




“Ten years of Depository Services in Ghana – The next ten years”

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Accra, Ghana

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Agenda

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1. My Background
 2. Realities, Trends and Tendencies Impacting CSDs
 3. International Standards
 4. Pricing

My Background

- I am a Canadian citizen living in Bogota, Colombia
- I am an independent Capital Markets Infrastructure consultant and Executive Director of The Americas' Central Securities Depository Assoc. (ACSDA)
- Employed by The Canadian Depository for Securities (one of the world's most advanced depositories) for almost 20 years
- Have been involved in consulting engagements in 12 different markets on 5 continents, working in the areas of FMI Strategy, New Product Identification and Development, Process Improvement, Risk Management and Pricing.

Realities, Trends and Tendencies Impacting CSDs

Business Realities

- Mandated Standards and Major Industry changes that are impacting CSDs
- CSDs and Business Volume
- Fixed versus Variable Costs
- Diversification

Trends and Tendencies

- For-profit versus not-for-profit
- Integration – vertical and horizontal
- Beneficial Owner and Omnibus holding models
- Shortening of Settlement Cycles
- Increased Automation (STP)
- Risk Management

Mandated Standards and Major Industry changes that are impacting CSDs

Reduction in securities settlement cycles

Global Industry moving to T+2. Onset of regulatory pressure in the EU, USA and other nations are following. Reduction in Settlement Risk

Adoption of International Standards and improved harmonization of practices

Adoption of the new ISO protocol for T2S
Global focus on the CPSS/IOSCO Principles for FMIs

Demands for greater efficiency and cost reduction

Requiring action by all FMIs

Management of Risks

Reducing Systemic Risk: Managing liquidity, counterparty, operational, legal, strategic, and business risk

Recovery and Resolution Plans

Minimum capital requirements and tools for recovery of critical operations of the FMI and its orderly dissolution

Business Realities of a CSD

CSDs and Business Volume

- CSDs universally have a very high percentage of fixed versus variable costs
- Fixed (or non-variable) costs typically exceed 90% of total expenses
- CSDs have a limited ability to impact on the volumes they are processing in the short run
- Volumes are generally dictated by a combination of;
 - Prevailing conditions in the capital market
 - Issuers
 - Investors – Domestic & International, Institutional & Private
 - Exchanges and other trading venues
 - Government

Business Realities of a CSD cont.

CSDs, like other businesses face almost constant demand for more service (value) at lower cost... and since it is virtually impossible to be a low cost/price supplier of services if the market has low capitalization levels and transaction volumes ...

a change in the business model has become essential, particularly for CSDs in developing markets.

The Business Response

CSDs (big and small) around the world are diversifying their business to services outside their core offering and to customers, often outside their traditional base.

Business Realities of a CSD

Fixed versus Variable Costs

- CSDs universally have a very high percentage of fixed versus variable costs
- Fixed (or non-variable) costs typically exceed 85% of total expenses
- It is virtually impossible to be a low cost/price supplier of services to the market, if the market has low capitalization levels and transaction volumes
- However, there is one constant... the drive and desire for lower prices

Business Realities of a CSD

Diversification of business and revenues

- CSDs around the globe are leveraging
 - Relationships
 - Reputation
 - Core competencies, and
 - Creativity

to grow their business, not only beyond core processing in post trade securities processing.

- This diversification brings new opportunities for growth and new revenues, but also potential distractions from core responsibilities, as well a new set of business, reputational and financial risks

Business Realities of a CSD

What forms is Diversification taking within CSDs?

- Looking up the value chain for opportunities to provide current customers with a wider range of services
- Back and Middle Office processing
- Providing outsourcing solutions
- Transfer Agent, Paying Agent and Registrar services to issuers
- Processing solutions for other financial instruments e.g. Mutual Funds, Promissory Notes
- Record keeping for anything that would benefit from a centralized/electronic solution e.g. real estate, insurance

Trends and Tendencies

For-profit versus not-for-profit

30 years ago FMIs (Stock Exchanges and CSDs) were typically user owned mutualized companies that existed to service their members on a cost recovery basis

Times have certainly changed ...

- Of the world's 150+ CSDs there are only 2 (that I am aware of) that operate on a not-for-profit basis
- A large number of FMIs are now public companies, with many that trade as listed companies on stock exchanges
- CSDs generally are achieving higher levels of profitability than Exchanges

Trends and Tendencies

Integration of Market Infrastructures

Horizontal

- Horizontal integration of post trade infrastructures has also been prevalent over the past 20 to 30 years.
- Driven by the desire to realize necessary economies of scale and other efficiencies
- There are still however numerous markets with more than one CSD and at least one market with 3.
- The principal barriers to Horizontal Integration are;
 - The prospect of reduced competition
 - Loss of control
 - Loss of market status in the case of cross border integration

Trends and Tendencies

Integration of Market Infrastructures

Horizontal cont.

- Horizontal integration of post trade infrastructures is a critical imperative in some markets to achieve efficiency gains
- In some cases cross border integration (as difficult as it can be) could make the difference in the health if not the survival of the market
- Horizontal integration provides a greater potential for cost reduction synergies than Vertical integration

Trends and Tendencies

Integration of Market Infrastructures

Vertical

- Vertical integration has come full circle
- Stock Exchanges recognized that they needed to establish a clearing and settlement capability to support their exchange, which of course they did.
- Subsequently, they divested the post-trade activities in order to focus on trading and market creation, which of course were much more interesting and profitable activities, leaving others to care for the clearing and settlement of their trades ... essentially dismantling an existing vertical integration.

Trends and Tendencies

Integration of Market Infrastructures

Vertical cont.

- But times have changed ...
- Over the past decade or more, Exchanges have come to recognize the error in their original strategy.
 - Their business and profit margins in many cases were under attack from competition in the form of other trading systems
 - They realized the strategic importance of vertical integration and in some cases reintegration of post trade infrastructures, and began aggressively acquiring CSDs and clearing houses which had generally retained their monopoly position and profit potential.
 - Currently, 8 of the 10 largest, and 14 of the top 20 largest publically traded Exchanges (by share value) own a majority interest in the post trade infrastructure.

Trends and Tendencies

Integration of Market Infrastructures

Vertical cont.

- Exchanges have certainly come to recognize the value of vertical integration ...
 - In enhancing their overall profitability
 - In protecting their market franchise
 - In creating economies of scale
 - In enhancing strategy harmonization and ...
- In Enhancing trade execution through to settlement risk management

Trends and Tendencies

Integration of Market Infrastructures

Issues to Consider

While there are some very positive aspects to vertical integration, as well as the now prevailing for-profit Financial Market Infrastructures, this trend raises some important and potentially complicated governance issues

- How do you ensure that the interests of the capital market including the government, issuers, participants and investors are properly considered?
- Where do the rights of the market infrastructure shareholders rank relative to these other stakeholders?
- What about market access to potential FMI competitors or access to the facilities of a CSD by a potential competitor to its Exchange owner?

Trends and Tendencies

Integration of Market Infrastructures

Issues to Consider

- Should the Vertical Silo be required to demonstrate that it is price/cost competitive with other markets, and if so, with what other markets?
- Given the monopoly or pseudo monopoly status of some parts of the Vertical Silo's business, should there be any limitations on profit levels?
- What about cross subsidization of trading costs from the CSD or Clearing House?
- **A great many markets have been, and are well served by the vertical integration of their market infrastructures, most particularly in the initial market development stage ... but how do you ensure that continues to be the case?**

Trends and Tendencies

Beneficial Owner and Omnibus holding models

- The Omnibus model was introduced in the 1970s to cope with the paper explosion as trading volumes increased.
- Operation of an Omnibus account greatly simplified the operation of accounts and made reconciliations much easier.
- It was during this time that the custody business emerged.
- The disadvantage was that great reliance was placed on the custodian maintaining proper records and the issuer was disintermediated from the investor.
- While there was an advantage from making all securities fungible, there was little to stop one customer's shares being used (temporarily) to settle another customer's transaction.

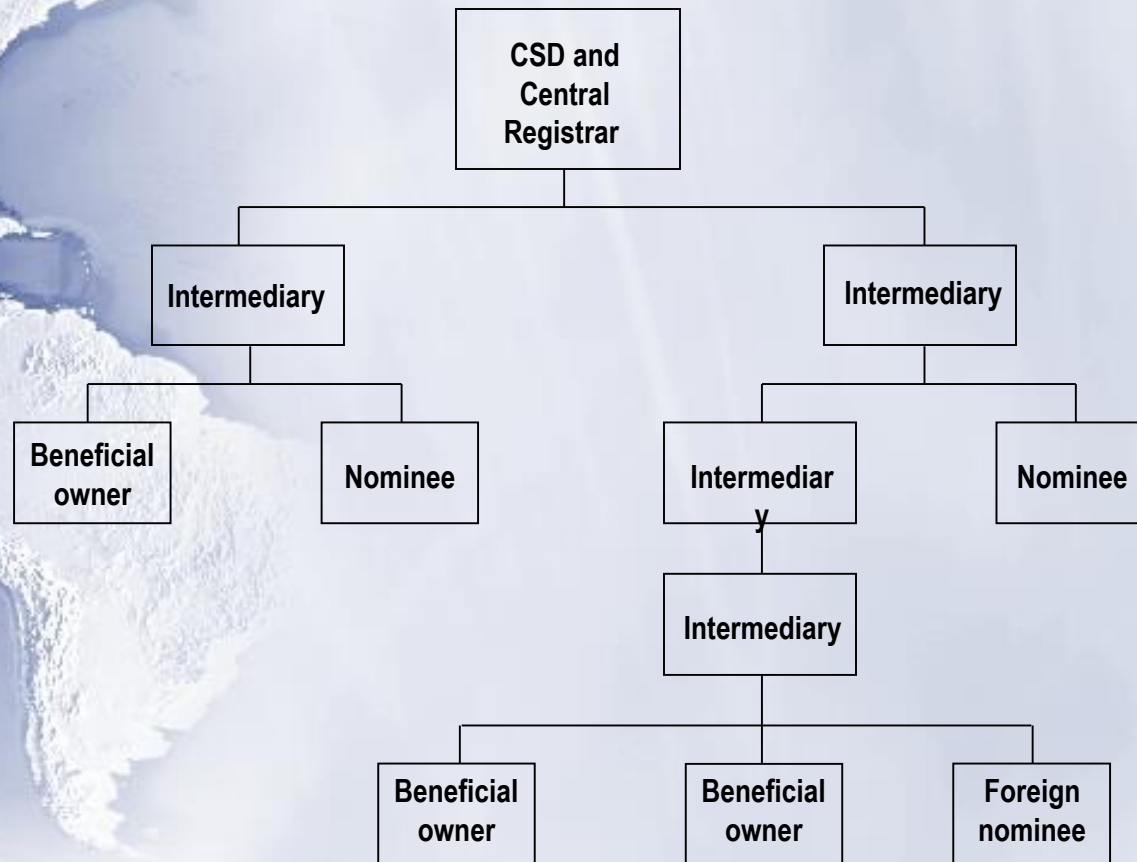
Trends and Tendencies

Beneficial Owner and Omnibus account structures Issues to Consider

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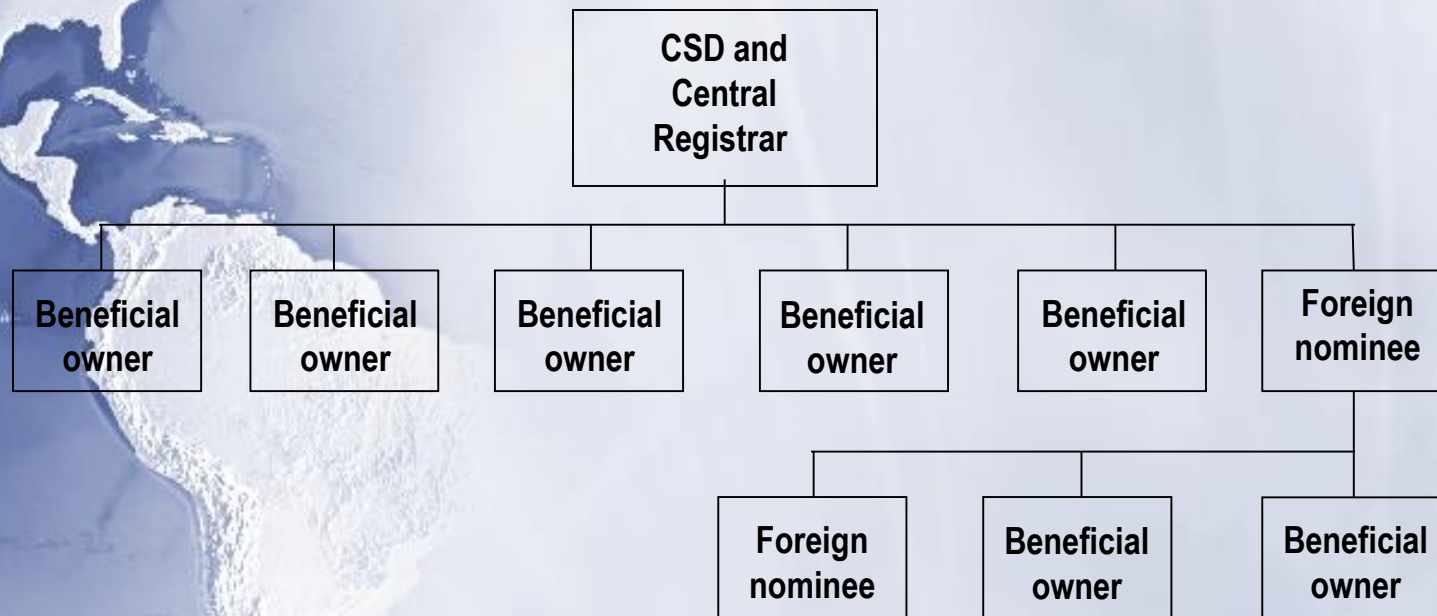
Trends and Tendencies

Omnibus Model



Trends and Tendencies

Beneficial Owner Model



Trends and Tendencies

Positive Aspects of the Beneficial Owner Model

- Allows the CSD to act as the central registrar and eliminate any time gap between settlement and registration
- Facilitates the CSD ability to offer centralised asset servicing operations for the market
- Makes the calculation tax at the CSD level possible.
- Enhances the opportunity for the CSD to provide asset servicing support for issuers
- Significantly increases transparency and provides an additional level of protection for investors
- Does not allow an intermediary to internalize settlements

Trends and Tendencies

Potential Limitations of the Beneficial Owner Model

- It is model with domestic application only and it can greatly complicate cross border business, particularly when linking with a CSD with a different model
- Relies on CSD Participants to maintain the accounts correctly with the CSD
- Netting at the beneficial owner level requires more sophisticated netting algorithms (this represents a major issue in large volume markets)

Trends and Tendencies

Custody Models – Recent Trends

- There is no prescribed best market practice in terms of the Omnibus or Beneficial Holder models
- Cost efficiency is less of a driver than ensuring legal certainty and minimisation of risk
- Some of those countries with the largest populations have adopted the retail model
- Foreign ownership limits are still common, however foreign ownership limits are very difficult to manage and enforce in a wholesale environment
- Transparency and investor protection are major drivers of the move of many markets to a Beneficial Holder Model

Trends and Tendencies

Shortening Settlement Cycles



Trends and Tendencies

Increased Automation (STP)



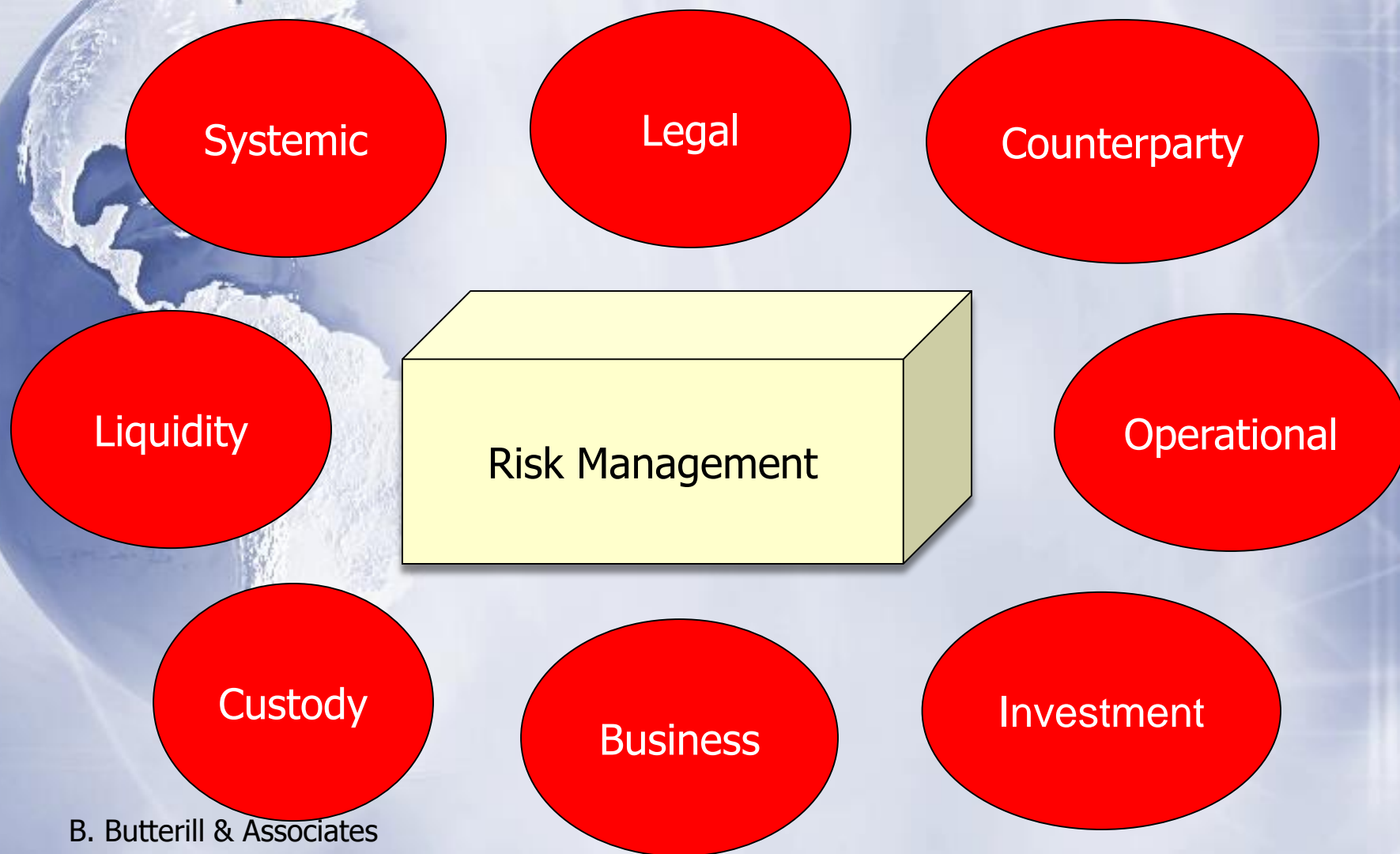
Trends and Tendencies

Risk Management

- In the past CSDs thought in terms of “Risk Avoidance”. That concept is now obsolete
- CSDs, like other businesses, are required to take and manage risks in order to meet their objectives and to generate value for their stakeholders
- An important part of managing the organization’s risk level is in understanding what level of risk (appetite) the organization has for various types of risk (financial, operational, legal, reputational), and how you manage within those levels

Trends and Tendencies

FMI Categories of Risk to Assess and Manage



Trends and Tendencies

Change is Generating New Risks

- The volume and complexity of risks CSDs are facing is increasing constantly;
 - Complexity and value of business transactions
 - Advances in technology
 - Globalization and linkages to other markets
 - Speed of product cycles and the pressure for new services and new sources of revenue
 - There is no reason to believe the pace of change will not continue to increase

Trends and Tendencies

Board and Risk Committee Responsibility

- The CSD Board and Risk Committee, whether defined by legislation or not, have a responsibility to challenge management to demonstrate the effectiveness of their processes in identifying, assessing, and managing the organization's risk exposures.
- They must also fully understand the level of risk that the organization is willing and capable of taking in the pursuit of value creation.
- Without that understanding it will be difficult or even impossible for the Board to effectively fulfill its risk oversight role.

Trends and Tendencies

Defining Risk Capacity and Risk Appetite

Risk capacity “refers to the maximum potential impact of a risk event that the firm could withstand and remain a going concern”(1).

Risk appetite “expresses the total amount of risk that an organization is willing to take to achieve its strategic objectives and meet its obligations to its stakeholders”(2)

$$\text{Capacity} \geq \text{Appetite}$$

(1) Committee of Sponsoring Organizations of the Treadway Commission (COSO), *Strengthening Enterprise Risk Management for Strategic Advantage*, 2009

(2) Towers Watson, *Risk Appetite -The Foundation of Enterprise Risk Management*, 2010

Trends and Tendencies

Elements of Risk Appetite ⁽¹⁾

Existing Risk Profile

The existing level and distribution of risks across risk categories

Risk Capacity

The maximum risk a company may bear and remain solvent

Risk Tolerance

The acceptable levels of variation an entity is willing to accept around specific objectives

Desired Level of Risk

What is the desired risk / return level

**Determination
of
Risk
Appetite**

Trends and Tendencies

Some Final Thoughts on Risk

- CSDs should ...
 - make understanding their appetite for Risk a central part of the Business Strategy
 - identify what strategies they are and are not willing to pursue because of the level of risk
 - protect their **REPUTATION** like a priceless jewel, because once it is lost, it is often impossible to regain

International Standards

XXX



Operational Quality and Reliability

Use of International Standards

ISO 6166
ISIN
International
Securities ID
number

ISO 10962
CFI
Financial
Instrument
Classificati
on

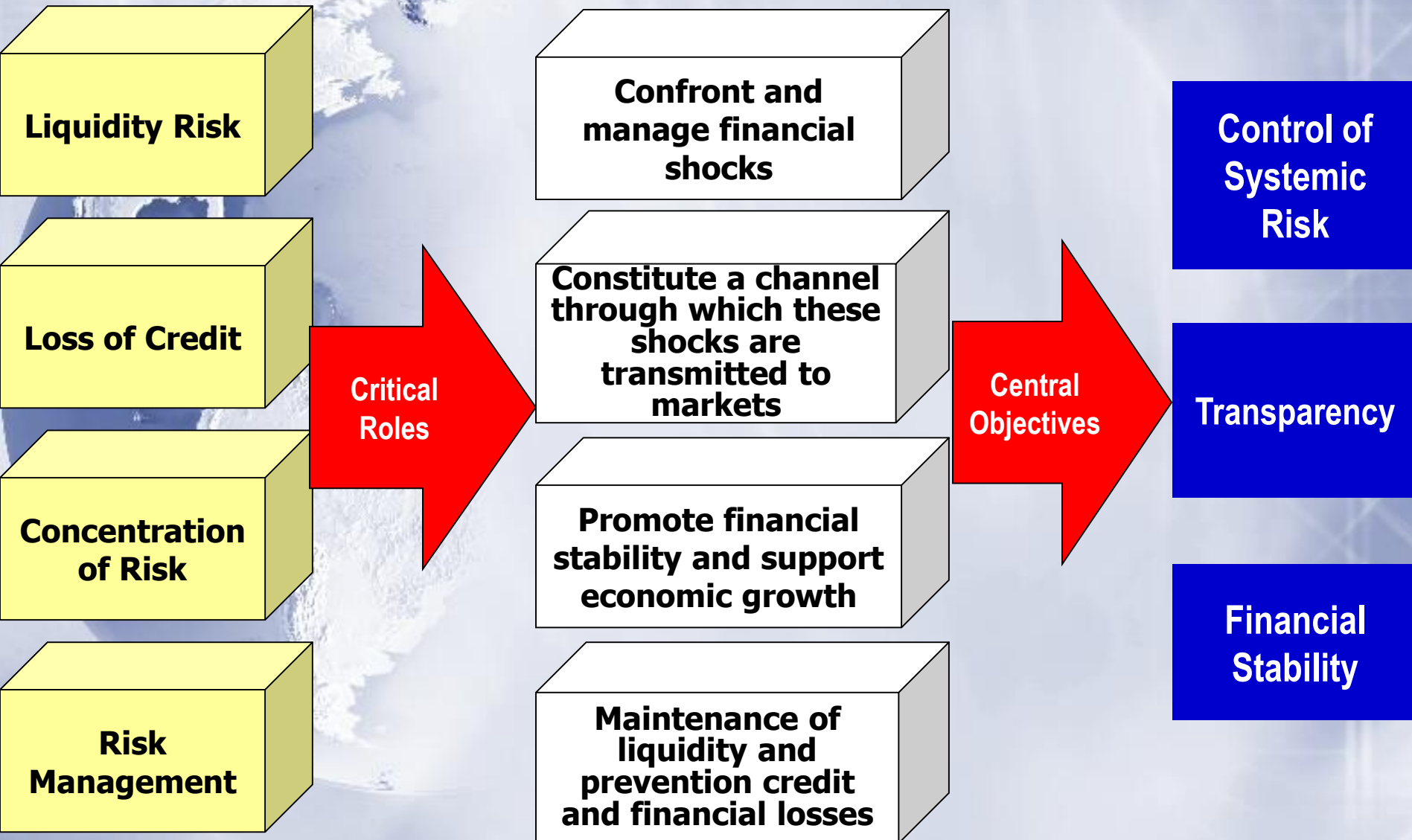
ISO 10383
MIC
Market
Identifier
Code

ISO 18774
FISN
Financial
Instrument
Short
Name

ISO 16372
ISO 17742
IGI
Issuer and
Guarantor
ID
New: LEI

Interoperability
Harmonization and Standardization
Consistency
Quality and Efficiency

CPSS/IOSCO Principles – Risks being Addressed



Factors Influencing Pricing Approaches

- A great number of factors influence a CSD's pricing approach, including;
 - For-profit versus not-for-profit structure
 - Level of competition
 - Desire for fee schedule simplicity or tolerance for complexity
 - Nature of the cost base
- CSDs have a highly fixed cost base, yet many opt for pricing structures which yield a highly volatile revenue stream
 - Desired level of revenue stability ... or tolerance for volatility
 - Avoidance of cross-subsidization
- Regulatory involvement
- Historical market practices

Pricing Trends

- Transparency in pricing has increased significantly ...
 - Most CSDs now post their fee schedule on their website
 - European code of conduct – many CSDs include fee calculation examples
 - Many, however, remain almost incomprehensible
- Price lists are increasing, not decreasing in size and complexity
 - Unbundling of prices
 - Cross subsidy avoidance
 - Growing business complexity
 - Profit motivations

Pricing Trends

- Pricing philosophies and approaches are as varied as ever ...
 - Ad valorem pricing is extremely common, and can be found in fees for custody/safekeeping, asset servicing and transaction processing – leading to enormous differences in pricing between CSDs
 - Use of tiering and volume discounts are extremely prevalent
- Extremely varied revenue models
 - Increased revenue from non-traditional sources
 - There are “traditional” CSDs realizing 90+% of their revenue from trade processing services and some realizing 75+% from custody related services.

Pricing – Volume remains King

- In 1982, The Canadian Depository for Securities (CDS) averaged 12,600 exchange trades per day
- In 1982 the cost to clear and settle an exchange trade was CAD 0.63

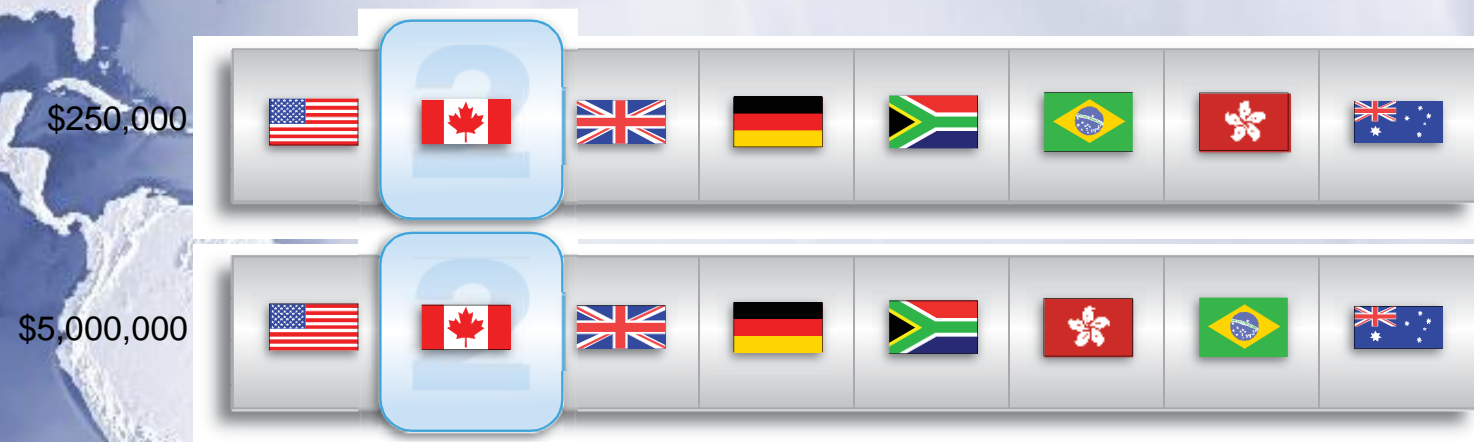
32 years later

- On October 16, 2014 CDS processed a record 3,178,013 exchange trades
- In 2014 the cost to clear and settle an exchange trade is CAD 0.005

There is no substitute for volume growth in reducing prices in a material way

Pricing Matters

CSDs are benchmarking their prices and pricing practices to other CSDs as a result of stakeholder pressure



As part of their Recognition Order, CDS in Canada every Two years must compare their pricing with other CSDs to demonstrate that their competitive position has not deteriorated



Thank you and Happy 10th
Anniversary

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