# Results of surveys on selected debt securities and off-balance sheet exposures to derivatives and securitisations

*by the Banking Policy Department*

Financial markets were volatile in the first half of 2010 amid uncertainty over economic recovery in the US and the sovereign debt crisis in Europe. During this period, authorized institutions (AIs) generally reduced their holdings of non-structured instruments and retreated to high quality assets, such as Exchange Fund Bills. The exposure of the few AIs involved in structured credit products and credit derivatives continued to be insignificant.

The regulatory environment for over-the-counter (OTC) derivatives and securitisation activities is expected to change significantly as national financial authorities and international standard-setting bodies introduce measures to strengthen the regulation of such activities.

## Introduction

The HKMA introduced two half-yearly surveys, the Survey on Selected Debt Securities and the Survey on Off-balance Sheet Exposures in Derivatives and Securitisation Transactions, in November 2008 to help strengthen its oversight of the banking sector's exposure to structured credit products and OTC derivatives. The surveys collect data on AIs' exposures to selected debt securities and securitisation and derivatives transactions, including credit derivatives.

In total, 170 AIs[1] participated in the Survey on Selected Debt Securities and 197 AIs[2] participated in the Survey on Off-balance Sheet Exposures in Derivatives and Securitisation Transactions. This article presents the results of the surveys, covering the reported exposures of the surveyed AIs at the end of December 2009 and June 2010.[3]

## Highlights of major findings

The surveys showed that:

1. The market value of the selected debt securities[4] held by the surveyed AIs stood at HK$1,663 billion at the end of June 2010, decreasing by 7.4% compared with the position at the end of December 2009. The AIs' holdings of structured securities[5] continued to decline during the same period, but at a much slower pace than before (down HK$1.5 billion or 3.1%, compared with a reduction of HK$81 billion or 55.3% at the end of June 2009). The selected debt securities were held mainly for investment purposes.

[1] Representing all licensed banks and restricted licence banks in Hong Kong of which the total assets at the end of June 2010 in the aggregate accounted for 99.7% of the total assets of the banking sector.

[2] Representing all AIs (i.e. licensed banks, restricted licence banks and deposit taking companies) in Hong Kong.

[3] The results of the last surveys conducted for the positions at the end of December 2008 and June 2009 were published in the *HKMA Quarterly Bulletin* in December 2009.

[4] Selected debt securities are debt securities other than Exchange Fund Bills and Notes, US Treasury bills, notes and bonds, and debt securities issued by multilateral development banks.

[5] Structured securities include asset-backed securities (ABSs), mortgage-backed securities (MBSs), collateralised debt obligations (CDOs), notes issued by structured investment vehicles (SIVs), asset-backed commercial paper (ABCPs) and any other similar structured products, but exclude credit-linked notes.

2. The vast majority of the debt securities held by the AIs were non-structured securities (97.2%), most of which were issued by banks and sovereigns and assigned investment-grade credit ratings. This reflects AIs' continuing investment strategy of holding high credit quality conventional debt instruments as the main constituent of their investment portfolio.

3. The exposure of the banking sector as a whole to structured securities remained insignificant and on a reducing trend, although a few AIs cautiously resumed investment in residential mortgage-backed securities (RMBSs). Structured securities were held by 31 of the surveyed AIs and amounted to HK$47 billion (equivalent to only 0.7% of the AIs' total assets) at the end of June 2010. The holdings were concentrated in a few AIs, and were mostly (63.7%) attributable to securities backed by residential mortgage loans of sound credit quality. About 8.6% (13% in June 2009) of the exposures to RMBSs were backed by non-prime loans.[6]

4. Exchange-rate and interest-rate contracts continued to be the main types of derivatives contracts traded. Most surveyed AIs increased their derivatives activities in the first half of 2010. The total notional amount of outstanding derivatives contracts (other than credit derivatives) held by the AIs at the end of June 2010 was HK$41,242 billion, 18.8% higher than at the end of December 2009.

5. The total notional amount of credit derivatives at the end of June 2010 was HK$654 billion, accounting for only 1.6% of all the outstanding derivatives contracts reported. The holdings remained highly concentrated in a couple of AIs and have been on a downward trend over the past two years.

6. The off-balance sheet securitisation exposures of AIs, which mainly consisted of liquidity facilities and credit enhancement provided to securitisation transactions, remained minimal.

[6] "Non-prime" refers to Alt-A and sub-prime, or their equivalents in the case of non-US markets.

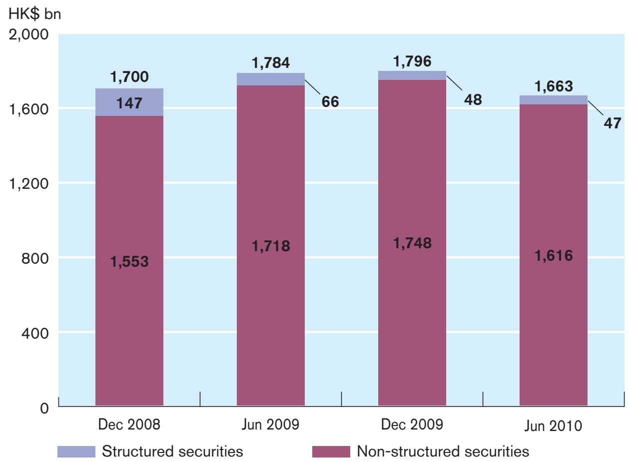
## Details of major findings

### *Selected debt securities held*

The aggregate market value of selected debt securities held by all surveyed AIs shrank by 7.4% during the first half of 2010 to HK$1,663 billion at the end of June (Chart 1). In the same period, the share of these exposures to the AIs' total assets also decreased, from 15.2% to 13.6%. The decrease was mostly attributable to the switching by major local banks from certain non-structured securities (for example, debt securities issued or guaranteed by European governments) to high quality treasury securities, such as Exchange Fund Bills and Notes, which were not covered in the survey. This move could have been prompted by concerns over the sovereign debt crisis in Europe. More than 80% of the debt securities were held for non-trading purposes.

CHART 1

**Market value of selected debt securities held by all surveyed AIs**




AIs' holdings of structured securities remained small and on a reducing trend. However, the pace of reduction slowed as a few AIs cautiously resumed investment in high quality RMBSs (for example, those guaranteed by Ginnie Mae which is backed by the full faith and credit of the US Government) or RMBSs originated by the AIs' group entities, partially offsetting the decrease caused by disposals.

Around HK$1,212 billion or 72.9% of the aggregate market value of the selected debt securities was held by local banks[7], 9.4% lower than at the end of December 2009. The market value of structured securities held by local banks increased moderately by 8.3% from HK$22 billion to HK$24 billion mainly due to new investments. However, these holdings remained insignificant, representing only 5% of the local banks' aggregate capital base at the end of June 2010.

The following analysis illustrates the distribution of debt securities reported by the AIs:

## *Non-structured securities*

By type of issuer/reference entity[8]:
The main types of issuer/reference entity were banks (54.5%) and sovereigns (23.7%) (Table 1). The majority of the decline in holdings during the first half of 2010 was due to disposal of debt securities issued by banks and sovereigns.

TABLE 1

**Percentage share by type of issuer/reference entity**

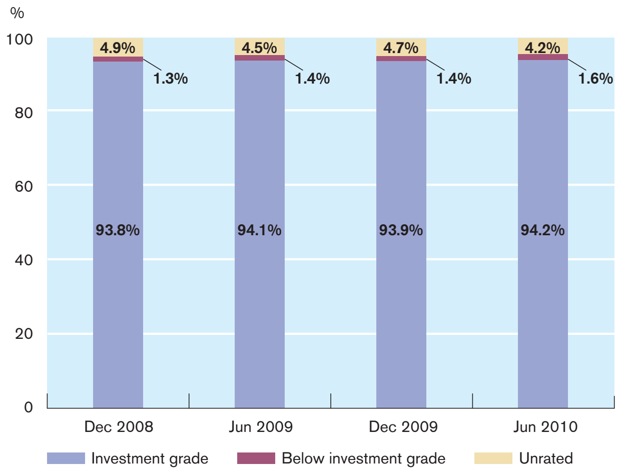
| Issuer/reference entity | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010 | Dec 2009 | Jun 2009* | Dec 2008* |
| Sovereigns | 23.7% | 24.6% | 24.4% | 26.2% |
| Public sector entities | 7.9% | 6.7% | 4.4% | 3.6% |
| Banks | 54.5% | 54.5% | 56.5% | 48.0% |
| Non-bank financial institutions[9] | 4.8% | 4.4% | 4.8% | 4.2% |
| Investment funds and highly leveraged institutions (e.g. hedge funds) | 0.0% | 0.0% | 0.0% | 0.0% |
| Corporates | 8.6% | 8.0% | 8.1% | 16.2% |
| Others | 0.5% | 1.8% | 1.7% | 1.7% |

* Figures do not add up to 100% due to rounding.

By credit quality:
Of the total exposures, AIs' holdings of non-structured securities continued to be of high credit quality with 94.2% having investment-grade credit ratings (Chart 2) and 87.1% having a single-A rating or above.

CHART 2

**Percentage share by credit quality of non-structured securities**




## *Structured securities*

By type of product:
Of the 170 AIs participating in the survey, only 31 were exposed to structured securities. The holdings were concentrated in a few AIs, with the top five (mainly local banks) accounting for 74.4% of the total market value of structured securities reported. In general, the holdings were in relatively simple securitisation products, such as MBSs (Table 2). AIs' investment in sukuk[10] remained insignificant.

[7] Local banks refer to licensed banks incorporated in Hong Kong.

[8] When the securities held by an AI are credit-linked notes or when the credit risk of the securities held by an AI is hedged by credit derivatives contracts, the AI is required to report the type of the reference entities of the credit-linked notes/credit derivatives contracts concerned instead of the type of issuer of the securities.

[9] Including securities firms, insurance companies, investment banks and fund houses.

[10] Sukuk is an Islamic financial instrument broadly equivalent to bonds in the conventional financial market.

TABLE 2
**Percentage share by type of product**

| Structured product | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010* | Dec 2009* | Jun 2009 | Dec 2008 |
| ABSs (including MBSs) | 83.0% | 74.8% | 75.2% | 43.5% |
| CDOs | 9.9% | 13.5% | 9.7% | 5.8% |
| SIV notes | 4.9% | 4.9% | 7.9% | 13.8% |
| Re-securitisation[11] | 2.2% | 6.4% | 6.7% | 3.4% |
| Sukuk | 0.1% | 0.3% | 0.5% | 0.4% |
| ABCPs | – | – | – | 33.1% |

* Figures do not add up to 100% due to rounding.

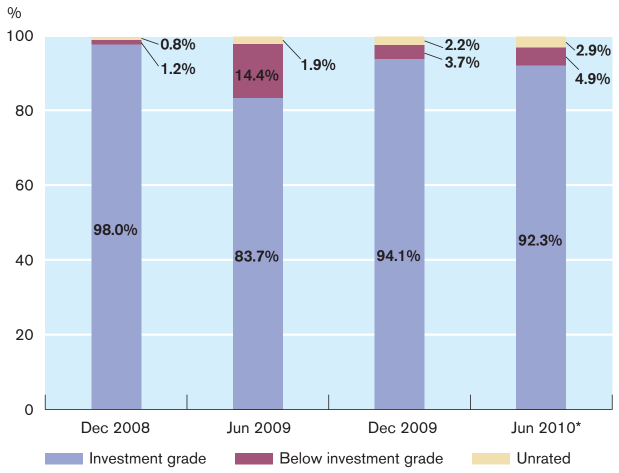
By underlying asset:

Residential mortgages (63.7%) remained the largest type of asset underlying the structured products held by AIs. As AIs gradually reduced their holdings of products supported by lower quality assets, their indirect exposure to non-prime assets (mainly consisting of sub-prime residential mortgage loans) and commercial mortgages decreased. As a result, the proportion of these assets in the underlying assets of the structured securities held was reduced from 20.1% at the end of June 2009 to 14.3% at the end of June 2010 (Table 3).

By credit quality:

Of the structured securities held by AIs participating in the survey, 92.3% had investment-grade credit ratings (Chart 3) and 90.8% had a single-A rating or above.

CHART 3
**Percentage share by credit quality of structured securities**




* Figures do not add up to 100% due to rounding.

TABLE 3
**Percentage share by type of underlying asset**

| Underlying asset | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010 | Dec 2009 | Jun 2009 | Dec 2008** |
| Claims on sovereigns | 0.2% | 1.5% | 0.6% | 0.5% |
| Claims on public sector entities | 0.3% | 0.3% | 0.4% | 0.3% |
| Claims on banks | 1.3% | 3.0% | 4.5% | 8.1% |
| Claims on non-bank financial institutions | 0.3% | 0.3% | 0.3% | 0.8% |
| Claims on corporates | 3.0% | 5.2% | 4.4% | 2.3% |
| Commercial mortgages | 3.5% | 4.8% | 5.5% | 8.8% |
| Residential mortgages | 63.7% | 55.5% | 61.7% | 49.9% |
| *of which non-prime* | 8.6% | 9.1% | 12.3% | 21.4% |
| Credit card receivables | 9.1% | 8.9% | 6.1% | 3.7% |
| *of which non-prime* | 0.0% | 0.0% | 0.0% | 0.5% |
| Other personal lending | 11.6% | 12.3% | 9.3% | 12.6% |
| *of which non-prime* | 2.2% | 2.8% | 2.3%* | 7.0% |
| Others | 7.0% | 8.2% | 7.2% | 13.1% |

* Revised figure.
** Figures do not add up to 100% due to rounding.

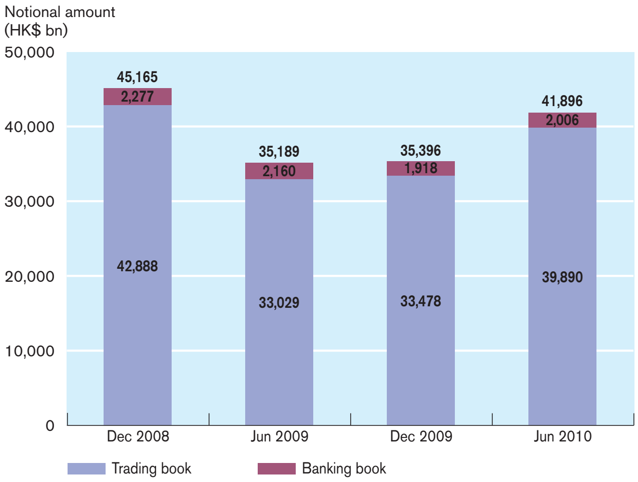
[11] Re-securitisation is defined in the survey as a transaction in which the underlying assets are mainly (50% or more) securitisation or structured products.

## Exposures in derivatives

The derivatives activities of the surveyed AIs regained momentum in the first half of 2010. The total notional amount of outstanding derivatives contracts held by all surveyed AIs at the end of June 2010 stood at HK$41,896 billion, 18.4% higher than the amount at the end of December 2009 (Chart 4). The growth was mainly driven by an increase in foreign-exchange forward transactions. The various types of contracts held by the AIs were mainly for trading purposes. Derivatives activities continued to be dominated by a small group of foreign banks. The positions of the top five AIs accounted for 67.8% of the total notional amount.

CHART 4

Derivatives contracts held by all surveyed AIs




Many local banks increased their derivatives activities in the first half of 2010, leading to a rise in the total notional amount of outstanding derivatives contracts held by local banks by 22.7% to HK$22,279 billion.

The following analysis illustrates the distribution of outstanding derivatives contracts reported by the surveyed AIs:

### *Type of product*

There was little change in the composition of products held by AIs. Swaps and forwards remained the major types of OTC derivatives contracts held, accounting for 56.5% and 28.1% respectively of the total notional amount of all derivatives contracts held at the end of June 2010 (Table 4).

TABLE 4

Percentage share by type of product

| Derivatives product | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010 | Dec 2009 | Jun 2009 | Dec 2008 |
| Exchange-traded derivatives | 4.0% | 3.3% | 3.9% | 8.9% |
| OTC derivatives | 96.0%* | 96.7%* | 96.1% | 91.1% |
| *of which* | | | | |
| *Forwards* | 28.1% | 23.7% | 25.2% | 26.3% |
| *Swaps* | 56.5% | 61.9% | 61.1% | 50.8% |
| *Options* | 6.4% | 5.2% | 6.0% | 11.3% |
| *Credit derivatives* | 1.6% | 1.9% | 2.1% | 1.9% |
| *Others* | 3.5% | 3.9% | 1.7% | 0.8% |

* Figures do not add up to total due to rounding.

### *Type of underlying risk*

AIs' derivatives contracts continued to be dominated by interest-rate contracts and exchange-rate contracts, representing 52.2% and 44.4% respectively of the total notional amount (Table 5), whereas most contracts held by individual local banks were exchange-rate contracts.

TABLE 5

Percentage share by type of underlying risk

| Underlying risk | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010 | Dec 2009 | Jun 2009* | Dec 2008* |
| Interest-rate risk | 52.2% | 57.2% | 53.2% | 49.8% |
| Foreign-exchange risk | 44.4% | 39.4% | 42.8% | 45.2% |
| Equity risk | 1.7% | 1.3% | 1.6% | 3.0% |
| Commodity risk | 0.0% | 0.1% | 0.1% | 0.1% |
| Credit risk | 1.6% | 1.9% | 2.1% | 1.9% |
| Other risks | 0.1% | 0.1% | 0.1% | 0.1% |

* Figures do not add up to 100% due to rounding.

## *Type of counterparty*

Banks and related parties of surveyed AIs (for example, parent banks) remained the most common types of counterparty in derivatives transactions, in aggregate accounting for 85.4% of the total notional amount of derivatives contracts reported (Table 6).

TABLE 6

Percentage share by type of counterparty

| Counterparty | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010 | Dec 2009 | Jun 2009 | Dec 2008 |
| Related parties | 25.3% | 25.1% | 24.6% | 22.6% |
| Independent parties | 74.7%* | 74.9% | 75.4%* | 77.4% |
| *of which* | | | | |
| *Banks* | 60.1% | 60.6% | 61.6% | 54.3% |
| *Non-bank financial institutions* | 4.0% | 4.0% | 3.7% | 4.6% |
| *Investment funds and highly leveraged institutions* | 0.2% | 0.2% | 0.2% | 0.1% |
| *Corporates* | 5.0% | 5.0% | 4.2% | 4.6% |
| *Others (e.g. individuals)* | 5.3% | 5.1% | 5.6% | 13.8% |

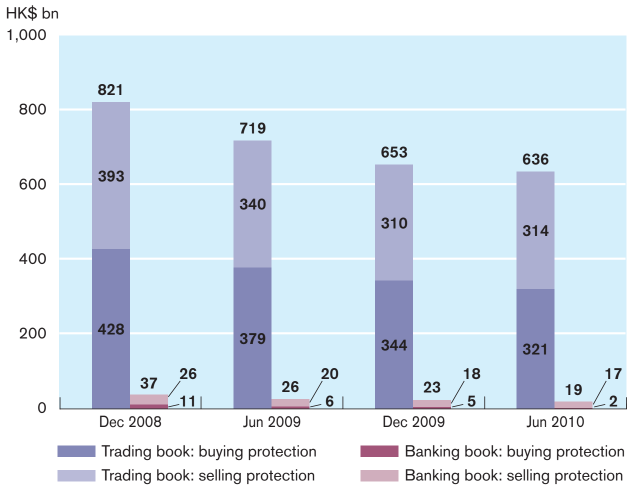
* Figures do not add up to total due to rounding.

## *Credit derivatives*

Altogether 24 AIs (29 in June 2009), including two local banks (three in June 2009), had outstanding credit derivatives at the end of June 2010. Chart 5 shows a breakdown of the total notional amount of credit derivatives reported. The activities were concentrated in a couple of AIs and have been shrinking over the past two years. The contracts were held mainly for trading purposes.

CHART 5

Notional amount of credit derivatives held by all surveyed AIs




## *Reference entity*

By type:

Consistent with last year's observation, the main types of reference entity were corporates (56.1%), sovereigns (24.9%) and banks (12.1%) (Table 7).

TABLE 7

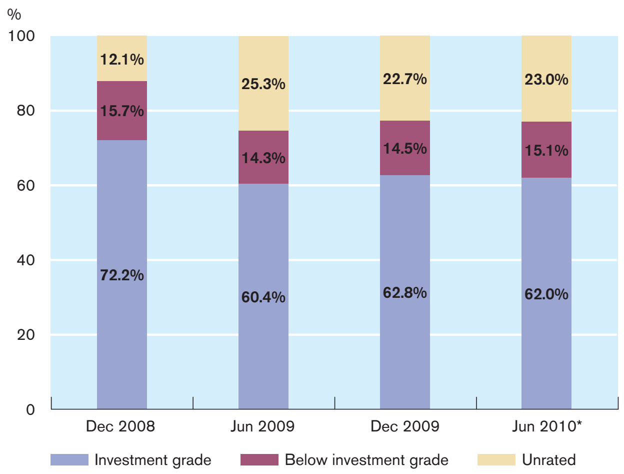
Percentage share by type of reference entity

| Reference entity | All surveyed AIs | | | |
|---|---|---|---|---|
| | Jun 2010* | Dec 2009 | Jun 2009 | Dec 2008 |
| Sovereigns | 24.9% | 23.0% | 22.1% | 20.9% |
| Public sector entities | 0.3% | 0.6% | 0.6% | 0.7% |
| Banks | 12.1% | 11.6% | 11.2% | 11.3% |
| Non-bank financial institutions | 6.5% | 8.6% | 6.9% | 8.0% |
| Investment funds or highly leveraged institutions | – | – | – | – |
| Corporates | 56.1% | 52.7% | 56.0% | 56.3% |
| Tranches of MBSs, ABSs or CDOs | – | – | – | – |
| Others | 0.0% | 3.5% | 3.2% | 2.8% |

* Figures do not add up to 100% due to rounding.

By credit quality:
There has not been any significant change in the composition of the credit derivatives in terms of the credit quality of the reference entities – 62.0% of the derivatives were linked to reference entities with investment-grade credit ratings (Chart 6) and 42.7% (41.7% in June 2009) to those with a single-A rating or above.

CHART 6
**Percentage share by credit quality of reference entity**




* Figures do not add up to 100% due to rounding.

### *Off-balance sheet securitisation exposures*

Off-balance sheet securitisation exposure of the surveyed AIs remained minimal, amounting to HK$7 billion at the end of June 2010 (HK$6.3 billion in June 2009). The exposures were mainly held by a few local banks in the form of undrawn liquidity facilities and credit enhancement provided to securitisation transactions.

## Conclusion

In the wake of the global financial crisis, AIs remain cautious about structured credit products including credit derivatives. Their exposures to these products have continued to decline (from an already very low base) since the two surveys first conducted in December 2008. The cutback in AIs' holdings of non-structured debt securities might reflect concerns about the sovereign debt crisis in Europe and the growing uncertainty regarding global economic recovery. In contrast, trading activities in derivatives, other than credit derivatives, picked up in the first half of 2010.

***See separate box on regulatory developments.***

## Regulatory developments

During the past 12 months, international standard setters and national supervisors have made substantial progress in implementing regulatory reforms proposed in response to the global financial crisis. A wide range of measures (Table 8), including specific steps to strengthen the regulation of OTC derivatives and securitisation activities, may have implications for the development of the relevant markets in the future.

TABLE 8

**Regulatory proposals affecting derivatives and securitisation activities**

**General regulatory proposals**

- Leverage ratio (Basel III[12])
- Systemic surcharge for systemically important financial institutions[13]

**Regulatory proposals specific to securitisation**

- Higher risk-weights for certain types of securitisation exposures (e.g. re-securitisation) (Basel II[14])
- 5% risk retention requirement for originators (US, EU, IOSCO)[15]
- Accounting reform (consolidation of special purpose vehicles)

**Regulatory proposals specific to derivatives**

- Higher risk-weights for trading book exposures (Basel II)
- Reporting of trade information of OTC derivatives to trade repositories (G20[16])
- Central clearing and, where appropriate, exchange trading of eligible standardised OTC derivatives by the end of 2012 (G20)
- Higher capital charge for bilaterally cleared OTC derivatives (G20)
- Higher capital charge for counterparty credit risk and enhance related credit risk management requirements (Basel III)

All these proposals are expected to reduce the incentives and increase the costs for conducting securitisation and derivatives businesses. Banks' hedging and funding activities may also be affected. Banks that are active in the securitisation or derivatives business will need to adjust their business model to adapt to the new regulatory environment.

While certain proposals (for example, the systemic surcharge and accounting reform) are still being developed or not yet finalised, significant progress has already been achieved in the regulation of OTC derivatives. To address weaknesses in the structure of the OTC derivatives markets and the threats which might be posed to financial stability, international bodies and regulators have called for improvement in market infrastructure and the regulatory framework, particularly by strengthening the use of central counterparties and trade repositories, to mitigate systemic risks. At a national level, both the US and Japan passed OTC derivatives legislation earlier this year. In Europe, draft legislation broadly along similar lines was submitted to the European Parliament and the EU member states for consideration in September. These pieces of legislation aim to implement the G20 commitments by the end of 2012. In general, they require the reporting of trade information relating to OTC derivatives contracts, the clearing of eligible contracts through central counterparties, and the imposition of stricter capital and collateral

[12] Consultative document "Strengthening the resilience of the banking sector" issued by the Basel Committee on Banking Supervision in December 2009.

[13] Press release "The Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package" issued on 26 July 2010.

[14] "Enhancements to the Basel II framework" issued by the Basel Committee on Banking Supervision in July 2009.

[15] Proposal on amendments to the capital requirements directive issued by the European Commission in October 2008, "Financial Regulatory Reform – A New Foundation: Rebuilding Financial Supervision and Regulation" issued by the Department of the Treasury of the US in June 2009 and "Unregulated Financial Markets and Products" issued by the International Organization of Securities Commissions (IOSCO) in September 2009.

[16] G20 Leaders' Statement: The Pittsburgh Summit 24 - 25 September 2009.

requirements for OTC derivatives that remain bilaterally cleared. The HKMA believes AIs transacting a significant proportion of their OTC derivatives with counterparties in markets with strengthened OTC derivatives regulation could potentially benefit from the greater transparency and reduced counterparty credit risk introduced.

In Hong Kong, the HKMA will amend the Banking (Capital) Rules and the Banking (Disclosure) Rules to reflect the enhancements made by the Basel Committee to the Basel II framework on securitisation exposures and trading book activities (including derivatives activities) in line with the Committee's proposed timeframe for the end of 2011. The HKMA has already updated its supervisory review process to reflect the risk management requirements contained in the Basel Committee's July 2009 paper "Enhancements to the Basel II framework".

In response to the co-ordinated efforts of international and national regulators to improve the resilience of the OTC derivatives markets, authorities in Hong Kong will work together to enhance the regulatory framework for OTC derivatives activities in Hong Kong, and to develop appropriate infrastructure to ensure that policy implementation is consistent with G20 objectives. The HKMA and Hong Kong Exchanges and Clearing Limited have respectively undertaken to establish a local trade repository and central counterparty for OTC derivatives markets. The market will be consulted on the proposed regulatory requirements which are likely to include the mandatory clearing of standardised OTC derivatives transactions at a recognised central counterparty and the mandatory reporting of all OTC derivatives transactions to a designated trade repository.