



HONG KONG MONETARY AUTHORITY  
香港金融管理局

## The Large Exposures Framework

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Excessive large exposures to **single/connected** counterparties cause **micro- and macroprudential** risks:

- Johnson Matthey Bankers;
- Korean Financial Crisis.

Large exposures regulation has been developed as a tool for limiting the maximum loss a bank could face in the event of a **sudden counterparty failure** to a level that does not endanger the bank's solvency.



Current Rules

Design of the New Framework

Calculation of Exposures

Look-Through Approach

Connected Counterparties

Credit Risk Mitigation

Hong Kong-Specific Implementation



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- Include all forms of lending, incl. off-balance sheet;
- Inclusion of **related** counterparties;
- 25% limit (of **total capital**);
- Sound internal control and audit;
- Lower limits for “**connected**” lending;
- Monitoring of “**clustered**” loan books;
- Attention to sectoral and geographical **concentrations**.

However, considerable variation in application of 1991 principles across globe led the BCBS to develop the new large exposure standards of 2014...



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- New global minimum standard;
- Simple backstop approach;
- Focus on default risk;
- Limit:  $\frac{\text{Relevant exposures}}{\text{Tier 1 capital}} \leq 25\%$  (inter-G-SIB: 15%);
- Implementation by 1 January 2019;
- Close alignment to capital rules: all exposures captured **in scope**...



- All internationally active banks;
- Banking book, trading book and off-balance sheet positions;
- Covers all exposures from **single** and **connected counterparties** (No other types of concentrations such as geographical, sectoral, or intra-group) of which **large exposures** must be reported...





- All exposures  $\geq 10\%$  of Tier 1 capital;
- Incl. exempted exposures;
- Incl. pre-CRM exposures;
- 20 largest exposures.



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All exposures captured under **capital framework** included, however, some exemptions from the limit:

- Sovereign exposures;
- Intra-group exposures (HK: only internal limits required);
- QCCPs (clearing-related exposures);
- Currencies and commodities (no default risk);
- Intraday interbank exposures.

Exposures can be divided into those featuring counterparty credit risk (**CCR**) and those that do not (**Non-CCR**)...



- Exposures from CCR treated similarly in banking and trading books;
- CCR only relevant for:
  - ▶ derivative contracts (**SA-CCR**); and
  - ▶ SFTs (revised comprehensive approach with supervisory haircuts/currently applied method);



For non-CCR exposures, calculation methods may differ depending on whether exposures are booked in banking or trading books.

- On-balance sheet banking book positions: book value;
- **Traditional** off-balance sheet banking book positions: standardised approach for credit risk (credit-equivalent amount= $\text{notional} \times \text{CCF}$ );<sup>1</sup>
- Trading book straight debt instruments and equity: market value;
- Trading book derivative contracts (other than options): **decomposition**.

Specific treatments apply for some positions which can be in banking or trading books...

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<sup>1</sup>CCFs floored at 10%.



- Securities underlying SFTs (borrower): book value;
- Options: **jump-to-default**;
- QCCP: non-clearing related exposures (e.g. a loan): book value;
- Covered bonds:  $\geq 20\%$  of notional (HK:  $\geq 30\%$ );
- Investment structures: look-through approach...



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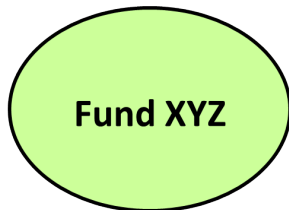
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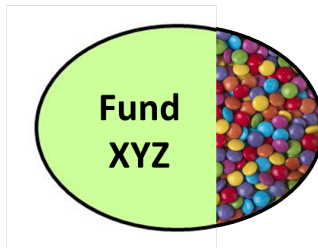


**All positions  
< 0.25% Tier 1 capital**



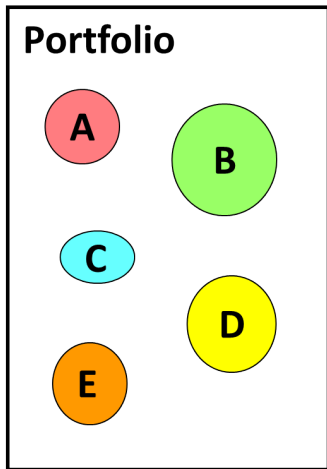
▶ **No look through**

**Some positions  
≥ 0.25% Tier 1 capital**

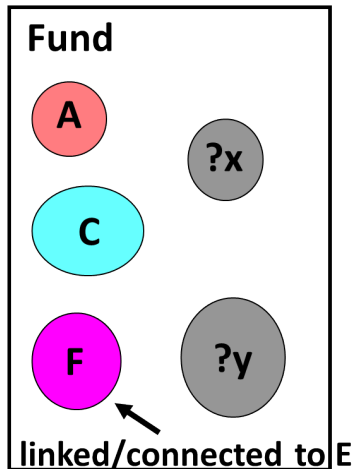


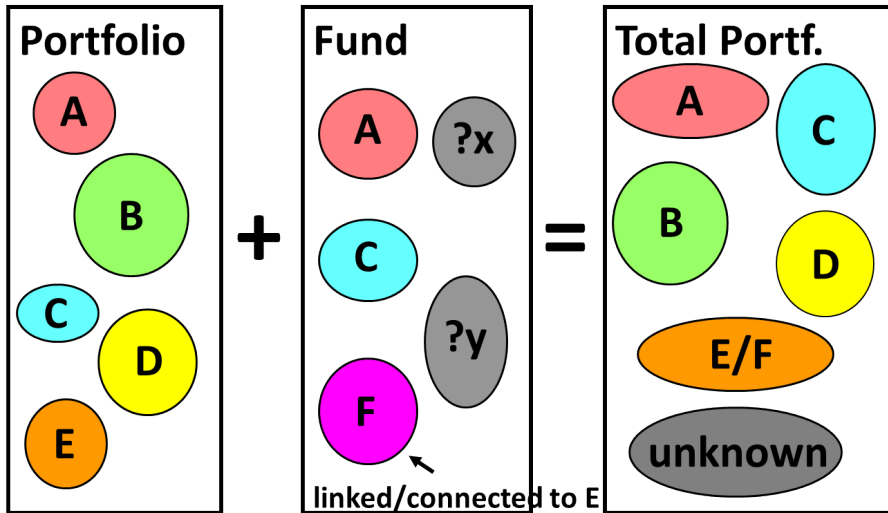
▶ **Look through  
(full or partial)**





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How to identify connected (**linked**) counterparties?



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- Exposures to a group of counterparties with specific relationship/dependencies, such that, were one counterparty to fail, all counterparties would very likely fail, require special attention (e.g. **Apple and Foxconn**);
- Such a **group of connected counterparties** must be treated as a **single** risk (counterparty);
- Sum of exposures to all individual entities grouped is subject to large exposures limit and regulatory reporting requirements.

2 criteria for grouping counterparties...



Group counterparties if at least one of the following criteria is satisfied:

- **Control relationship:** one of the counterparties, directly or indirectly, has control over the other(s) (e.g. >50% of voting rights);
- **Economic (inter)dependence:**
  - ▶ Financial difficulties would likely spread among counterparties (e.g. >50% of production sold to other counterparty, without easy replacement options);
  - ▶ Banks need to actively search for economic (inter)dependence if exposure to individual counterparty >5% of Tier 1 capital.



- Economic (inter)dependence and control criteria may lead to **chains of linked counterparties**;
- Where two (or more) entities that are outside the scope of the sovereign exemption are controlled by or economically dependent on an entity that falls within the scope of the sovereign exemption, **and are otherwise not connected**, those entities need not be deemed to constitute a group of connected counterparties (e.g. Central Huijin Investment Ltd.);
- HKMA will provide Als with **code of practice**.



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- When a bank reduces exposure to the original counterparty due to an **eligible CRM technique**, it must recognise a similar exposure to the CRM provider.
- Compulsory exposure shifting to CRM protection provider is **conservative**: assumes double default;
- Compulsory exposure shifting does not exist for all instruments with risk-mitigating effect, such as a **put option**.

3 eligible categories of risk mitigants...





Risk mitigants result in different **reductions of exposure to original counterparty**:

- 1 Unfunded credit protection (reduction by value of protected portion)
  - ▶ **guarantee**;
  - ▶ credit derivatives;
- 2 On-balance sheet netting (loan exposure reduced by deposits if legal netting agreement; s.t. FX haircuts);
- 3 Financial collateral (reduction by **market value of collateral**)
  - ▶ simple approach;
  - ▶ **comprehensive approach** (s.t. required haircuts).

Cases of put option and CDS deserve special attention...



Original exposure: bond A (value A); protection provider B.

- CRM: protected exposure is shifted from A to B;
- Put option with value (V) and strike (S):
  - reduce exposure to A by  $S-V$ ;
  - increase exposure to B (option seller) by SA-CCR-implied amount.



- Exposure to underlying is reduced by CDS-protected amount;
  
- Exposure to issuer (2 cases) increases by:
  - 1 the amount by which the exposure to underlying is reduced ('**normal case**');
  
  - 2 CCR exposure calculated by SA-CCR for a CDS ('**special case**') if:
    - (i) CDS is held in the trading book **and**,
    - (ii) either CDS provider **or** reference entity of the CDS is **not** a financial entity.



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- Implementation date 1 July 2019 (**grace period** of 6 months);
- **Special CRM approach** for 'Category B' Als;
- Adaptation for interbank exposures arising from **IPO process**;
- **Internal** limits for intra-group exposures;
- **Covered bond** exposure 30% of notional value;
- Sovereign exposures...



- Fully exempted by Basel (and BELR);
- But HKMA will use marginal risk weight add-on approach (under BCR) with exemptions for HK, PRC and U.S. sovereigns:

**Table 7:** Example of marginal risk weight add-on table for sovereign exposures

Exposure to group of connected sovereign counterparties (% of Tier 1 capital)	< 100%	100–150%	150–200%	200–250%	250–300%	> 300%
Marginal risk weight add-on:	0%	5%	6%	9%	15%	30%



- CP 16.01: Exposure Limits, March 2016;
- Soft consultation on detailed proposals in May 2018;
- Statutory consultation on draft rules in October 2018;
- Statutory consultation on draft Code of Practice in October 2018
- Gazetted draft rules in November 2018;
- Submission to LegCo in November 2018;



- To revise SPMs;
- To revise banking returns;
- May consider industry briefing.





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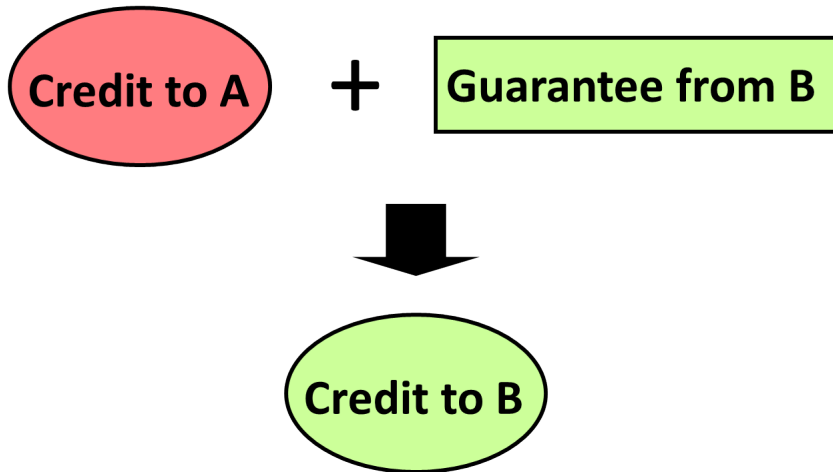
- Market value says nothing about maximum loss;
- E.g. future to buy NIKKEI225 index in 3 months is decomposed into:
  - ▶ Long position in the NIKKEI225 index;
  - ▶ Short position in a 3-month Japanese Government bond;
- Short position in Government bond from decomposition disregarded under large exposures framework;
- Long position in NIKKEI225 index position may require look through approach...

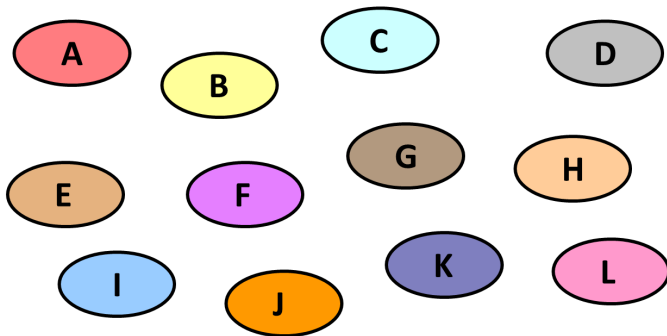


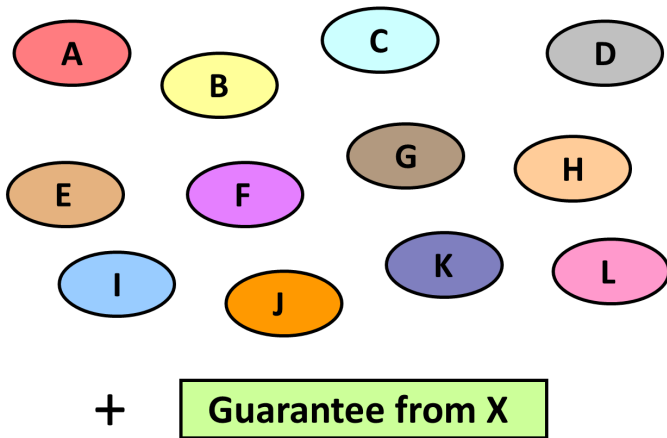
Exposure value is based on **change** in option price that would result from default of underlying.

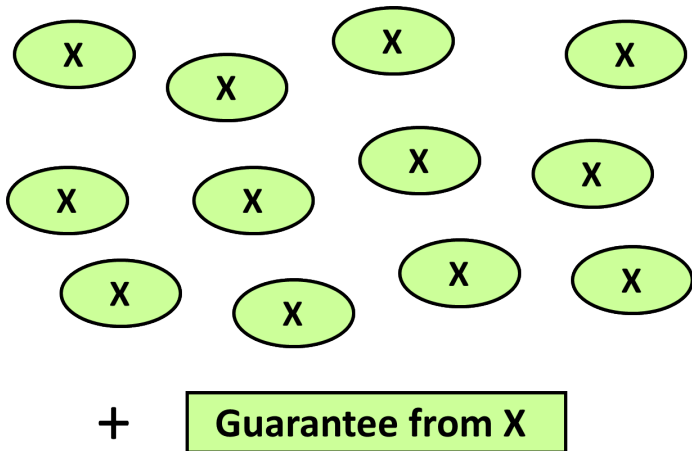
Option value =  $V$ , strike =  $S$

Position	Call	Put
Long	$V$	$-S + V$
Short	$-V$	$S - V$









→ Credit risk mitigation can lead to **high concentrations!**



$$E^* = \max\{0, E \cdot (1 + H_e) - C \cdot (1 - H_c - H_{fx})\}$$

with  $E^*$  the original exposure reduced by financial collateral.

Example:

$$E^* = \max\{0, 100 \cdot (1 + 0.15) - 100 \cdot (1 - 0.04 - 0.08)\}$$

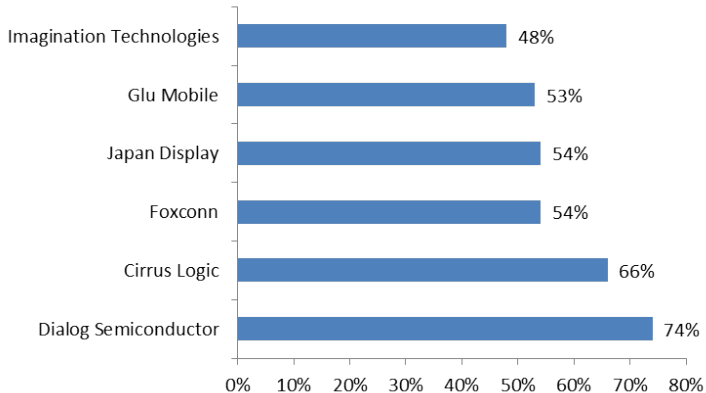
$$E^* = 115 - 88 = 27$$

Only supervisory haircuts can be used.





## Percent of total sales to Apple in 2017



Source: statista, Business Insider

If Apple defaults, many suppliers would likely be in serious trouble...