the policy section of the Information Centre, which introduces the work of the HKMA and related financial concepts, commenced refurbishment with the aim of enhancing the experience of visitors by enriching the contents of the exhibitions and introducing various interactive elements. In particular, interactive games are introduced to integrate play into learning and illustrate complicated financial concepts in a simple way. There are also touchscreen panels to explain the work of the HKMA in a more comprehensive and in-depth manner. In addition, there is a mosaic artwork of the Victoria Harbour which is made up of more than 130,000 pieces of Hong Kong coins. The new look of the policy section was re-opened to the public on 24 February 2017.

The HKMA website

The HKMA corporate website (www.hkma.gov.hk), with over 50,000 pages in English and traditional and simplified Chinese, is the public access gateway to up-to-date information about the HKMA. It also contains the Register of Securities Staff of Authorized Institutions (AIs) and the Register of AIs and Local Representative Offices, both maintained under section 20 of the Banking Ordinance, as well as the Register of SVF Licensees under the Payment Systems and Stored Value Facilities Ordinance. Dedicated webpages and eye-catching short-cut links have been provided to draw public attention to the new initiatives of the HKMA, such as the regulatory regime for SVFs, IFFO and FFO, as well as important and timely information, such as reminders on the need to remain vigilant against bogus phone calls and the location of Coin Carts under the Coin Collection Programme.



The new look of the Information Centre's policy section.



A mosaic artwork of the Victoria Harbour which is made up of Hong Kong coins.

Corporate Functions

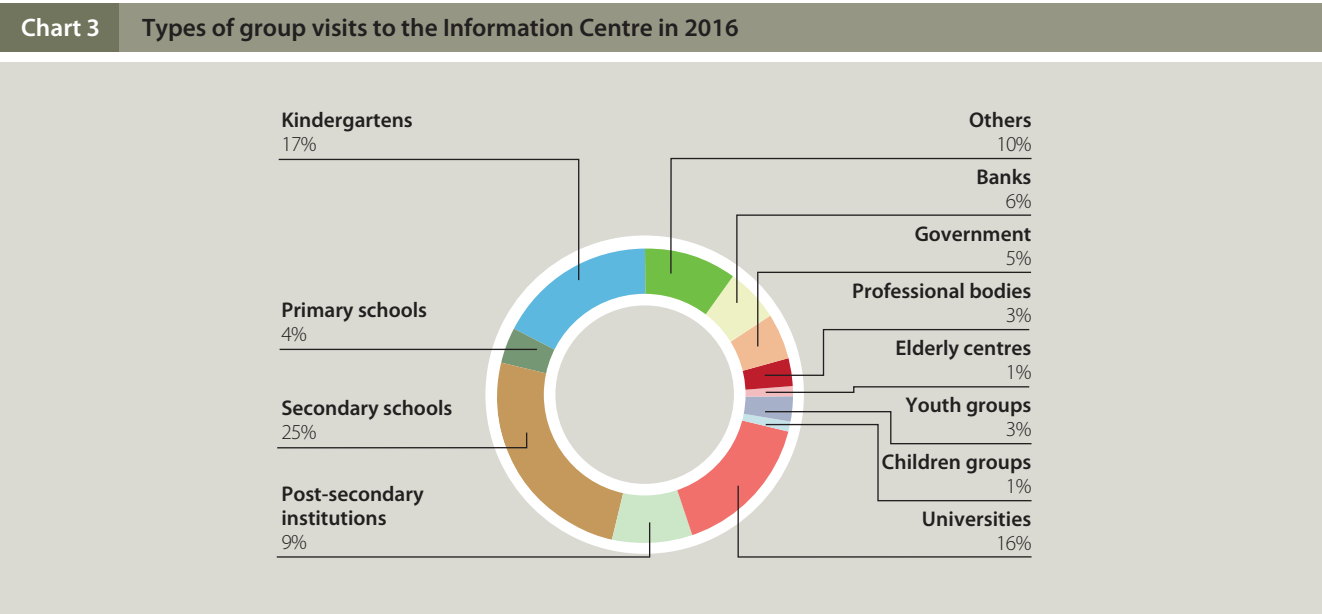
Guided tours of the Information Centre are organised for visitors. During the year, the Centre received more than 56,200 visitors and hosted over 580 guided tours for schools and other groups (Chart 3). Over 586,600 people have visited the Information Centre since it opened in December 2003.

The library, situated next to the exhibition area, houses more than 23,000 books, journals and other publications for the detailed study of Hong Kong’s monetary, banking and financial affairs and central banking topics. It also maintains electronic registers of AIs and local representative offices and securities staff of AIs as required by section 20 of the Banking Ordinance.

To reach out to the community and raise public awareness of the HKMA’s work, the HKMA continued to organise public education seminars. In 2016, three seminars were held for more than 1,750 secondary school students and teachers. Topics covered in the seminars included the Linked Exchange Rate System, banking stability, banknotes in Hong Kong, smart tips on using banking-related products and services, and the Deposit Protection Scheme. More than 56,400 people have participated in this programme since its launch in 1998.



Students and teachers from secondary schools in different districts participate in one of the public education seminars.



Corporate Functions

HUMAN RESOURCES

The HKMA recruits, develops and maintains a highly professional workforce to support its policy objectives and respond flexibly to changing work priorities. While the HKMA is an integral part of the Government, it employs staff on terms different from those of the civil service to attract personnel with the right experience and expertise. As a public organisation, the HKMA aims to maintain a lean and flexible structure and, where possible, to redeploy staff resources to undertake new initiatives and meet the increasing workload.

Staffing

The establishment of the HKMA at the beginning of 2016 was 875. In the second half of 2016, 12 posts were created to carry out the HKMA's regulatory functions under the new insurance regulatory regime. The establishment of the HKMA therefore stood at 887 at the end of 2016.

In 2017, the establishment is increased by 40 to 927 (an increase of 4.5%) to ensure that sufficient resources are provided to cope with (i) the implementation of new legislation and initiatives, (ii) the continuation of pilot projects proven necessary on an on-going basis, and (iii) the increasing complexity and volume of existing work. The new posts are deployed to the following functions:

- ◆ Enhancing banking and financial stability, which includes:
 - enhancing supervisory capacity to manage growing technology risk and new fintech initiatives of banks, and to deal with the regional and business expansion of banks;
 - strengthening supervisory and enforcement efforts in anti-money laundering and counter-terrorist financing and preparing for the 2018 Financial Action Task Force Mutual Evaluation;
 - gearing up the planning and preparatory work for the implementation of the Financial Institutions (Resolution) Ordinance, which applies international standards to address the “too big to fail” problem of the financial industry; and
 - strengthening supervisory capacity for new international standards on capital and market risks, and enhancing resources for handling consumer protection issues and banking complaints.
- ◆ Strengthening investment, risk management and other related support to the expanding investment activities resulting from the further diversification of the Exchange Fund's investment products, and enhancing strategic asset allocation and investment processes in the light of an increasingly challenging investment environment.
- ◆ Developing and implementing talent development programmes and enhancing related resources to ensure the HKMA has the necessary human capital to keep pace with market developments and meet the challenges ahead.
- ◆ Stepping up research capacity on monetary issues and handling of monetary statistics, and providing resources for handling enquiries and complaints relating to the licensing/designation and supervision of SVFs and RPSs.

Corporate Functions

Table 1 gives a breakdown of the establishment and strength of the HKMA.

Table 1 Establishment and strength of the HKMA on 1 January 2017					
Department	Functions	Senior staff		Others	
		Establishment	Strength	Establishment	Strength
Senior Executives' Office	Top management of the HKMA.	4	4	9	9
Banking Conduct	To take charge of payment systems oversight, licensing, and all supervisory and development functions relating to the business conduct of Als.	1	1	85	79
Banking Policy	To formulate supervisory policies for promoting the safety and soundness of the banking sector.	1	1	38	32
Banking Supervision	To supervise operations of Als.	1	1	162	150
Enforcement and AML	To investigate and where appropriate take enforcement action under relevant Ordinances, to supervise anti-money laundering and counter-terrorist financing systems and to handle complaints.	1	1	96	89
External	To help develop and promote Hong Kong as an international financial centre, to foster regional monetary co-operation through participation in the international central banking and financial community, and to promote the development of financial markets.	1	1	53	50
Financial Infrastructure	To develop and enhance the financial market infrastructure for maintaining and strengthening Hong Kong's status as an international financial centre, to take charge of deposit protection and settlement functions, and to ensure adequate supply of banknotes and coins.	1	1	56	55
Monetary Management	To maintain financial and monetary stability through macro-financial surveillance and monitoring of market operations, to license and supervise SVFs, and to designate and oversee important RPSs.	1	1	48	47
Research	To conduct research and analysis on economic and financial market developments in Hong Kong and other economies.	1	1	39	37
Reserves Management	To manage reserves to achieve investment returns in line with established guidelines and to enhance the quality of returns by diversifying into different investment markets and asset types.	1	1	79	66
Risk and Compliance	To oversee all risk-generating activities, including investment risks and other non-investment related corporate risks of the HKMA.	1	1	40	37
Office of the General Counsel	To provide in-house legal support and advice.	1	1	23	22
Corporate Services	To provide support services in the form of administrative, finance, human resources, information technology and secretariat services, and to handle media and community relations.	1	1	173	156
Internal Audit Division	To provide audit services through assisting the management in controlling risks, monitoring compliance and improving the efficiency of internal control systems and procedures.	–	–	10	9
Total		16	16	911	838

Corporate Functions

Temporary resources are deployed to meet other work demands. The HKMA also transfers staff on secondment to other international or local organisations such as the International Monetary Fund (IMF) and the Financial Services Development Council to assist in activities or policy initiatives in which Hong Kong or the HKMA has an interest. Some staff members are deployed on a full-time or part-time basis to provide operational support to the Hong Kong Deposit Protection Board and the Treasury Markets Association.

Remuneration policies and pay review mechanism

The Financial Secretary (FS) determines the pay and conditions of service for HKMA staff on the advice of the Governance Sub-Committee (GSC) through the Exchange Fund Advisory Committee (EFAC), taking into account the prevailing market rates and practices. Remuneration comprises a total cash package and a provident fund scheme, with minimal benefits in kind. The cash package consists of monthly fixed pay (or basic pay) and variable pay, which may be awarded to individual staff members as a lump sum once a year depending on performance.

Pay for HKMA staff is reviewed annually by the FS in the light of recommendations made to him by the GSC through EFAC, taking into account the GSC's assessment of the performance of the HKMA in the preceding year, the pay-survey findings of the financial sector conducted by independent human resources consultants and any other relevant factors. Special pay adjustments may be made from time to time for individual meritorious staff to maintain their pay competitiveness.

Any approved annual adjustments to the fixed pay or any variable pay awards for the HKMA are distributed to individual staff based on their performance. Investment professionals in the HKMA are subject to a variable pay system that seeks to strengthen the linkage between their investment performance and remuneration award. The pay adjustments or awards for individual staff members at the ranks of Executive Director or above are approved by the FS on the advice of the GSC. The staff members concerned are not present at the meetings when their pay is discussed. The pay adjustments or awards for individual staff members at the ranks of Division Head and below are determined by the Chief Executive of the HKMA under delegated authority from the FS and within the approved overall pay awards.

Corporate Functions

Remuneration of senior staff

The remuneration packages of the senior staff in 2016 are shown in Table 2.

Table 2 Remuneration packages of HKMA senior staff in 2016¹

HK\$'000	Chief Executive	Deputy Chief Executive/ Senior Executive Director (average)	Executive Director (average)
Number of staff ²	1	5	15
Annualised pay			
Fixed pay	6,939	5,802	3,887
Variable pay	2,600	1,533	998
Other benefits ³	1,114	824	549

1. Except for annual leave accrued, the actual remuneration received by staff who did not serve out a full year is annualised for the purpose of calculating the average annual package for the rank.
2. The number of staff in this table includes staff who did not serve out a full year. The Senior Executive Director rank includes the Chief Executive Officer of the Hong Kong Mortgage Corporation.
3. Other benefits include provident funds, medical and life insurance and annual leave accrued during the year. The provision of these benefits varies among senior staff depending on individual terms of service.

Training and development

The HKMA puts much emphasis on developing staff capabilities to meet operational demand, career development and new challenges. During the year, HKMA staff attended various training courses equivalent to 3,447 days. These included 1,661 days of horizontal training in general skills, and 1,786 days of vertical training in job-specific issues. Each staff member received on average 4.1 days of training. These training courses were organised in-house, or by the Government, other central banking institutions, local and overseas universities, consultants and training institutions.

As part of the horizontal training programme, an annual in-house induction course covering an overview of central banking, and the roles and functions of the HKMA was organised for new staff. Other horizontal training programmes attended by staff during the year covered leadership programmes and executive coaching, project management, communication and presentation skills, team building, the global economy, public policy, national and foreign affairs studies, computer skills and language courses.

Vertical training for staff covered various job-specific topics, including resolution and resolvability, banking law, risk-focused supervision and risk assessment, banking returns analysis, liquidity supervision and stress testing, derivatives trading, investigation skills and cybersecurity. Staff were also sponsored to attend relevant courses run by local professional bodies and training consultants.

Corporate Functions

To enhance the work-related knowledge and professional standards of staff, the HKMA runs a training sponsorship scheme to help staff pursue studies relevant to the work of the HKMA. The scheme covers degree or diploma courses, professional examinations and short-term courses. Reimbursement of membership fees of relevant professional bodies is also provided.

GENERAL ADMINISTRATION

The HKMA continues to streamline its work to improve efficiency and cost-effectiveness in coping with the increasing workload. Business continuity plans are reviewed regularly to ensure their effectiveness in a changing business and social environment. Drills on evacuation and the activation of back-up facilities are conducted regularly to ensure the responsiveness and preparedness of various business continuity measures. A dedicated team monitors the influenza alerts and other relevant infectious diseases to ensure necessary precautionary and contingency measures are taken in a timely manner.

The HKMA has an established environmental policy to protect and preserve the environment. Office green measures include the use of energy-saving devices, recycled paper and envelopes, arrangements for recycling, and minimising printing and the use of paper products. Green achievements in 2016 included reduction in the consumption of electricity (1%), chilled water (2.5%) and paper (1.9%), while the collection of waste paper increased by 4.7%.

During the year, HKMA staff continued to support various charitable events. The HKMA Team participated in the “Challenging 12 Hours Charity Marathon” to support the Sowers Action in promoting education aid in Mainland China. The Team came sixth out of 27 teams, and completed the marathon in 7 hours and 25 minutes. HKMA staff actively took part in the Blood Donation Day, the Community Chest’s Skip Lunch Day, Dress Casual Day and Love Teeth Day. Staff also participated in regular campaigns for collecting clothes, toys and other reusable items for donation to charities.

In 2016, the HKMA Volunteer Team devoted more than 300 hours of their free time to serving the community. In the fund-raising event “Running Oi Man” organised by the Senior Citizen Home Safety Association, the HKMA team won the “Best Costume Award” out of ten participating teams. Other activities participated by the team included the “A Lai See for Elderly” Campaign to support the needy for free use of 24-hour emergency support and care services organised by the Agency of Volunteer Service, “Care for the Elderly Charity Ticket” Campaign organised by the Senior Citizen Home Safety Association, home visit programme to the elderly organised by The Neighbourhood Advice-Action Council, the Children Charity Walk and Carnival organised by The Society for the Relief of Disabled Children as well as the Aniform Day organised by The Society for the Prevention of Cruelty to Animals. In recognition of the HKMA’s commitment in caring for the community, the HKMA has been accredited with the “10 Years Plus Caring Organisation Logo” by the Hong Kong Council of Social Service.

Corporate Functions



HKMA volunteers participate in a fund-raising event “Running Oi Man” organised by the Senior Citizen Home Safety Association on 12 November 2016 and win the “Best Costume Award” out of ten participating teams.

FINANCE

Annual budget

In drawing up the annual budget, the HKMA takes into account its ongoing operations and strategic development set out in a three-year plan approved by the FS on the advice of EFAC. Departments are required to assess their needs for the coming year and to review whether savings in staffing and expenditure can be achieved. This requires departments to critically assess the value of existing services and the cost-effectiveness of delivery methods. The Finance Division scrutinises all budget requests in communication with individual departments before submitting a consolidated draft budget for further scrutiny by senior management. The GSC of EFAC then deliberates on the proposed budget and recommends any changes it considers necessary, before putting it through EFAC to the FS for approval.

All expenditure items are subject to stringent financial controls through detailed procurement rules and guidelines. Compliance with these guidelines is subject to internal audit and is reviewed by independent auditors during the annual audit of the Exchange Fund. Expenses are analysed and reported to senior management every month.

The administrative expenditure in 2016 and the budgeted expenditure for core activities in 2017 are shown in Table 3. The difference between the 2016 actual expenditure and the 2017 budget arises mainly from an increase in staff costs, including the full-year effect of staff changes and pay review in 2016, and a net increase of 40 posts in 2017. The headcount change for 2017 was approved by the FS on the advice of EFAC.

Table 4 shows other expenses that are not directly related to the HKMA's own operations. Expenses related to the provision of premises for international organisations, whose presence in Hong Kong promotes our status as an international financial centre, are expected to remain broadly stable in 2017. Spending on financial infrastructure is related to the operation and continued development of payment and settlement systems to enable markets to function efficiently and securely. The HKMA also provides operational support to the Hong Kong Deposit Protection Board on a cost-recovery basis as endorsed by the FS according to section 6 of the Deposit Protection Scheme Ordinance (Cap. 581).

Corporate Functions

Table 3 HKMA administrative expenditure

HK\$ million	2016 Budget	2016 Actual	2017 Budget
Staff costs	1,263		1,371
Salaries and other staff costs		1,059	
Retirement benefit costs		98	
Premises expenses			
Operating lease charges	26	26	34
Other premises expenses (including management fees and utility charges)	62	59	68
General operating costs			
Maintenance of office and computer equipment	101	93	98
Financial information and communication services (including trading, dealing terminals and data link charges)	60	49	63
External relations (including international meetings)	55	30	51
Public education and publicity	15	14	25
Professional and other services	60	30	85
Training	12	7	13
Others	19	12	12
Total administrative expenditure	1,673	1,477	1,820

Table 4 Additional expenses

HK\$ million	2016 Budget	2016 Actual	2017 Budget
Subsidy to the Hong Kong Institute for Monetary Research	19	11	20
Premises expenses of international financial organisations in Hong Kong	40	40	39
Service fees for financial infrastructure	63	50	147

Corporate Functions

Financial disclosure

The HKMA adopts international standards in financial disclosure as far as they are applicable to central banking operations. These include the Hong Kong Financial Reporting Standards (HKFRSs) and other applicable reporting requirements (for example, the IMF's Special Data Dissemination Standard). Working with the external auditor and other accounting professionals, the Finance Division prepares and presents the Exchange Fund's financial statements in accordance with the HKFRSs. To achieve a high level of transparency, the HKMA also provides detailed disclosure and thorough analyses of a wide range of expense items and budgetary information in its *Annual Report*.

INFORMATION TECHNOLOGY

The Information Technology (IT) Division maintained almost 100% operational uptime in 2016 for all time-critical systems.

To ensure continued reliability of the HKMA's IT systems, ageing or outdated components of the IT infrastructure were replaced or updated according to planned schedules. Good progress was made in the implementation of the Virtual Desktop Infrastructure (VDI) project which provides a platform with much enhanced flexibility to support office automation services.

IT security continued to be the Division's high priority task. During the year, the Division conducted a comprehensive review of HKMA's IT security with various enhancement measures implemented. In particular, in the light of a major theft incident on SWIFT in 2016, security enhancements were made on the SWIFT system for reinforcing the existing internal controls and making the system more robust to withstand potential threats.

In response to an increasing trend of high-profile attacks through Advanced Persistent Threats (APTs), the Division implemented an APT defense system to provide more robust protection to the HKMA's IT systems against such attacks.

SETTLEMENT SERVICES

The Settlement Section provides settlement and operational support to ensure accurate, efficient and reliable transfer of funds or assets of the Exchange Fund arising from reserves management, monetary operations and other activities, as well as for the administration of the HKMA. In view of the risks of cyber attacks, the Settlement Section remains vigilant towards possible operational and security issues that may arise during the provision of settlement services. In 2016, the Settlement Section tightened its operational and access controls by enhancing both preventive and detective measures in settlement processes and system security. This helps ensure accurate, efficient and safe transfer of funds and assets of the Exchange Fund.

OFFICE OF THE GENERAL COUNSEL

The Office of the General Counsel (OGC) is responsible for providing legal advice to the HKMA on all aspects of its functions and activities. It comprises 17 lawyers who assist the HKMA in maintaining Hong Kong's banking and monetary stability, enhancing its financial infrastructure, maintaining its status as an international financial centre, and ensuring the effective management of the Exchange Fund.

In addition to providing legal support to the operation of each line department in the HKMA, the OGC assists in the planning and implementation of projects, initiatives and operations, most of which involve complex issues of commercial, regulatory and administrative law. Examples include:

- ◆ implementation of the Basel III framework, including the Banking (Capital) (Amendment) Rules 2016 and the Banking (Disclosure) (Amendment) Rules 2016
- ◆ provision of advice on recovery and resolution planning of global systemically important banks, including advising on the drafting of bank-specific cross-border co-operation agreements

Corporate Functions

- ◆ participation in the formulation of proposals with the Government and other regulators for an effective resolution regime for financial institutions in Hong Kong
- ◆ provision of legal advice on the drafting of the Financial Institutions (Resolution) Bill (enacted as an ordinance in June 2016) and the subsidiary legislation to be made under the ordinance and on issues relevant to bringing the resolution regime in Hong Kong into operation
- ◆ involvement in initiatives for cross-border resolution for global systemically important financial institutions, including participation in the Financial Stability Board Resolution Steering Group and Legal Experts Group on Cross-border Recognition of Resolution Actions
- ◆ advising on legal issues relating to the entry by the Monetary Authority as a foreign central bank to the China Interbank Bond and Foreign Exchange Market for the purpose of investments in a variety of financial products
- ◆ advising on legal issues relating to the implementation of the regulatory regime for SVFs and RPSs in Hong Kong
- ◆ advising on legal issues relating to the implementation of the regulatory regime for over-the-counter derivatives market in Hong Kong
- ◆ continued development of procedures for the prosecution of offences under the Anti-Money Laundering and Counter-Terrorist Financing (Financial Institutions) Ordinance and the Securities and Futures Ordinance in respect of the business of over-the-counter derivatives transactions
- ◆ conduct and management of litigation matters involving the HKMA.

The OGC provides comments to government bureaux on significant legislative proposals from time to time, such as those listed above. OGC lawyers participate in regular meetings and conferences for central bankers, financial regulators and the banking community to keep abreast of topical developments in major international financial centres and to discuss and resolve issues of current legal concern. The OGC assists in promoting understanding of the HKMA's work and legal issues by taking up speaking engagements in academic programmes, professional symposiums and international forums.

INTERNAL AUDIT

The Internal Audit Division independently assesses the adequacy and effectiveness of control, risk management and governance processes, and advises on opportunities for improvement. The Division reports directly to the Chief Executive of the HKMA and the EFAC Audit Sub-Committee (ASC).

Using a risk-based approach, operational audits and system security reviews were conducted to cover the HKMA's significant risk areas. The Division also advised on major system development projects and internal control issues in response to requests from management and senior executives. The Division provided quarterly business risk updates to the Risk Committee, and quarterly reports to the senior executives and the ASC regarding audit engagement progress updates and key internal control matters.

RISK MANAGEMENT

One of the most important tasks of the HKMA is to manage risks to the monetary and banking systems. Risk management is undertaken both at a working level in the day-to-day operations of the HKMA and at a higher level through strategic planning. There are two high-level committees under the HKMA's risk management framework, the Macro Surveillance Committee and the Risk Committee. Both committees are chaired by the Chief Executive of the HKMA.

Corporate Functions

The terms of reference of the Macro Surveillance Committee are:

- ◆ to identify potential risks and threats to the monetary and financial system in Hong Kong and discuss possible measures to address such risks
- ◆ to review existing measures for managing risks in the monetary and financial system to identify possible gaps and ensure the adequacy of these measures
- ◆ to encourage cross-department sharing of relevant information on macro surveillance with a view to enhancing the macro surveillance capability of the HKMA.

The terms of reference of the Risk Committee are:

- ◆ to identify potential risks and threats to the organisation and devise strategies to reduce the impact of such events
- ◆ to review the existing system for managing risks across different departments to identify possible gaps and significant risks and ensure the adequacy of measures to address them
- ◆ to harmonise the criteria and methods of risk measurement and prioritise the resources management of risks identified
- ◆ to encourage a stronger risk management culture institutionally which promotes the proper levels of authorisation and controls.

Because of the growing complexity of the activities engaged by the HKMA, and the increasing public expectations of the organisation's work, the operational risk management process was strengthened in 2012. The framework now covers organisational risks at two levels: entity-level and department-level. Entity-level risks mainly refer to those that concern the entire organisation in the medium term, or which might call for a cross-departmental response. Potential or emerging risks identified by the business units, and the adequacy of the control measures and mitigating strategies they devise, are reported and reviewed quarterly. This is supplemented by a top-down approach to managing entity-level risks, in which senior colleagues heading different business units actively identify risks of wider impact and propose mitigating measures. These assessments are discussed at the Risk Committee, at which appropriate follow-up actions are decided.

EXTERNAL AUDITOR

In accordance with section 7 of the Exchange Fund Ordinance, the Audit Commission of the Government of the Hong Kong Special Administrative Region audits the financial statements of the Exchange Fund. The Commission does not charge for this service.

The Exchange Fund

- ◆ Report of the Director of Audit
- ◆ Exchange Fund Financial Statements

Report of the Director of Audit



Audit Commission

The Government of the Hong Kong Special Administrative Region

Independent Auditor's Report To the Financial Secretary

Opinion

I certify that I have audited the financial statements of the Exchange Fund and its subsidiaries ("the Group") set out on pages 149 to 237, which comprise the balance sheets of the Exchange Fund and of the Group as at 31 December 2016, and their income and expenditure accounts, statements of comprehensive income, statements of changes in equity and statements of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the financial statements give a true and fair view of the financial position of the Fund and of the Group as at 31 December 2016, and of their financial performance and cash flows for the year then ended in accordance with Hong Kong Financial Reporting Standards ("HKFRSs") issued by the Hong Kong Institute of Certified Public Accountants ("HKICPA") and have been properly prepared in accordance with the directive of the Chief Executive made under section 7 of the Exchange Fund Ordinance (Cap. 66).

Basis for opinion

I conducted my audit in accordance with the directive of the Chief Executive made under section 7 of the Exchange Fund Ordinance and the Audit Commission auditing standards. My responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of my report. I am independent of the Group in accordance with those standards, and I have fulfilled my other ethical responsibilities in accordance with those standards. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key audit matters

Key audit matters are those matters that, in my professional judgment, were of most significance in my audit of the financial statements for the year ended 31 December 2016. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

Report of the Director of Audit (continued)

Key audit matter	How the matter was addressed in my audit
<p>Valuation of financial assets and financial liabilities at fair value</p> <p><i>Refer to notes 2.5, 2.6 and 36.1 to the financial statements.</i></p>	
<p>As at 31 December 2016, the Group had financial assets totalling HK\$3,198,975 million and financial liabilities totalling HK\$963,977 million valued at fair value.</p>	<p>The audit procedures on valuation of financial assets and financial liabilities at fair value included:</p>
<p>For 95% of these financial assets and all these financial liabilities, their fair values were quoted prices in active markets for identical assets or liabilities (Level 1 inputs) or were estimated using valuation techniques with inputs based on observable market data (Level 2 inputs).</p>	<ul style="list-style-type: none"> – obtaining an understanding of the procedures, including relevant controls, for valuing different categories of financial assets and financial liabilities;
<p>For the remaining 5% of these financial assets, their fair values were estimated using valuation techniques with inputs not based on observable market data (Level 3 inputs). Such financial assets totalled HK\$175,886 million, including mainly unlisted investment funds.</p>	<ul style="list-style-type: none"> – evaluating and testing the controls, including relevant application controls of the computer systems;
<p>Given the substantial amount and the estimations involved, valuation of financial assets and financial liabilities at fair value was a key audit matter.</p>	<ul style="list-style-type: none"> – obtaining external confirmations on the valuation, existence, rights and obligations and completeness of the financial assets and financial liabilities;
	<ul style="list-style-type: none"> – where quoted market prices were used, verifying the prices to independent sources;
	<ul style="list-style-type: none"> – where valuation techniques with inputs based on observable market data were used, evaluating the appropriateness of the valuation methodologies and the reasonableness of the assumptions, and verifying the inputs to independent sources; and
	<ul style="list-style-type: none"> – where valuation techniques with inputs not based on observable market data were used, evaluating the appropriateness of the valuation methodologies and the reasonableness of the assumptions and inputs.

Report of the Director of Audit (continued)

Key audit matter	How the matter was addressed in my audit
Placements by the Future Fund <i>Refer to notes 2.6, 2.16.1, 4(b), 23 and 28 to the financial statements.</i>	
<p>In prior years, substantially all placements by Fiscal Reserves were repayable on demand, with interest payable at a fixed rate determined annually with reference to past investment returns of the Investment Portfolio.</p> <p>On 1 January 2016, the Government established the Future Fund within Fiscal Reserves. Placements by the Future Fund comprise an initial endowment from the balance of the Land Fund, amounting to HK\$219,730 million, and periodic top-ups from the General Revenue Account as directed by the Financial Secretary. Interest on placements by the Future Fund is payable at a composite rate, computed annually on a weighted average basis with reference to the fixed rate linked with the performance of the Investment Portfolio mentioned above and the annual rate of return linked with the performance of the Long-Term Growth Portfolio, which holds private equity and real estate investments. Placements by the Future Fund, together with the interest thereon, shall only be repaid on 31 December 2025 unless otherwise directed by the Financial Secretary.</p> <p>As at 31 December 2016, placements by the Future Fund totalled HK\$224,530 million. Accrued interest on the placements amounted to HK\$10,071 million. Given the substantial amount involved and the significant changes in the terms of placements, the measurement, presentation and disclosures of the placements and the interest thereon required additional attention.</p>	<p>The audit procedures on placements by the Future Fund included:</p> <ul style="list-style-type: none"> – evaluating the appropriateness of the accounting policy used for measuring the placements and the accrued interest; – reviewing the methodology for calculating the annual rate of return linked with the performance of the Long-Term Growth Portfolio; – verifying the computation of the fixed rate with reference to past investment returns of the Investment Portfolio, the annual rate of return linked with the performance of the Long-Term Growth Portfolio, and the composite rate with reference to these two rates; – verifying the amount of interest accrued using the composite rate; and – reviewing the presentation and disclosures of the placements and the accrued interest in the financial statements.
Key audit matter	How the matter was addressed in my audit

Valuation of investment properties at fair value

Refer to notes 2.12, 17 and 18 to the financial statements.

The Group's investment properties were stated at their fair values, totalling HK\$22,723 million as at 31 December 2016. The Group also had interests in three associates and fourteen joint ventures totalling HK\$32,083 million, whose principal activities were holding overseas investment properties. The fair values of these investment properties, whether held by the Group directly or by associates or joint ventures, were mainly determined based on valuations by independent professional valuers. Such valuations involved significant judgments and estimates, including the valuation methodologies and the assumptions used.

The audit procedures on valuation of investment properties at fair value included:

- obtaining and reviewing the valuation reports of investment properties held by the Group directly or by associates or joint ventures, and verifying that the fair values were based on the valuations stated in the valuation reports;
- assessing the independence and qualifications of the valuers; and
- evaluating the appropriateness of the valuation methodologies and the reasonableness of the assumptions and inputs.

Report of the Director of Audit (continued)

Other information

The Monetary Authority is responsible for the other information. The other information comprises all the information included in the 2016 Annual Report of the Hong Kong Monetary Authority, other than the financial statements and my auditor's report thereon.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of the Monetary Authority and the Audit Sub-Committee of the Exchange Fund Advisory Committee for the financial statements

The Monetary Authority is responsible for the preparation of the financial statements that give a true and fair view in accordance with HKFRSs issued by the HKICPA and the directive of the Chief Executive made under section 7 of the Exchange Fund Ordinance, and for such internal control as the Monetary Authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Monetary Authority is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting.

The Audit Sub-Committee of the Exchange Fund Advisory Committee is responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Audit Commission auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with the Audit Commission auditing standards, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Monetary Authority;

Report of the Director of Audit (continued)

- conclude on the appropriateness of the Monetary Authority's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern;
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation; and
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with the Audit Sub-Committee of the Exchange Fund Advisory Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide the Audit Sub-Committee of the Exchange Fund Advisory Committee with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with the Audit Sub-Committee of the Exchange Fund Advisory Committee, I determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

David Sun
Director of Audit

7 April 2017

Audit Commission
26th Floor
Immigration Tower
7 Gloucester Road
Wanchai, Hong Kong

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Exchange Fund – Income and Expenditure Account

for the year ended 31 December 2016

		Group		Fund	
(Expressed in millions of Hong Kong dollars)	Note	2016	2015	2016	2015
INCOME					
Interest income		25,361	18,001	24,341	16,875
Dividend income		13,743	14,275	12,797	13,403
Income from investment properties		463	2,685	–	–
Net realised and unrealised gains/(losses)		37,755	(200)	29,226	(9,902)
Net exchange loss		(14,521)	(43,870)	(15,828)	(44,937)
Investment income/(loss)	4(a)	62,801	(9,109)	50,536	(24,561)
Bank licence fees		130	131	130	131
Other income		807	603	67	82
TOTAL INCOME		63,738	(8,375)	50,733	(24,348)
EXPENDITURE					
Interest expense on placements by Fiscal Reserves, HKSAR Government funds and statutory bodies	4(b)	(42,686)	(61,389)	(42,686)	(61,389)
Other interest expense	4(c)	(2,976)	(1,488)	(2,258)	(815)
Operating expenses	4(d)	(4,467)	(4,393)	(3,674)	(3,581)
Note and coin expenses	4(e)	(457)	(464)	(457)	(464)
TOTAL EXPENDITURE		(50,586)	(67,734)	(49,075)	(66,249)
SURPLUS/(DEFICIT) BEFORE SHARE OF PROFIT OF ASSOCIATES AND JOINT VENTURES					
		13,152	(76,109)	1,658	(90,597)
Share of profit of associates and joint ventures, net of tax		3,009	1,977	–	–
SURPLUS/(DEFICIT) BEFORE TAXATION					
Income tax	5	(57)	(123)	–	–
SURPLUS/(DEFICIT) FOR THE YEAR					
		16,104	(74,255)	1,658	(90,597)
ATTRIBUTABLE TO:					
Owner of the Fund		15,958	(74,473)	1,658	(90,597)
Non-controlling interests		146	218	–	–
		16,104	(74,255)	1,658	(90,597)

The notes on pages 155 to 237 form part of these financial statements.

Exchange Fund – Statement of Comprehensive Income

for the year ended 31 December 2016

(Expressed in millions of Hong Kong dollars)	Group		Fund	
	2016	2015	2016	2015
SURPLUS/(DEFICIT) FOR THE YEAR	16,104	(74,255)	1,658	(90,597)
OTHER COMPREHENSIVE INCOME/(LOSS)				
Items that may be reclassified subsequently to income and expenditure account				
Available-for-sale securities				
fair value changes on revaluation	4,356	(3,923)	–	–
fair value changes on disposal transferred to income and expenditure account	(130)	(157)	–	–
tax effect	20	40	–	–
Cash flow hedges				
fair value changes transferred to income and expenditure account	–	3	–	–
tax effect	–	(1)	–	–
Exchange difference on translation of financial statements of overseas subsidiaries, associates and joint ventures	(1,937)	(935)	–	–
OTHER COMPREHENSIVE INCOME/(LOSS) FOR THE YEAR, NET OF TAX	2,309	(4,973)	–	–
TOTAL COMPREHENSIVE INCOME/(LOSS) FOR THE YEAR	18,413	(79,228)	1,658	(90,597)
TOTAL COMPREHENSIVE INCOME/(LOSS) FOR THE YEAR ATTRIBUTABLE TO:				
Owner of the Fund	18,304	(79,434)	1,658	(90,597)
Non-controlling interests	109	206	–	–
	18,413	(79,228)	1,658	(90,597)

The notes on pages 155 to 237 form part of these financial statements.

Exchange Fund – Balance Sheet

as at 31 December 2016

		Group		Fund	
(Expressed in millions of Hong Kong dollars)	Note	2016	2015	2016	2015
ASSETS					
Cash and money at call	7	207,587	188,547	206,954	187,835
Placements with banks and other financial institutions	8	203,704	123,880	179,712	102,681
Financial assets designated at fair value	9	3,057,356	3,015,402	3,042,754	3,002,620
Available-for-sale securities	10	132,849	104,475	493	493
Derivative financial instruments	11(a)	9,263	5,831	9,018	5,357
Held-to-maturity securities	12	9,932	10,274	–	–
Loan portfolio	13	9,534	11,502	–	–
Gold	14	600	550	600	550
Other assets	15	56,673	22,847	55,117	21,994
Interests in subsidiaries	16	–	–	121,114	98,331
Interests in associates and joint ventures	17	32,083	21,188	–	–
Investment properties	18	22,723	23,621	–	–
Property, plant and equipment	19(a)	3,191	3,192	2,944	3,009
TOTAL ASSETS		3,745,495	3,531,309	3,618,706	3,422,870
LIABILITIES AND EQUITY					
Certificates of Indebtedness	20	405,345	357,863	405,345	357,863
Government-issued currency notes and coins in circulation	20	11,928	11,335	11,928	11,335
Balance of the banking system	21	259,593	391,343	259,593	391,343
Placements by banks and other financial institutions	22	56,136	66,907	56,136	66,907
Placements by Fiscal Reserves	23	914,598	833,548	914,598	833,548
Placements by Hong Kong Special Administrative Region Government funds and statutory bodies	24	302,485	280,846	302,485	280,846
Exchange Fund Bills and Notes issued	25	960,982	827,792	960,982	827,792
Derivative financial instruments	11(a)	2,858	3,256	929	1,102
Bank loans	26	11,724	11,318	–	–
Other debt securities issued	27	34,233	33,463	–	–
Other liabilities	28	167,522	114,283	160,197	107,279
Total liabilities		3,127,404	2,931,954	3,072,193	2,878,015
Accumulated surplus		607,480	591,522	546,513	544,855
Revaluation reserve		12,748	8,501	–	–
Translation reserve		(3,654)	(1,753)	–	–
Total equity attributable to owner of the Fund		616,574	598,270	546,513	544,855
Non-controlling interests		1,517	1,085	–	–
Total equity		618,091	599,355	546,513	544,855
TOTAL LIABILITIES AND EQUITY		3,745,495	3,531,309	3,618,706	3,422,870

Norman T. L. Chan

Monetary Authority

7 April 2017

The notes on pages 155 to 237 form part of these financial statements.

Exchange Fund – Statement of Changes in Equity

for the year ended 31 December 2016

(Expressed in millions of Hong Kong dollars)	Attributable to owner of the Fund			Total attributable to owner of the Fund	Non-controlling interests	Total
	Accumulated surplus	Revaluation reserve	Translation reserve			
Group						
At 1 January 2015	665,995	12,539	(830)	677,704	878	678,582
Deficit for the year	(74,473)	–	–	(74,473)	218	(74,255)
Other comprehensive loss for the year						
Fair value changes on available-for-sale securities:						
– revaluation	–	(3,923)	–	(3,923)	–	(3,923)
– realisation on disposal	–	(157)	–	(157)	–	(157)
– tax effect	–	40	–	40	–	40
Fair value changes on cash flow hedges:						
– transferred to income and expenditure account	–	3	–	3	–	3
– tax effect	–	(1)	–	(1)	–	(1)
Exchange difference on translation of financial statements of overseas subsidiaries, associates and joint ventures	–	–	(923)	(923)	(12)	(935)
Total comprehensive loss for the year	(74,473)	(4,038)	(923)	(79,434)	206	(79,228)
Capital injection by non-controlling interests	–	–	–	–	14	14
Dividends paid to non-controlling interests	–	–	–	–	(13)	(13)
At 31 December 2015	591,522	8,501	(1,753)	598,270	1,085	599,355
At 1 January 2016	591,522	8,501	(1,753)	598,270	1,085	599,355
Surplus for the year	15,958	–	–	15,958	146	16,104
Other comprehensive income for the year						
Fair value changes on available-for-sale securities:						
– revaluation	–	4,357	–	4,357	(1)	4,356
– realisation on disposal	–	(130)	–	(130)	–	(130)
– tax effect	–	20	–	20	–	20
Exchange difference on translation of financial statements of overseas subsidiaries, associates and joint ventures	–	–	(1,901)	(1,901)	(36)	(1,937)
Total comprehensive income for the year	15,958	4,247	(1,901)	18,304	109	18,413
Capital injection by non-controlling interests	–	–	–	–	333	333
Dividends paid to non-controlling interests	–	–	–	–	(10)	(10)
At 31 December 2016	607,480	12,748	(3,654)	616,574	1,517	618,091
Fund						
At 1 January 2015	635,452	–	–	635,452	–	635,452
Deficit and total comprehensive loss for the year	(90,597)	–	–	(90,597)	–	(90,597)
At 31 December 2015	544,855	–	–	544,855	–	544,855
At 1 January 2016	544,855	–	–	544,855	–	544,855
Surplus and total comprehensive income for the year	1,658	–	–	1,658	–	1,658
At 31 December 2016	546,513	–	–	546,513	–	546,513

The notes on pages 155 to 237 form part of these financial statements.

Exchange Fund – Statement of Cash Flows

for the year ended 31 December 2016

		Group		Fund	
(Expressed in millions of Hong Kong dollars)	Note	2016	2015	2016	2015
Cash flows from operating activities					
Surplus/(Deficit) before taxation		16,161	(74,132)	1,658	(90,597)
Adjustments for:					
Interest income	4(a)	(25,361)	(18,001)	(24,341)	(16,875)
Dividend income	4(a)	(13,743)	(14,275)	(12,797)	(13,403)
Change in fair value of investment properties	4(a)	805	(1,703)	–	–
Net gains on disposal of available-for-sale securities	4(a)	(6,954)	(10,554)	–	–
Interest expense	4(b) & 4(c)	45,662	62,877	44,944	62,204
Depreciation	4(d)	204	198	156	151
Share of profit of associates and joint ventures		(3,009)	(1,977)	–	–
Net loss on disposal of property, plant and equipment		–	5	–	–
Elimination of exchange differences and other non-cash items		9,227	8,154	8,683	8,052
Interest received		25,090	17,489	24,108	16,371
Interest paid		(33,101)	(16,143)	(32,455)	(15,549)
Dividends received		13,676	14,248	11,929	12,891
Income tax paid		(74)	(74)	–	–
		28,583	(33,888)	21,885	(36,755)
Change in fair value of derivatives and other debt securities issued		(3,893)	(1,022)	(3,823)	(975)
Change in carrying amount of:					
– placements with banks and other financial institutions		(3,811)	(4,633)	712	(1,580)
– financial assets designated at fair value		(49,813)	(205,192)	(47,993)	(204,252)
– loan portfolio		1,969	4,070	–	–
– gold		(50)	71	(50)	71
– other assets		(33,501)	(3,603)	(32,818)	(3,449)
– Certificates of Indebtedness, government-issued currency notes and coins in circulation		48,075	17,986	48,075	17,986
– balance of the banking system		(131,750)	152,160	(131,750)	152,160
– placements by banks and other financial institutions		(10,771)	2,906	(10,771)	2,906
– placements by Fiscal Reserves		81,050	44,867	81,050	44,867
– placements by Hong Kong Special Administrative Region Government funds and statutory bodies		21,639	19,707	21,639	19,707
– Exchange Fund Bills and Notes issued		133,190	75,846	133,190	75,346
– other liabilities		40,739	7,393	40,413	7,337
Net cash from operating activities		121,656	76,668	119,759	73,369

Exchange Fund – Statement of Cash Flows (continued)

for the year ended 31 December 2016

		Group		Fund	
(Expressed in millions of Hong Kong dollars)	Note	2016	2015	2016	2015
Cash flows from investing activities					
Loans to subsidiaries		–	–	(22,783)	(13,409)
Increase in interests in associates and joint ventures		(8,235)	(3,019)	–	–
Proceeds from sale or redemption of available-for-sale securities		21,335	22,618	–	–
Purchase of available-for-sale securities		(38,616)	(32,973)	–	–
Proceeds from sale or redemption of held-to-maturity securities		982	957	–	–
Purchase of held-to-maturity securities		(676)	(2,113)	–	–
Purchase of investment properties		(3,104)	(5,694)	–	–
Purchase of property, plant and equipment		(203)	(114)	(91)	(72)
Dividends received from subsidiaries		–	–	801	487
Net cash used in investing activities		(28,517)	(20,338)	(22,073)	(12,994)
Cash flows from financing activities					
Bank loans raised		1,601	3,106	–	–
Proceeds from issue of other debt securities		24,502	22,992	–	–
Redemption of other debt securities issued		(23,686)	(22,527)	–	–
Capital injection by non-controlling interests		333	14	–	–
Dividends paid to non-controlling interests		(10)	(13)	–	–
Net cash from financing activities		2,740	3,572	–	–
Net increase in cash and cash equivalents		95,879	59,902	97,686	60,375
Cash and cash equivalents at 1 January		374,756	322,907	366,105	313,782
Effect of foreign exchange rate changes		(8,685)	(8,053)	(8,683)	(8,052)
Cash and cash equivalents at 31 December	29	461,950	374,756	455,108	366,105

The notes on pages 155 to 237 form part of these financial statements.

Exchange Fund – Notes to the Financial Statements

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

1 PRINCIPAL ACTIVITIES

The Monetary Authority, under delegated authority from the Financial Secretary as Controller of the Exchange Fund (the Fund), manages the Fund in accordance with the provisions of the Exchange Fund Ordinance (Cap. 66). The principal activities of the Fund are safeguarding the exchange value of the currency of Hong Kong and maintaining the stability and integrity of Hong Kong's monetary and financial systems.

The assets of the Fund are managed as four portfolios: the Backing Portfolio, the Investment Portfolio, the Long-Term Growth Portfolio and the Strategic Portfolio. The assets of the Backing Portfolio fully match the Monetary Base, under Hong Kong's Currency Board system. The Investment Portfolio is invested primarily in the bond and equity markets of the member countries of the Organisation for Economic Co-operation and Development. The Long-Term Growth Portfolio holds private equity and real estate investments. The Strategic Portfolio holds shares in Hong Kong Exchanges and Clearing Limited acquired by the Government of the Hong Kong Special Administrative Region (HKSAR) for the account of the Fund for strategic purposes. Operating segment information is set out in note 30.

2 SIGNIFICANT ACCOUNTING POLICIES

2.1 Statement of compliance

These financial statements have been prepared in accordance with all applicable Hong Kong Financial Reporting Standards (HKFRSs), which is a collective term that includes all applicable individual Hong Kong Financial Reporting Standards, Hong Kong Accounting Standards (HKASs) and Interpretations issued by the Hong Kong Institute of Certified Public Accountants (HKICPA), and accounting principles generally accepted in Hong Kong. A summary of the significant accounting policies adopted by the Fund and its subsidiaries (together referred to as the Group) is set out below.

The HKICPA has issued certain new and revised HKFRSs that are first effective or available for early adoption for the current accounting period. Note 3 provides information on the changes, if any, in accounting policies resulting from initial adoption of these developments to the extent that they are relevant to the Group for the current and prior accounting periods reflected in these financial statements.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.2 Basis of preparation of the financial statements

The Group financial statements include the financial statements of the Group as well as the Group's interests in associates and joint ventures. The principal activities of the principal subsidiaries, associates and joint ventures are shown in notes 16 and 17.

The measurement basis used in the preparation of the financial statements is historical cost except that the following assets and liabilities are stated at their fair values as explained in the accounting policies set out below:

- trading financial instruments (note 2.6.2.1);
- financial assets and financial liabilities designated at fair value (note 2.6.2.2);
- available-for-sale securities (note 2.6.2.5);
- gold (note 2.11); and
- investment properties (note 2.12).

The preparation of financial statements in conformity with HKFRSs requires management to make judgements, estimates and assumptions that affect the application of policies and the reported amounts of assets, liabilities, income and expenditure. The estimates and associated assumptions are based on experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Note 18 contains information about the assumptions relating to fair value estimation of investment properties. Note 36 contains information about the assumptions relating to fair value estimation of financial instruments. Apart from the accounting judgements involving these fair value estimations, there are no other critical accounting judgements involved in the application of the Group's accounting policies.

2.3 Subsidiaries and non-controlling interests

A subsidiary is an entity controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. When assessing whether the Group has power, only substantive rights (held by the Group and other parties) are considered.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

An investment in a subsidiary is consolidated into the Group financial statements from the date that control commences until the date that control ceases.

Intra-group balances, transactions and cash flows and any unrealised profits and losses arising from intra-group transactions are eliminated in full in preparing the Group financial statements.

Non-controlling interests represent the equity in a subsidiary not attributable directly or indirectly to the Fund, and in respect of which the Group has not agreed any additional terms with the holders of those interests which would result in the Group as a whole having a contractual obligation in respect of those interests that meets the definition of a financial liability. Non-controlling interests are presented in the Group balance sheet within equity, separately from equity attributable to the owner of the Fund. Non-controlling interests in the results of the Group are presented on the face of the Group income and expenditure account and the Group statement of comprehensive income as an allocation of the surplus or deficit and total comprehensive income or loss for the year between non-controlling interests and the owner of the Fund.

In the balance sheet of the Fund, its investments in subsidiaries are stated at cost less impairment losses, if any (note 2.14).

2.4 Associates and joint ventures

An associate is an entity in which the Group has significant influence, but not control or joint control, over its management, through its power to participate in the financial and operating policy decisions.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint control is the contractually agreed sharing of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

An interest in an associate or a joint venture is accounted for in the Group financial statements under the equity method and is initially recorded at cost, adjusted for any excess or deficit of the Group's share of the acquisition-date fair values of the investee's identifiable net assets over the cost of the investment (if any). Thereafter, the investment is adjusted for the post acquisition change in the Group's share of the net assets of the associate or the joint venture and any impairment loss relating to the investment.

The Group income and expenditure account and statement of comprehensive income include the Group's share of the post-tax results of the associates and the joint ventures for the year. When the Group's share of losses exceeds its interest in the associates or the joint ventures, the Group's interest is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associates or the joint ventures. For this purpose, the Group's interest is the carrying amount of the investment under the equity method together with the Group's long-term interests that in substance form part of the Group's net investment in the associates or the joint ventures.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

Unrealised profits and losses resulting from transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interests in the associates or the joint ventures.

When the Group ceases to have significant influence over an associate or joint control over a joint venture, it is accounted for as a disposal of the entire interest in the associate or the joint venture, with a resulting gain or loss being recognised in the income and expenditure account. Any interest retained in the associate or the joint venture at the date when significant influence or joint control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (note 2.6.1).

In the balance sheet of the Fund, interests in associates and joint ventures are stated at cost less impairment losses, if any (note 2.14).

2.5 Fair value measurement

The Group measures certain financial instruments, all investment properties and gold at fair value at each balance sheet date. The fair values of financial instruments measured at amortised cost are disclosed in note 36.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- (a) in the principal market for the asset or liability, or
- (b) in the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible by the Group.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset for its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The Group measures fair values using the following fair value hierarchy that reflects the significance of inputs used in making the measurements:

- (a) Level 1 – fair values are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- (b) Level 2 – fair values are determined involving inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (as prices) or indirectly (derived from prices); and
- (c) Level 3 – fair values are determined with inputs that are not based on observable market data (unobservable inputs).

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the balance sheet date.

2.6 Financial assets and financial liabilities

2.6.1 *Initial recognition*

The Group classifies its financial assets and financial liabilities into different categories at inception, depending on the purpose for which the assets were acquired or the liabilities were incurred. The categories are: trading financial instruments, financial assets and financial liabilities designated at fair value, loans and receivables, held-to-maturity securities, available-for-sale securities and other financial liabilities.

An analysis of the Group's financial assets and financial liabilities by category is set out in note 6.

Financial assets and financial liabilities are measured initially at fair value plus, in the case of a financial asset or financial liability not at fair value through the income and expenditure account, transaction costs that are directly attributable to the acquisition of the financial assets or the issue of the financial liabilities. Transaction costs on trading financial instruments and financial assets and financial liabilities designated at fair value are expensed immediately.

The Group recognises financial assets and financial liabilities on the date it becomes a party to the contractual provisions of the instrument. Purchases or sales of derivative financial instruments are recognised using trade date accounting. Purchases or sales of trading liabilities and financial assets and financial liabilities designated at fair value, which are settled within the time frame established generally by regulation or convention in the market place concerned, are also recognised using trade date accounting.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.6.2 *Categorisation*

2.6.2.1 Trading financial instruments

Derivatives that do not qualify for hedge accounting (note 2.9) are categorised as “trading” under HKAS 39, Financial Instruments: Recognition and Measurement.

Trading financial instruments are carried at fair value. Changes in the fair value are included in the income and expenditure account in the period in which they arise.

2.6.2.2 Financial assets and financial liabilities designated at fair value

Financial assets and financial liabilities designated at fair value primarily consist of:

- financial assets and financial liabilities that are managed, evaluated and reported internally on a fair value basis; and
- debt securities issued by the Group through a subsidiary, The Hong Kong Mortgage Corporation Limited (HKMC), which contain embedded derivatives that significantly modify the cash flows that would otherwise be required under the contracts.

Financial assets and financial liabilities under this category are carried at fair value. Changes in the fair value are included in the income and expenditure account in the period in which they arise.

2.6.2.3 Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and which the Group has no intention of trading, other than those that the Group, upon initial recognition, designates as at fair value or as available-for-sale. This category includes placements with banks and other financial institutions, cash and money at call, and the loan portfolio purchased by the Group through the HKMC.

Loans and receivables are carried at amortised cost using the effective interest method, less impairment losses if any (note 2.10).

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument but does not consider future credit losses. The calculation includes all fees paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums or discounts.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.6.2.4 Held-to-maturity securities

Held-to-maturity securities are non-derivative financial assets with fixed or determinable payments and fixed maturity which the Group has the positive intention and ability to hold to maturity, other than (a) those that the Group, upon initial recognition, designates as at fair value or as available-for-sale; and (b) those that meet the definition of loans and receivables.

Held-to-maturity securities are carried at amortised cost using the effective interest method, less impairment losses if any (note 2.10).

2.6.2.5 Available-for-sale securities

Available-for-sale securities are non-derivative securities that are designated as available-for-sale or are not classified in any of the other categories above. They include securities intended to be held for an indefinite period of time, but which may be sold in response to needs for liquidity or changes in the market environment.

Available-for-sale securities are carried at fair value. Unrealised gains and losses arising from changes in the fair value are recognised in other comprehensive income and accumulated separately in the revaluation reserve, except for impairment losses, if any (note 2.10). Foreign exchange gains and losses on monetary items are recognised in the income and expenditure account. Foreign exchange gains and losses on non-monetary items are recognised in other comprehensive income.

The investment by the Fund in the shares of the Bank for International Settlements is held in order to participate in it on a long-term basis. As these shares do not have a quoted market price in an active market and the fair value cannot be reliably measured, they are carried at cost less impairment losses, if any (note 2.10).

When available-for-sale securities are sold, gains or losses on disposal include the difference between the net sale proceeds and the carrying amount, and the accumulated fair value adjustments which are released from equity to the income and expenditure account.

2.6.2.6 Other financial liabilities

Other financial liabilities are financial liabilities other than trading liabilities and those designated at fair value.

Other financial liabilities repayable on demand are stated at the principal amount payable. These include Certificates of Indebtedness, government-issued currency notes and coins in circulation (note 2.6.2.7), the balance of the banking system, placements by Fiscal Reserves (Operating and Capital Reserves), placements by the Bond Fund and placements by the Deposit Protection Scheme Fund.

Other financial liabilities with a fixed maturity and a predetermined rate are carried at amortised cost using the effective interest method. These include placements by banks and other financial institutions, other placements by HKSAR Government funds and statutory bodies, bank loans and other debt securities (other than those which contain embedded derivatives) issued by the Group through the HKMC.

Placements by Fiscal Reserves (Future Fund) which are repayable on 31 December 2025 (unless otherwise directed by the Financial Secretary according to the terms of the placements) are stated at the principal amount payable. Interest payable on these placements is calculated at a composite rate determined annually (note 2.16.1) and compounded on an annual basis until maturity. If the composite rate is negative for a year, the negative return will first be offset against the balance of interest payable, with the excess portion (if any) written off against the principal amount payable. When the composite rate turns positive in subsequent years, the return will be used to recover fully or partially the amount written off.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.6.2.7 Certificates of Indebtedness and government-issued currency notes and coins in circulation

As backing for the banknote issues, each note-issuing bank is required to hold a non-interest-bearing Certificate of Indebtedness issued by the Financial Secretary, which is redeemable on demand. Payments for the issue and redemption of banknotes against these Certificates are made in US dollars at the fixed exchange rate of US\$1=HK\$7.80. Consistent with the requirement for backing banknote issues with US dollars, the issue and redemption of government-issued currency notes and coins are conducted with an agent bank against US dollars at the fixed exchange rate of US\$1=HK\$7.80.

The Group's liabilities in respect of Certificates of Indebtedness represent the US dollars payable to the note-issuing banks on redemption of the Certificates. The Group's liabilities in respect of government-issued currency notes and coins represent the US dollars payable to the agent bank when they are redeemed. Certificates of Indebtedness in issue and government-issued currency notes and coins in circulation are stated in the financial statements at the Hong Kong dollar equivalent of the US dollars required for their redemption using the closing exchange rate at the balance sheet date.

2.6.3 *Derecognition*

A financial asset is derecognised when the contractual rights to receive the cash flows from the financial asset expire, or where the financial asset together with substantially all the risks and rewards of ownership have been transferred.

The Group uses the weighted average method to determine realised gains and losses to be recognised in the income and expenditure account on derecognition.

A financial liability is derecognised when the obligation specified in the contract is discharged, is cancelled or expires.

Liabilities for Exchange Fund Bills and Notes (EFBN) in issue are derecognised when they are repurchased as a result of market making activities. The repurchase is considered a redemption of the debt.

2.6.4 *Offsetting*

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet where there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis, or realise the assets and settle the liabilities simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.6.5 *Embedded derivatives*

An embedded derivative is a component of a hybrid (combined) instrument that includes both the derivative and a host contract with the effect that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative.

An embedded derivative is separated from the host contract and accounted for as a derivative when (a) the economic characteristics and risks of the embedded derivative are not closely related to the host contract; and (b) the hybrid (combined) instrument is not measured at fair value with changes in fair value recognised in the income and expenditure account.

Where the embedded derivative is separated, the host contract is accounted for according to its category (note 2.6.2). The embedded derivative is measured at fair value with change in fair value recognised in the income and expenditure account.

2.7 *Repurchase and reverse repurchase transactions*

Securities sold subject to a simultaneous agreement to repurchase these securities at a certain later date at a fixed price (repurchase agreements) are retained on the balance sheet without changes in their measurement. The proceeds from the sale are reported as liabilities in “placements by banks and other financial institutions” and are carried at amortised cost.

Conversely, securities purchased under agreements to resell (reverse repurchase agreements) are reported as receivables in “placements with banks and other financial institutions” and are carried at amortised cost.

Interest earned on reverse repurchase agreements and interest incurred on repurchase agreements are recognised as interest income and interest expense respectively, over the life of each agreement using the effective interest method.

2.8 *Securities lending agreements*

Where securities are loaned with the receipt of cash or other securities as collateral, they are retained on the balance sheet without changes in their measurement. Where cash collateral is received, a liability is recorded in respect of the cash received in “placements by banks and other financial institutions”. Securities received as collateral are not recognised in the financial statements.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.9 Hedging

Hedge accounting recognises the offsetting effects on income and expenditure of changes in the fair values of the hedging instrument and the hedged item.

The Group documents, at the inception of the transaction, the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items.

2.9.1 Fair value hedge

A fair value hedge seeks to offset risks of changes in the fair value of a recognised asset or liability that will give rise to a gain or loss being recognised in the income and expenditure account.

Derivatives that are designated and qualify as fair value hedges are measured at fair value, with fair value changes recognised in the income and expenditure account, together with any changes in the fair value of the hedged item attributable to the risk being hedged.

When (a) a hedging instrument expires or is sold, terminated or exercised; (b) a hedge no longer meets the criteria for hedge accounting; or (c) the Group revokes designation of the hedge relationship, any adjustment to the carrying amount of a hedged item for which the effective interest method is used, is amortised to the income and expenditure account over the period to maturity.

2.9.2 Cash flow hedge

Where a derivative is designated as a hedge of the variability in cash flows of a recognised asset or liability or a highly probable forecast transaction, the effective portion of any gain or loss from remeasurement of the derivative to fair value is recognised in other comprehensive income and accumulated separately in equity. The ineffective portion of any gain or loss is recognised immediately in the income and expenditure account.

Amounts previously recognised in other comprehensive income and accumulated in equity are recycled to the income and expenditure account in the periods in which the hedged item will affect the income and expenditure account.

When (a) a hedging instrument expires or is sold, terminated or exercised; (b) a hedge no longer meets the criteria for hedge accounting; or (c) the Group revokes designation of the hedge relationship, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the income and expenditure account. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was recognised in equity is immediately transferred to the income and expenditure account.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.10 Impairment of financial assets

The carrying amounts of loans and receivables, held-to-maturity securities and available-for-sale securities are reviewed at each balance sheet date to determine whether there is objective evidence of impairment. Objective evidence that a financial asset is impaired includes observable data that come to the attention of the Group about one or more of the following loss events which have an impact on the future cash flows of the financial asset that can be estimated reliably:

- significant financial difficulties of the issuer or borrower;
- a breach of contract such as default or delinquency in interest or principal payments;
- it becoming probable that the issuer or borrower will enter bankruptcy or other financial reorganisation;
- significant changes in the technological, market, economic or legal environment that have an adverse effect on the issuer or borrower;
- disappearance of an active market for that financial asset; and
- a significant or prolonged decline in the fair value of an investment in an equity instrument below its cost.

The Group first assesses whether objective evidence of impairment exists individually for financial assets that are individually significant. If the Group determines that no objective evidence of impairment exists for an individually assessed financial asset, whether significant or not, it includes that asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Financial assets that are individually assessed for impairment and for which an impairment loss is or continues to be recognised are not included in a collective assessment of impairment. For exposures which are not individually significant, the Group will assess impairment collectively.

If any such evidence exists, the carrying amount of the financial asset is reduced to the estimated recoverable amount and the impairment loss is determined and recognised as described below.

For loans and receivables and held-to-maturity securities, an impairment loss is the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount of the asset is reduced through the use of an allowance account and the impairment loss is recognised in the income and expenditure account.

If in a subsequent period the amount of such impairment loss decreases and the decrease can be linked objectively to an event occurring after the impairment loss was recognised, the impairment loss is reversed through the income and expenditure account. A reversal of impairment losses is limited to the asset's carrying amount that would have been determined had no impairment loss been recognised in prior years.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

For available-for-sale securities carried at fair value, the cumulative loss that has been recognised in the revaluation reserve is reclassified to the income and expenditure account. The amount of cumulative loss that is recognised in the income and expenditure account is the difference between the acquisition cost (net of any principal repayment and amortisation) and the current fair value, less any impairment loss on that financial asset previously recognised in the income and expenditure account. Impairment losses for debt securities are reversed if the subsequent increase in fair value can be objectively related to an event occurring after the impairment loss was recognised. Reversals of impairment losses in such circumstances are recognised in the income and expenditure account. Impairment losses for equity securities are not reversed through the income and expenditure account. Any subsequent increase in the fair value of equity securities is recognised in other comprehensive income.

For available-for-sale equity securities carried at cost, the impairment loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the current market rate of return for a similar instrument. Such impairment losses are not reversed.

2.11 Gold

Gold is carried at fair value. Changes in the fair value of gold are included in the income and expenditure account in the period in which they arise.

2.12 Investment properties

Properties that are held for long-term rental yields, capital appreciation or both, and that are not occupied by the Group, are classified as investment properties.

Investment properties are recognised initially at cost, including related transaction costs. After initial recognition, investment properties are measured at fair value as assessed by independent professional valuers, or by the management based on the latest valuation made by the independent professional valuers. Fair value of the investment properties are measured based on the market or income approach. Under the market approach, the value is determined based on comparable transactions. For the income approach, the fair value is determined using valuation techniques including discounted cash flow and income capitalisation methods.

Any gain or loss arising from a change in fair value or the disposal of an investment property is recognised directly in the income and expenditure account. Rental income from investment properties is recognised in the income and expenditure account in equal instalments over the periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the use of the leased asset.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.13 Property, plant and equipment

The following items of property, plant and equipment are stated in the balance sheet at cost less accumulated depreciation and any impairment losses (note 2.14):

- a building held for own use situated on freehold land;
- land classified as held under a finance lease and building held for own use situated thereon; and
- plant and equipment, including plant, machinery, furniture, fixtures, equipment, motor vehicles and personal computers.

Intangible assets including computer software licences and system development costs are included in property, plant and equipment.

Freehold land is not depreciated. For other items of property, plant and equipment, depreciation is calculated to write off their cost less their estimated residual value, if any, on a straight-line basis over their estimated useful lives as follows:

- | | |
|---|--|
| – leasehold land classified as held under a finance lease | over the unexpired term of lease |
| – buildings situated on freehold land | 39 years |
| – buildings situated on leasehold land | over the shorter of the unexpired term of lease and their estimated useful lives |
| – plant and equipment | 3 to 15 years |
| – computer software licences and system development costs | 3 to 5 years |

A gain or loss arising from the disposal of an item of property, plant and equipment is determined as the difference between the net disposal proceeds and the carrying amount of the asset and is recognised in the income and expenditure account on the date of disposal.

2.14 Impairment of other assets

The carrying amounts of other assets, including interests in subsidiaries, interests in associates and joint ventures, and property, plant and equipment, are reviewed at each balance sheet date to identify any indication of impairment.

If any such indication exists, an impairment loss is recognised in the income and expenditure account whenever the carrying amount of an asset exceeds its recoverable amount. The recoverable amount of an asset is the greater of its fair value less costs of disposal and value in use.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.15 Cash and cash equivalents

Cash and cash equivalents comprise cash and money at call, placements with banks and other financial institutions and short-term highly liquid investments that are readily convertible to known amounts of cash and subject to an insignificant risk of changes in value, having been within three months of maturity when placed or acquired.

2.16 Revenue and expenditure recognition

2.16.1 Interest income and expense

Interest on the majority of the placements by Fiscal Reserves (Operating and Capital Reserves) and placements by HKSAR Government funds and statutory bodies is payable at a fixed rate determined annually (notes 23 and 24). Interest on these placements is recognised in the income and expenditure account on an accrual basis, using the effective interest method.

Interest on the placements by Fiscal Reserves (Future Fund) is payable at a composite rate which is determined annually and linked with the performance of certain portfolios of assets under the Exchange Fund (note 23). Interest on these placements is recognised in the income and expenditure account on an accrual basis, based on the performance of those portfolios.

Interest income and expense for all other interest-bearing financial assets and financial liabilities is recognised in the income and expenditure account on an accrual basis, using the effective interest method.

Once a financial asset or a group of similar financial assets has been written down as a result of an impairment loss, interest income is thereafter recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

2.16.2 Net realised and unrealised gains/(losses)

Realised gains or losses on financial instruments are recognised in the income and expenditure account when the financial instruments are derecognised.

Changes in fair value of trading financial instruments and financial assets and financial liabilities designated at fair value are recognised as unrealised gains or losses in the income and expenditure account in the period in which they arise.

2.16.3 Dividend and other income

Dividend income from listed equity securities is recognised in the income and expenditure account when the share price is quoted ex-dividend. Dividend income from unlisted equity securities is recognised when the shareholder's right to receive payment is unconditionally established.

Bank licence fees are fees receivable from authorized institutions under the Banking Ordinance (Cap. 155) and are accounted for in the period when the fees become receivable.

Other income includes rental income, Central Moneymarkets Unit fee income and net insurance premiums earned from the mortgage insurance business of the HKMC. Rental income is recognised on a straight-line basis over the lease term. The net premiums are recognised on a time-apportioned basis during the time the insurance coverage is effective. Other income is accounted for in the period when it becomes receivable.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.16.4 *Contributions to staff retirement schemes*

The Group operates several defined contribution schemes, including the Mandatory Provident Fund Scheme. Under these schemes, contributions payable each year are charged to the income and expenditure account. The assets of the staff retirement schemes are held separately from those of the Group.

2.16.5 *Rental payments under operating leases*

Leases where substantially all the rewards and risks of ownership remain with the lessor are classified as operating leases. Rental payments made under operating leases are charged to the income and expenditure account on a straight-line basis over the period of the relevant leases.

2.16.6 *Income tax*

Income tax payable on profits of subsidiaries is recognised as an expense in the period in which profits arise.

Deferred tax assets and liabilities arise from deductible and taxable temporary differences respectively, being the differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes. Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the assets can be utilised. Deferred tax liabilities are provided in full. For investment properties that are measured at fair value, the amount of deferred tax recognised is measured using the tax rates that would apply on sale of those assets at their carrying value at the reporting date on the presumption that their carrying amounts are recovered entirely through sale. In all other cases, the amount of deferred tax recognised is measured based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates enacted or substantively enacted at the balance sheet date. Deferred tax assets and liabilities are not discounted.

2.17 *Foreign currency translation*

The financial statements are presented in Hong Kong dollars, which is the Group's and the Fund's functional currency.

Foreign currency transactions during the year are translated into Hong Kong dollars using the spot exchange rates at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated into Hong Kong dollars using the closing exchange rate at the balance sheet date.

Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated into Hong Kong dollars using the spot exchange rates at the transaction dates. Non-monetary assets and liabilities that are measured at fair value in a foreign currency are translated into Hong Kong dollars using the closing exchange rates at the dates when the fair value is determined.

All foreign currency translation differences are presented in aggregate as "net exchange gain/(loss)" in the income and expenditure account. Although it is not practicable to disclose separately the net exchange gain/(loss) on financial assets and financial liabilities designated at fair value or on trading financial instruments, the majority of the exchange gains/(losses) relate to these two categories of financial instruments.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The results of foreign operations are translated into Hong Kong dollars at the exchange rates approximating the foreign exchange rates ruling at the dates of the transactions. Balance sheet items are translated into Hong Kong dollars at the closing foreign exchange rates at the end of the reporting period. The resulting exchange differences are recognised in other comprehensive income and accumulated separately in equity in the translation reserve.

On disposal of a foreign operation, the cumulative amount of the exchange differences relating to that foreign operation is reclassified from equity to the income and expenditure account when the profit or loss on disposal is recognised.

2.18 Related parties

For the purposes of these financial statements, a person or an entity is considered to be related to the Group if:

- (a) the person, or a close member of that person's family:
 - (i) has control or joint control over the Group;
 - (ii) has significant influence over the Group; or
 - (iii) is a member of the key management personnel of the Group.
- (b) any of the following conditions applies to the entity:
 - (i) the entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others);
 - (ii) the entity is an associate or joint venture of the Group (or an associate or joint venture of a member of a group of which the Group is a member);
 - (iii) the entity and the Group are joint ventures of the same third party;
 - (iv) the entity is a joint venture of another entity and the Group is an associate of that entity;
 - (v) the entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group;
 - (vi) the entity is controlled or jointly controlled by a person identified in (a);
 - (vii) a person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity); or
 - (viii) the entity, or any member of a group of which it is a part, provides key management personnel services to the Group.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

2.19 Operating segments

Operating segments are reported in a manner consistent with the internal management reports provided to the chief operating decision maker. The Group comprises the following operating segments:

- management of funds under the Currency Board Operations, including the Backing Portfolio;
- management of funds representing the general reserve assets of the Fund, including the Investment Portfolio, the Long-Term Growth Portfolio and the Strategic Portfolio; and
- maintaining the stability and integrity of monetary and financial systems of Hong Kong, which includes banking supervision and monetary management, and the activities of Hong Kong FMI Services Limited, The Hong Kong Mortgage Corporation Limited and Hong Kong Note Printing Limited.

Details of the operating segments of the Group are set out in note 30.

3 CHANGES IN ACCOUNTING POLICIES

The HKICPA has issued certain new and revised HKFRSs that are effective for the current accounting period. These new standards and amendments do not have a material impact on the Group.

The Group has not applied any new standard or interpretation that is not yet effective for the current accounting period (note 37).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

4 INCOME AND EXPENDITURE

(a) Investment income/(loss)

	Group		Fund	
	2016	2015	2016	2015
Interest income:				
– from derivative financial instruments	423	460	423	460
– from financial assets designated at fair value	22,464	15,640	22,459	15,626
– from other financial assets	2,474	1,901	1,459	789
	25,361	18,001	24,341	16,875
Dividend income:				
– from financial assets designated at fair value	12,243	13,490	11,986	12,906
– from other financial assets	1,500	785	10	10
– from subsidiaries	–	–	801	487
	13,743	14,275	12,797	13,403
Income from investment properties:				
– rental income	1,268	982	–	–
– change in fair value on revaluation	(805)	1,703	–	–
	463	2,685	–	–
Net realised and unrealised gains/(losses):				
– on derivative financial instruments	(2,443)	(395)	(2,230)	(191)
– on financial assets and financial liabilities designated at fair value	33,194	(10,288)	31,406	(9,640)
– on disposal of available-for-sale securities	6,954	10,554	–	–
– on gold	50	(71)	50	(71)
	37,755	(200)	29,226	(9,902)
Net exchange loss	(14,521)	(43,870)	(15,828)	(44,937)
TOTAL	62,801	(9,109)	50,536	(24,561)

Net realised and unrealised gains/(losses) included a loss of HK\$95 million (2015: HK\$332 million) on hedging instruments designated as fair value hedge and a gain of HK\$86 million (2015: HK\$328 million) on hedged items.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(b) Interest expense on placements by Fiscal Reserves, HKSAR Government funds and statutory bodies

	Group and Fund	
	2016	2015
Interest on placements by Fiscal Reserves:		
– at a fixed rate determined annually ¹	23,042	46,667
– at a composite rate determined annually ²	10,071	–
Interest on placements by HKSAR Government funds and statutory bodies:		
– at a fixed rate determined annually ¹	9,566	14,722
– at market-based rates	7	–
TOTAL	42,686	61,389

¹ This rate was fixed at 3.3% per annum for 2016 (2015: 5.5%) – notes 23, 24 and 28.

² The composite rate for 2016 was 4.5% per annum – notes 23 and 28.

(c) Other interest expense

	Group		Fund	
	2016	2015	2016	2015
Interest on Exchange Fund Bills and Notes issued	2,161	698	2,161	698
Interest expense on derivative financial instruments	116	296	22	96
Interest expense on other debt securities issued designated at fair value and trading liabilities	3	2	2	1
Interest expense on other financial instruments	696	492	73	20
TOTAL	2,976	1,488	2,258	815

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(d) Operating expenses

	Group		Fund	
	2016	2015	2016	2015
Staff costs				
Salaries and other staff costs	1,320	1,231	1,059	990
Retirement benefit costs	114	105	98	91
Premises and equipment expenses				
Depreciation	204	198	156	151
Rental expenses under operating leases	93	93	62	62
Other premises expenses	73	69	63	60
General operating costs				
Maintenance of office and computer equipment	105	89	93	78
Financial information and communication services	57	55	49	48
External relations	31	30	30	28
Public education and publicity	25	21	14	12
Service fees for financial infrastructure	50	85	50	85
Professional and other services	132	114	30	29
Training	10	8	7	6
Operating expenses relating to investment properties	156	92	–	–
Others	30	36	23	25
Investment management and custodian fees				
Management and custodian fees	1,355	1,417	1,232	1,170
Transaction costs	177	180	176	179
Withholding tax	453	508	453	508
Others	82	62	79	59
TOTAL	4,467	4,393	3,674	3,581

The aggregate emoluments of senior staff (Executive Directors and above) of the Group were as follows:

	Group	
	2016	2015
Fixed pay	75.8	73.9
Variable pay	21.5	18.8
Other benefits	11.1	10.3
	108.4	103.0

Other benefits shown above included provident funds, medical and life insurance, gratuity and annual leave accrued during the year. There were no other allowances or benefits-in-kind.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The numbers of senior staff (Executive Directors and above) of the Group whose emoluments including other benefits fell within the following bands were shown in the below table. The number of senior staff posts remained at 17. The higher figure in 2016 reflected staff movements during the year.

HK\$	Group	
	2016	2015
1,500,001 to 2,000,000	1	–
2,000,001 to 2,500,000	–	1
2,500,001 to 3,000,000	1	–
3,500,001 to 4,000,000	1	–
4,000,001 to 4,500,000	2	2
4,500,001 to 5,000,000	3	4
5,000,001 to 5,500,000	3	1
5,500,001 to 6,000,000	1	3
6,000,001 to 6,500,000	2	1
6,500,001 to 7,000,000	1	1
7,000,001 to 7,500,000	1	–
8,500,001 to 9,000,000	–	1
9,000,001 to 9,500,000	1	2
9,500,001 to 10,000,000	1	–
10,000,001 to 10,500,000	–	1
10,500,001 to 11,000,000	1	–
	19	17

(e) Note and coin expenses

These represent reimbursements to the note-issuing banks in respect of note-issuing expenses and expenses incurred directly by the Fund in issuing government-issued currency notes and coins.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

5 INCOME TAX

(a) Income tax charged in the income and expenditure account

	Group		Fund	
	2016	2015	2016	2015
Current tax				
Hong Kong profits tax				
– Current year	27	66	–	–
– Over-provision in prior years	(9)	(13)	–	–
Taxation outside Hong Kong				
– Current year	2	9	–	–
– Over-provision in prior years	(4)	–	–	–
Deferred tax				
Charge for current year	41	61	–	–
	57	123	–	–

No provision for Hong Kong profits tax has been made for the Fund as it is an integral part of the government. The provision for Hong Kong profits tax relates to the tax liabilities of the Fund's subsidiaries. For 2016, it is calculated at 16.5% (2015: 16.5%) of the estimated assessable profits for the year. Tax for overseas subsidiaries is charged at the appropriate current rates of taxation ruling in the relevant countries.

Reconciliation between tax expense and accounting profit at applicable tax rates:

	Group		Fund	
	2016	2015	2016	2015
Surplus/(Deficit) before taxation	16,161	(74,132)	1,658	(90,597)
Surplus subject to tax in Hong Kong and elsewhere	5,387	5,666	–	–
Tax calculated at domestic tax rates in the respective countries	838	900	–	–
Tax effect of:				
non-deductible expenses	290	82	–	–
non-taxable income	(1,085)	(888)	–	–
tax losses not recognised	17	3	–	–
over-provision in prior years	(13)	(13)	–	–
others	10	39	–	–
Actual tax expense	57	123	–	–

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(b) Tax (recoverable)/payable

	Note	Group		Fund	
		2016	2015	2016	2015
Tax recoverable	15	(12)	–	–	–
Tax payable	28	93	139	–	–
		81	139	–	–

(c) Deferred tax

	Note	Group		Fund	
		2016	2015	2016	2015
Net deferred tax assets	15	(6)	(32)	–	–
Net deferred tax liabilities	28	111	115	–	–
		105	83	–	–

The major components of deferred tax (assets)/liabilities and the movements during the year are as follows:

		Group			
		Adjustments on bank loans and derivative financial instruments	Fair value change on financial instruments	Accelerated tax depreciation	Net deferred tax (assets)/liabilities
At 1 January 2015	(52)	78	21	15	62
Charged to the income and expenditure account	18	–	6	37	61
Charged/(credited) to other comprehensive income	–	(40)	–	1	(39)
Exchange differences	2	–	–	(3)	(1)
At 31 December 2015	(32)	38	27	50	83
At 1 January 2016	(32)	38	27	50	83
Charged to the income and expenditure account	30	–	11	–	41
Credited to other comprehensive income	–	(20)	–	–	(20)
Exchange differences	2	–	–	(1)	1
At 31 December 2016	–	18	38	49	105

There was no significant unprovided deferred tax as at 31 December 2016 and 2015.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

6 CATEGORIES OF FINANCIAL ASSETS AND FINANCIAL LIABILITIES

	Note	Group – 2016						
		Total	Trading financial instruments and hedging instruments	Financial assets and financial liabilities designated at fair value	Loans and receivables	Held-to-maturity securities	Available-for-sale securities	Other financial liabilities
Cash and money at call	7	207,587	–	–	207,587	–	–	–
Placements with banks and other financial institutions	8	203,704	–	–	203,704	–	–	–
Financial assets designated at fair value	9	3,057,356	–	3,057,356	–	–	–	–
Available-for-sale securities	10	132,849	–	–	–	–	132,849	–
Derivative financial instruments	11(a)	9,263	9,263	–	–	–	–	–
Held-to-maturity securities	12	9,932	–	–	–	9,932	–	–
Loan portfolio	13	9,534	–	–	9,534	–	–	–
Others		56,453	–	–	56,453	–	–	–
FINANCIAL ASSETS		3,686,678	9,263	3,057,356	477,278	9,932	132,849	–
Certificates of Indebtedness	20	405,345	–	–	–	–	–	405,345
Government-issued currency notes and coins in circulation	20	11,928	–	–	–	–	–	11,928
Balance of the banking system	21	259,593	–	–	–	–	–	259,593
Placements by banks and other financial institutions	22	56,136	–	–	–	–	–	56,136
Placements by Fiscal Reserves	23	914,598	–	–	–	–	–	914,598
Placements by HKSAR Government funds and statutory bodies	24	302,485	–	–	–	–	–	302,485
Exchange Fund Bills and Notes issued	25	960,982	–	960,982	–	–	–	–
Derivative financial instruments	11(a)	2,858	2,858	–	–	–	–	–
Bank loans	26	11,724	–	–	–	–	–	11,724
Other debt securities issued	27	34,233	–	137	–	–	–	34,096
Others		166,810	–	–	–	–	–	166,810
FINANCIAL LIABILITIES		3,126,692	2,858	961,119	–	–	–	2,162,715

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Note	Group – 2015						
		Total	Trading financial instruments and hedging instruments	Financial assets and financial liabilities designated at fair value	Loans and receivables	Held-to-maturity securities	Available-for-sale securities	Other financial liabilities
Cash and money at call	7	188,547	–	–	188,547	–	–	–
Placements with banks and other financial institutions	8	123,880	–	–	123,880	–	–	–
Financial assets designated at fair value	9	3,015,402	–	3,015,402	–	–	–	–
Available-for-sale securities	10	104,475	–	–	–	–	104,475	–
Derivative financial instruments	11(a)	5,831	5,831	–	–	–	–	–
Held-to-maturity securities	12	10,274	–	–	–	10,274	–	–
Loan portfolio	13	11,502	–	–	11,502	–	–	–
Others		22,689	–	–	22,689	–	–	–
FINANCIAL ASSETS		3,482,600	5,831	3,015,402	346,618	10,274	104,475	–
Certificates of Indebtedness	20	357,863	–	–	–	–	–	357,863
Government-issued currency notes and coins in circulation	20	11,335	–	–	–	–	–	11,335
Balance of the banking system	21	391,343	–	–	–	–	–	391,343
Placements by banks and other financial institutions	22	66,907	–	–	–	–	–	66,907
Placements by Fiscal Reserves	23	833,548	–	–	–	–	–	833,548
Placements by HKSAR Government funds and statutory bodies	24	280,846	–	–	–	–	–	280,846
Exchange Fund Bills and Notes issued	25	827,792	–	827,792	–	–	–	–
Derivative financial instruments	11(a)	3,256	3,256	–	–	–	–	–
Bank loans	26	11,318	–	–	–	–	–	11,318
Other debt securities issued	27	33,463	–	343	–	–	–	33,120
Others		113,537	–	–	–	–	–	113,537
FINANCIAL LIABILITIES		2,931,208	3,256	828,135	–	–	–	2,099,817

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Note	Fund – 2016						
		Total	Trading financial instruments	Financial assets and financial liabilities designated at fair value	Loans and receivables	Held-to- maturity securities	Available- for-sale securities	Other financial liabilities
Cash and money at call	7	206,954	–	–	206,954	–	–	–
Placements with banks and other financial institutions	8	179,712	–	–	179,712	–	–	–
Financial assets designated at fair value	9	3,042,754	–	3,042,754	–	–	–	–
Available-for-sale securities	10	493	–	–	–	–	493	–
Derivative financial instruments	11(a)	9,018	9,018	–	–	–	–	–
Others		55,100	–	–	55,100	–	–	–
FINANCIAL ASSETS		3,494,031	9,018	3,042,754	441,766	–	493	–
Certificates of Indebtedness	20	405,345	–	–	–	–	–	405,345
Government-issued currency notes and coins in circulation	20	11,928	–	–	–	–	–	11,928
Balance of the banking system	21	259,593	–	–	–	–	–	259,593
Placements by banks and other financial institutions	22	56,136	–	–	–	–	–	56,136
Placements by Fiscal Reserves	23	914,598	–	–	–	–	–	914,598
Placements by HKSAR Government funds and statutory bodies	24	302,485	–	–	–	–	–	302,485
Exchange Fund Bills and Notes issued	25	960,982	–	960,982	–	–	–	–
Derivative financial instruments	11(a)	929	929	–	–	–	–	–
Others		160,094	–	–	–	–	–	160,094
FINANCIAL LIABILITIES		3,072,090	929	960,982	–	–	–	2,110,179

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Note	Fund – 2015						
		Total	Trading financial instruments	Financial assets and financial liabilities designated at fair value	Loans and receivables	Held-to- maturity securities	Available- for-sale securities	Other financial liabilities
Cash and money at call	7	187,835	–	–	187,835	–	–	–
Placements with banks and other financial institutions	8	102,681	–	–	102,681	–	–	–
Financial assets designated at fair value	9	3,002,620	–	3,002,620	–	–	–	–
Available-for-sale securities	10	493	–	–	–	–	493	–
Derivative financial instruments	11(a)	5,357	5,357	–	–	–	–	–
Others		21,966	–	–	21,966	–	–	–
FINANCIAL ASSETS		3,320,952	5,357	3,002,620	312,482	–	493	–
Certificates of Indebtedness	20	357,863	–	–	–	–	–	357,863
Government-issued currency notes and coins in circulation	20	11,335	–	–	–	–	–	11,335
Balance of the banking system	21	391,343	–	–	–	–	–	391,343
Placements by banks and other financial institutions	22	66,907	–	–	–	–	–	66,907
Placements by Fiscal Reserves	23	833,548	–	–	–	–	–	833,548
Placements by HKSAR Government funds and statutory bodies	24	280,846	–	–	–	–	–	280,846
Exchange Fund Bills and Notes issued	25	827,792	–	827,792	–	–	–	–
Derivative financial instruments	11(a)	1,102	1,102	–	–	–	–	–
Others		107,182	–	–	–	–	–	107,182
FINANCIAL LIABILITIES		2,877,918	1,102	827,792	–	–	–	2,049,024

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

7 CASH AND MONEY AT CALL

	Group		Fund	
	2016	2015	2016	2015
At amortised cost				
Balance with central banks	66,307	67,376	66,307	67,376
Balance with banks	141,280	121,171	140,647	120,459
TOTAL	207,587	188,547	206,954	187,835

8 PLACEMENTS WITH BANKS AND OTHER FINANCIAL INSTITUTIONS

	Group		Fund	
	2016	2015	2016	2015
At amortised cost				
Placements in respect of reverse repurchase agreements:				
– with central banks	37,970	38,729	37,970	38,729
– with banks and other financial institutions	8,896	2,368	8,896	2,368
Other placements:				
– with banks	156,838	82,783	132,846	61,584
TOTAL	203,704	123,880	179,712	102,681

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

9 FINANCIAL ASSETS DESIGNATED AT FAIR VALUE

	Group		Fund	
	2016	2015	2016	2015
At fair value				
Debt securities				
Treasury bills and commercial paper				
Listed outside Hong Kong	336,594	20,460	336,594	20,460
Unlisted	647,892	937,545	647,892	937,545
Certificates of deposit				
Unlisted	80,190	56,357	80,190	56,357
Other debt securities				
Listed in Hong Kong	3,966	222	3,966	222
Listed outside Hong Kong	1,035,088	1,057,009	1,035,088	1,056,995
Unlisted	375,178	401,700	362,423	390,420
Total debt securities	2,478,908	2,473,293	2,466,153	2,461,999
Equity securities				
Listed in Hong Kong	147,330	148,224	147,330	148,224
Listed outside Hong Kong	306,783	308,412	306,783	308,412
Unlisted	124,335	85,473	122,488	83,985
Total equity securities	578,448	542,109	576,601	540,621
TOTAL	3,057,356	3,015,402	3,042,754	3,002,620

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

10 AVAILABLE-FOR-SALE SECURITIES

	Group		Fund	
	2016	2015	2016	2015
Debt securities, at fair value				
Listed in Hong Kong	1,482	1,650	–	–
Listed outside Hong Kong	1,880	808	–	–
Unlisted	2,624	3,267	–	–
	5,986	5,725	–	–
Equity securities				
Listed in Hong Kong, at fair value	992	913	–	–
Unlisted, at cost	493	493	493	493
	1,485	1,406	493	493
Investment funds, at fair value				
Unlisted	125,378	97,344	–	–
TOTAL	132,849	104,475	493	493

The Group's investment in unlisted equity securities as at 31 December 2016 represents a holding of 4,285 shares (2015: 4,285 shares) in the Bank for International Settlements. The nominal value of each share is 5,000 Special Drawing Rights and is 25% paid up (note 33(a)). Investment in unlisted investment funds mainly represents the Group's holding of private equity funds under the Long-Term Growth Portfolio.

11 DERIVATIVE FINANCIAL INSTRUMENTS

Derivative financial instruments refer to financial contracts whose value depends on the value of one or more underlying assets or indices with settlement at a future date.

The Group uses derivative financial instruments to manage its exposures to market risk and to facilitate the implementation of investment strategies. The principal derivative financial instruments used are interest rate and currency swap contracts, forward foreign exchange contracts and currency option contracts, which are primarily over-the-counter derivatives, as well as exchange-traded futures contracts.

Market risk arising from derivative financial instruments is included as part of the overall market risk exposure. The credit risk arising from these transactions is marked against the overall credit exposure to individual counterparties. The financial risk management approaches are outlined in note 35.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(a) Fair values of derivative financial instruments

An analysis of the fair values of derivative financial instruments held by product type is set out below:

	Group				Fund			
	2016		2015		2016		2015	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Derivatives categorised as trading financial instruments								
Interest rate derivatives								
Interest rate swap contracts	489	468	1,242	365	482	242	1,223	33
Interest rate futures contracts	–	1	–	1	–	1	–	1
Equity derivatives								
Equity index futures contracts	184	104	485	186	184	104	485	186
Currency derivatives								
Forward foreign exchange contracts	8,310	464	3,194	794	8,310	464	3,194	794
Currency option contracts	–	–	406	27	–	–	406	27
Bond derivatives								
Bond futures contracts	17	79	11	49	17	79	11	49
Commodity derivatives								
Commodity futures contracts	25	39	38	12	25	39	38	12
	9,025	1,155	5,376	1,434	9,018	929	5,357	1,102
Derivatives designated as hedging instruments in fair value hedges								
Interest rate derivatives								
Interest rate swap contracts	238	101	455	2	–	–	–	–
Currency derivatives								
Currency swap contracts	–	1,602	–	1,820	–	–	–	–
	238	1,703	455	1,822	–	–	–	–
TOTAL	9,263	2,858	5,831	3,256	9,018	929	5,357	1,102

The fair value hedges consist of currency and interest rate swap contracts that are used to protect against changes in the fair value of certain fixed-rate securities due to movements in market interest rates.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(b) Notional amounts of derivative financial instruments

An analysis of the notional amounts of derivative financial instruments held at the balance sheet date based on the remaining periods to settlement is set out below. The notional amounts of these instruments indicate the volume of outstanding transactions and do not represent the amounts at risk.

	Group									
	Notional amounts with remaining life of									
	2016					2015				
	Total	3 months or less	1 year or less but over 3 months	5 years or less but over 1 year	Over 5 years	Total	3 months or less	1 year or less but over 3 months	5 years or less but over 1 year	Over 5 years
Derivatives categorised as trading financial instruments										
Interest rate derivatives										
Interest rate swap contracts	41,579	–	15,600	13,334	12,645	42,476	–	273	27,828	14,375
Interest rate futures contracts	5,365	944	1,742	2,679	–	9,274	1,579	4,046	3,649	–
Equity derivatives										
Equity index futures contracts	66,630	66,630	–	–	–	72,710	72,710	–	–	–
Currency derivatives										
Forward foreign exchange contracts	386,843	322,235	64,608	–	–	252,777	173,414	79,363	–	–
Currency option contracts	–	–	–	–	–	48,293	48,293	–	–	–
Bond derivatives										
Bond futures contracts	47,564	47,564	–	–	–	34,939	34,939	–	–	–
Commodity derivatives										
Commodity futures contracts	10,378	7,414	2,902	62	–	4,746	2,980	1,766	–	–
	558,359	444,787	84,852	16,075	12,645	465,215	333,915	85,448	31,477	14,375
Derivatives designated as hedging instruments in fair value hedges										
Interest rate derivatives										
Interest rate swap contracts	19,233	2,340	8,453	6,947	1,493	14,228	445	5,428	7,002	1,353
Currency derivatives										
Currency swap contracts	7,217	5,594	–	570	1,053	14,568	7,041	1,828	5,002	697
	26,450	7,934	8,453	7,517	2,546	28,796	7,486	7,256	12,004	2,050
TOTAL	584,809	452,721	93,305	23,592	15,191	494,011	341,401	92,704	43,481	16,425

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund									
	Notional amounts with remaining life of									
	2016					2015				
	Total	3 months or less	1 year or less but over 3 months	5 years or less but over 1 year	Over 5 years	Total	3 months or less	1 year or less but over 3 months	5 years or less but over 1 year	Over 5 years
Derivatives categorised as trading financial instruments										
Interest rate derivatives										
Interest rate swap contracts	33,845	–	15,600	5,600	12,645	33,846	–	–	19,593	14,253
Interest rate futures contracts	5,365	944	1,742	2,679	–	9,274	1,579	4,046	3,649	–
Equity derivatives										
Equity index futures contracts	66,630	66,630	–	–	–	72,710	72,710	–	–	–
Currency derivatives										
Forward foreign exchange contracts	386,843	322,235	64,608	–	–	252,777	173,414	79,363	–	–
Currency option contracts	–	–	–	–	–	48,293	48,293	–	–	–
Bond derivatives										
Bond futures contracts	47,564	47,564	–	–	–	34,939	34,939	–	–	–
Commodity derivatives										
Commodity futures contracts	10,378	7,414	2,902	62	–	4,746	2,980	1,766	–	–
TOTAL	550,625	444,787	84,852	8,341	12,645	456,585	333,915	85,175	23,242	14,253

12 HELD-TO-MATURITY SECURITIES

	Group		Fund	
	2016	2015	2016	2015
At amortised cost				
Debt securities				
Listed in Hong Kong	4,359	4,431	–	–
Listed outside Hong Kong	1,835	1,685	–	–
Unlisted	3,738	4,158	–	–
TOTAL	9,932	10,274	–	–

Fair value information of the above held-to-maturity securities is provided in note 36.2.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

13 LOAN PORTFOLIO

	Group		Fund	
	2016	2015	2016	2015
Mortgage loans, at amortised cost	9,085	10,935	–	–
Non-mortgage loans, at amortised cost	450	568	–	–
Allowance for loan impairment	(1)	(1)	–	–
TOTAL	9,534	11,502	–	–

14 GOLD

	Group and Fund	
	2016	2015
Gold, at fair value 66,798 ounces (2015: 66,798 ounces)	600	550

The fair value of gold is based on quoted price in an active market. It is classified under Level 1 of the fair value hierarchy.

15 OTHER ASSETS

	Group		Fund	
	2016	2015	2016	2015
Interest and dividends receivable	7,992	7,653	7,648	7,343
Unsettled sales and redemption of securities	31,558	7,016	31,558	7,016
Prepayments, receivables and other assets	16,403	7,633	15,209	7,122
Staff housing loans	162	158	162	158
Loan to the International Monetary Fund	540	355	540	355
Tax recoverable	12	–	–	–
Deferred tax assets	6	32	–	–
TOTAL	56,673	22,847	55,117	21,994

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

16 INTERESTS IN SUBSIDIARIES

	Fund	
	2016	2015
Unlisted shares, at cost	2,312	2,312
Loans to subsidiaries	118,802	96,019
TOTAL	121,114	98,331

The following is a list of the principal subsidiaries held directly by the Fund as at 31 December 2016:

Name of company	Place of incorporation and operation	Principal activities	Issued equity capital	Fund's interest in equity capital
The Hong Kong Mortgage Corporation Limited	Hong Kong	Investment in mortgages and loans, mortgage securitisation and guarantee	HK\$2,000,000,000	100%
Hong Kong Note Printing Limited	Hong Kong	Banknote printing	HK\$255,000,000	55%
Hong Kong FMI Services Limited	Hong Kong	Performance of financial market infrastructure related operations	HK\$167,000,000	100%
Debt Capital Solutions Company Limited	Hong Kong	Investment holding	HK\$1	100%
Drawbridge Investment Limited	Hong Kong	Investment holding	HK\$1	100%
Eight Finance Investment Company Limited	Hong Kong	Investment holding	HK\$1	100%
Stewardship Investment Company Limited	Hong Kong	Investment holding	HK\$1	100%
Stratosphere Finance Company Limited	Hong Kong	Investment holding	HK\$1	100%
Real Avenue Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%
Real Boulevard Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%
Real Gate Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%
Real Horizon Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%
Real Plaza Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%
Real Summit Investment Company Limited	Hong Kong	Investment properties holding	HK\$1	100%

Loans to subsidiaries which principally hold investments including properties are unsecured, interest-free and repayable on demand.

The financial statements of these subsidiaries are audited by firms other than the Audit Commission. The aggregate net assets of these subsidiaries not audited by the Audit Commission amounted to 11.58% (2015: 9.09%) of the Group's net assets.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

17 INTERESTS IN ASSOCIATES AND JOINT VENTURES

	Group	
	2016	2015
Associates¹		
Share of net assets	8,208	670
Joint ventures²		
Share of net assets	5,300	3,995
Due from joint ventures	18,575	16,523
	23,875	20,518
TOTAL	32,083	21,188

¹ Investment in an associate, comprising unlisted shares, is held directly by the Fund. In the Fund's balance sheet, the investment is stated at cost of HK\$5,000 (2015: HK\$5,000).

² The Fund does not directly hold investment in joint ventures.

The Group holds investments in four associates. One associate, incorporated in Hong Kong, provides interbank clearing services. The other three associates, incorporated outside Hong Kong, hold overseas investment properties. The Group holds equity interest in these associates ranging from 25% to 50%.

Aggregate information of the Group's associates, which are not individually material, is summarised below:

	Group	
	2016	2015
Share of profit/(loss) for the year	1,482	(18)
Share of other comprehensive loss	(75)	–
Share of total comprehensive income/(loss)	1,407	(18)
Aggregate carrying amount of interests in the associates	8,208	670

The Group's share of outstanding investment commitments to associates is shown below:

	Group	
	2016	2015
Commitments to contribute funds	1,689	3,962

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The Group holds investments in fourteen joint ventures, which are all incorporated outside Hong Kong. The principal activities of these joint ventures are the holding of overseas investment properties. At the end of 2016, the Group held equity interest in these joint ventures ranging from 48% to 99%. Although the Group's equity interest in some of these joint ventures exceeds 50%, they are categorised as joint ventures because important business decisions relating to these joint ventures are required to be made with the consent of all parties. At 31 December 2016, the aggregate interest in these joint ventures amounted to 0.64% (2015: 0.58%) of the Group's total assets.

Aggregate information of the Group's joint ventures, which are not individually material, is summarised below:

	Group	
	2016	2015
Share of profit for the year	1,527	1,995
Share of other comprehensive loss	(222)	(253)
Share of total comprehensive income	1,305	1,742
Aggregate carrying amount of interests in the joint ventures	23,875	20,518

The Group's share of outstanding investment commitments to joint ventures is shown below:

	Group	
	2016	2015
Commitments to contribute funds	1,400	1,698

18 INVESTMENT PROPERTIES

	Group		Fund	
	2016	2015	2016	2015
At fair value				
At 1 January	23,621	17,493	–	–
Additions	3,104	5,694	–	–
Change in fair value on revaluation	(805)	1,703	–	–
Exchange differences	(3,197)	(1,269)	–	–
At 31 December	22,723	23,621	–	–

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The carrying amount of the Group's investment properties is analysed as follows:

	Group		Fund	
	2016	2015	2016	2015
Held outside Hong Kong				
on freehold	11,279	9,291	–	–
on long-term lease (over 50 years)	11,444	14,330	–	–
TOTAL	22,723	23,621	–	–

The Group's investment properties are leased to third parties under operating leases. The gross rental income received and receivable by the Group and the related expenses in respect of these investment properties are summarised as follows:

	Group		Fund	
	2016	2015	2016	2015
Gross rental income	1,268	982	–	–
Direct expenses	(156)	(92)	–	–
Net rental income	1,112	890	–	–

The Group's total future minimum lease payments receivable under non-cancellable operating leases are as follows:

	Group		Fund	
	2016	2015	2016	2015
Within one year	1,058	1,156	–	–
After one year but not later than five years	3,938	4,394	–	–
After five years but not later than ten years	2,832	3,147	–	–
After ten years but not later than fifteen years	144	625	–	–
After fifteen years but not later than twenty years	6	8	–	–
TOTAL	7,978	9,330	–	–

At 31 December 2016, investment properties with a fair value of HK\$22,723 million (2015: HK\$23,621 million) were pledged to secure general banking facilities granted to the Group (note 26).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

18.1 Fair value measurement of investment properties

The Group's investment properties are revalued by independent professional valuers on an open market value basis at the end of each financial year (except for 2015 in which the investment properties acquired in November 2015 were valued by management at a fair value of HK\$5,694 million based on the latest valuation made by independent professional valuers prior to acquisition). The valuers have valued the Group's investment properties based on income approach with reference to comparable market evidence. The market value which is considered as the fair value of each investment property reflects, among other things, rental income from current leases and assumptions about rental income from future leases in light of the current market conditions. The fair value also reflects, on a similar basis, any cash outflows that could be expected in respect of the property. For all properties, their current use equates to the highest and best use. There has been no change to the valuation technique during the year.

Under the income approach, fair value is estimated using assumptions regarding the benefits and liabilities of ownership over the asset's life including the terminal value. This method involves the projection of a series of cash flows on a real property interest. To this projected cash flow series, a market-derived discount rate is applied to establish the present value of the income stream associated with the asset. The significant unobservable inputs used in the income approach are the selection of discount rates which ranged from 4.94% to 6.05% (2015: 4.75% to 5.00%), net initial yields which ranged from 3.37% to 5.65% (2015: 4.50% to 5.16%) and terminal capitalisation rates which ranged from 3.20% to 5.81% (2015: 3.75% to 4.20%). Significant increases or decreases in any of those inputs in isolation would result in significantly lower or higher fair value measurements, respectively.

All of the Group's investment properties are classified under Level 3 of the fair value hierarchy. There were no transfers into or out of Level 3 during the year.

An analysis of the movement between opening and closing balances of Level 3 investment properties, measured at fair value using a valuation technique with significant unobservable inputs, is shown below:

	Group		Fund	
	2016	2015	2016	2015
At 1 January	23,621	17,493	–	–
Additions	3,104	5,694	–	–
Change in fair value on revaluation recognised as "income from investment properties" in the income and expenditure account	(805)	1,703	–	–
Exchange differences recognised in other comprehensive income	(3,197)	(1,269)	–	–
At 31 December	22,723	23,621	–	–
Net gains/(losses) recognised in the income and expenditure account held at the balance sheet date	(805)	1,703	–	–

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

19 PROPERTY, PLANT AND EQUIPMENT

(a)

	Group			Total
	Premises	Plant and equipment	Computer software licences and system development costs	
Cost				
At 1 January 2015	3,852	1,068	355	5,275
Additions	–	85	29	114
Disposals	–	(23)	–	(23)
At 31 December 2015	3,852	1,130	384	5,366
At 1 January 2016	3,852	1,130	384	5,366
Additions	–	187	16	203
Disposals	–	(18)	–	(18)
At 31 December 2016	3,852	1,299	400	5,551
Accumulated depreciation				
At 1 January 2015	984	732	278	1,994
Charge for the year	89	91	18	198
Written back on disposal	–	(18)	–	(18)
At 31 December 2015	1,073	805	296	2,174
At 1 January 2016	1,073	805	296	2,174
Charge for the year	89	91	24	204
Written back on disposal	–	(18)	–	(18)
At 31 December 2016	1,162	878	320	2,360
Net book value				
At 31 December 2016	2,690	421	80	3,191
At 31 December 2015	2,779	325	88	3,192

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund			Total
	Premises	Plant and equipment	Computer software licences and system development costs	
Cost				
At 1 January 2015	3,843	448	355	4,646
Additions	–	43	29	72
Disposals	–	(4)	–	(4)
At 31 December 2015	3,843	487	384	4,714
At 1 January 2016	3,843	487	384	4,714
Additions	–	75	16	91
Disposals	–	(6)	–	(6)
At 31 December 2016	3,843	556	400	4,799
Accumulated depreciation				
At 1 January 2015	979	301	278	1,558
Charge for the year	88	45	18	151
Written back on disposal	–	(4)	–	(4)
At 31 December 2015	1,067	342	296	1,705
At 1 January 2016	1,067	342	296	1,705
Charge for the year	88	44	24	156
Written back on disposal	–	(6)	–	(6)
At 31 December 2016	1,155	380	320	1,855
Net book value				
At 31 December 2016	2,688	176	80	2,944
At 31 December 2015	2,776	145	88	3,009

(b) The net book value of premises comprises:

	Group		Fund	
	2016	2015	2016	2015
In Hong Kong				
Leasehold land and the building situated thereon (leasehold between 10 and 50 years)	2,668	2,757	2,666	2,754
Outside Hong Kong				
Freehold land and the building situated thereon	22	22	22	22
TOTAL	2,690	2,779	2,688	2,776

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

20 CERTIFICATES OF INDEBTEDNESS, GOVERNMENT-ISSUED CURRENCY NOTES AND COINS IN CIRCULATION

	Group and Fund			
	Certificates of Indebtedness		Government-issued currency notes and coins in circulation	
	2016	2015	2016	2015
Carrying amount	405,345	357,863	11,928	11,335
Reconciliation with face value:				
Hong Kong dollar face value	407,795	360,165	12,000	11,408
Linked exchange rate for calculating the US dollars required for redemption	US\$1=HK\$7.80	US\$1=HK\$7.80	US\$1=HK\$7.80	US\$1=HK\$7.80
US dollars required for redemption	US\$52,281 million	US\$46,175 million	US\$1,538 million	US\$1,463 million
Market exchange rate for translation into Hong Kong dollars	US\$1=HK\$7.75315	US\$1=HK\$7.75015	US\$1=HK\$7.75315	US\$1=HK\$7.75015
Carrying amount	405,345	357,863	11,928	11,335

21 BALANCE OF THE BANKING SYSTEM

Under the interbank payment system based on Real Time Gross Settlement principles, all licensed banks maintain a Hong Kong dollar clearing account with the Hong Kong Monetary Authority (HKMA) for the account of the Fund. The aggregate amount in these clearing accounts, which must not have a negative balance, represents the total level of liquidity in the interbank market.

Under the weak-side Convertibility Undertaking, the HKMA undertakes to convert Hong Kong dollars in these clearing accounts into US dollars at the fixed exchange rate of US\$1=HK\$7.85. Likewise, under the strong-side Convertibility Undertaking, licensed banks can convert US dollars into Hong Kong dollars in these accounts, as the HKMA undertakes to buy US dollars at the fixed exchange rate of US\$1=HK\$7.75. Within the Convertibility Zone bounded by the two Convertibility Undertakings, the HKMA may choose to conduct market operations in a manner consistent with Currency Board principles. Such operations can result in matching changes in the balances of these accounts.

The balance of the banking system is repayable on demand, non-interest-bearing and is shown at its Hong Kong dollar amount.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

22 PLACEMENTS BY BANKS AND OTHER FINANCIAL INSTITUTIONS

	Group and Fund	
	2016	2015
At amortised cost		
Placements by central banks	56,136	60,664
Placements by banks	–	6,243
TOTAL	56,136	66,907

23 PLACEMENTS BY FISCAL RESERVES

	Group and Fund	
	2016	2015
Placements by Operating and Capital Reserves		
(i) with interest payable at a fixed rate determined annually		
General Revenue Account	542,138	496,365
Land Fund	–	219,730
Capital Works Reserve Fund	78,534	64,105
Civil Service Pension Reserve Fund	31,899	27,129
Disaster Relief Fund	28	17
Innovation and Technology Fund	8,317	184
Lotteries Fund	22,792	22,026
Capital Investment Fund	2,042	1,864
Loan Fund	4,309	2,124
	690,059	833,544
(ii) with interest payable at market-based rates		
General Revenue Account	9	4
	690,068	833,548
Placements by Future Fund with interest payable at a composite rate determined annually		
Land Fund	219,730	–
General Revenue Account	4,800	–
	224,530	–
TOTAL	914,598	833,548

Fiscal Reserves comprise Operating and Capital Reserves and the Future Fund.

Placements by Operating and Capital Reserves are repayable on demand. Interest on the majority of these placements is payable at a fixed rate determined every January. The rate is the average annual investment return of the Fund's Investment Portfolio for the past six years or the average annual yield of three-year Government Bond (2015: three-year Exchange Fund Notes) for the previous year subject to a minimum of zero percent, whichever is the higher. This rate was fixed at 3.3% per annum for 2016 (2015: 5.5%).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The Future Fund was established on 1 January 2016. Placements by Future Fund comprise an initial endowment from the balance of the Land Fund and periodic top-ups from the General Revenue Account as directed by the Financial Secretary. These placements are divided into two portions: one linked with the performance of the Investment Portfolio and another linked with the performance of the Long-Term Growth Portfolio. Interest on these placements is payable at a composite rate which is computed annually, on a weighted average basis, with reference to the above-mentioned fixed rate determined for placements by Operating and Capital Reserves and the annual rate of return linked with the performance of the Long-Term Growth Portfolio. The composite rate for 2016 was 4.5%. Placements by Future Fund, together with the interest thereon (note 28), are repayable on 31 December 2025 unless otherwise directed by the Financial Secretary according to the terms of the placements.

24 PLACEMENTS BY HONG KONG SPECIAL ADMINISTRATIVE REGION GOVERNMENT FUNDS AND STATUTORY BODIES

	Group and Fund	
	2016	2015
Placements with interest payable at a fixed rate¹ determined annually		
Bond Fund	132,644	127,501
Community Care Fund	17,995	17,420
Elite Athletes Development Fund	6,604	6,761
Employees Retraining Board	14,039	13,591
Environment and Conservation Fund	5,418	5,245
Hospital Authority	18,319	7,903
Housing Authority	41,329	40,008
Language Fund	5,603	5,424
Research Endowment Fund	26,319	26,351
Samaritan Fund	7,172	6,943
Trading Funds	8,143	7,883
West Kowloon Cultural District Authority	12,099	15,751
Other funds ²	3,719	–
	299,403	280,781
Placements with interest payable at market-based rates		
Deposit Protection Scheme Fund	3,082	65
TOTAL	302,485	280,846

¹ The rate is the average annual investment return of the Fund's Investment Portfolio for the past six years or the average annual yield of three-year Government Bond (2015: three-year Exchange Fund Notes) for the previous year subject to a minimum of zero percent, whichever is the higher. This rate was fixed at 3.3% per annum for 2016 (2015: 5.5%).

² This is a collective placement by 11 HKSAR Government funds.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

25 EXCHANGE FUND BILLS AND NOTES ISSUED

	Group and Fund	
	2016	2015
At fair value		
Exchange Fund Bills and Notes issued		
Exchange Fund Bills	913,811	769,784
Exchange Fund Notes	48,768	60,007
	962,579	829,791
Exchange Fund Bills held	(1,597)	(1,999)
TOTAL	960,982	827,792

EFBN issued are unsecured obligations of the Fund and are one of the components of the Monetary Base in the Currency Board Account. Exchange Fund Bills are issued by the Fund for maturities not exceeding one year. Exchange Fund Notes are issued by the Fund with 2-year, 3-year, 5-year, 7-year, 10-year and 15-year maturities. EFBN issued are valued at offer prices derived from the "HKMA EFBN Closing Reference" adjusted by observed market spreads.

Since January 2015, the Fund has ceased to issue Exchange Fund Notes with tenors of three years or above to avoid overlapping with Government Bonds of the same tenors. To maintain the overall size of Exchange Fund paper, the Fund has issued additional Exchange Fund Bills to replace maturing Exchange Fund Notes of those tenors.

Exchange Fund Bills held by the Fund as a result of market making activities are considered as redemption of the bills issued and are derecognised.

An analysis of the nominal value of EFBN issued at the beginning and the end of year is set out below:

	Group and Fund			
	2016		2015	
	Exchange Fund Bills	Exchange Fund Notes	Exchange Fund Bills	Exchange Fund Notes
Issued by Currency Board Operations segment				
Nominal value at 1 January	769,821	58,600	683,930	68,700
Issuance	2,724,292	4,800	2,237,406	4,800
Redemption	(2,579,215)	(15,200)	(2,151,515)	(14,900)
Nominal value at 31 December	914,898	48,200	769,821	58,600
Long positions held by Financial Stability and Other Activities segment				
Nominal value at 31 December	(1,600)	–	(2,000)	–
Total nominal value	913,298	48,200	767,821	58,600
Carrying amount, at fair value	912,214	48,768	767,785	60,007
Difference	1,084	(568)	36	(1,407)

The fair value changes of EFBN issued are attributable to changes in benchmark interest rates.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

26 BANK LOANS

	Group		Fund	
	2016	2015	2016	2015
At amortised cost				
Bank loans repayable:				
Within one year	–	76	–	–
After one year but not later than two years	–	3,728	–	–
After two years but not later than five years	9,117	4,408	–	–
After five years but not later than ten years	2,607	–	–	–
More than ten years	–	3,106	–	–
TOTAL	11,724	11,318	–	–

At 31 December 2016, the banking facilities of the Group were secured by mortgage over the investment properties with a fair value of HK\$22,723 million (2015: HK\$23,621 million) (note 18).

27 OTHER DEBT SECURITIES ISSUED

	Group		Fund	
	2016	2015	2016	2015
Debt securities issued, carried at amortised cost	9,098	5,682	–	–
Debt securities issued, designated as hedged items under fair value hedge	24,998	27,438	–	–
Debt securities issued, designated at fair value	137	343	–	–
TOTAL	34,233	33,463	–	–

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

An analysis of the nominal value of other debt securities issued at the beginning and the end of year is set out below:

	Group		Fund	
	2016	2015	2016	2015
Total debt securities issued				
Nominal value at 1 January	34,938	34,415	–	–
Issuance	24,531	23,047	–	–
Redemption	(23,686)	(22,527)	–	–
Foreign currency translation differences	–	3	–	–
Nominal value at 31 December	35,783	34,938	–	–
Carrying amount	34,233	33,463	–	–
Difference	1,550	1,475	–	–
Debt securities issued, designated at fair value				
Nominal value	184	389	–	–
Carrying amount, at fair value	137	343	–	–
Difference	47	46	–	–

The fair value changes of debt securities issued designated at fair value are attributable to changes in benchmark interest rates.

28 OTHER LIABILITIES

	Group		Fund	
	2016	2015	2016	2015
Unsettled purchases of securities	72,706	32,275	72,658	32,275
Accrued interest on placements by Fiscal Reserves (Operating and Capital Reserves) being earmarked as Housing Reserve ¹	76,608	74,154	76,608	74,154
Accrued interest on placements by Fiscal Reserves (Future Fund) ²	10,071	–	10,071	–
Accrued charges and other liabilities	7,546	7,238	735	705
Other interest payable	387	362	125	145
Tax payable	93	139	–	–
Deferred tax liabilities	111	115	–	–
TOTAL	167,522	114,283	160,197	107,279

¹ In accordance with the directives made by the Financial Secretary in December 2014 and December 2015, the accrued interest on placements by Fiscal Reserves earned for 2014 and 2015 with a total of HK\$72,642 million were not paid on 31 December of the respective years but were earmarked as Housing Reserve which may be made available for appropriation under the Public Finance Ordinance (Cap. 2) for the purpose of financing the development of public housing and public housing-related projects and infrastructure. The sum earmarked as Housing Reserve earns interest at the fixed rate (note 23) and shall be paid to the fund accounts of the Fiscal Reserves on a date determined by the Financial Secretary. The interest accrued on the Housing Reserve for 2016 was HK\$2,454 million (2015: HK\$1,512 million).

² In accordance with the directive made by the Financial Secretary in December 2015, the accrued interest on placements by Future Fund should be rolled over and compounded at the composite rate (note 23) on an annual basis and shall only be paid upon maturity of the placements (i.e. 31 December 2025) unless otherwise directed by the Financial Secretary according to the terms of the placements.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

29 ANALYSIS OF CASH AND CASH EQUIVALENTS IN THE STATEMENT OF CASH FLOWS

	Group		Fund	
	2016	2015	2016	2015
Cash and money at call	207,587	188,547	206,954	187,835
Placements with banks and other financial institutions	182,747	106,734	176,538	98,795
Treasury bills and commercial paper	71,616	79,475	71,616	79,475
TOTAL	461,950	374,756	455,108	366,105

Reconciliation with the balance sheet

	Note	Group		Fund	
		2016	2015	2016	2015
Amounts shown in the balance sheet					
Cash and money at call	7	207,587	188,547	206,954	187,835
Placements with banks and other financial institutions	8	203,704	123,880	179,712	102,681
Treasury bills and commercial paper	9	984,486	958,005	984,486	958,005
		1,395,777	1,270,432	1,371,152	1,248,521
Less: Amounts with original maturity beyond 3 months		(933,827)	(895,676)	(916,044)	(882,416)
Cash and cash equivalents in the statement of cash flows		461,950	374,756	455,108	366,105

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

30 OPERATING SEGMENT INFORMATION

The Group determines its operating segments based on the reports reviewed by the chief operating decision maker. As a central banking institution, the HKMA is responsible for managing the Exchange Fund and maintaining the monetary and banking stability of Hong Kong. The Group comprises operating segments as stated in note 2.19.

	Group							
	Currency Board Operations (note (a))		Reserves Management		Financial Stability and Other Activities		Total	
	2016	2015	2016	2015	2016	2015	2016	2015
Income								
Interest and dividend income	10,531	5,056	27,043	25,822	1,530	1,398	39,104	32,276
Investment gains/(losses)	1,093	(1,068)	25,369	(38,056)	(2,765)	(2,261)	23,697	(41,385)
Other income	–	–	345	42	592	692	937	734
	11,624	3,988	52,757	(12,192)	(643)	(171)	63,738	(8,375)
Expenditure								
Interest expense	2,161	698	43,162	61,907	339	272	45,662	62,877
Other expenses	1,124	1,063	1,412	1,463	2,388	2,331	4,924	4,857
	3,285	1,761	44,574	63,370	2,727	2,603	50,586	67,734
Surplus/(Deficit) before share of profit of associates and joint ventures	8,339	2,227	8,183	(75,562)	(3,370)	(2,774)	13,152	(76,109)
Share of profit of associates and joint ventures, net of tax	–	–	2,991	1,958	18	19	3,009	1,977
Surplus/(Deficit) before taxation	8,339	2,227	11,174	(73,604)	(3,352)	(2,755)	16,161	(74,132)

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Group									
	Currency Board Operations (note (a))		Reserves Management		Financial Stability and Other Activities		Re-allocation (note (b) & (c))		Total	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Assets										
Backing Assets										
Investment in designated US dollar assets	1,759,179	1,695,018	–	–	–	–	–	–	1,759,179	1,695,018
Interest receivable on designated US dollar assets	1,658	1,310	–	–	–	–	–	–	1,658	1,310
Net accounts receivable/(payable)	(8,931)	(3,872)	–	–	–	–	18,984	3,872	10,053	–
Other investments	–	–	1,685,554	1,646,893	233,232	159,527	(1,597)	(1,999)	1,917,189	1,804,421
Other assets	–	–	51,013	23,261	5,939	6,144	464	1,155	57,416	30,560
TOTAL ASSETS	1,751,906	1,692,456	1,736,567	1,670,154	239,171	165,671	17,851	3,028	3,745,495	3,531,309
Liabilities										
Monetary Base										
Certificates of Indebtedness	405,345	357,863	–	–	–	–	–	–	405,345	357,863
Government-issued currency notes and coins in circulation	11,928	11,335	–	–	–	–	–	–	11,928	11,335
Balance of the banking system	259,593	391,343	–	–	–	–	–	–	259,593	391,343
Exchange Fund Bills and Notes issued	962,579	829,791	–	–	–	–	(1,597)	(1,999)	960,982	827,792
Interest payable on Exchange Fund Notes	125	145	–	–	–	–	–	–	125	145
Net accounts (receivable)/payable	(232)	(1,128)	–	–	–	–	464	1,155	232	27
Other debt securities issued	–	–	–	–	34,233	33,463	–	–	34,233	33,463
Placements by banks and other financial institutions	–	–	–	6,243	56,136	60,664	–	–	56,136	66,907
Bank loans	–	–	11,724	11,318	–	–	–	–	11,724	11,318
Placements by Fiscal Reserves	–	–	914,598	833,548	–	–	–	–	914,598	833,548
Placements by HKSAR Government funds and statutory bodies	–	–	299,403	280,781	3,082	65	–	–	302,485	280,846
Other liabilities	–	–	142,436	105,294	8,603	8,201	18,984	3,872	170,023	117,367
TOTAL LIABILITIES	1,639,338	1,589,349	1,368,161	1,237,184	102,054	102,393	17,851	3,028	3,127,404	2,931,954

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(a) Currency Board Operations

Starting from 1 October 1998, specific US dollar assets of the Fund have been designated to back the Monetary Base, which comprises Certificates of Indebtedness, government-issued currency notes and coins in circulation, the balance of the banking system and EFBN issued. While specific assets of the Fund have been earmarked for backing the Monetary Base, all the Fund's assets are available for the purpose of supporting the Hong Kong dollar exchange rate under the Linked Exchange Rate system.

In accordance with an arrangement approved by the Financial Secretary in January 2000, assets can be transferred between the Backing Portfolio and general reserves when the Backing Ratio reaches either the upper trigger point (112.5%) or the lower trigger point (105%). This arrangement allows transfer of excess assets out of the Backing Portfolio to maximise their earning potential while ensuring that there are sufficient liquid assets in the Backing Portfolio. The Backing Ratio stood at 106.7% as at 31 December 2016 (2015: 106.33%).

(b) Re-allocation of assets and liabilities

For the purpose of the Currency Board Operations segment, certain liabilities of the Fund are deducted from the Backing Assets and certain assets are deducted from the Monetary Base in order to allow proper computation of the Backing Ratio. This re-allocation adjustment adds back these items in order to reconcile the segmental information to the Group balance sheet.

The Backing Assets are presented on a net basis in the Currency Board Operations. Accounts payable for unsettled purchases of securities are included in "net accounts payable" to offset corresponding investments in the Backing Assets. As at 31 December 2016, deductions from the Backing Assets comprised "other liabilities" of HK\$18,984 million (2015: HK\$3,872 million).

The Monetary Base is also presented on a net basis. As Hong Kong dollar interest rate swaps have been used as a means to manage the cost of issuing Exchange Fund Notes, interest receivable of HK\$20 million (2015: HK\$30 million) and unrealised gains of HK\$444 million (2015: HK\$1,125 million) on these interest rate swaps are included in "net accounts (receivable)/payable" to reduce the Monetary Base. As at 31 December 2016, deductions from the Monetary Base comprised "other assets" of HK\$464 million (2015: HK\$1,155 million).

(c) Exchange Fund Bills and Notes held

EFBN held by the Financial Stability and Other Activities segment are treated as redemption of EFBN issued in the Currency Board Operations segment.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

31 PLEDGED ASSETS

Assets are pledged as margin for futures contracts and securities lending agreements and as collateral for securing general banking facilities. Securities lent do not include EFBN in issue. There are no financial assets pledged against contingent liabilities.

		Group		Fund	
	Note	2016	2015	2016	2015
Secured liabilities					
Bond futures contracts, at fair value	11(a)	62	38	62	38
Commodity futures contracts, at fair value	11(a)	14	–	14	–
Interest rate futures contracts, at fair value	11(a)	–	1	–	1
Interest rate swap contracts, at fair value		10	5	10	5
Bank loans	26	11,724	11,318	–	–
Assets pledged					
Cash and money at call		77	307	77	307
Financial assets designated at fair value		4,842	7,550	4,842	7,550
Investment properties	18	22,723	23,621	–	–

During the year, the Group entered into collateralised reverse repurchase agreements, repurchase agreements and securities lending transactions that may result in credit exposure in the event that the counterparty to the transaction is unable to fulfil its contractual obligations. The Group controls credit risk associated with these activities by monitoring counterparty credit exposure and collateral values on a daily basis and requiring additional collateral to be deposited with or returned to the Group when deemed necessary.

These transactions are conducted under terms that are usual and customary to standard lending, and securities borrowing and lending activities.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

32 COMMITMENTS

(a) Capital commitments

Capital expenditure authorised but not provided for in the financial statements at the balance sheet date was as follows:

	Group		Fund	
	2016	2015	2016	2015
Contracted for	16	16	6	–
Authorised but not yet contracted for	380	343	359	242
	396	359	365	242

(b) Credit facility to the International Monetary Fund

The Fund has participated in the New Arrangements to Borrow (NAB), a standby credit facility provided to the International Monetary Fund (IMF) for the purpose of managing instability in the international monetary system. The facility is subject to periodic review and renewal. As at 31 December 2016, the Fund had an undertaking under the NAB to lend foreign currencies to the IMF up to HK\$3,545 million equivalent (2015: HK\$3,651 million equivalent), in the form of a loan bearing prevailing market interest rates. The outstanding principal due from the IMF under the NAB amounted to HK\$540 million equivalent with a repayment term of five years (2015: HK\$355 million equivalent).

(c) Credit facility to the Hong Kong Deposit Protection Board

The Fund has provided the Hong Kong Deposit Protection Board (HKDPB) with a standby credit facility of HK\$120 billion (2015: HK\$120 billion) at prevailing market interest rates for meeting the necessary liquidity required for payment of compensation in the event of a bank failure. As at 31 December 2016, there was no outstanding balance due from the HKDPB under this facility (2015: Nil).

(d) Credit facility to The Hong Kong Mortgage Corporation Limited

The Fund has provided the HKMC with a revolving credit facility of HK\$30 billion (2015: HK\$30 billion) at prevailing market interest rates. As at 31 December 2016, there was no outstanding balance due from the HKMC under this facility (2015: Nil).

(e) Repurchase agreements with other central banks

The Fund has entered into bilateral repurchase agreements with various central banks in Asia and Australasia amounting up to HK\$44,581 million equivalent (2015: HK\$44,563 million equivalent). The arrangement allows each organisation to enhance the liquidity of its foreign reserve portfolio with minimal additional risk. As at 31 December 2016, there was no outstanding transaction with any central bank under this arrangement (2015: Nil).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(f) Chiang Mai Initiative Multilateralisation Agreement

The Chiang Mai Initiative Multilateralisation (CMIM) was established under the aegis of the 10 Association of Southeast Asian Nations (ASEAN) member countries together with China, Japan and Korea (ASEAN+3) to provide short-term US dollars through currency swap transactions to participants facing balance-of-payments and liquidity difficulties with a total size of US\$240 billion (2015: US\$240 billion). Hong Kong, through the HKMA, participates in the CMIM and has undertaken to commit up to US\$8.4 billion (2015: US\$8.4 billion) out of the Fund. Hong Kong has the right to request liquidity support up to US\$6.3 billion (2015: US\$6.3 billion) from the CMIM in case of emergency. Up to 31 December 2016, there had been no request to activate the CMIM (2015: Nil).

(g) Bilateral swap agreement

The People's Bank of China and the HKMA renewed a bilateral swap agreement in November 2014 for another three years, with a size of RMB400 billion/HK\$505 billion. This currency swap agreement helps facilitate the development of offshore renminbi business in Hong Kong. The bilateral swap outstanding as at 31 December 2016 was RMB56.0 billion (2015: RMB55.6 billion).

(h) Investment commitments

The Group's subsidiaries with principal activities of holding investments, including properties, had outstanding investment commitment of HK\$133,792 million equivalent as at 31 December 2016 (2015: HK\$122,405 million equivalent).

(i) Lease commitments

As at 31 December 2016, the total future minimum lease payments payable under non-cancellable operating leases of premises were as follows:

	Group		Fund	
	2016	2015	2016	2015
Within one year	97	94	66	61
After one year but not later than five years	185	87	184	57
TOTAL	282	181	250	118

(j) Financial Dispute Resolution Centre Limited

The HKMA signed a Memorandum of Understanding together with the Financial Services and the Treasury Bureau and the Securities and Futures Commission on 21 December 2011 regarding the funding arrangement on the set-up and operating costs of the Financial Dispute Resolution Centre Limited (FDRCL). During the year, the Fund contributed HK\$3.5 million to FDRCL (2015: HK\$7.0 million). The outstanding commitment of the Fund to contribute to FDRCL as at 31 December 2016 was HK\$10.5 million (2015: HK\$14.0 million).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

33 CONTINGENT LIABILITIES

(a) Uncalled portion of investment in the Bank for International Settlements

As at 31 December 2016, the Fund had a contingent liability of up to 16.1 million Special Drawing Rights (SDRs) or HK\$168 million equivalent (2015: 16.1 million SDRs or HK\$173 million equivalent), in respect of the uncalled portion of its 4,285 shares (2015: 4,285 shares) in the Bank for International Settlements (note 10).

SDR is an international reserve asset created by the International Monetary Fund. Its value is based on a basket of five major currencies comprising US dollar, euro, renminbi, Japanese yen and pound sterling. As at 31 December 2016, SDR 1 was valued at US\$1.34472 (2015: US\$1.38573).

(b) Financial guarantees

The Group has provided guarantees in respect of bank loans granted to joint ventures. The maximum liability as at 31 December 2016 was HK\$875 million equivalent (2015: HK\$687 million equivalent).

34 MATERIAL RELATED PARTY TRANSACTIONS

Transactions with related parties are conducted at rates determined by the Monetary Authority taking into account the nature of each transaction on a case-by-case basis.

In addition to the transactions and balances disclosed elsewhere in these financial statements, during the year, the Group, through the HKMC, purchased HK\$170 million (2015: HK\$209 million) of mortgage loans from the HKSAR Government.

The Exchange Fund Advisory Committee (EFAC) through its Sub-Committees advises the Financial Secretary in his control of the Fund. Members of the EFAC and its Sub-Committees are appointed in a personal capacity by the Financial Secretary for the expertise and experience that they can bring to the Committees. Transactions with companies related to members of the EFAC and its Sub-Committees, if any, have been conducted as a normal part of the operation of the Group and on terms consistent with its ongoing operations.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35 FINANCIAL RISK MANAGEMENT

This note presents information about the nature and extent of risks to which the Group is exposed, in particular those arising from financial instruments, and the risk management framework of the Group. The principal financial risks the Group is exposed to are credit risk, market risk and liquidity risk.

35.1 Governance

The Financial Secretary is advised by the EFAC in his control of the Fund. The EFAC is established under section 3(1) of the Exchange Fund Ordinance, which requires the Financial Secretary to consult the Committee in his exercise of control of the Fund. Members of the EFAC are appointed in a personal capacity by the Financial Secretary under the delegated authority of the Chief Executive of the HKSAR for the expertise and experience that they can bring to the Committee. Such expertise and experience include knowledge of monetary, financial and economic affairs and of investment issues, as well as of accounting, management, business and legal matters.

The EFAC is assisted in its work by five Sub-Committees, which monitor specific areas of the HKMA's work and report and make recommendations to the Financial Secretary through the EFAC.

Among these Sub-Committees, the Investment Sub-Committee (ISC) monitors the HKMA's investment management activities and makes recommendations on the investment policy and strategy of the Fund and on risk management and other related matters. Operating within the policies and guidelines endorsed by the EFAC or its delegated authority, the Reserves Management Department of the HKMA conducts the day-to-day investment management of the Fund while the Risk and Compliance Department, which is independent of the Reserves Management Department, carries out the risk management activities of the Fund.

35.2 Investment management and control

Investment activities of the Fund are conducted in accordance with the investment benchmark derived from the Fund's investment objectives. The investment benchmark directs the strategic asset allocation of the Fund and is reviewed on a regular basis to ensure that it consistently meets the investment objectives. Changes to the investment benchmark, if required, must be endorsed by the EFAC.

The Fund's target asset and currency mix were as follows:

	2016	2015
Asset type		
Bonds	71%	72%
Equities and related investments	29%	28%
	100%	100%
Currency¹		
US dollar and Hong Kong dollar	91%	81%
Others ²	9%	19%
	100%	100%

¹ The target currency mix in 2016 has taken into account the impact of a measure approved by the EFAC to reduce the non-US dollar/Hong Kong dollar holdings of the Exchange Fund during the year.

² Other currencies included mainly euro, renminbi, pound sterling and Japanese yen.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

In addition to the investment benchmark, the EFAC determines the tactical deviation limits governing the extent to which the Fund's asset and currency mix may deviate from the investment benchmark. The tactical deviation limits are used to guide the medium term investments of the Fund. The tactical deviation limits are derived from a risk-based approach, taking into account the risk tolerance level set by the EFAC and risk contributions of the asset classes and markets that the Fund is allowed to invest in. These risk contributions reflect the neutral allocations of asset markets within the investment benchmark, and the volatility of and correlation across asset markets. Authority to take medium term investment decisions is delegated to senior management of the HKMA down to the Executive Director level.

The Risk and Compliance Department is responsible for risk management and compliance monitoring regarding the investments of the Fund. It monitors the risk exposure of the Fund, checks compliance of investment activities against established guidelines and reports and follows up any identified breaches.

35.3 Credit risk

Credit risk is the risk of financial loss when a counterparty or a borrower fails to meet its contractual obligations. The Group's credit risk arises principally from the investments of the Fund and the loan portfolio of the HKMC.

35.3.1 Management of credit risk

The HKMA maintains effective credit risk management over the investments of the Fund. Based on the delegated authority of the EFAC, the Credit, Rules and Compliance Committee (CRCC), which was retitled from the previous Credit Review and Compliance Committee, was established within the HKMA with the following responsibilities: (i) to establish and maintain the Credit Exposure Policy to govern the investments of the Fund; (ii) to review the adequacy of the existing credit risk management practices and, where necessary, formulate proposals for amendments; (iii) to conduct analysis of credit risk issues; (iv) to establish and review credit limits for the approved issuers and counterparties; (v) to review and consider proposals of amendments to the Operational Rules for Exchange Fund Investments as appropriate, and make recommendations to the Monetary Authority for endorsement; and (vi) to monitor the compliance of the investments of the Fund with the established policies and limits, and report and follow up any identified breaches. The CRCC is chaired by the Deputy Chief Executive (Monetary) whose responsibilities are independent of the day-to-day investment activities of the Fund, and includes representatives from the Reserves Management Department, the Monetary Management Department, the Research Department and the Risk and Compliance Department of the HKMA.

In light of the rapidly evolving risk environment, the HKMA will remain vigilant in monitoring and managing the Fund's credit risk exposure, and will sustain the impetus for better credit risk management practices to support the investment activities of the Fund.

Credit limits are established in accordance with in-house methodologies as set out in the Operational Rules for Exchange Fund Investments and the Credit Exposure Policy to limit exposures to counterparty, issuer and country risks arising from the investments of the Fund.

(a) Counterparty risk

The Fund selects its counterparties in lending, placement, derivatives and trading transactions prudently and objectively. Since the Fund conducts transactions with a counterparty for a range of financial instruments, credit limits are established to limit the overall exposure to each authorised counterparty based on its credit ratings, financial strength and other relevant information.

Counterparty credit exposures are measured according to the risk nature of financial products involved in the transaction. Counterparty credit exposures of derivatives include an estimate for the potential future credit exposure of the derivative contracts, in addition to their positive mark-to-market replacement value.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(b) Issuer risk

Issuer risk arises from investments in debt securities. Credit limits for approved issuers are set on both individual and group levels to control the risk of loss arising from the default of debt securities issuers and to prevent undue risk concentration.

Moreover, to be qualified as an approved investment, a new market or financial instrument must meet the minimum credit, security and liquidity requirements of the Fund.

(c) Country risk

Country risk is broadly defined to include both the sovereign risk and the transfer risk. Sovereign risk denotes a government's ability and willingness to repay its obligations. Transfer risk is the risk that a borrower may not be able to secure foreign exchange to service its external obligations, for example, due to an action by the government to impose restrictions on the transfer of funds from the debtors in the country to foreign creditors. Under the existing framework, country limits are established to control the Fund's overall credit risk exposures to the countries endorsed by the CRCC.

The above credit limits are reviewed regularly. Credit exposure is monitored against these limits on a daily basis. To ensure prompt identification, proper approval and consistent monitoring of credit risk, the Fund has implemented a unified automated credit monitoring system which provides fully-integrated straight-through-processing linking the front, middle and back office functions. The pre-deal checking takes place in the front office prior to the commitment of any transaction to ensure that the intended transaction will not exceed the credit limits. The end-of-day compliance checking further verifies that the Fund complies with the established credit policies and procedures.

Any breaches of credit limits are reported to the CRCC and the ISC, and are followed up by the Risk and Compliance Department in a timely manner. The approval authorities to sanction these breaches are set out in the Credit Exposure Policy.

To manage the exposure to credit risk arising from the loan portfolio and mortgage insurance business, a four-pronged approach is established for (i) selecting Approved Sellers carefully, (ii) adopting prudent mortgage purchasing criteria and insurance eligibility criteria, (iii) conducting effective due diligence reviews and (iv) ensuring adequate protection for higher-risk mortgages.

35.3.2 Exposure to credit risk

The maximum exposure to credit risk of the financial assets of the Group and the Fund are equal to their carrying amounts. The maximum exposures to credit risk of off-balance sheet exposures are as follows:

	Note	Group		Fund	
		2016	2015	2016	2015
Risk in force – mortgage insurance	35.6	16,840	13,409	–	–
Risk in force – other guarantees and insurance	35.6	4,333	2,996	–	–
Loan commitments, guarantees and other credit related commitments		367,389	356,067	262,722	262,975
TOTAL		388,562	372,472	262,722	262,975

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.3.3 Credit quality

The Group predominantly invests in liquid Organisation for Economic Co-operation and Development (OECD) government bonds and other quasi-government debt securities issues. As at 31 December 2016, approximately 85% (2015: 85%) of the debt securities held by the Group were rated “double-A” or above by both Moody’s and Standard & Poor’s. The credit quality of major financial assets is analysed below:

	Group		Fund	
	2016	2015	2016	2015
Cash and money at call, placements with banks and other financial institutions, by credit rating¹				
AAA	–	259	–	259
AA- to AA+	82,563	61,345	76,651	60,108
A- to A+	242,121	163,817	224,092	144,871
Lower than A- or un-rated ²	86,607	87,006	85,923	85,278
	411,291	312,427	386,666	290,516
Debt securities, by credit rating¹				
AAA	549,413	445,772	547,907	444,554
AA- to AA+	1,575,837	1,666,126	1,566,106	1,656,063
A- to A+	160,911	127,737	157,619	124,445
Lower than A- or un-rated ²	208,665	249,657	194,521	236,937
	2,494,826	2,489,292	2,466,153	2,461,999
Loan portfolio				
Neither past due nor impaired (note (a))	9,303	11,191	–	–
Past due but not impaired (note (b))	231	311	–	–
Impaired (note (c))	1	1	–	–
Allowance for loan impairment	(1)	(1)	–	–
	9,534	11,502	–	–
TOTAL	2,915,651	2,813,221	2,852,819	2,752,515

¹ This is the lower of ratings designated by Moody’s and Standard & Poor’s.

² These included mainly balances with central banks and debt securities issued by the Bank for International Settlements which are not rated.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(a) Loans that are neither past due nor impaired

An internal rating system is used for assessing the credit quality of the loan portfolio. Grades 1 to 3 include loans with either insignificant credit risk or no recent past due history and with different levels of credit enhancements in addition to the collateral. Grade 4 includes loans with recent past due history and with credit enhancements in addition to collateral. Grade 5 includes loans with recent past due history and with collateral only. The credit quality of loans that were neither past due nor impaired at the balance sheet date is analysed below:

	Group		Fund	
	2016	2015	2016	2015
Grades				
1 to 3	9,294	11,170	–	–
4	–	1	–	–
5	9	20	–	–
TOTAL	9,303	11,191	–	–

(b) Loans that are past due but not impaired

These are loans where contractual interest or principal payments are past due but the Group believes that recognising an impairment loss is not appropriate on the basis of the level of collateral held. The loans that were past due but not impaired at the balance sheet date are analysed below:

	Group		Fund	
	2016	2015	2016	2015
Loans that were past due				
90 days or less	229	310	–	–
91 to 180 days	–	–	–	–
over 180 days	2	1	–	–
TOTAL	231	311	–	–
Of which fair value of collateral	2,348	3,110	–	–

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(c) Impaired loans

These are loans where the Group determines on an individual basis that it is probable that it will be unable to collect all principal and interest due according to the contractual terms of the loan agreements. As at 31 December 2016, individually impaired loans of the Group before taking into account the cash flows from collateral held amounted to HK\$1 million (2015: HK\$1 million). There was no collateral held against these impaired loans (2015: Nil).

(d) Repossessed collateral

The Group obtained assets by taking possession of collateral held as security. Repossessed assets are sold as soon as practicable, with the proceeds used to reduce the outstanding indebtedness. As at 31 December 2016, repossessed assets of the Group amounted to HK\$1 million (2015: Nil).

35.3.4 Concentration of credit risk

The majority of the Group's credit risk exposures are from the holding of highly liquid debt securities issued or guaranteed by OECD governments and other quasi-government entities. The maximum credit risk exposure by industry groups is analysed below:

	Group		Fund	
	2016	2015	2016	2015
Governments and government agencies ¹	2,092,648	2,177,277	2,092,581	2,177,031
Supra-nationals	249,592	198,275	249,592	198,275
States, provinces and public-sector entities ²	197,616	183,428	226,661	212,734
Financial institutions	437,451	301,461	403,872	270,527
Others ³	392,622	353,772	325,755	280,265
TOTAL	3,369,929	3,214,213	3,298,461	3,138,832

¹ These included debt securities guaranteed by governments.

² These included debt securities guaranteed by states.

³ These included debt securities issued by the Bank for International Settlements.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.4 Market risk

Market risk is the risk that changes in market variables such as interest rates, exchange rates and equity prices may affect the fair values or cash flows of investments.

35.4.1 *Types of market risk*

(a) Interest rate risk

Interest rate risk refers to the risk of loss arising from changes in market interest rates. This can be further classified into fair value interest rate risk and cash flow interest rate risk.

Fair value interest rate risk is the risk that the fair value of a financial instrument will fluctuate because of changes in market interest rates. The Group is exposed to fair value interest rate risk since a substantial portion of its investments is in fixed-rate debt securities. These securities are subject to interest rate risk as their fair values will fall when market interest rates increase. Other significant financial assets and financial liabilities with a fixed interest rate, and therefore subject to interest rate risk, include placements with banks and other financial institutions and EFBN issued.

Cash flow interest rate risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Because the Group has no significant floating-rate investments and liabilities, the Group's future cash flows are not materially affected by potential changes in market interest rates.

(b) Currency risk

Currency risk is the risk of loss arising from changes in foreign exchange rates. A large portion of the Group's foreign currency assets is held in US dollars with the remaining mainly in other major international currencies. When the exchange rates of the relevant foreign currencies against the Hong Kong dollar fluctuate, the value of these foreign currency assets expressed in Hong Kong dollar will vary accordingly.

Due to the linked exchange rate of the US dollar relative to the Hong Kong dollar, the Group's currency risk principally arises from its assets and liabilities denominated in foreign currencies other than the US dollar.

(c) Equity price risk

Equity price risk is the risk of loss arising from changes in prices or valuation. The Group's equity and related investments are subject to price risk since the value of these investments will decline if market prices or valuation fall.

The majority of the equity securities held by the Group are constituent stocks of major stock market indexes and companies with large market capitalisation.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.4.2 *Management of market risk*

The market risk of the Fund as a whole is regularly measured and monitored to prevent excessive risk exposure. The investment benchmark and tactical deviation limits of the Fund govern the asset allocation strategies. This, together with the volatility of asset markets, will affect the Fund's market risk exposure. The Fund uses derivative financial instruments to manage its exposures to market risk and facilitate the implementation of investment strategies. The market risk of the Fund is mainly measured and monitored using a Value-at-Risk (VaR) methodology.

VaR is calculated using the parametric approach based on a 95% confidence level and one-month time horizon. The result represents the maximum expected loss of the Fund over a one-month period under normal market conditions, with a 5% chance that the actual loss may exceed the calculated VaR. The Fund's absolute VaR and the relative VaR (i.e. the VaR of the Fund relative to its investment benchmark), expressed in dollar amounts, are measured by the Risk and Compliance Department and reported to management, the ISC and the EFAC on a regular basis.

The relative VaR of the Fund is also used to calculate the actual tracking error of the Fund against its investment benchmark. This is regularly monitored against the tracking error limit endorsed by the EFAC to ensure that the market risk exposure of the Fund is within its limit. The tracking error of a portfolio indicates how well the portfolio tracks its investment benchmark. The smaller the tracking error, the closer the portfolio tracks its benchmark. The tracking error limit is established to prevent the Fund from taking unduly large market risk with respect to its investment benchmark. The actual tracking error of the Fund is regularly reported to the ISC and the EFAC, and any breach of the limit is followed up in a timely manner.

VaR is a widely accepted measure of market risk within the financial services industry. It provides users with a single amount to measure market risk and takes into account multiple risks. VaR should however be assessed in the context of some of its inherent limitations. The calculation of VaR involves a number of assumptions that may or may not be valid in a real life scenario, in particular in extreme market conditions. The calculation of VaR assumes that future events can be predicted by historical data, and that changes in risk factors follow a normal distribution. The end-of-day basis does not reflect intraday exposures. In addition, the confidence level on which calculation of VaR is based needs to be taken into account as it indicates the possibility that a larger loss could be realised.

To compensate for some of the limitations of VaR, the HKMA also conducts stress tests to estimate the potential losses under extremely adverse market conditions. This serves to identify the major attributes of market risk under extreme market conditions, and helps to prevent the Fund from being exposed to excessive market risk. The results of the stress tests are also reported to the ISC and the EFAC on a regular basis.

To manage the interest rate risk arising from the fixed-rate debt securities issued by the Group to fund the purchase of portfolios of loans, a major portion of the risk is hedged using fair value hedges in the form of interest rate swaps by swapping into floating-rate funding to better match the floating-rate assets.

The Fund's investment in less liquid assets (i.e. private equity and real estate) is grouped under the Long-Term Growth Portfolio. The investment risks of the less liquid assets are managed at the aggregate level through such measures as asset class approval, allocation limit and aggregate general partner exposure. The maximum size of the Long-Term Growth Portfolio is set at one-third of the Accumulated Surplus of the Exchange Fund, with room for further expansion due to the funding of the Future Fund.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.4.3 Exposure to market risk

(a) Interest rate risk

The interest rate gap position in respect of the Group's major interest-bearing assets and liabilities, including the net repricing effect of interest rate derivatives is shown below. The assets and liabilities are stated at carrying amounts at the balance sheet date and categorised by the earlier of contractual repricing dates or maturity dates.

	Group – 2016							Non-interest-bearing financial instruments
	Repricing period of interest-bearing financial instruments							
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	Total	
Assets								
Cash and money at call	142,672	–	–	–	–	–	142,672	64,915
Placements with banks and other financial institutions	179,423	17,621	6,641	–	–	–	203,685	19
Financial assets designated at fair value	606,924	569,897	397,370	587,347	173,163	119,551	2,454,252	603,104
Available-for-sale securities	–	1,445	2,017	1,135	–	–	4,597	128,252
Held-to-maturity securities	156	300	2,285	4,064	3,127	–	9,932	–
Loan portfolio	9,470	33	8	23	–	–	9,534	–
Interest-bearing assets	938,645	589,296	408,321	592,569	176,290	119,551	2,824,672	
Liabilities								
Placements by banks and other financial institutions	–	–	–	–	–	–	–	56,136
Placements by Fiscal Reserves with interest payable at market-based rates¹	9	–	–	–	–	–	9	–
Placements by HKSAR Government funds and statutory bodies with interest payable at market-based rates¹	3,082	–	–	–	–	–	3,082	–
Exchange Fund Bills and Notes issued	260,433	446,504	220,484	19,380	10,569	3,612	960,982	–
Bank loans	7,516	–	–	1,601	2,607	–	11,724	–
Other debt securities issued	5,769	8,858	8,464	7,660	2,098	1,384	34,233	–
Interest-bearing liabilities	276,809	455,362	228,948	28,641	15,274	4,996	1,010,030	
Net interest-bearing assets/(liabilities)	661,836	133,934	179,373	563,928	161,016	114,555	1,814,642	
Interest rate derivatives (net position, notional amounts)	15,320	(30,086)	(7,053)	5,632	10,491	4,055	(1,641)	
Interest rate sensitivity gap	677,156	103,848	172,320	569,560	171,507	118,610	1,813,001	

¹ Placements by Fiscal Reserves, HKSAR Government funds and statutory bodies with interest payable at a fixed rate or a composite rate determined annually are excluded because their interest rates are not determined on the basis of market interest rates (notes 23 and 24). As at 31 December 2016, such placements amounted to HK\$1,213,992 million.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Group – 2015							Non-interest-bearing financial instruments
	Repricing period of interest-bearing financial instruments							
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	Total	
Assets								
Cash and money at call	121,904	–	–	–	–	–	121,904	66,643
Placements with banks and other financial institutions	103,262	10,331	10,268	–	–	–	123,861	19
Financial assets designated at fair value	615,829	470,674	425,812	625,251	194,364	122,485	2,454,415	560,987
Available-for-sale securities	602	1,365	810	1,522	–	–	4,299	100,176
Held-to-maturity securities	177	233	551	5,241	4,072	–	10,274	–
Loan portfolio	11,426	36	13	27	–	–	11,502	–
Interest-bearing assets	853,200	482,639	437,454	632,041	198,436	122,485	2,726,255	
Liabilities								
Placements by banks and other financial institutions	6,243	–	–	–	–	–	6,243	60,664
Placements by Fiscal Reserves with interest payable at market-based rates ¹	4	–	–	–	–	–	4	–
Placements by HKSAR Government funds and statutory bodies with interest payable at market-based rates ¹	65	–	–	–	–	–	65	–
Exchange Fund Bills and Notes issued	185,864	407,366	189,857	28,511	11,172	5,022	827,792	–
Bank loans	8,212	–	–	–	–	3,106	11,318	–
Other debt securities issued	7,031	9,017	6,690	7,564	2,178	983	33,463	–
Interest-bearing liabilities	207,419	416,383	196,547	36,075	13,350	9,111	878,885	
Net interest-bearing assets/(liabilities)	645,781	66,256	240,907	595,966	185,086	113,374	1,847,370	
Interest rate derivatives (net position, notional amounts)	18,675	(30,938)	6,593	(12,507)	11,502	4,800	(1,875)	
Interest rate sensitivity gap	664,456	35,318	247,500	583,459	196,588	118,174	1,845,495	

¹ Placements by Fiscal Reserves, HKSAR Government funds and statutory bodies with interest payable at a fixed rate determined annually are excluded because their interest rates are not determined on the basis of market interest rates (notes 23 and 24). As at 31 December 2015, such placements amounted to HK\$1,114,325 million.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund – 2016							
	Repricing period of interest-bearing financial instruments							Non-interest-bearing financial instruments
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	Total	
Assets								
Cash and money at call	142,199	–	–	–	–	–	142,199	64,755
Placements with banks and other financial institutions	174,338	4,565	809	–	–	–	179,712	–
Financial assets designated at fair value	606,924	569,897	397,370	587,347	173,163	119,551	2,454,252	588,502
Interest-bearing assets	923,461	574,462	398,179	587,347	173,163	119,551	2,776,163	
Liabilities								
Placements by banks and other financial institutions	–	–	–	–	–	–	–	56,136
Placements by Fiscal Reserves with interest payable at market-based rates¹	9	–	–	–	–	–	9	–
Placements by HKSAR Government funds and statutory bodies with interest payable at market-based rates¹	3,082	–	–	–	–	–	3,082	–
Exchange Fund Bills and Notes issued	260,433	446,504	220,484	19,380	10,569	3,612	960,982	–
Interest-bearing liabilities	263,524	446,504	220,484	19,380	10,569	3,612	964,073	
Net interest-bearing assets/(liabilities)	659,937	127,958	177,695	567,967	162,594	115,939	1,812,090	
Interest rate derivatives (net position, notional amounts)	15,506	(17,755)	(15,506)	5,600	8,555	3,600	–	
Interest rate sensitivity gap	675,443	110,203	162,189	573,567	171,149	119,539	1,812,090	

¹ Placements by Fiscal Reserves, HKSAR Government funds and statutory bodies with interest payable at a fixed rate or a composite rate determined annually are excluded because their interest rates are not determined on the basis of market interest rates (notes 23 and 24). As at 31 December 2016, such placements amounted to HK\$1,213,992 million.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund – 2015							Non-interest-bearing financial instruments
	Repricing period of interest-bearing financial instruments						Total	
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years		
Assets								
Cash and money at call	121,368	–	–	–	–	–	121,368	66,467
Placements with banks and other financial institutions	98,837	1,891	1,953	–	–	–	102,681	–
Financial assets designated at fair value	615,829	470,605	425,748	625,251	194,364	122,485	2,454,282	548,338
Interest-bearing assets	836,034	472,496	427,701	625,251	194,364	122,485	2,678,331	
Liabilities								
Placements by banks and other financial institutions	6,243	–	–	–	–	–	6,243	60,664
Placements by Fiscal Reserves with interest payable at market-based rates ¹	4	–	–	–	–	–	4	–
Placements by HKSAR Government funds and statutory bodies with interest payable at market-based rates ¹	65	–	–	–	–	–	65	–
Exchange Fund Bills and Notes issued	185,864	407,366	189,857	28,511	11,172	5,022	827,792	–
Interest-bearing liabilities	192,176	407,366	189,857	28,511	11,172	5,022	834,104	
Net interest-bearing assets/(liabilities)	643,858	65,130	237,844	596,740	183,192	117,463	1,844,227	
Interest rate derivatives (net position, notional amounts)	15,500	(18,253)	–	(11,500)	9,453	4,800	–	
Interest rate sensitivity gap	659,358	46,877	237,844	585,240	192,645	122,263	1,844,227	

¹ Placements by Fiscal Reserves, HKSAR Government funds and statutory bodies with interest payable at a fixed rate determined annually are excluded because their interest rates are not determined on the basis of market interest rates (notes 23 and 24). As at 31 December 2015, such placements amounted to HK\$1,114,325 million.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

(b) Currency risk

The currency exposure of the Group is summarised below:

	Group			
	2016		2015	
	Assets (in HK\$ billion)	Liabilities (in HK\$ billion)	Assets (in HK\$ billion)	Liabilities (in HK\$ billion)
Hong Kong dollar	320.1	2,618.1	258.9	2,503.7
US dollar	3,115.1	490.8	2,813.9	403.2
	3,435.2	3,108.9	3,072.8	2,906.9
Others ¹	310.3	18.5	458.5	25.1
TOTAL	3,745.5	3,127.4	3,531.3	2,932.0

	Fund			
	2016		2015	
	Assets (in HK\$ billion)	Liabilities (in HK\$ billion)	Assets (in HK\$ billion)	Liabilities (in HK\$ billion)
Hong Kong dollar	286.9	2,581.2	222.9	2,475.2
US dollar	3,050.2	490.4	2,767.6	401.8
	3,337.1	3,071.6	2,990.5	2,877.0
Others ¹	281.6	0.6	432.4	1.0
TOTAL	3,618.7	3,072.2	3,422.9	2,878.0

¹ Other currencies included mainly euro, renminbi, pound sterling and Japanese yen.

(c) Equity price risk

As at 31 December 2016 and 2015, the majority of equity investments were reported as “financial assets designated at fair value” as shown in note 9.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.4.4 Sensitivity analysis

The Value-at-Risk positions of the Fund at 31 December and during the year, based on a 95% confidence level and one-month time horizon, were as follows:

	Fund	
	2016	2015
Value-at-Risk		
At 31 December ¹	25,727	30,222
During the year		
Average	33,990	33,136
Maximum	44,479	46,167
Minimum	25,727	23,906

¹ The amount represented 0.8% of the Fund's investments which were subject to VaR measurement as at 31 December 2016 (2015: 0.9%).

35.5 Liquidity risk

Liquidity risk refers to the risk that the Group may not have sufficient funds available to meet its liabilities as they fall due. In addition, the Group may not be able to liquidate its financial assets at a price close to fair value within a short period of time.

35.5.1 Management of liquidity risk

To ensure sufficient liquidity to meet liabilities and the ability to raise funds to meet exceptional needs, the Group invests primarily in liquid financial markets and instruments that are readily saleable to meet liquidity needs. There are internal investment restrictions to prevent undue concentrations in individual debt securities issues, debt securities issuers, and groups of closely related debt securities issuers. Such restrictions are derived based on various factors such as the nature or maturity of the securities. There are also limitations on the maximum proportion of assets that can be placed in fixed term deposits and less liquid assets, and requirements regarding the ability to convert foreign currency assets into cash. All these restrictions and limits are designed to promote the liquidity of assets and consequently minimise the liquidity risk. The liquidity risk for the Exchange Fund investment is monitored on an aggregate basis through appropriate portfolio mix with sufficient liquid assets to offset investments of less liquid assets. Compliance with these limits is monitored by the Risk and Compliance Department and any breaches are reported to the ISC and are promptly followed up.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.5.2 Exposure to liquidity risk

The remaining contractual maturities at the balance sheet date of major financial liabilities, commitments and derivative financial liabilities, which are based on contractual undiscounted cash flows and the earliest date on which the Group can be required to pay, are shown below:

	Group – 2016						Total
	Remaining maturity						
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	
Non-derivative cash outflows							
Certificates of Indebtedness	405,345	–	–	–	–	–	405,345
Government-issued currency notes and coins in circulation	11,928	–	–	–	–	–	11,928
Balance of the banking system	259,593	–	–	–	–	–	259,593
Placements by banks and other financial institutions	–	–	56,136	–	–	–	56,136
Placements by Fiscal Reserves	690,068	–	–	–	224,530	–	914,598
Placements by HKSAR Government funds and statutory bodies	162,573	–	19,600	101,140	19,172	–	302,485
Exchange Fund Bills and Notes issued	260,481	447,074	221,590	20,806	11,101	3,730	964,782
Bank loans	60	19	243	10,246	3,063	–	13,631
Other debt securities issued	2,582	7,867	9,953	11,669	2,316	2,084	36,471
Other liabilities	151,728	4,449	71	104	10,071	–	166,423
Loan commitments, guarantees and other credit related commitments	367,389	–	–	–	–	–	367,389
TOTAL	2,311,747	459,409	307,593	143,965	270,253	5,814	3,498,781
Derivative cash (inflows)/outflows							
Derivative financial instruments settled:							
– on net basis	226	(17)	(67)	172	202	50	566
– on gross basis							
Total outflows	37,341	16,650	22	711	1,154	–	55,878
Total inflows	(37,040)	(15,131)	(34)	(713)	(1,022)	–	(53,940)
TOTAL	527	1,502	(79)	170	334	50	2,504

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Group – 2015						Total
	Remaining maturity						
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	
Non-derivative cash outflows							
Certificates of Indebtedness	357,863	–	–	–	–	–	357,863
Government-issued currency notes and coins in circulation	11,335	–	–	–	–	–	11,335
Balance of the banking system	391,343	–	–	–	–	–	391,343
Placements by banks and other financial institutions	6,243	–	60,664	–	–	–	66,907
Placements by Fiscal Reserves	833,548	–	–	–	–	–	833,548
Placements by HKSAR Government funds and statutory bodies	157,556	–	6,050	82,240	35,000	–	280,846
Exchange Fund Bills and Notes issued	185,863	407,541	190,405	29,893	11,719	5,019	830,440
Bank loans	77	–	445	9,477	612	3,163	13,774
Other debt securities issued	4,151	4,266	9,279	13,610	2,463	1,615	35,384
Other liabilities	112,375	404	9	252	135	–	113,175
Loan commitments, guarantees and other credit related commitments	356,060	–	–	7	–	–	356,067
TOTAL	2,416,414	412,211	266,852	135,479	49,929	9,797	3,290,682
Derivative cash (inflows)/outflows							
Derivative financial instruments settled:							
– on net basis	249	18	(30)	4	49	21	311
– on gross basis							
Total outflows	24,623	38,589	13,735	5,097	758	–	82,802
Total inflows	(24,230)	(38,109)	(13,701)	(3,741)	(665)	–	(80,446)
TOTAL	642	498	4	1,360	142	21	2,667

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund – 2016						Total
	Remaining maturity						
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	
Non-derivative cash outflows							
Certificates of Indebtedness	405,345	–	–	–	–	–	405,345
Government-issued currency notes and coins in circulation	11,928	–	–	–	–	–	11,928
Balance of the banking system	259,593	–	–	–	–	–	259,593
Placements by banks and other financial institutions	–	–	56,136	–	–	–	56,136
Placements by Fiscal Reserves	690,068	–	–	–	224,530	–	914,598
Placements by HKSAR Government funds and statutory bodies	162,573	–	19,600	101,140	19,172	–	302,485
Exchange Fund Bills and Notes issued	260,481	447,074	221,590	20,806	11,101	3,730	964,782
Other liabilities	145,423	4,410	66	–	10,071	–	159,970
Loan commitments and other credit related commitments	262,722	–	–	–	–	–	262,722
TOTAL	2,198,133	451,484	297,392	121,946	264,874	3,730	3,337,559
Derivative cash (inflows)/outflows							
Derivative financial instruments settled:							
– on net basis	223	(25)	(28)	142	174	23	509
– on gross basis							
Total outflows	36,769	11,605	–	–	–	–	48,374
Total inflows	(36,484)	(11,462)	–	–	–	–	(47,946)
TOTAL	508	118	(28)	142	174	23	937

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund – 2015						Total
	Remaining maturity						
	1 month or less	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	10 years or less but over 5 years	Over 10 years	
Non-derivative cash outflows							
Certificates of Indebtedness	357,863	–	–	–	–	–	357,863
Government-issued currency notes and coins in circulation	11,335	–	–	–	–	–	11,335
Balance of the banking system	391,343	–	–	–	–	–	391,343
Placements by banks and other financial institutions	6,243	–	60,664	–	–	–	66,907
Placements by Fiscal Reserves	833,548	–	–	–	–	–	833,548
Placements by HKSAR Government funds and statutory bodies	157,556	–	6,050	82,240	35,000	–	280,846
Exchange Fund Bills and Notes issued	185,863	407,541	190,405	29,893	11,719	5,019	830,440
Other liabilities	106,669	360	8	–	–	–	107,037
Loan commitments and other credit related commitments	262,968	–	–	7	–	–	262,975
TOTAL	2,313,388	407,901	257,127	112,140	46,719	5,019	3,142,294
Derivative cash (inflows)/outflows							
Derivative financial instruments settled:							
– on net basis	248	18	(20)	2	49	21	318
– on gross basis							
Total outflows	21,687	34,461	11,841	–	–	–	67,989
Total inflows	(21,369)	(34,150)	(11,764)	–	–	–	(67,283)
TOTAL	566	329	57	2	49	21	1,024

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

35.6 Insurance risk

The Group provides (i) mortgage insurance cover to authorized institutions in respect of mortgage loans originated by such authorized institutions and secured on residential properties in Hong Kong; (ii) insurance cover to authorized institutions in respect of reverse mortgage loans originated by such authorized institutions to elderly people; (iii) insurance cover to authorized institutions in respect of lump-sum loans to owners of properties of subsidised housing schemes for land premium settlement; and (iv) financial guarantee cover to authorized institutions in respect of loans originated by such authorized institutions to small and medium sized enterprises (SMEs) and non-listed enterprises in Hong Kong. The Group faces insurance risk of the possibility of the insured event occurring and the uncertainty of the amount of the resulting claim.

Under the Mortgage Insurance Programme, the Group, through the HKMC, offers mortgage insurance that covers authorized institutions for first credit losses of up to 30% of the value of properties financed under mortgage loans with loan-to-value ratio 90% or below at origination. The Group reinsures the exposure with approved reinsurers. As at 31 December 2016, the total risk-in-force was HK\$16.8 billion (2015: HK\$13.4 billion), of which HK\$14.1 billion (2015: HK\$11.3 billion) was retained by the Group after reinsurance. The Group also provides financial guarantee cover to authorized institutions up to 50% to 70% of the banking facilities granted to SMEs and non-listed enterprises in Hong Kong, and insurance cover to authorized institutions in respect of reverse mortgage loans originated by such authorized institutions and secured on residential properties, and in respect of lump-sum loans advanced by such authorized institutions to owners of properties of subsidised housing schemes primarily for land premium settlement and secured on these properties. As at 31 December 2016, the total risk-in-force was HK\$4.3 billion (2015: HK\$3.0 billion).

For a portfolio of insurance contracts where the theory of probability is applied to pricing and provisioning, the principal risk that the Group faces under its insurance contracts is that the actual claims exceed the carrying amount of the insurance liabilities. This could occur because the frequency or severity of claims is greater than estimated. Insurance events are random and the actual number and amount of claims and benefits will vary from year to year from the estimate established using statistical techniques.

Experience shows that the larger the portfolio of similar insurance contracts, the smaller the relative variability about the expected outcome will be. In addition, a more diversified portfolio is less likely to be affected across the board by a change in any subset of the portfolio. The Group has developed a business strategy to diversify the type of insurance risks accepted and within each of the key categories to achieve a sufficiently large population of risks to reduce the variability of the expected outcome.

The frequency and severity of claims can be affected by several factors. The most significant factors are a downturn in the economy, a slump in local property market and a low mortality rate of reverse mortgage borrowers. Economic downturn, which may cause a rise in defaulted payment, affects the frequency of claims and collateral value. A drop in property prices, where the collateral values fall below the outstanding balance of the mortgage loans, will increase the severity of claims. Low mortality rate of reverse mortgage borrowers means longer payout period and larger loan balance will be over time. This will affect the frequency and severity of claims as there is a risk of the property value being insufficient to cover the outstanding loan balance in the future.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The Group manages these risks by adopting a set of prudent insurance underwriting eligibility criteria. To ensure sufficient provision is set aside for meeting future claim payments, the Group calculates technical reserves on prudent liability valuation assumptions and the methods prescribed in the regulatory guidelines. The Group also takes out quota-share reinsurance from its approved mortgage reinsurers in an effort to limit its risk exposure under the mortgage insurance business. The reinsurers are selected according to prudent criteria and their credit ratings are reviewed regularly. For financial guarantee cover provided to authorized institutions, the Group relies on the lenders' prudent credit assessment on the borrowers to mitigate default risk and any loss in the loan facility will be shared proportionately between the Group and the lender on a pari passu basis to minimise moral hazards. The mortality assumptions of reverse mortgages are also reviewed on a regular basis, to assess the risk of larger deviation between the actual and expected operating results.

35.7 Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk is inherent in all aspects of the Group's operations covering all business segments.

The Group's objective is to cost-effectively manage operational risk to prevent financial losses or damage to the Group's reputation.

The primary responsibility for the development and implementation of controls to address operational risk rests with line management, with oversight by an internal high-level Risk Committee. The Committee is chaired by the Chief Executive of the HKMA with the two Deputy Chief Executives and a Senior Executive Director as members. The Risk Committee provides direction and guidance for line management in managing operational risk.

Operational risk management is supported by a formal risk assessment process. This is conducted annually and supplemented with quarterly updates. It requires each division to assess and rank the potential impact and likelihood of occurrence of financial and operational risks. It also requires divisions to review the procedures and controls in place for addressing the identified risks. This risk and control self-assessment is reviewed by Internal Audit to ensure consistency and reasonableness before submission to the Risk Committee, which has the responsibility for ensuring that the identified risks are properly addressed. Results of this risk assessment also form the basis for the development of an annual Internal Audit work plan. Internal Audit will audit the risk areas at various frequencies depending on the levels of risks and the results of past audits. It reports its findings regularly to the EFAC Audit Sub-Committee and the Chief Executive of the HKMA and follows up on outstanding issues to ensure that they are resolved in a proper manner.

Operational risk is also inherent in the investment activities and processes of the Reserves Management Department. To enhance its operational risk oversight, the Risk and Compliance Department formalised its operational risk management framework for the Reserves Management Department. The key elements of the framework include identification and monitoring of key risk indicators; reporting to the senior management of the HKMA on the operational risk profile of the Reserves Management Department; and handling of operational risk incidents and issue monthly operational risk reports to relevant senior executives.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

36 FAIR VALUE MEASUREMENT OF FINANCIAL INSTRUMENTS

36.1 Fair value of financial instruments measured at fair value on a recurring basis

36.1.1 Fair value hierarchy

The carrying values of financial instruments measured at fair value at the balance sheet date across the three levels of the fair value hierarchy are shown below:

	Group – 2016			
	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value				
Treasury bills and commercial paper	380,287	604,199	–	984,486
Certificates of deposit	–	80,190	–	80,190
Other debt securities	1,336,056	65,421	12,755	1,414,232
Equity securities	453,872	85,963	38,613	578,448
	2,170,215	835,773	51,368	3,057,356
Available-for-sale securities				
Debt securities	5,336	650	–	5,986
Equity securities	992	–	–	992
Investment funds	–	860	124,518	125,378
	6,328	1,510	124,518	132,356
Derivative financial instruments	226	9,037	–	9,263
	2,176,769	846,320	175,886	3,198,975
Liabilities				
Exchange Fund Bills and Notes issued	–	960,982	–	960,982
Derivative financial instruments	223	2,635	–	2,858
Other debt securities issued, designated at fair value	–	137	–	137
	223	963,754	–	963,977

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Group – 2015			Total
	Level 1	Level 2	Level 3	
Assets				
Financial assets designated at fair value				
Treasury bills and commercial paper	474,488	483,517	–	958,005
Certificates of deposit	–	56,357	–	56,357
Other debt securities	1,390,804	56,846	11,281	1,458,931
Equity securities	456,636	49,405	36,068	542,109
	2,321,928	646,125	47,349	3,015,402
Available-for-sale securities				
Debt securities	3,690	2,035	–	5,725
Equity securities	913	–	–	913
Investment funds	–	–	97,344	97,344
	4,603	2,035	97,344	103,982
Derivative financial instruments	534	5,297	–	5,831
	2,327,065	653,457	144,693	3,125,215
Liabilities				
Exchange Fund Bills and Notes issued	–	827,792	–	827,792
Derivative financial instruments	248	3,008	–	3,256
Other debt securities issued, designated at fair value	–	343	–	343
	248	831,143	–	831,391

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

	Fund – 2016			
	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value				
Treasury bills and commercial paper	380,287	604,199	–	984,486
Certificates of deposit	–	80,190	–	80,190
Other debt securities	1,336,056	65,421	–	1,401,477
Equity securities	453,872	85,963	36,766	576,601
	2,170,215	835,773	36,766	3,042,754
Derivative financial instruments	226	8,792	–	9,018
	2,170,441	844,565	36,766	3,051,772
Liabilities				
Exchange Fund Bills and Notes issued	–	960,982	–	960,982
Derivative financial instruments	223	706	–	929
	223	961,688	–	961,911

	Fund – 2015			
	Level 1	Level 2	Level 3	Total
Assets				
Financial assets designated at fair value				
Treasury bills and commercial paper	474,488	483,517	–	958,005
Certificates of deposit	–	56,357	–	56,357
Other debt securities	1,390,804	56,833	–	1,447,637
Equity securities	456,636	49,405	34,580	540,621
	2,321,928	646,112	34,580	3,002,620
Derivative financial instruments	534	4,823	–	5,357
	2,322,462	650,935	34,580	3,007,977
Liabilities				
Exchange Fund Bills and Notes issued	–	827,792	–	827,792
Derivative financial instruments	248	854	–	1,102
	248	828,646	–	828,894

The Group's policy is to recognise transfers between levels of fair value hierarchy as at the end of the reporting period in which they occur. During the year, there were no transfers of financial instruments between Level 1 and Level 2 of the fair value hierarchy.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

An analysis of the movement between opening and closing balances of Level 3 assets, measured at fair value using a valuation technique with significant unobservable inputs, is shown below:

	Group					
	Designated at fair value		Available-for-sale		Derivatives	
	2016	2015	2016	2015	2016	2015
At 1 January	47,349	37,694	97,344	81,929	–	127
Net gains/(losses) recognised in the income and expenditure account	2,653	(1,899)	–	–	–	(127)
Net gains/(losses) recognised in other comprehensive income	–	–	4,236	(3,811)	–	–
Purchases	13,807	20,548	33,366	28,708	–	–
Sales	(12,707)	(9,445)	(10,428)	(9,482)	–	–
Transfers into Level 3	2,070	1,062	–	–	–	–
Transfers out of Level 3	(1,804)	(611)	–	–	–	–
At 31 December	51,368	47,349	124,518	97,344	–	–
Net gains/(losses) recognised in the income and expenditure account relating to those assets held at the balance sheet date	2,779	(1,724)	–	–	–	–

	Fund			
	Designated at fair value		Available-for-sale	
	2016	2015	2016	2015
At 1 January	34,580	25,908	–	–
Net gains/(losses) recognised in the income and expenditure account	1,622	(481)	–	–
Purchases	9,756	16,397	–	–
Sales	(9,458)	(7,695)	–	–
Transfers into Level 3	2,070	1,062	–	–
Transfers out of Level 3	(1,804)	(611)	–	–
At 31 December	36,766	34,580	–	–
Net gains/(losses) recognised in the income and expenditure account relating to those assets held at the balance sheet date	1,737	(306)	–	–

During the year, certain financial instruments were transferred between Level 2 and Level 3 of the fair value hierarchy reflecting changes in transparency of observable market data for these instruments.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

36.1.2 Valuation techniques and key inputs

The fair value of financial instruments classified under Level 1 is based on quoted market prices in active markets for identical assets or liabilities at the balance sheet date.

In the absence of quoted market prices in active markets, the fair value of financial instruments classified under Level 2 is estimated using present value or other valuation techniques, using inputs based on market conditions existing at the balance sheet date. Specific valuation techniques and key inputs used to value these financial instruments include:

- i) quoted market price or broker quotes for similar instruments;
- ii) derivative financial instruments are priced using models with observable market inputs including interest rate swaps and foreign exchange contracts; and
- iii) commercial paper and debt securities are priced using discounted cash flow techniques with observable yield curves.

For investments in unlisted investment funds, certain unlisted equity securities and certain unlisted debt securities which are classified under Level 3, their fair values are estimated by making reference to valuation reports provided by investment managers. It is not practicable to quote a range of key unobservable inputs.

For certain unlisted equity securities valued by the Group, which are classified under Level 3, their fair values are derived from Comparable Company Valuation Model, which derives the valuation of an investment through the product of its earnings, earning multiples of comparable public companies and a discount factor for a lack of liquidity. Significant unobservable inputs used under this valuation method include earning multiples of similar companies and liquidity discount:

Significant unobservable inputs	Quantitative amount	
	2016	2015
Earning multiples of similar companies	5.6–13.2	5.1–13.8
Liquidity discount	20%	20%

If the prices of these investments had increased/decreased by 10%, it would have resulted in an increase/decrease in the Group's surplus for the year of HK\$5,137 million (2015: HK\$4,735 million) and in other comprehensive income of HK\$12,452 million (2015: HK\$9,734 million).

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

36.2 Fair value of debt securities not measured at fair value on a recurring basis

The fair values of held-to-maturity securities and other debt securities issued that were not designated at fair value are shown below:

	Note	Group – 2016			Total
		Carrying value	Fair value		
			Level 1	Level 2	
Financial assets					
Held-to-maturity securities	12	9,932	9,829	300	10,129
Financial liabilities					
Other debt securities issued	27	34,096	–	34,169	34,169

	Note	Group – 2015			Total
		Carrying value	Fair value		
			Level 1	Level 2	
Financial assets					
Held-to-maturity securities	12	10,274	10,206	300	10,506
Financial liabilities					
Other debt securities issued	27	33,120	–	33,335	33,335

In the absence of quoted market prices in active markets, the fair values of debt securities classified under Level 2 are estimated using present value or other valuation techniques, using inputs based on market conditions existing at the balance sheet date. Specific valuation techniques and key inputs used to value these debt securities include quoted market prices for securities with similar credit, maturity and yield characteristics for held-to-maturity securities, discounted cash flow model based on a current yield curve appropriate for the remaining term to maturity for other debt securities issued.

All other financial instruments of the Group and the Fund are stated at fair value or carried at amounts not materially different from their fair values as at 31 December 2016 and 2015.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

37 POSSIBLE IMPACT OF AMENDMENTS, NEW STANDARDS AND INTERPRETATIONS ISSUED BUT NOT YET EFFECTIVE FOR THE YEAR ENDED 31 DECEMBER 2016

Up to the date of issue of these financial statements, the HKICPA has issued a number of amendments and new standards which are not yet effective for the year ended 31 December 2016 and which have not been adopted in these financial statements. The Group is in the process of making an assessment of what the impact of these amendments and new standards is expected to be in the period of initial adoption. So far, the Group expects that the adoption of the following, which are relevant to the Group, is unlikely to have a significant effect on its financial statements:

	Effective for accounting periods beginning on or after
HKFRS 9 "Financial Instruments"	1 January 2018
HKFRS 16 "Leases"	1 January 2019

HKFRS 9 "Financial Instruments"

HKFRS 9 addresses the classification, measurement and recognition of financial assets and financial liabilities, and introduces new rules for hedge accounting and a new impairment model for financial assets. It replaces HKAS 39 "Financial Instruments: Recognition and Measurement". HKFRS 9 retains but simplifies the mixed measurement model and establishes three primary categories for measuring financial assets: (1) amortised cost, (2) fair value through other comprehensive income (FVOCI) and (3) fair value through profit or loss (FVTPL). The basis of classification depends on the entity's business model and contractual cash flow characteristics of the financial assets. Investment in equity instruments are required to be measured at FVTPL with the irrevocable option at inception to present changes in fair value in other comprehensive income without the possibility to recycle these results to the income and expenditure account. For financial liabilities there are no changes to classification and measurement except that, in respect of liabilities designated at FVTPL, any changes in fair value due to a change in own credit risk should be recognised in other comprehensive income. The Group expects that these new requirements will not have any significant impact on the classification and measurement of its financial assets and financial liabilities, except that the financial assets currently designated as available-for-sale securities (note 10) will be classified as at either FVTPL or FVOCI under HKFRS 9, based on the Group's business model and their contractual cash flow characteristics.

HKFRS 9 introduces a new expected credit loss model to replace the incurred loss impairment model used in HKAS 39. It applies to financial assets classified at amortised cost, debt instruments measured at FVOCI, lease receivables, loan commitments and certain financial guarantee contracts. The Group is currently refining its impairment loss estimation methodology to quantify the impact on its financial statements.

HKFRS 9 relaxes the requirements for hedge effectiveness by replacing the bright line hedge effectiveness tests and adopting a more principles-based approach. It requires an economic relationship between the hedged item and the hedging instrument and for the hedged ratio to be the same as the one management actually use for risk management purposes. Contemporaneous documentation is still required but is different to that currently prepared under HKAS 39. The Group expects that the current hedge relationships would qualify as continuing hedges under HKFRS 9.

HKFRS 9 also introduces expanded disclosure requirements and changes in presentation. These are expected to change the nature and extent of the Group's disclosures about its financial instruments particularly in the year of the adoption of the new standard.

Exchange Fund – Notes to the Financial Statements (continued)

(Amounts expressed in millions of Hong Kong dollars, unless otherwise stated.)

The new standard is effective for financial years beginning on or after 1 January 2018 with an early adoption permitted. The Group plans to adopt the standard when it becomes effective in 2018 without restating comparative information and is gathering data to quantify the potential impact arising from adoption.

HKFRS 16 “Leases”

HKFRS 16 sets out the principles for the recognition, measurement, presentation and disclosure of leases. It will supersede HKAS 17 related to leases. It introduces a single lessee accounting model and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. Under HKFRS 16, a lessee is required to recognise a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. Accordingly, a lessee should recognise depreciation of the right-of-use asset and interest on the lease liability. The right-of-use asset and the lease liability are initially measured on a present value basis. The measurement includes non-cancellable lease payments and payments to be made in optional periods if the lessee is reasonably certain to exercise an option to extend the lease. In respect of the lessor accounting, HKFRS 16 substantially carries forward the lessor accounting requirements in HKAS 17.

HKFRS 16 will primarily affect the Group’s accounting as a lessee of leases for premises which are currently classified as operating leases. The application of the new accounting model is expected to lead to an increase in both assets and liabilities and to impact on the timing of the expense recognition in the income and expenditure account over the period of the leases. As disclosed in note 32(i), the Group’s future minimum lease payments under non-cancellable operating leases of premises amounted to HK\$282 million as at 31 December 2016. The Group has yet to assess the impact of the standard on its financial statements. The new standard is mandatory for financial years beginning on or after 1 January 2019. At this stage, the Group does not intend to adopt the standard before its effective date.

38 APPROVAL OF FINANCIAL STATEMENTS

The financial statements were approved by the Financial Secretary on the advice of the Exchange Fund Advisory Committee on 7 April 2017.

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Annex Authorized Institutions and Local Representative Offices

at 31 December 2016

LICENSED BANKS

Incorporated in Hong Kong

Bank of China (Hong Kong) Limited	CITIBANK (HONG KONG) LIMITED	Nanyang Commercial Bank, Limited
BANK OF COMMUNICATIONS (HONG KONG) LIMITED	DAH SING BANK, LIMITED	OCBC Wing Hang Bank Limited
Bank of East Asia, Limited (The)	DBS BANK (HONG KONG) LIMITED	PUBLIC BANK (HONG KONG) LIMITED
China CITIC Bank International Limited	FUBON BANK (HONG KONG) LIMITED	Shanghai Commercial Bank Limited
China Construction Bank (Asia) Corporation Limited	Hang Seng Bank, Limited	Standard Chartered Bank (Hong Kong) Limited
Chiyu Banking Corporation Limited	Hongkong and Shanghai Banking Corporation Limited (The)	Tai Sang Bank Limited
Chong Hing Bank Limited	Industrial and Commercial Bank of China (Asia) Limited	Tai Yau Bank, Limited
		Wing Lung Bank Limited

Incorporated outside Hong Kong

ABN AMRO Bank N.V.	BANK SINOPAC	China Merchants Bank Co., Ltd.
AGRICULTURAL BANK OF CHINA LIMITED	Barclays Bank PLC	CHINA MINSHENG BANKING CORP., LTD.
Allahabad Bank	BDO UNIBANK, INC. also known as: BDO BDO Unibank Banco De Oro Banco De Oro Unibank BDO Banco De Oro	Chugoku Bank, Ltd. (The)
Australia and New Zealand Banking Group Limited		CIMB Bank Berhad
Axis Bank Limited		Citibank, N.A.
Banca Monte dei Paschi di Siena S.p.A.		Commerzbank AG
Banco Bilbao Vizcaya Argentaria S.A.		Commonwealth Bank of Australia
BANCO SANTANDER, S.A.	BNP PARIBAS	Coöperatieve Rabobank U.A. (formerly known as Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A.)
Bangkok Bank Public Company Limited	BNP PARIBAS SECURITIES SERVICES BSI LTD also known as: BSI AG BSI SA	Coutts & Co AG also known as: Coutts & Co SA Coutts & Co Ltd
Bank J. Safra Sarasin AG also known as: Banque J. Safra Sarasin SA Banca J. Safra Sarasin SA Bank J. Safra Sarasin Ltd	CA Indosuez (Switzerland) SA (formerly known as Crédit Agricole (Suisse) SA)	CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK
Bank Julius Baer & Co. Ltd.	Canadian Imperial Bank of Commerce	CREDIT INDUSTRIEL ET COMMERCIAL [#]
Bank of America, National Association	CANARA BANK	Credit Suisse AG
Bank of Baroda	CATHAY BANK	CTBC Bank Co., Ltd
Bank of China Limited	CATHAY UNITED BANK COMPANY, LIMITED	DBS BANK LTD.
Bank of Communications Co., Ltd.	Chang Hwa Commercial Bank, Ltd.	Deutsche Bank Aktiengesellschaft
Bank of India	Chiba Bank, Ltd. (The)	DZ BANK AG Deutsche Zentral- Genossenschaftsbank, Frankfurt am Main
Bank of Montreal	China Construction Bank Corporation	E.Sun Commercial Bank, Ltd.
BANK OF NEW YORK MELLON (THE)	CHINA DEVELOPMENT BANK CORPORATION	EAST WEST BANK
Bank of Nova Scotia (The)	China Everbright Bank Co., Ltd.	Edmond de Rothschild (Suisse) S.A.
BANK OF SINGAPORE LIMITED		
BANK OF TAIWAN		
Bank of Tokyo-Mitsubishi UFJ, Ltd. (The)		

[#] Addition in 2016

Annex Authorized Institutions and Local Representative Offices

at 31 December 2016 (continued)

EFG Bank AG also known as: EFG Bank SA EFG Bank Ltd	MEGA INTERNATIONAL COMMERCIAL BANK CO., LTD.	Taiwan Business Bank
ERSTE GROUP BANK AG	MELLI BANK PLC	Taiwan Cooperative Bank, Ltd.
FAR EASTERN INTERNATIONAL BANK	Mitsubishi UFJ Trust and Banking Corporation	Taiwan Shin Kong Commercial Bank Co., Ltd.
First Commercial Bank, Ltd.	Mizuho Bank, Ltd.	Toronto-Dominion Bank
Hachijuni Bank, Ltd. (The)	National Australia Bank Limited	UBS AG
HDFC BANK LIMITED	NATIONAL BANK OF ABU DHABI	UCO Bank
HONG LEONG BANK BERHAD	National Bank of Pakistan	UniCredit Bank AG
HSBC BANK INTERNATIONAL LIMITED	NATIXIS	UNION BANCAIRE PRIVÉE, UBP SA [#] also known as UNITED PRIVATE BANK, UBP LTD
HSBC Bank plc	Oversea-Chinese Banking Corporation Limited	Union Bank of India
HSBC Bank USA, National Association	Philippine National Bank	United Overseas Bank Ltd.
HSBC Private Bank (Suisse) SA	Pictet & Cie (Europe) S.A.	Wells Fargo Bank, National Association
Hua Nan Commercial Bank, Ltd.	Portigon AG	Westpac Banking Corporation
ICBC STANDARD BANK PLC	PT. Bank Negara Indonesia (Persero) Tbk.	Woori Bank
ICICI BANK LIMITED	Punjab National Bank	
Indian Overseas Bank	Royal Bank of Canada	
Industrial and Commercial Bank of China Limited	Royal Bank of Scotland N.V. (The)	
Industrial Bank Co., Ltd.	Royal Bank of Scotland public limited company (The)	Deletion in 2016
Industrial Bank of Korea	Shanghai Commercial & Savings Bank, Ltd. (The)	BNP PARIBAS WEALTH MANAGEMENT
Industrial Bank of Taiwan Co., Ltd.	Shanghai Pudong Development Bank Co., Ltd.	Falcon Private Bank AG also known as: Falcon Private Bank Ltd. Falcon Private Bank SA
ING Bank N.V.	Shiga Bank, Ltd. (The)	Raiffeisen Bank International AG
INTESA SANPAOLO SPA	Shinhan Bank	SOCIETE GENERALE BANK & TRUST
Iyo Bank, Ltd. (The)	Shizuoka Bank, Ltd. (The)	
JPMorgan Chase Bank, National Association	Skandinaviska Enskilda Banken AB	
KBC Bank N.V.	Societe Generale	
KEB Hana Bank	Standard Chartered Bank	
Kookmin Bank [#]	State Bank of India	
Land Bank of Taiwan Co., Ltd.	State Street Bank and Trust Company	
LGT Bank AG also known as: LGT Bank Ltd. LGT Bank SA	Sumitomo Mitsui Banking Corporation	
MACQUARIE BANK LIMITED	Sumitomo Mitsui Trust Bank, Limited	
Malayan Banking Berhad	Svenska Handelsbanken AB (publ)	
Mashreq Bank–Public Shareholding Company also known as Mashreqbank psc	Ta Chong Bank, Ltd.	
	TAIPEI FUBON COMMERCIAL BANK CO., LTD.	
	TAISHIN INTERNATIONAL BANK CO., LTD	

[#] Addition in 2016

Annex Authorized Institutions and Local Representative Offices

at 31 December 2016 (continued)

RESTRICTED LICENCE BANKS

Incorporated in Hong Kong

ALLIED BANKING CORPORATION (HONG KONG) LIMITED	J.P. MORGAN SECURITIES (ASIA PACIFIC) LIMITED	SCOTIABANK (HONG KONG) LIMITED
Banc of America Securities Asia Limited	KDB Asia Limited	Societe Generale Asia Limited
Bank of China International Limited	KOOKMIN BANK HONG KONG LIMITED	UBAF (Hong Kong) Limited
Bank of Shanghai (Hong Kong) Limited	Morgan Stanley Asia International Limited	
Citicorp International Limited	Nippon Wealth Limited	Deletion in 2016
Goldman Sachs Asia Bank Limited (formerly known as Goldman Sachs Asia Pacific Company Limited)	ORIX ASIA LIMITED	RBC Capital Markets (Hong Kong) Limited
Habib Bank Zurich (Hong Kong) Limited		

Incorporated outside Hong Kong

Bank of Ayudhya Public Company Limited	Siam Commercial Bank Public Company Limited (The)	
EUROCLEAR BANK	Thanakharn Kasikorn Thai Chamkat (Mahachon)	Deletion in 2016
PT. BANK MANDIRI (PERSERO) Tbk	also known as KASIKORNBANK PUBLIC COMPANY LIMITED	MORGAN STANLEY (SWITZERLAND) AG
RBC Investor Services Bank S.A.		

Annex Authorized Institutions and Local Representative Offices

at 31 December 2016 (continued)

DEPOSIT-TAKING COMPANIES

Incorporated in Hong Kong

BCOM Finance (Hong Kong) Limited

BPI International Finance Limited

Chau's Brothers Finance Company Limited

Chong Hing Finance Limited

Commonwealth Finance Corporation Limited

Corporate Finance (D.T.C.) Limited

FUBON CREDIT (HONG KONG) LIMITED

Gunma Finance (Hong Kong) Limited

Habib Finance International Limited

Henderson International Finance Limited

HKCB Finance Limited

KEB Hana Global Finance Limited

KEXIM ASIA LIMITED

PUBLIC FINANCE LIMITED

SHINHAN ASIA LIMITED

Vietnam Finance Company Limited

WOORI GLOBAL MARKETS ASIA LIMITED

Deletion in 2016

OCTOPUS CARDS LIMITED

Incorporated outside Hong Kong

NIL

Annex Authorized Institutions and Local Representative Offices

at 31 December 2016 (continued)

LOCAL REPRESENTATIVE OFFICES

AS Expobank	Investec Bank Limited	Shinkin Central Bank
Ashikaga Bank, Ltd. (The)	JAPAN POST BANK CO., LTD.	Shoko Chukin Bank, Ltd. (The)
Banco Popolare-Societa' Cooperativa	JIH SUN INTERNATIONAL Bank, Ltd.	Silicon Valley Bank
Banco Security	Juroku Bank, Ltd. (The)	Standard Bank of South Africa Limited (The)
BANK OF BEIJING CO., LTD.	Korea Development Bank (The)	Swissquote Bank SA also known as: Swissquote Bank AG Swissquote Bank Inc. Swissquote Bank Ltd
BANK OF DONGGUAN CO., LTD.	Manulife Bank of Canada	Union Bank of Taiwan
Bank of Fukuoka, Ltd. (The)	Metropolitan Bank and Trust Company	Unione di Banche Italiane S.p.A.
Bank of Kyoto, Ltd. (The)	Nanto Bank, Ltd. (The)	VP Bank Ltd also known as: VP Bank AG VP Bank SA
Bank of Yokohama, Ltd. (The)	National Bank of Canada	Yamaguchi Bank, Ltd. (The)
Banque Cantonale de Genève	Nishi-Nippon City Bank, Ltd. (The)	Yamanashi Chuo Bank, Ltd.
Banque Transatlantique S.A.	Norinchukin Bank (The)	Yuanta Commercial Bank Co., Ltd
CAIXABANK S.A.†	Ogaki Kyoritsu Bank, Ltd. (The)	
Central Bank of India	Oita Bank, Ltd. (The)	
CHINA BOHAI BANK CO., LTD.	P.T. Bank Central Asia	
CHINA GUANGFA BANK CO., LTD.	P.T. Bank Rakyat Indonesia (Persero)	
CLEARSTREAM BANKING S.A.	Ping An Bank Co., Ltd.	
Corporation Bank	Resona Bank, Limited	
Doha Bank Q.S.C.	Rothschild Bank AG	
Dukascopy Bank SA	Schroder & Co Bank AG also known as: Schroder & Co Banque SA Schroder & Co Banca SA Schroder & Co Bank Ltd Schroder & Co Banco SA	Deletion in 2016 BANCA POPOLARE COMMERCIO E INDUSTRIA SPA Banca Popolare dell'Emilia Romagna Soc. Coop. a r.l. Banca Popolare di Ancona Societa' per azioni Banca Popolare di Bergamo S.p.A. Banca Popolare di Sondrio Soc. Coop. a r.l. BANCA POPOLARE DI VICENZA SOCIETA' PER AZIONI (formerly known as BANCA POPOLARE DI VICENZA–Società cooperativa per azioni) Banca Regionale Europea S.p.A. Banco di Brescia S.p.A. BANQUE DEGROOF PETERCAM LUXEMBOURG S.A. (formerly known as BANQUE DEGROOF LUXEMBOURG S.A.) Credit Industriel et Commercial Fiduciary Trust Company International Veneto Banca S.c.a.r.l.
Export-Import Bank of China (The)† also known as China Exim Bank		
FIRST GULF BANK		
Habib Bank A.G. Zurich		
HSB Nordbank AG		
HUA XIA BANK CO., Limited		

† Addition in 2016

Table A Major Economic Indicators

	2012	2013	2014	2015	2016
I. Gross Domestic Product					
Real GDP growth (%)	1.7	3.1	2.8	2.4	1.9 ^(a)
Nominal GDP growth (%)	5.3	5.0	5.7	6.1	3.8 ^(a)
Real growth of major expenditure components of GDP (%)					
– Private consumption expenditure	4.1	4.6	3.3	4.8	1.6 ^(a)
– Government consumption expenditure	3.6	2.7	3.1	3.5	3.3 ^(a)
– Gross domestic fixed capital formation of which	6.8	2.6	(0.1)	(3.2)	(0.5) ^(a)
– Building and construction	7.2	(4.3)	9.3	2.2	3.6 ^(a)
– Machinery, equipment and computer software	10.2	11.3	(8.7)	(7.7)	(4.6) ^(a)
– Exports ^(b)	3.2	7.8	1.0	(1.4)	0.9 ^(a)
– Imports ^(b)	4.2	8.3	1.0	(1.8)	1.2 ^(a)
GDP at current market prices (US\$ billion)	262.6	275.7	291.5	309.4	320.7 ^(a)
Per capita GDP at current market prices (US\$)	36,731	38,404	40,316	42,434	43,709 ^(a)
II. External Trade (HK\$ billion) ^(b)					
Trade in goods ^(c)					
– Exports of goods	3,633.0	3,926.1	3,986.8	3,889.2	3,900.2 ^(a)
– Imports of goods	3,779.7	4,142.7	4,237.7	4,066.5	4,036.2 ^(a)
– Balance of trade in goods	(146.7)	(216.6)	(250.9)	(177.3)	(136.0) ^(a)
Trade in services					
– Exports of services	764.0	812.6	829.1	808.9	764.0 ^(a)
– Imports of services	594.3	583.2	573.5	574.3	578.0 ^(a)
– Balance of trade in services	169.8	229.4	255.6	234.6	186.1 ^(a)
III. Fiscal Expenditure and Revenue (HK\$ million, fiscal year)					
Total government expenditure ^(d)	377,324	433,543	405,871	435,633	466,686 ^(a)
Total government revenue	442,150	455,346	478,668	450,007	559,521 ^(a)
Consolidated surplus/deficit	64,825	21,803	72,797	14,374	92,835 ^(a)
Reserve balance as at end of fiscal year ^(e)	733,914	755,717	828,514	842,888	935,723 ^(a)
IV. Prices (annual change, %)					
Consumer Price Index (A)	3.6	5.1	5.6	4.0	2.8
Composite Consumer Price Index	4.1	4.3	4.4	3.0	2.4
Trade Unit Value Indices					
– Domestic exports	2.4	2.5	0.2	(3.0)	(1.4)
– Re-exports	3.4	1.3	2.0	0.1	(1.7)
– Imports	3.3	0.9	1.9	(0.4)	(1.7)
Property Price Indices					
– Residential flats	13.3	17.5	6.0	15.5	(3.6) ^(a)
– Office premises	12.3	22.5	3.2	6.1	(5.1) ^(a)
– Retail premises	28.5	20.5	2.8	7.4	(5.9) ^(a)
– Flatted factory premises	27.2	33.8	1.9	8.4	(4.4) ^(a)

Table A Major Economic Indicators (continued)

	2012	2013	2014	2015	2016
V. Labour					
Labour force (annual change, %)	2.1	1.9	0.4	0.8	0.4
Employment (annual change, %)	2.3	1.8	0.5	0.8	0.4
Unemployment rate (annual average, %)	3.3	3.4	3.3	3.3	3.4
Underemployment rate (annual average, %)	1.5	1.5	1.5	1.4	1.4
Employment ('000)	3,658	3,724	3,744	3,774	3,787
VI. Money Supply (HK\$ billion)					
HK\$ money supply					
– M1	920.9	1,000.3	1,116.7	1,253.4	1,428.8
– M2 ^(f)	4,537.4	4,795.1	5,225.8	5,765.5	6,280.2
– M3 ^(f)	4,545.6	4,806.0	5,236.2	5,778.8	6,292.6
Total money supply					
– M1	1,377.4	1,510.9	1,708.7	1,971.1	2,214.0
– M2	8,950.0	10,056.4	11,011.4	11,618.4	12,508.0
– M3	8,970.4	10,085.2	11,048.9	11,655.0	12,551.2
VII. Interest Rates (end of period, %)					
Three-month interbank rate ^(g)	0.40	0.38	0.38	0.39	1.02
Savings deposit	0.01	0.01	0.01	0.01	0.01
One-month time deposit	0.01	0.01	0.01	0.01	0.01
Banks' 'Best lending rate'	5.00	5.00	5.00	5.00	5.00
Banks' 'Composite rate'	0.32	0.39	0.39	0.26	0.31
VIII. Exchange Rates (end of period)					
HK\$/US\$	7.751	7.754	7.756	7.751	7.754
Trade-weighted Effective Exchange Rate Index (Jan 2010=100)	94.2	94.8	99.0	104.9	108.8
IX. Foreign Currency Reserve Assets (US\$ billion) ^(h)	317.4	311.2	328.5	358.8	386.3
X. Stock Market (end of period figures)					
Hang Seng Index	22,657	23,306	23,605	21,914	22,001
Average price/earnings ratio	10.5	11.2	10.9	9.9	10.5
Market capitalisation (HK\$ billion)	21,871.7	23,908.8	24,892.4	24,425.6	24,450.4

(a) The estimates are preliminary.

(b) Compiled based on the change of ownership principle in recording goods sent abroad for processing and merchandising.

(c) Includes non-monetary gold.

(d) Includes repayment of bonds and notes issued in July 2004.

(e) Includes changes in provision for loss in investments with the Exchange Fund.

(f) Adjusted to include foreign currency swap deposits.

(g) Refers to three-month Hong Kong Dollar Interest Settlement Rates.

(h) Excludes unsettled forward transactions but includes gold.

Table B Performance Ratios of the Banking Sector ^(a)

	2012 %	2013 %	All Authorized Institutions		2016 %
	2014 %	2015 %			
Asset Quality ^(b)					
As % of total credit exposures ^(c)					
Total outstanding provisions/impairment allowances	0.39	0.35	0.38	0.44	0.49
Classified ^(d) exposures:					
– Gross	0.40	0.36	0.38	0.49	0.58
– Net of specific provisions/individual impairment allowances	0.24	0.22	0.23	0.31	0.34
– Net of all provisions/impairment allowances	0.01	0.00	0.00	0.05	0.09
As % of total loans ^(e)					
Total outstanding provisions/impairment allowances	0.60	0.55	0.55	0.66	0.76
Classified ^(d) loans:					
– Gross	0.58	0.54	0.52	0.73	0.85
– Net of specific provisions/individual impairment allowances	0.35	0.35	0.32	0.46	0.50
– Net of all provisions/impairment allowances	(0.02)	(0.01)	(0.03)	0.07	0.10
Overdue > 3 months and rescheduled loans ^(e)	0.42	0.36	0.34	0.47	0.67
Profitability					
Return on assets (operating profit)	0.84	1.03	0.97	0.88	0.82
Return on assets (post-tax profit)	0.74	1.05	0.81	0.83	1.01
Net interest margin	1.08	1.12	1.14	1.07	1.04
Cost-to-income ratio	54.8	49.1	48.9	50.3	50.2
Loan impairment charges to total assets	0.08	0.06	0.06	0.09	0.10
Liquidity					
Loan to deposit ratio (all currencies)	67.1	70.3	72.2	70.1	68.4
Loan to deposit ^(f) ratio (Hong Kong dollar)	79.8	82.1	83.3	78.2	77.1
Asset Quality					
Delinquency ratio of residential mortgage loans					
Credit card receivables					
– Delinquency ratio					
– Charge-off ratio					
Profitability					
Operating profit to shareholders' funds					
Post-tax profit to shareholders' funds					
Capital Adequacy					
Equity to assets ratio ^(b)					
Capital Adequacy ^(g)					
Common Equity Tier 1 capital ratio					
Tier 1 capital ratio					
Total capital ratio					

(a) Figures are related to Hong Kong offices only unless otherwise stated.

(b) Figures are related to Hong Kong offices. For the locally incorporated AIs, figures include their overseas branches.

(c) Credit exposures include loans and advances, acceptances and bills of exchange held, investment debt securities issued by others, accrued interest, and commitments and contingent liabilities to or on behalf of non-banks.

(d) Denotes loans or exposures graded as "substandard", "doubtful" or "loss" in the HKMA's Loan Classification System.

(e) Starting from 2015, the coverage was expanded to include locally incorporated AIs' major overseas subsidiaries.

(f) Includes swap deposits.

(g) The ratios are on a consolidated basis. With effect from 1 January 2013, a revised capital adequacy framework (Basel III) was introduced for locally incorporated AIs. The capital adequacy ratios from 2013 onwards are therefore not directly comparable with those up to 2012.

Retail Banks				
2012 %	2013 %	2014 %	2015 %	2016 %
0.25	0.22	0.24	0.28	0.29
0.34	0.31	0.33	0.43	0.45
0.23	0.22	0.23	0.30	0.31
0.09	0.08	0.09	0.15	0.17
0.39	0.35	0.35	0.46	0.51
0.48	0.48	0.46	0.69	0.72
0.32	0.34	0.32	0.49	0.48
0.09	0.12	0.12	0.23	0.21
0.39	0.33	0.29	0.45	0.53
1.18	1.30	1.19	1.05	1.10
1.06	1.39	0.99	1.04	1.44
1.36	1.40	1.40	1.32	1.32
45.8	42.4	43.4	45.3	43.0
0.04	0.04	0.05	0.09	0.07
54.8	56.2	57.5	56.5	57.0
72.3	74.8	74.6	71.5	71.2
Surveyed Institutions				
2012 %	2013 %	2014 %	2015 %	2016 %
0.02	0.02	0.03	0.03	0.03
0.20	0.20	0.20	0.25	0.24
1.70	1.84	1.83	1.82	1.92
Locally Incorporated Licensed Banks				
2012 %	2013 %	2014 %	2015 %	2016 %
15.0	14.1	13.1	11.4	10.9
13.5	15.3	11.1	11.4	14.7
8.5	8.5	8.8	9.3	9.6
All Locally Incorporated Authorized Institutions				
2012 %	2013 %	2014 %	2015 %	2016 %
N.A.	13.2	13.7	14.6	15.4
13.3	13.3	13.9	15.3	16.4
15.7	15.9	16.8	18.3	19.2

Table C Authorized Institutions: Domicile and Parentage

	2012	2013	2014	2015	2016
Licensed Banks					
(i) Incorporated in Hong Kong	22	21	21	22	22
(ii) Incorporated outside Hong Kong	133	135	138	135	134
Total	155	156	159	157	156
Restricted Licence Banks					
(i) Subsidiaries of licensed banks:					
(a) incorporated in Hong Kong	1	1	1	1	1
(b) incorporated outside Hong Kong	6	6	6	6	5
(ii) Subsidiaries or branches of foreign banks which are not licensed banks in Hong Kong	12	12	11	11	10
(iii) Bank related	1	1	1	3	3
(iv) Others	1	1	2	3	3
Total	21	21	21	24	22
Deposit-taking Companies					
(i) Subsidiaries of licensed banks:					
(a) incorporated in Hong Kong	6	6	6	4	4
(b) incorporated outside Hong Kong	3	3	3	3	3
(ii) Subsidiaries of foreign banks which are not licensed banks in Hong Kong	7	7	6	6	6
(iii) Bank related	2	2	2	0	0
(iv) Others	6	6	6	5	4
Total	24	24	23	18	17
All Authorized Institutions	200	201	203	199	195
Local Representative Offices	60	62	63	64	54

Table D Authorized Institutions: Region/Economy of Beneficial Ownership

Region/Economy	Licensed Banks					Restricted Licence Banks					Deposit-taking Companies				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Asia & Pacific															
Hong Kong	9	9	7	7	7	–	–	–	–	–	7	7	4	3	2
Australia	5	5	5	5	5	–	–	–	–	–	–	–	–	–	–
Mainland China	17	17	19	21	21	2	2	2	2	2	2	2	3	3	3
India	12	12	12	12	12	–	–	–	–	–	1	1	1	1	1
Indonesia	1	1	1	1	1	1	1	1	1	1	–	–	–	–	–
Japan	10	11	11	11	11	1	1	1	2	2	2	2	1	1	1
Malaysia	3	4	4	4	4	–	–	–	–	–	1	1	1	1	1
Pakistan	1	1	1	1	1	–	–	–	1	1	2	2	2	1	1
Philippines	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2
Singapore	5	5	6	6	6	–	–	–	–	–	–	–	2	–	–
South Korea	5	5	5	4	5	2	2	2	2	2	4	4	4	4	4
Taiwan	19	19	19	19	20	–	–	–	–	–	1	1	1	1	1
Thailand	1	1	1	1	1	3	3	3	3	3	–	–	–	–	–
Vietnam	–	–	–	–	–	–	–	–	–	–	1	1	1	1	1
Sub-Total	90	92	93	94	96	10	10	10	12	12	23	23	22	18	17
Europe															
Austria	2	2	2	2	1	–	–	–	–	–	–	–	–	–	–
Belgium	1	1	1	1	1	1	1	1	1	1	–	–	–	–	–
France	9	9	9	8	7	2	2	2	2	2	–	–	–	–	–
Germany	4	4	4	4	4	–	–	–	–	–	–	–	–	–	–
Italy	4	4	4	3	3	–	–	–	–	–	–	–	–	–	–
Liechtenstein	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
Netherlands	3	3	3	3	3	–	–	–	–	–	–	–	–	–	–
Spain	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–
Sweden	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–
Switzerland	6	6	6	6	8	–	–	–	–	–	–	–	–	–	–
United Kingdom	11	11	11	10	10	–	–	–	–	–	1	1	1	–	–
Sub-Total	45	45	45	42	42	3	3	3	3	3	1	1	1	0	0
Middle East															
Iran	1	1	1	1	1	–	–	–	–	–	–	–	–	–	–
United Arab Emirates	2	2	3	3	2	1	1	–	–	–	–	–	–	–	–
Sub-Total	3	3	4	4	3	1	1	0	0	0	0	0	0	0	0
North America															
Canada	5	5	5	5	5	3	3	3	3	2	–	–	–	–	–
United States	9	9	10	10	9	4	4	5	6	5	–	–	–	–	–
Sub-Total	14	14	15	15	14	7	7	8	9	7	0	0	0	0	0
Brazil	1	1	1	2	1	–	–	–	–	–	–	–	–	–	–
South Africa	2	1	1	–	–	–	–	–	–	–	–	–	–	–	–
Grand Total	155	156	159	157	156	21	21	21	24	22	24	24	23	18	17

Table E Presence of World's Largest 500 Banks in Hong Kong

Positions at 31 December 2016	Number of Overseas Banks ^(b)					Licensed Banks ^(c)				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
World Ranking ^(a)										
1 – 20	20	20	20	20	20	39	40	39	39	36
21 – 50	26	26	25	26	27	23	24	24	25	27
51 – 100	24	24	26	28	28	22	23	25	23	21
101 – 200	40	43	38	34	32	25	24	23	22	22
201 – 500	48	47	52	57	56	25	26	28	30	32
Sub-total	158	160	161	165	163	134	137	139	139	138
Others	42	45	47	41	31	21	19	20	18	18
Total	200	205	208	206	194	155	156	159	157	156

(a) Top 500 banks/banking groups in the world ranked by total assets. Figures are extracted from The Banker, July 2016 issue.

(b) The sum of the number of licensed banks, restricted licence banks, deposit-taking companies and local representative offices exceeds the number of overseas banks with presence in Hong Kong due to the multiple presence of some of the overseas banks.

(c) Consist of branches and subsidiaries of overseas banks.

Restricted Licence Banks ^(c)					Deposit-Taking Companies ^(c)					Local Representative Offices				
2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
6	5	5	5	6	–	–	–	–	–	2	–	–	–	–
3	3	4	5	4	2	2	2	1	2	5	4	3	3	2
1	2	2	2	3	3	3	4	3	3	3	4	5	7	8
–	3	3	2	–	3	2	1	1	1	21	22	18	15	10
5	4	3	3	3	3	3	4	4	4	17	16	19	22	19
15	17	17	17	16	11	10	11	9	10	48	46	45	47	39
6	4	4	7	6	13	14	12	9	7	12	16	18	17	15
21	21	21	24	22	24	24	23	18	17	60	62	63	64	54

Table F Balance Sheet: All Authorized Institutions and Retail Banks

All Authorized Institutions

(HK\$ billion)	2012			2013		
	HK\$	F/CY	Total	HK\$	F/CY	Total
Assets						
Loans to customers	3,333	2,234	5,567	3,606	2,851	6,457
– Inside Hong Kong ^(a)	2,934	1,046	3,980	3,119	1,410	4,529
– Outside Hong Kong ^(b)	399	1,188	1,587	487	1,441	1,928
Interbank lending	390	3,999	4,389	424	4,372	4,795
– Inside Hong Kong	234	424	658	255	528	783
– Outside Hong Kong	157	3,575	3,731	169	3,843	4,012
Negotiable certificates of deposit (NCDs)	133	159	291	134	173	306
Negotiable debt instruments, other than NCDs	822	2,117	2,939	912	2,676	3,588
Other assets	775	897	1,672	726	1,069	1,795
Total assets	5,453	9,406	14,859	5,801	11,141	16,941
Liabilities						
Deposits from customers ^(c)	4,176	4,120	8,296	4,391	4,789	9,180
Interbank borrowing	576	3,393	3,969	612	4,103	4,715
– Inside Hong Kong	236	434	670	310	602	912
– Outside Hong Kong	340	2,959	3,299	302	3,502	3,803
Negotiable certificates of deposit	210	426	636	222	616	838
Other liabilities	1,033	924	1,957	1,133	1,075	2,208
Total liabilities	5,996	8,863	14,859	6,357	10,584	16,941

Retail Banks

(HK\$ billion)	2012			2013		
	HK\$	F/CY	Total	HK\$	F/CY	Total
Assets						
Loans to customers	2,724	906	3,630	2,966	1,195	4,161
– Inside Hong Kong ^(a)	2,477	519	2,996	2,664	750	3,414
– Outside Hong Kong ^(b)	248	386	634	302	445	747
Interbank lending	200	1,449	1,648	207	1,764	1,972
– Inside Hong Kong	152	186	337	148	174	322
– Outside Hong Kong	48	1,263	1,311	59	1,590	1,649
Negotiable certificates of deposit (NCDs)	90	90	180	101	112	213
Negotiable debt instruments, other than NCDs	618	1,509	2,127	709	1,791	2,500
Other assets	589	600	1,189	580	722	1,302
Total assets	4,220	4,554	8,774	4,563	5,584	10,148
Liabilities						
Deposits from customers ^(c)	3,768	2,854	6,622	3,967	3,432	7,398
Interbank borrowing	183	475	658	238	768	1,006
– Inside Hong Kong	59	181	240	133	364	497
– Outside Hong Kong	123	294	417	105	404	510
Negotiable certificates of deposit	45	123	168	57	175	232
Other liabilities	825	501	1,326	915	596	1,511
Total liabilities	4,820	3,954	8,774	5,177	4,971	10,148

(a) Defined as loans for use in Hong Kong plus trade finance.

(b) Includes "others" (i.e. unallocated).

(c) Hong Kong dollar customer deposits include swap deposits.

Figures may not add up to total because of rounding.

2014			2015			2016		
HK\$	F/CY	Total	HK\$	F/CY	Total	HK\$	F/CY	Total
4,000	3,276	7,276	4,153	3,382	7,535	4,479	3,544	8,023
3,462	1,596	5,058	3,650	1,604	5,254	3,988	1,652	5,640
538	1,680	2,218	503	1,778	2,281	491	1,893	2,383
431	4,948	5,379	561	4,577	5,138	720	4,515	5,235
254	598	852	362	672	1,034	401	674	1,076
176	4,351	4,527	199	3,905	4,104	318	3,841	4,159
123	144	267	152	269	422	209	355	564
884	2,620	3,505	962	2,722	3,684	1,160	2,906	4,067
850	1,165	2,015	1,053	1,349	2,403	1,049	1,716	2,765
6,288	12,154	18,442	6,881	12,300	19,181	7,617	13,037	20,654
4,800	5,273	10,073	5,312	5,437	10,750	5,809	5,918	11,727
694	4,293	4,986	805	4,011	4,816	886	3,846	4,732
328	688	1,016	455	743	1,198	531	742	1,274
365	3,605	3,971	351	3,267	3,618	355	3,104	3,459
213	631	845	240	592	832	265	525	790
1,205	1,333	2,537	1,322	1,461	2,783	1,565	1,840	3,405
6,912	11,530	18,442	7,680	11,501	19,181	8,525	12,129	20,654
2014			2015			2016		
HK\$	F/CY	Total	HK\$	F/CY	Total	HK\$	F/CY	Total
3,264	1,397	4,660	3,376	1,432	4,808	3,611	1,601	5,212
2,939	830	3,768	3,091	817	3,908	3,340	907	4,247
325	567	892	285	616	900	271	694	965
236	2,099	2,335	303	1,643	1,946	372	1,685	2,056
156	257	413	227	260	488	264	357	621
80	1,843	1,923	75	1,383	1,458	108	1,328	1,436
96	80	177	113	127	240	153	124	277
677	1,722	2,398	772	1,985	2,757	931	2,047	2,978
671	814	1,485	781	935	1,716	772	1,217	1,989
4,944	6,112	11,055	5,344	6,123	11,467	5,838	6,674	12,512
4,374	3,734	8,108	4,719	3,787	8,506	5,073	4,072	9,145
294	698	992	329	586	915	364	539	903
150	350	500	200	281	481	249	244	493
144	347	491	130	304	434	115	296	411
64	176	239	62	123	185	50	85	136
956	760	1,716	1,058	803	1,861	1,236	1,092	2,328
5,688	5,367	11,055	6,169	5,298	11,467	6,723	5,788	12,512

Table G Major Balance Sheet Items by Region/Economy of Beneficial Ownership of Authorized Institutions

(HK\$ billion)		Mainland China	Japan	US	Europe	Others	Total
Total Assets	2015	6,431	1,341	1,017	2,736	7,656	19,181
	2016	7,260	1,311	1,079	2,679	8,325	20,654
Deposits from Customers	2015	3,620	301	488	1,402	4,938	10,750
	2016	3,929	436	524	1,477	5,361	11,727
Loans to Customers	2015	2,730	504	238	1,024	3,039	7,535
	2016	3,132	526	230	1,030	3,105	8,023
Loans to Customers Inside Hong Kong ^(a)	2015	1,802	306	191	644	2,311	5,254
	2016	2,082	327	188	637	2,406	5,640
Loans to Customers Outside Hong Kong ^(b)	2015	927	199	47	380	728	2,281
	2016	1,051	199	42	393	699	2,383

(a) Defined as loans for use in Hong Kong plus trade finance.

(b) Includes "others" (i.e. unallocated).

Figures may not add up to total because of rounding.

Table H Flow of Funds for All Authorized Institutions and Retail Banks

All Authorized Institutions

Increase/(Decrease) in (HK\$ billion)	2015			2016		
	HK\$	F/CY	Total	HK\$	F/CY	Total
Assets						
Loans to customers	152	106	258	327	162	489
– Inside Hong Kong ^(a)	188	8	196	339	47	386
– Outside Hong Kong ^(b)	(35)	98	62	(12)	115	103
Interbank lending	130	(371)	(241)	159	(62)	97
– Inside Hong Kong	108	74	182	39	2	42
– Outside Hong Kong	22	(445)	(423)	120	(64)	55
All other assets	311	411	722	251	637	888
Total assets	593	146	740	736	737	1,473
Liabilities						
Deposits from customers ^(c)	512	165	677	497	481	977
Interbank borrowing	111	(282)	(171)	81	(165)	(83)
– Inside Hong Kong	126	56	182	77	(1)	76
– Outside Hong Kong	(15)	(338)	(353)	5	(164)	(159)
All other liabilities	144	89	234	267	312	579
Total liabilities	768	(28)	740	845	628	1,473
Net Interbank Borrowing/(Lending)	(19)	89	70	(77)	(103)	(180)
Net Customer Lending/(Borrowing)	(360)	(58)	(418)	(170)	(318)	(489)

Retail Banks

Increase/(Decrease) in (HK\$ billion)	2015			2016		
	HK\$	F/CY	Total	HK\$	F/CY	Total
Assets						
Loans to customers	112	36	148	235	169	404
– Inside Hong Kong ^(a)	153	(13)	139	249	90	339
– Outside Hong Kong ^(b)	(41)	49	8	(14)	79	64
Interbank lending	67	(456)	(389)	69	41	110
– Inside Hong Kong	72	3	75	36	97	133
– Outside Hong Kong	(5)	(459)	(464)	33	(56)	(23)
All other assets	222	432	654	190	341	531
Total assets	401	11	412	494	551	1,045
Liabilities						
Deposits from customers ^(c)	345	53	398	354	285	639
Interbank borrowing	36	(112)	(76)	34	(46)	(12)
– Inside Hong Kong	50	(69)	(19)	49	(38)	11
– Outside Hong Kong	(14)	(43)	(58)	(14)	(9)	(23)
All other liabilities	100	(10)	91	166	252	418
Total liabilities	481	(69)	412	555	490	1,045
Net Interbank Borrowing/(Lending)	(31)	344	313	(35)	(88)	(122)
Net Customer Lending/(Borrowing)	(233)	(17)	(250)	(119)	(116)	(235)

(a) Defined as loans for use in Hong Kong plus trade finance.

(b) Includes "others" (i.e. unallocated).

(c) Hong Kong dollar customer deposits include swap deposits.

Figures may not add up to total because of rounding.

Table I **Loans to and Deposits from Customers by Category of Authorized Institutions**

(HK\$ billion)	Loans to Customers				Deposits from Customers ^(a)			
	HK\$	F/CY	Total	%	HK\$	F/CY	Total	%
2012								
Licensed banks	3,290	2,213	5,504	99	4,168	4,108	8,276	100
Restricted licence banks	20	16	35	1	3	10	13	–
Deposit-taking companies	23	5	27	–	5	2	7	–
Total	3,333	2,234	5,567	100	4,176	4,120	8,296	100
2013								
Licensed banks	3,561	2,823	6,384	99	4,380	4,772	9,152	100
Restricted licence banks	21	22	43	1	5	16	21	–
Deposit-taking companies	24	5	29	–	6	2	7	–
Total	3,606	2,851	6,457	100	4,391	4,789	9,180	100
2014								
Licensed banks	3,954	3,241	7,195	99	4,790	5,249	10,039	100
Restricted licence banks	22	29	51	1	5	22	27	–
Deposit-taking companies	24	6	31	–	5	2	7	–
Total	4,000	3,276	7,276	100	4,800	5,273	10,073	100
2015								
Licensed banks	4,118	3,342	7,460	99	5,299	5,420	10,720	100
Restricted licence banks	23	34	57	1	8	17	25	–
Deposit-taking companies	12	6	18	–	5	1	6	–
Total	4,153	3,382	7,535	100	5,312	5,437	10,750	100
2016								
Licensed banks	4,447	3,507	7,954	99	5,797	5,893	11,689	100
Restricted licence banks	20	33	52	1	7	25	32	–
Deposit-taking companies	12	5	17	–	5	1	6	–
Total	4,479	3,544	8,023	100	5,809	5,918	11,727	100

(a) Hong Kong dollar customer deposits include swap deposits.

The sign “–” denotes a figure of less than 0.5.

Figures may not add up to total because of rounding.

Table J Loans to Customers inside Hong Kong by Economic Sector

All Authorized Institutions

Sector (HK\$ billion)	2012		2013		2014		2015		2016	
	HK\$	%	HK\$	%	HK\$	%	HK\$	%	HK\$	%
Hong Kong's visible trade	383	10	550	12	543	11	454	9	455	8
Manufacturing	184	5	216	5	266	5	244	5	247	4
Transport and transport equipment	216	5	247	5	261	5	275	5	295	5
Building, construction and property development, and investment	928	23	994	22	1,060	21	1,139	22	1,261	22
Wholesale and retail trade	351	9	418	9	473	9	444	8	413	7
Financial concerns (other than authorized institutions)	273	7	327	7	388	8	453	9	546	10
Individuals:										
– to purchase flats in the Home Ownership Scheme, the Private Sector Participation Scheme and the Tenants Purchase Scheme	42	1	42	1	42	1	41	1	43	1
– to purchase other residential properties	873	22	909	20	988	20	1,078	21	1,122	20
– other purposes	333	8	390	9	450	9	490	9	519	9
Others	397	10	437	10	588	12	637	12	741	13
Total ^(a)	3,980	100	4,529	100	5,058	100	5,254	100	5,640	100

Retail Banks

Sector (HK\$ billion)	2012		2013		2014		2015		2016	
	HK\$	%	HK\$	%	HK\$	%	HK\$	%	HK\$	%
Hong Kong's visible trade	257	9	349	10	316	8	294	8	312	7
Manufacturing	121	4	139	4	163	4	160	4	171	4
Transport and transport equipment	129	4	156	5	176	5	185	5	192	5
Building, construction and property development, and investment	734	24	786	23	829	22	856	22	949	22
Wholesale and retail trade	222	7	266	8	310	8	262	7	255	6
Financial concerns (other than authorized institutions)	118	4	169	5	203	5	224	6	284	7
Individuals:										
– to purchase flats in the Home Ownership Scheme, the Private Sector Participation Scheme and the Tenants Purchase Scheme	42	1	42	1	42	1	41	1	43	1
– to purchase other residential properties	860	29	896	26	976	26	1,070	27	1,115	26
– other purposes	270	9	320	9	362	10	398	10	430	10
Others	243	8	291	9	393	10	417	11	498	12
Total ^(a)	2,996	100	3,414	100	3,768	100	3,908	100	4,247	100

(a) Defined as loans for use in Hong Kong plus trade finance.

Figures may not add up to total because of rounding.

Table K Deposits from Customers

(HK\$ billion)	All Authorized Institutions				Retail banks			
	Demand	Savings	Time	Total	Demand	Savings	Time	Total
Hong Kong Dollar ^(a)								
2012	639	2,011	1,526	4,176	577	1,982	1,209	3,768
2013	686	2,077	1,628	4,391	610	2,048	1,309	3,967
2014	787	2,242	1,772	4,800	700	2,206	1,468	4,374
2015	904	2,490	1,918	5,312	803	2,436	1,480	4,719
2016	1,038	2,715	2,055	5,809	925	2,669	1,479	5,073
Foreign Currency								
2012	456	1,380	2,284	4,120	293	1,191	1,370	2,854
2013	511	1,619	2,659	4,789	305	1,401	1,726	3,432
2014	592	1,723	2,957	5,273	349	1,514	1,871	3,734
2015	718	2,005	2,715	5,437	396	1,706	1,685	3,787
2016	785	2,224	2,909	5,918	448	1,939	1,684	4,072
Total								
2012	1,095	3,392	3,809	8,296	869	3,173	2,579	6,622
2013	1,197	3,696	4,287	9,180	914	3,449	3,035	7,398
2014	1,379	3,965	4,729	10,073	1,049	3,721	3,339	8,108
2015	1,622	4,495	4,633	10,750	1,199	4,142	3,165	8,506
2016	1,824	4,939	4,964	11,727	1,373	4,608	3,164	9,145

(a) Hong Kong dollar customer deposits include swap deposits.

Figures may not add up to total because of rounding.

**Table L Geographical Breakdown of Net External Claims/
(Liabilities) of All Authorized Institutions**

Region/Economy ^(a) (HK\$ billion)	2015			2016		
	Net Claims on/ (Liabilities to)			Net Claims on/ (Liabilities to)		
	Net Claims on/ (Liabilities to)	Non-Bank Customers	Total Net	Net Claims on/ (Liabilities to)	Non-Bank Customers	Total Net
	Banks Outside Hong Kong	Outside Hong Kong	Claims/ (Liabilities)	Banks Outside Hong Kong	Outside Hong Kong	Claims/ (Liabilities)
Developed Countries	575	877	1452	929	1047	1976
United States of America	296	421	717	239	412	651
Japan	(65)	208	143	213	342	555
Australia	143	25	168	214	61	275
France	70	53	123	105	73	178
Germany	26	52	77	61	76	137
Canada	14	56	70	51	55	106
Luxembourg	48	8	56	51	19	71
United Kingdom	188	21	209	119	(61)	57
New Zealand	3	(3)	1	11	17	28
Ireland	(0)	10	9	(0)	19	18
Norway	5	12	17	4	7	11
Sweden	1	10	11	3	6	10
Finland	(0)	4	4	1	4	5
Denmark	1	0	1	1	3	4
Switzerland	(7)	(14)	(20)	8	(5)	3
Liechtenstein	(0)	(0)	(1)	2	(0)	1
Belgium	(7)	(1)	(7)	(1)	2	1
Malta	(0)	1	1	(0)	1	1
Austria	0	1	1	(0)	1	0
Portugal	0	(1)	(1)	(0)	(1)	(1)
Cyprus	(0)	(1)	(1)	0	(1)	(1)
Slovenia	(0)	(1)	(1)	(0)	(1)	(1)
Greece	(0)	(2)	(2)	(0)	(1)	(1)
Spain	(8)	(1)	(9)	(21)	(2)	(22)
Italy	(36)	(4)	(40)	(32)	(3)	(35)
Netherlands	(95)	20	(75)	(99)	21	(78)
Others	0	1	1	(0)	1	1
Offshore centres	(190)	(48)	(238)	(111)	19	(92)
West Indies UK	(0)	45	45	(0)	69	69
Bahrain	20	3	23	16	1	17
Mauritius	1	5	6	4	0	5
Panama	(2)	4	2	(1)	4	3
Jersey	1	(3)	(2)	(0)	1	1
Vanuatu	(0)	(1)	(1)	(0)	(1)	(1)
Bermuda	(0)	(5)	(5)	0	(1)	(1)
Barbados	0	(1)	(1)	0	(1)	(1)
Bahamas	(6)	1	(5)	(4)	2	(2)
Guernsey	1	(7)	(6)	0	(5)	(5)
Cayman Islands	(47)	27	(19)	(67)	51	(16)
Samoa	(0)	(20)	(20)	(0)	(25)	(25)
Singapore	(31)	(103)	(134)	34	(77)	(43)
Macao SAR	(126)	5	(121)	(94)	2	(92)
Others	0	1	1	0	(0)	0

Table L **Geographical Breakdown of Net External Claims/ (Liabilities) of All Authorized Institutions** (continued)

Region/Economy ^(a) (HK\$ billion)	2015			2016		
	Net Claims on/ (Liabilities to)		Total Net Claims/ (Liabilities)	Net Claims on/ (Liabilities to)		Total Net Claims/ (Liabilities)
	Net Claims on/ (Liabilities to) Banks Outside Hong Kong	Non-Bank Customers Outside Hong Kong		Net Claims on/ (Liabilities to) Banks Outside Hong Kong	Non-Bank Customers Outside Hong Kong	
Developing Europe	(2)	(6)	(8)	1	(13)	(11)
Turkey	3	1	4	9	1	10
Hungary	2	1	3	2	(0)	1
Poland	0	(1)	(1)	0	(4)	(4)
Russia	(1)	(6)	(7)	(0)	(5)	(5)
Others	(6)	(1)	(7)	(9)	(5)	(14)
Developing Latin America and Caribbean	14	2	16	23	9	32
Venezuela	10	(1)	9	12	0	12
Brazil	3	4	7	8	2	10
Mexico	1	5	6	0	5	6
Peru	0	5	5	1	5	6
Argentina	0	(1)	(1)	1	(1)	(0)
Chile	0	(3)	(3)	0	(5)	(4)
Others	0	(7)	(7)	0	2	2
Developing Africa and Middle East	28	(65)	(37)	60	(48)	12
United Arab Emirates	47	9	56	67	15	83
Qatar	10	3	13	14	10	24
Saudi Arabia	(25)	8	(18)	(11)	19	8
Egypt	(0)	1	1	0	1	2
Oman	0	1	1	0	2	2
Iraq	0	2	2	0	1	1
Algeria	(0)	(0)	(1)	(0)	(0)	(1)
Ghana	(1)	0	(1)	(1)	0	(1)
Israel	1	(2)	(1)	0	(2)	(1)
Nigeria	(2)	0	(2)	(2)	0	(2)
Liberia	0	(2)	(2)	0	(3)	(3)
South Africa	4	(1)	3	(3)	(2)	(5)
Kuwait	(3)	(18)	(20)	(2)	(13)	(15)
Others	(2)	(67)	(69)	(2)	(76)	(78)

Table L **Geographical Breakdown of Net External Claims/**
(Liabilities) of All Authorized Institutions (continued)

Region/Economy ^(a) (HK\$ billion)	2015			2016		
	Net Claims on/ (Liabilities to)		Total Net Claims/ (Liabilities)	Net Claims on/ (Liabilities to)		Total Net Claims/ (Liabilities)
	Net Claims on/ (Liabilities to) Banks Outside Hong Kong	Non-Bank Customers Outside Hong Kong		Net Claims on/ (Liabilities to) Banks Outside Hong Kong	Non-Bank Customers Outside Hong Kong	
Developing Asia and Pacific	1,013	(334)	679	792	(632)	160
Republic of Korea	147	(12)	135	200	10	209
India	27	98	125	6	90	96
Indonesia	5	16	20	11	17	28
Mainland China	693	(97)	595	393	(368)	25
Sri Lanka	7	2	9	9	2	11
Bangladesh	12	(1)	12	12	(2)	10
Malaysia	33	(12)	21	18	(13)	5
Pakistan	1	(2)	(0)	6	(1)	5
Mongolia	0	(1)	(1)	0	2	2
Laos	2	0	2	1	0	1
Papua New Guinea	0	1	1	0	1	1
Maldives	0	0	0	0	(1)	(0)
Cambodia	(2)	(1)	(3)	(2)	1	(1)
Brunei Darussalam	(4)	(2)	(6)	(1)	(3)	(4)
Thailand	34	(33)	1	48	(52)	(4)
Kazakhstan	(0)	(5)	(5)	0	(5)	(5)
Vietnam	(4)	1	(2)	(8)	2	(5)
Nepal	(11)	(1)	(12)	(10)	(0)	(10)
Philippines	(30)	(5)	(35)	(21)	(9)	(30)
Taiwan	105	(285)	(180)	133	(309)	(177)
Others	(4)	4	(0)	(4)	5	2
International organisations	0	76	76	0	102	102
Overall Total	1,438	502	1,940	1,695	484	2,179

(a) Regions and economies are classified according to the Bank for International Settlements' (BIS) Guidelines for Reporting the BIS International Banking Statistics issued in March 2013.

Figures may not add up to total because of rounding.

Abbreviations used in this Report

AEol	–	Automatic Exchange of Information	G-SIBs	–	Global systemically important banks
AI	–	Authorized institution	HIBOR	–	Hong Kong Interbank Offered Rate
APEC	–	Asia-Pacific Economic Cooperation	HKAB	–	Hong Kong Association of Banks
AML/CFT	–	Anti-money laundering and counter-terrorist financing	HKFRSs	–	Hong Kong Financial Reporting Standards
ASEAN	–	Association of Southeast Asian Nations	HKICL	–	Hong Kong Interbank Clearing Limited
ASTRI	–	Hong Kong Applied Science and Technology Research Institute	HKICPA	–	Hong Kong Institute of Certified Public Accountants
AMBs	–	Approved money brokers	HKIMR	–	Hong Kong Institute for Monetary Research
AMLO	–	Anti-Money Laundering and Counter-Terrorist Financing (Financial Institutions) Ordinance	HKMA	–	Hong Kong Monetary Authority
AMRO	–	ASEAN+3 Macroeconomic Research Office	HKTR	–	Trade repository
BCR	–	Banking (Capital) Rules	iBonds	–	Inflation-linked retail bonds
BDR	–	Banking (Disclosure) Rules	IFC	–	International Finance Corporation
BIS	–	Bank for International Settlements	IFFO	–	Infrastructure Financing Facilitation Office
BLR	–	Best Lending Rate (<i>Economic and Financial Environment Chapter</i>)	IGL	–	Interest Group on Liquidity
BLR	–	Banking (Liquidity) Rules (<i>Banking Stability Chapter</i>)	ILAS	–	Investment-linked assurance scheme
BP	–	Backing Portfolio	IMF	–	International Monetary Fund
CBC	–	Currency Board Sub-Committee	INEDs	–	Independent non-executive directors
CCPI	–	Composite Consumer Price Index	IOSCO	–	International Organization of Securities Commissions
CCyB	–	Countercyclical Capital Buffer	IP	–	Investment Portfolio
CDD	–	Customer due diligence	IRB	–	Internal Ratings-Based
CEPA	–	Closer Economic Partnership Arrangement	LAC	–	Loss absorbing capacity
CFI	–	Cybersecurity Fortification Initiative	LCR	–	Liquidity Coverage Ratio
CHATS	–	Clearing House Automated Transfer System	LMR	–	Liquidity Maintenance Ratio
CLS	–	Continuous Linked Settlement	LERS	–	Linked Exchange Rate System
CMGs	–	Crisis management groups	LR	–	Land Registry
CMIM	–	Chiang Mai Initiative Multilateralisation	LTGP	–	Long-Term Growth Portfolio
CMU	–	Central Moneymarkets Unit	LTV	–	Loan-to-value
CPMI	–	Committee on Payments and Market Infrastructures	ML/TF	–	Money laundering and terrorist financing
CRT	–	Credit Risk Transfer	MOUs	–	Memorandums of Understanding
CSDs	–	Central Securities Depositories	MPF	–	Mandatory Provident Fund
CTCs	–	Corporate treasury centres	MPG	–	Macroprudential Supervision Group
CUs	–	Convertibility Undertakings	NCDs	–	Negotiable certificates of deposit
C-RAF	–	Cyber Resilience Assessment Framework	NDIs	–	Negotiable debt instruments
DLT	–	Distributed ledger technology	NLTI	–	Non-investment-linked long-term insurance
DPS	–	Deposit Protection Scheme	NSFR	–	Net Stable Funding Ratio
DSR	–	Debt servicing ratio	OTC	–	Over-the-counter
D-SIBs	–	Domestic systemically important banks	PDG	–	Policy Development Group
DvP	–	Delivery-versus-Payment	PFMI	–	Principles for Financial Market Infrastructures
ECF	–	Enhanced competency framework	PLPs	–	Primary Liquidity Providers
EFAC	–	Exchange Fund Advisory Committee	PSSVFO	–	Payment Systems and Stored Value Facilities Ordinance
EFBN	–	Exchange Fund Bills and Notes	PvP	–	Payment-versus-payment
EMEAP	–	Executives' Meeting of East Asia-Pacific Central Banks	PWMA	–	Private Wealth Management Association
FATCA	–	Foreign Account Tax Compliance Act	RCAP	–	Regulatory Consistency Assessment Programme
FFO	–	Fintech Facilitation Office	RIs	–	Registered Institutions
FMLs	–	Financial market infrastructures	RMB	–	Renminbi
FIRO	–	Financial Institutions (Resolution) Ordinance	RMLs	–	Residential mortgage loans
FPS	–	Faster Payment System	RPSs	–	Retail payment systems
FS	–	Financial Secretary	RTGS	–	Real Time Gross Settlement
FSB	–	Financial Stability Board	RWA	–	Risk-weighted asset
FSS	–	Fintech Supervisory Sandbox	QIS	–	Quantitative impact study
G20	–	Group of Twenty	SFC	–	Securities and Futures Commission
GDP	–	Gross Domestic Product	SIG	–	Supervision and Implementation Group
GIH	–	Global Infrastructure Hub	SMEs	–	Small and medium-sized enterprises
GSC	–	Governance Sub-Committee	SPM	–	Supervisory Policy Manual
			SVFs	–	Stored value facilities
			TMA	–	Treasury Markets Association

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An Introduction to the Hong Kong Monetary Authority

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