Risks

Werner Bijkerk
Head of the Research Department

Stakeholders meeting
Madrid, 28 June 2013
Disclaimer

The views and opinions presented in this presentation are of the presenter only and do not necessarily reflect the views and opinions of IOSCO or its individual members.
Agenda

• Introduction
• Risks
Agenda

• Introduction
• Risks
Introduction

• Research Function of IOSCO working on emerging risks (SCRR; Research Department)
• Work:
  – Securities Markets Risk Outlook
  – Systemic Risk Identification Methodology
  – Risk Dashboard
  – Risk Roundtables
  – Risk Surveys
  – Market Intelligence
  – Consultation of IOSCO Committees
  – Input to FSB work streams
  – Hedge Fund data gathering and report
  – Credit Hedge Fund report
  – Exploratory analysis cyber crime
## Conclusions of Securities Markets Risk Outlook 2012:

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintended consequences of Central Clearing</td>
<td></td>
<td></td>
<td>🟢</td>
</tr>
<tr>
<td>Systemic implications of high frequency trading</td>
<td></td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Risk build-up via shadow banking activities</td>
<td></td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Structured retail product innovation</td>
<td></td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Inadequate disclosure of financial risks</td>
<td></td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Risks from regulatory uncertainty</td>
<td></td>
<td>🟢</td>
<td>🟢</td>
</tr>
</tbody>
</table>

Source: IOSCO Research Department.
Agenda

• Introduction

• Risks
Risks

• Low interest rate environment
• Collateral in a stressed funding environment
• Derivatives markets
• Capital flows in emerging markets
• Cyber-crime
Risks

• Low interest rate environment
• Collateral in a stressed funding environment
• Derivatives markets
• Capital flows in emerging markets
• Cyber-crime
Low interest rate environment

Expansionary monetary policies reduce real interest rates to maintain the functioning of the financial markets and to combat the recession.

Graph 1: real interest rates

Source: IOSCO Risk Dashboard, Bloomberg
Low interest rate environment

- Decreasing bank lending and increasing role of securities markets...

Graph 2: Bank loans and corporate bond issuances

Source: FSB SCAV
Low interest rate environment

- Cheap borrowing for big firms (not SME’s) drive corporate bond issuances up...

Graph 3: Corporate bond issuances

Source: Dealogic
Low interest rate environment

• While IPOs on the equity markets seems less attractive for firm’s funding...

Graph 4: IPO activity ($ M)

Source: World Federation of Exchanges
Low interest rate environment

- Certain segments of bond markets show high volumes of issuance, especially high yield...

Graph 5: High yield corporate bond issuance ($ bn)

Source: IOSCO Risk Dashboard, Dealogic
Low interest rate environment

Graph 6A. Private sector spreads over 10yr Government treasuries (percentage points), US

Graph 6B. Private sector spreads over generic Iboxx 10yr yields (percentage points), Euro area

IOSCO Risk Dashboard, Bloomberg
Low interest rate environment

Issues include:

• Varying housing prices with some steep rising in Hong Kong and Singapore, while slowing down in some other countries, and possibly leading to product innovation

Sources: IOSCO Risk Dashboard. Standard & Poor's, Eurostat, Australian Bureau of Statistics, GlobalPropertyGuide.com
Low interest rate environment

Trends:
• High yield bonds sold through collective investment schemes and retail structured products/exchange traded funds and products (ETF, ETP).
• In certain countries search for yield goes into real estate and real estate funds.

Some questions about the risks:
  – Do investors know the risks?
  – What if interest rates go up or stay low for a very long period?
  – Could there be problems of investors being locked in?

And a question about an opportunity for the stimulation of financial stability/global economy:
  – What are the ideas for the inclusion of SME’s?
Risks

• Low interest rate environment
• Collateral in a stressed funding environment
• Derivatives markets
• Capital flows in emerging markets
• Cyber-crime
Collateral in a stressed funding environment

Trends:
• Available high quality collateral has shrunk from $10 trillion in 2007 to $6 trillion in recent years (IMF)
• Shift from unsecured to secured financing as confidence has dropped
• Funding environment changed by regulation:
  – Basel capital and liquidity rules (huge impact on collateral)
  – MMF rules (e.g. shortened maturities)
  – Margin requirements OTC derivatives (expected huge impact on collateral)
  – Rules on structured finance products
• Collateral squeeze...
**Deposits**

- **2007:** $26.6 T
- **2012:** $31.2 T

**+**

- **2007:** $4.7 T
- **2012:** $7.1 T

**Structured Retail Products**

- **2007:** $3.8 T
- **2012:** $7.1 T

**+**

- **2007:** $3.3 T
- **2012:** $1.7 T

**Bonds**

- **2007:** $6.3 T
- **2012:** $6.1 T

**+**

- **2007:** $4.7 T
- **2012:** $6.4 T

**Equity Securitized Products**

- **2007:** $4.7 T
- **2012:** $9.9 T

**+**

- **2007:** $5.5 T
- **2012:** $7.8 T

**Central Bank Balance Sheet**

- **2007:** $4.4 T
- **2012:** $18.5 T

**+**

- **2007:** $5.5 T
- **2012:** $7.8 T

---

**Retail**

**Wholesale**

**Unsecured**

**Interbank lending**

- **EUR:** -60%
- **US:** -74%

**Secured**

**Commercial Paper***

- **US:** $1.4 T -> $0.58 T

---

*Note: solid line reflects the size in 2012 and the dotted line 2007

** Balance sheets of the FED, ECB, BoJ, BoE, SNB; *** SEC rule 2a-7 tier-1 CP: FED

Source: IOSCO Research Department, based on Bloomberg, Dealogic, www.structuredretailproducts.com, OECD, FED, ECB
Securities Lending

Total high quality assets available for securities lending

2007: $10T
- $4T
2012: $6T

Pension funds, insurers, official accounts
2007: $1.7T
- $0.7T
2012: $1.0T

Hedge funds
2007: $1.7T
- $0.4T
2012: $1.3T

* Note: solid line reflects the size in 2012 and the dotted line 2007
** Source: IOSCO Research Department based on M. Singh, RMA and Markit
Collateral transformation process

High quality collateral
High rated corporate and sovereign bonds, blue chip stocks

Low quality collateral
Lower rated corporate and sovereign bonds (high yield), securitized products

Collateral Transformation Service Provider
(Investment) banks
Custodians

Regulatory purposes
Basel III (capital and liquidity)
Derivative Regulation
Insurance sector (tight assets)
Funding purposes
Repo

High quality collateral from customer / custodian banks, pension funds, insurance sector, hedge funds,
Collateral in a stressed funding environment

• Collateral transformation is a new service and we don’t know exactly what it is, nor how big it is...
• We know that it is off-balance sheet
• Just as certain structured products, repo, securities lending and re-hypothecation

Some questions about the risks:
  – Is there (implicit) leverage being created by banks?
  – Are risks being hide or shifted out of the regulator’s sight?
  – How long are the collateral chains?
  – Where do the risks pool?
  – How big are the interdependencies with CCPs?
Risks

• Low interest rate environment
• Collateral in a stressed funding environment
• Derivatives markets
• Capital flows in emerging markets
• Cyber-crime
Derivatives markets

Clearing through CCPs concentrate risks and provide transparency. Last years’ CCP usage increased considerably.

Figure: OTC derivatives notional outstanding and cleared trades in trillion $

Source: IOSCO Research Department based on BIS data
Derivatives markets

Figure: Notional volumes and growth of trades cleared by selected CCPs 2011-2012 in billions $

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Region</th>
<th>Product</th>
<th>Dec-11</th>
<th>Dec-12</th>
<th>% Chg</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME</td>
<td>US</td>
<td>IRS</td>
<td>$114</td>
<td>$1,600</td>
<td>1040%</td>
</tr>
<tr>
<td>SGX</td>
<td>Asia</td>
<td>IRS</td>
<td>$184</td>
<td>$251</td>
<td>36%</td>
</tr>
<tr>
<td>LCH</td>
<td>EU</td>
<td>IRS</td>
<td>$283,000</td>
<td>$369,000</td>
<td>30%</td>
</tr>
<tr>
<td>Japan SCC</td>
<td>Asia</td>
<td>IRS</td>
<td>-</td>
<td>$1280</td>
<td>n/a</td>
</tr>
<tr>
<td>CME</td>
<td>US</td>
<td>CDX</td>
<td>$15</td>
<td>$98</td>
<td>553%</td>
</tr>
<tr>
<td>LCH</td>
<td>EU</td>
<td>CDS &amp; ITRAXX</td>
<td>$68</td>
<td>$135</td>
<td>99%</td>
</tr>
<tr>
<td>ICE</td>
<td>EU</td>
<td>CDS &amp; ITRAXX</td>
<td>$8,000</td>
<td>$12,000</td>
<td>40%</td>
</tr>
<tr>
<td>ICE</td>
<td>US</td>
<td>CDS &amp; CDX</td>
<td>$12,000</td>
<td>$21,000</td>
<td>72%</td>
</tr>
<tr>
<td>Japan SCC</td>
<td>Asia</td>
<td>CDS</td>
<td>-</td>
<td>$3,300</td>
<td>n/a</td>
</tr>
<tr>
<td>CLS</td>
<td>Global</td>
<td>FX</td>
<td>$4380</td>
<td>$4,610</td>
<td>5%</td>
</tr>
<tr>
<td>LCH</td>
<td>EU</td>
<td>FX</td>
<td>-</td>
<td>$115</td>
<td>n/a</td>
</tr>
<tr>
<td>Eurex</td>
<td>EU</td>
<td>IRS; CDS &amp; ITRAXX; Equity;</td>
<td>$110,784</td>
<td>$90,084</td>
<td>-19%</td>
</tr>
<tr>
<td>NOS Clearing</td>
<td>EU</td>
<td>FX; Commodity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NYSE/ LIFFE Bclear</td>
<td>UK</td>
<td>IRS; Equities; Commodities</td>
<td>491</td>
<td>371</td>
<td>-20%</td>
</tr>
</tbody>
</table>

Source: IOSCO Research Department based on CME, Singapore Stock Exchange, LCH Clearnet, Eurex, NOS Clearing, International Clearing Exchange, Continuous Link Settlement, NYSE, SCC, the OTCSpace
Derivatives markets

Issues:

– Collateral absorbed by CCPs. Further squeeze?
– CCPs following similar risk management model – amplification?
– CCPs accepting lower quality collateral – race to the bottom?
– CCPs becoming active derivatives shops?
– Enhanced interconnection with banks – more concentrated risk?
– What is the resilience of the system:
  • In the case of a huge margin call?
  • In the case a big trader/bank fails?
– Where are the weak spots in the network?
Risks

• Low interest rate environment
• Collateral in a stressed funding environment
• Derivatives markets
• Capital flows in emerging markets
• Cyber-crime
Volatility of capital flows in emerging markets

Background:

• Surge of capital flow to emerging markets.
• ‘Push’ and ‘pull’ factors.
• However cross-border flows are not uniform across emerging markets.
• Capital flows increasingly from emerging markets to emerging markets; emerging markets to advanced markets; and through securities markets.
Volatility of capital flows in emerging markets

Issues:

- Capital inflows are vital for emerging market economic growth but have historically been subject to boom-bust cycles.
- Recovery in advanced economies could trigger sudden stop of capital flow and reversal with destabilizing impacts.
- Political uncertainty and risk in certain emerging economies could also trigger a reversal of flows.
- A shock (political, economic, social etc.) and reversal of flows would have different levels of impact in different emerging economies.
- Shallow markets could also lead to asset price bubbles and increased volatility.
- Financial market development has stalled in some emerging markets.
Risks

- Low interest rate environment
- Collateral in a stressed funding environment
- Derivatives markets
- Capital flows in emerging markets
- Cyber-crime
Cyber crime

Issues:
- Financial system relies on technological infrastructure.
- Nature of cyber-crime is changing – more sophisticated.
- Methods, motives, purposes and consequences not clear.
- Attack: not an ‘if’ but a ‘when’ question.

Questions:
- Systemic impact?
- How vulnerable are financial market infrastructures?
- Awareness is growing, but are regulators prepared?