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**Annual Meeting
& Exhibit**

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Session 032 PD - Life Insurance Capital Framework in Canada

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A New Chapter in Capital Requirements for Canadian Life Insurers: The *Life Insurance Capital Adequacy Test* (LICAT)

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Office of the Superintendent of Financial Institutions (OSFI)

October 16, 2017

What we will cover today...

- ❖ Overview of OSFI and the Canadian Landscape
- ❖ Developing the LICAT
- ❖ Demystifying the LICAT
 - ❑ Available Capital
 - ❑ Capital Requirements
- ❖ Implementing the LICAT

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Who is OSFI?

OSFI is an independent agency of the Government of Canada, established in 1987

Our *mandate* is to protect depositors, policyholders and other creditors by:

- developing guidance on risk management and mitigation
- assessing the safety and soundness of financial institutions
- intervening promptly when corrective actions need to be taken

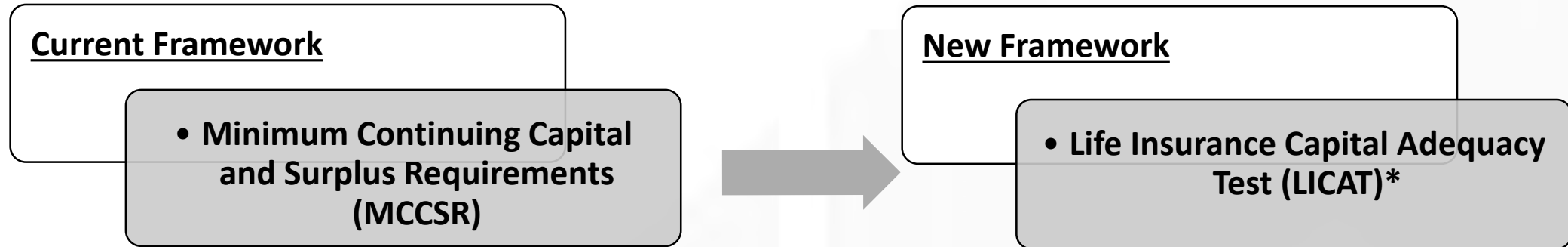
Life Insurance Sector in Canada

- **Who OSFI regulates**
 - ✓ Over 70 domestic companies and foreign branches
- **Three major players**
 - ✓ Hold 90% of assets
 - ✓ Operations in Canada, the U.S., Europe and Asia

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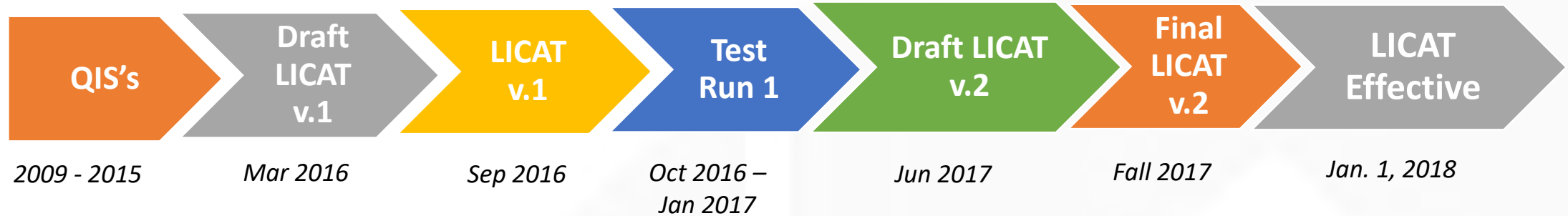
New Capital Framework for Life Insurers



LICAT represents an evolution in OSFI's solvency expectations

- Better aligns capital and risk measures with the life insurance business
- Incorporates lessons learned from financial crisis
- Framework more compatible with future IFRS changes (e.g. IFRS 17)
- Considers advancements in international standards

LICAT Development



- LICAT developed using Quantitative Impact Studies (QISs), adding one risk component at a time
- OSFI and industry are in **Implementation** phase
- LICAT v.2 needed to add clarifications and address outstanding issues, calibration following Test Run 1

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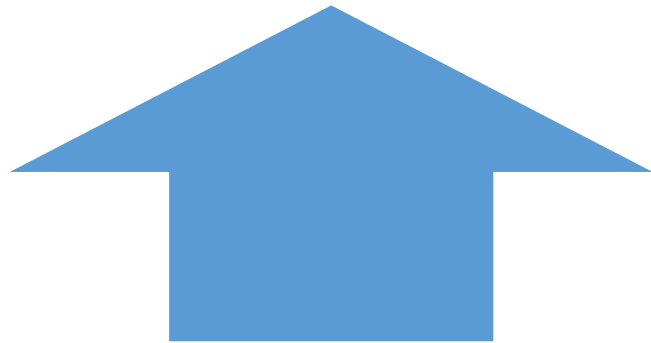
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LICAT – General Approach

- A mix of factor-based approaches and prescribed shock assumptions
- Most risks are measured at target, at a level of confidence of CTE99 over a one year horizon
- More advanced risk-based techniques to measure Credit, Market and Insurance risks
- Explicit measure of Operational risk requirement
- Risk sensitive measure of credit for par and adjustable products
- Diversification credits

Construct of LICAT Ratios

Available Capital (AC)



+ Surplus Allowance (SA): Specified GAAP risk margins using CALM*:

- All risk margins for risk free interest rate assumptions associated with insurance contracts, and
- All risk margins associated with insurance assumptions (e.g. mortality, morbidity, lapse)

+ Eligible Deposits (ED):

Unregistered reinsurers' deposits in excess of liabilities ceded, subject to limits



Base Solvency Buffer (BSB):

(capital requirements – credits) x *scalar*



Construct of LICAT Ratios

$$\text{Total Ratio} = \frac{AC + SA + ED}{BSB}$$

$$\text{Core Ratio} = \frac{\text{Tier 1 } AC + 70\% \times SA + 70\% \times ED}{BSB}$$

Where:

AC = Available Capital

SA = Surplus Allowance

ED = Eligible Deposits

BSB = Base Solvency Buffer

Supervisory Ratios	Total		Core	
	LICAT (effective 1.1.2018)	MCCSR (current framework)	LICAT (effective 1.1.2018)	MCCSR (current framework)
Target	100%	150%	70%	105%
Minimum	90%	120%	55%/50%	60%



LICAT – Available Capital

Updated qualifying criteria for instruments:

- No step-ups, no innovatives
- The 2015 MCCR guideline incorporated updated criteria for all capital instruments issued on or after August 7, 2014
- Transition measures outlined in LICAT for instruments issued prior to August 7, 2014

Most deductions from Tier 1:

- Intangibles
- Deferred tax assets
- Encumbered assets

Better Quality Capital

Restrictions:

- Capital instruments issued by consolidated subsidiaries to 3rd parties may be subject to a limit

→ Revised limits

Common Equity	≥ 75% Net Tier 1
Net Tier 1	≥ Net Tier 2

Still reviewing application of NVCC for life insurers:

- Pending developments on NVCC & bail-in internationally, and review of resolution framework for insurers in Canada
- If NVCC applies to life insurers, outstanding instruments, other than common shares, would likely be non-qualifying and transition would be needed to the new regime

LICAT – Base Solvency Buffer

Credit Risk

- Factor-based approach

$$\text{Base Solvency Buffer} = \text{Factor} \times \text{Exposure Amount}$$

- Factors depend on both rating and maturity of underlying assets

Rating	Effective Maturity In Years					
	1	2	3	4	5	10
AAA	0.25%	0.25%	0.50%	0.50%	1.00%	1.25%
AA	0.25%	0.50%	0.75%	1.00%	1.25%	1.75%
A	0.75%	1.00%	1.50%	1.75%	2.00%	3.00%
BBB	1.50%	2.75%	3.25%	3.75%	4.00%	4.75%
BB	3.75%	6.00%	7.25%	7.75%	8.00%	8.00%
B	7.50%	10.00%	10.50%	10.50%	10.50%	10.50%
Lower than B	15.50%	18.00%	18.00%	18.00%	18.00%	18.00%

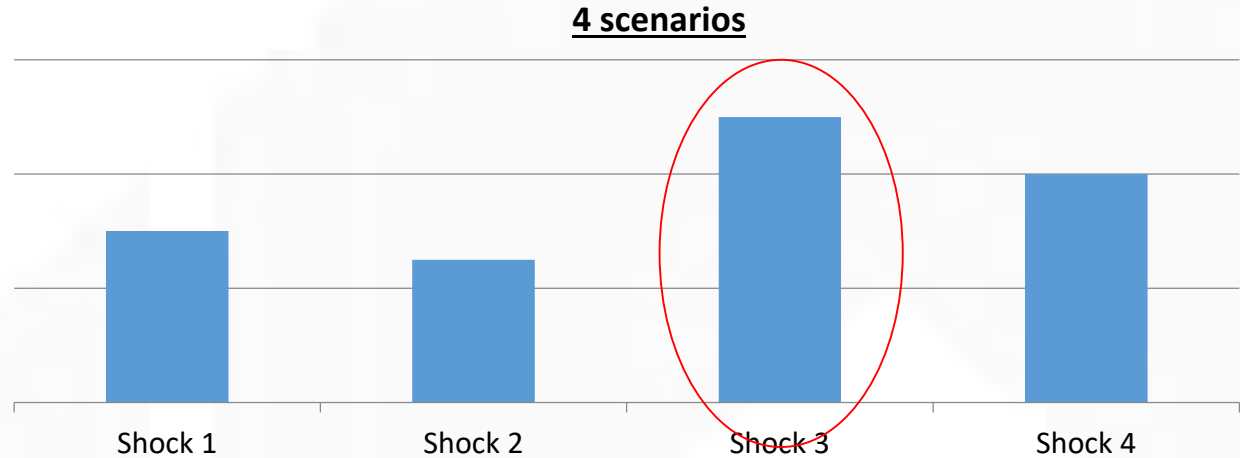
- If an asset is backed by collateral or has a guarantee, credit risk factor may be reduced (substitution approach)
- All unrated bonds, loans, and derivatives exposures receive factor of 6%
- Internal ratings are not allowed
- Registered reinsurance assets subject to a 2.5% credit risk factor
- Derivatives and commitments: factors applied to credit equivalent amount (rather than full value)

LICAT – Base Solvency Buffer

Market Risk

Interest Rate Risk:

- Risk of loss from changes in interest rates
- Shock-based scenarios, discount rates as per LICAT
- Required Capital = MAX (Scenario 1, Scenario 2, Scenario 3, Scenario 4)



LICAT – Base Solvency Buffer

Market Risk

Equity Risk:

- Risk of loss due to potential changes in prices of equity investments
- Factors apply to market value of exposures

Common Equity		Preferred Shares	
35%	Developed markets, listed and non-substantial	3%	P1
40%	Developed markets, non-listed/ substantial	5%	P2
45%	Other markets, listed and non-substantial	10%	P3
50%	Other markets, non-listed / substantial	20%	P4
		Common equity risk factor	P5 and unrated

LICAT – Base Solvency Buffer

Market Risk (cont'd)

Real Estate Risk:

- Risk of loss due to changes in amount and timing of CF from investments in real estate
- Required capital determined on a property-by-property basis
- Investment properties vs. owner-occupied/Other properties
- Plant and Equipment: 30% BS Value

Investment Properties		
Leases in force	Interest Rate Risk	Credit Risk = PV(CF) x Factor
Residual Value	30% risk factor	
Owner-Occupied/Other Properties		
If FV available	BS Value – 70% FV	
Otherwise	30% BS value	
Plant & Equipment		
	30% BS value	

LICAT – Base Solvency Buffer

Market Risk (cont'd)

Currency Risk:

- Risk of loss due to changes in amount and timing of CF arising from changes in currency exchange rates
- Two steps to calculate required capital:
 1. Measure exposure in each currency position
 2. Calculate required capital for the portfolio of positions in different currencies

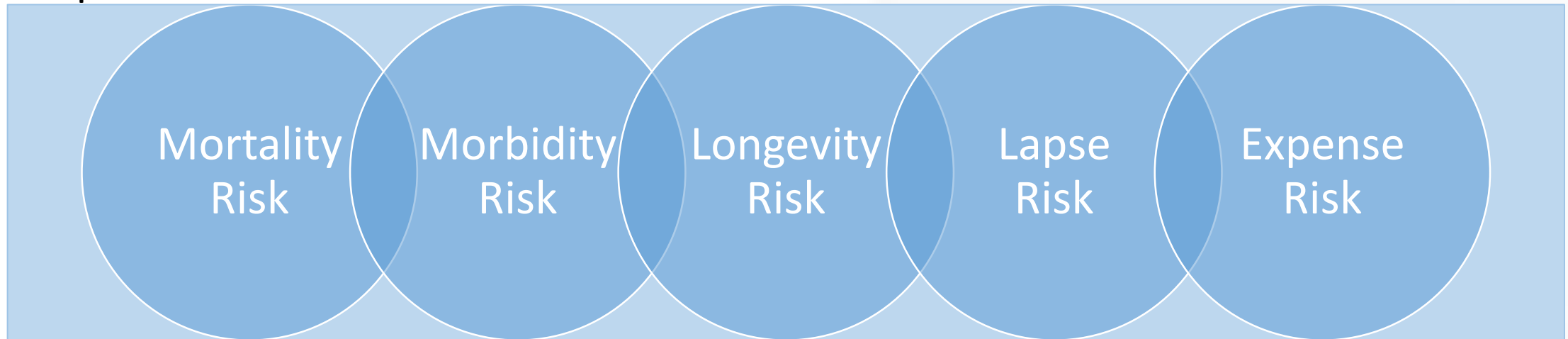
Required Capital = 30% x (MAX[*Net open long positions per currency**, *Net open short positions per currency*] + Net open position in gold)

*[Actual net long positions per currency can be reduced by 120% of BSB in the currency to calculate the net open long position for LICAT purposes]

LICAT – Base Solvency Buffer

Insurance Risk

Components:



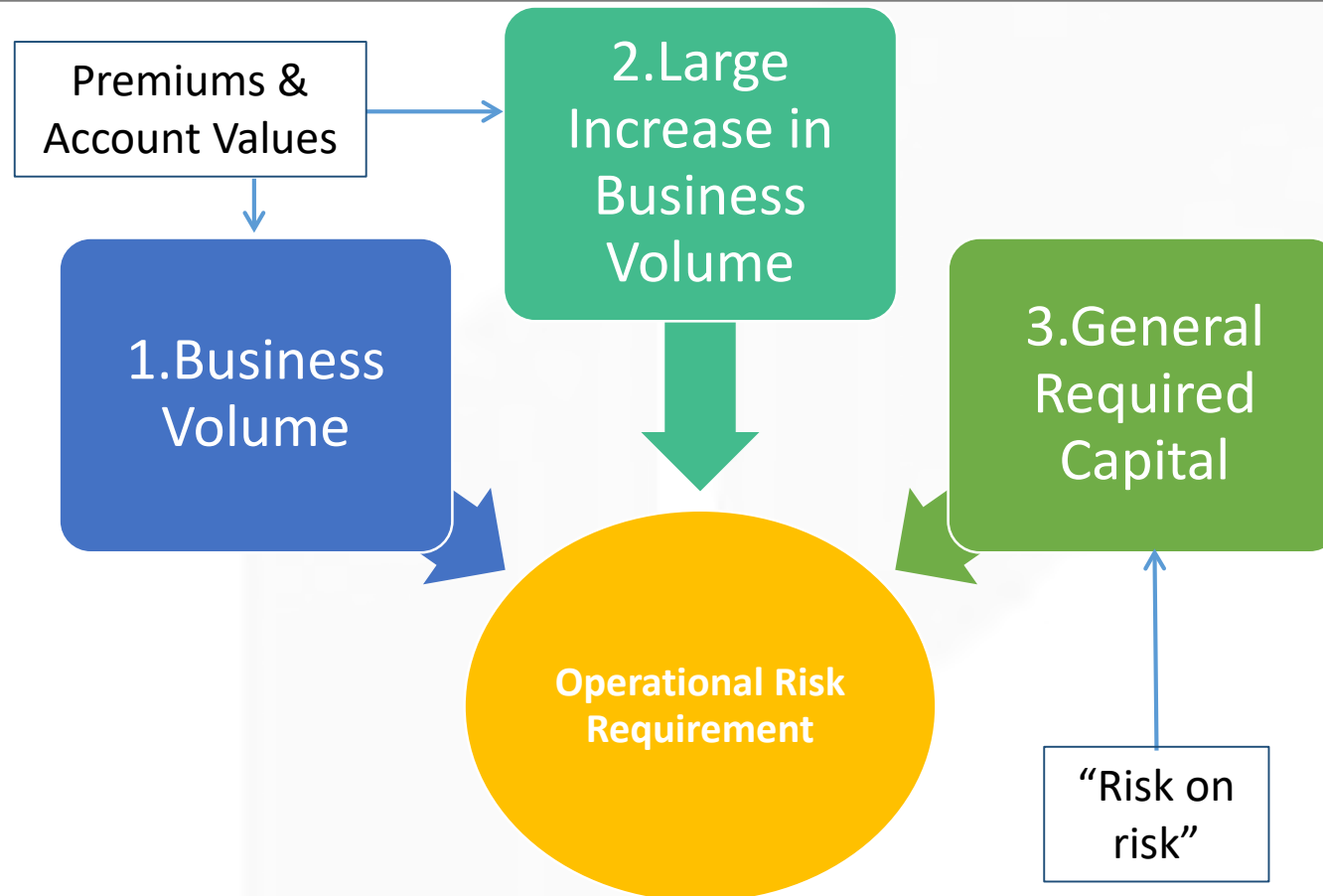
Sub-Components:



- Required Capital for each component = $RC_{level} + RC_{trend} + \sqrt{RC_{vol}^2 + RC_{cat}^2}$
- Prescribed shocks applied to projected CF for each risk sub-component
 - Required Capital_{sub-component} = PV(shocked values - best estimate)

LICAT – Base Solvency Buffer

Operational Risk



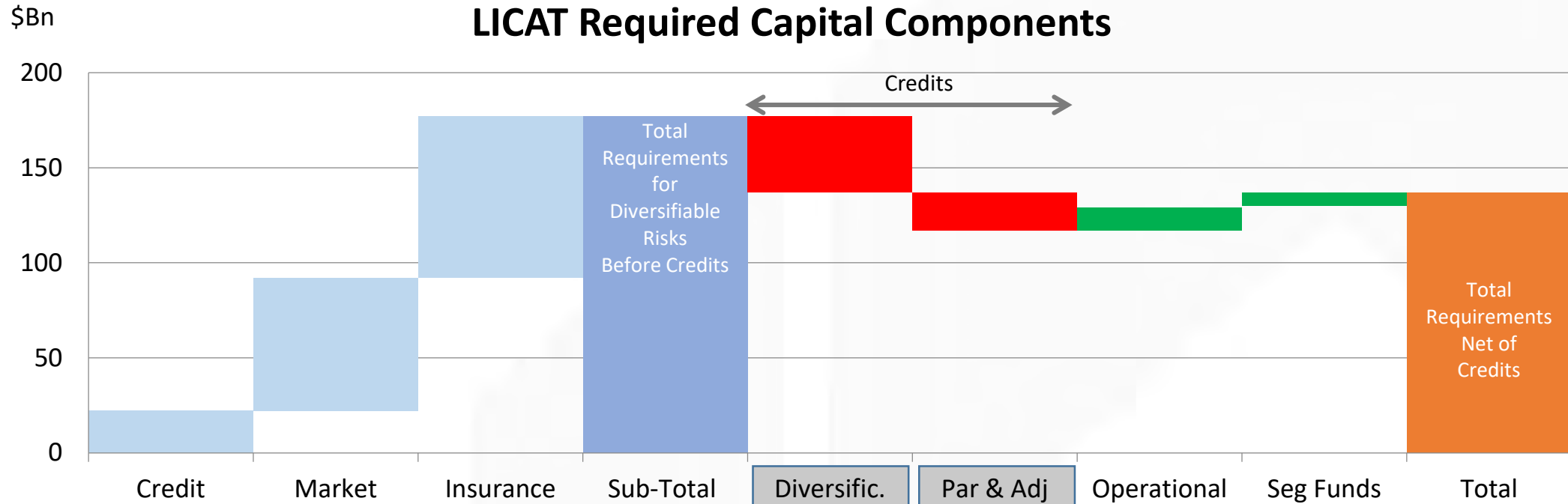
LICAT – Base Solvency Buffer

Segregated Funds Guarantee Risk

- Work to develop standard approach has begun - separate track
- Fall 2016: QIS#1 to test methodologies and assumptions
- Summer 2017: QIS#2 to test methodologies and assumptions
- Summer 2018 – QIS#3 (planned)
- New approach will form Chapter 7 of the LICAT Guideline
- Planned effective date is subject to consideration of impact of IFRS 17

LICAT – Base Solvency Buffer

Credits



- Within insurance and its sub-risks:
 - Within Mortality and Within Morbidity
 - Across Insurance sub-risks (correlation matrix)
- Between risks:
 - Credit/Market risks and Insurance risk

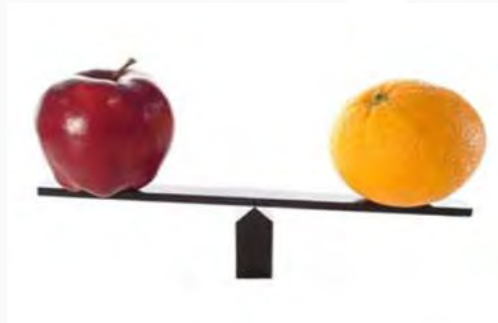
- Participating and Adjustable: credit depends on loss absorption capacity, combined with a minimum required capital for each risk and limits on gross adjustability
- Other smaller credits (e.g. policyholder deposits, groups business)
- Must meet specific LICAT criteria to qualify for credits

LICAT – Reinsurance

Registered Reinsurance	Unregistered Reinsurance
- Generally, reinsurer is regulated in Canada	- Generally, reinsurer is not a Canadian-regulated entity
- Reduces base solvency buffer	- Does not reduce the base solvency buffer
- No additional credits beyond reduction of base solvency buffer	- Credit for unregistered reinsurance is provided in the numerator of the solvency ratio in the form of Eligible Deposits
- Credit for reinsurance fully reflected as a reduction in the base solvency buffer	- Limit on Eligible Deposits is set so that final reported ratio, with deposits included, cannot exceed the ratio had it been calculated net of all reinsurance

LICAT – Impacts

- Impact on individual life insurers dependent on what businesses they are engaged in, what risks that they take on and how these are managed.
- Overall level of capital in excess of supervisory targets is not expected to change significantly for the industry as a whole
- LICAT ratios and MCCR ratios not directly comparable



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LICAT – Implementation

- Considerable undertaking for OSFI and the industry



- Resources
- Systems
- Sensitivity Analysis
- Reporting
- Strategic Integration
- Learning and Communication



OSFI
BSIF

- Test run #2 exercise: mandatory for all insurers

LICAT – What is next?

2018:

- Fall 2017 – Final LICAT Guideline
- January 1, 2018 – LICAT effective date

...and Beyond:

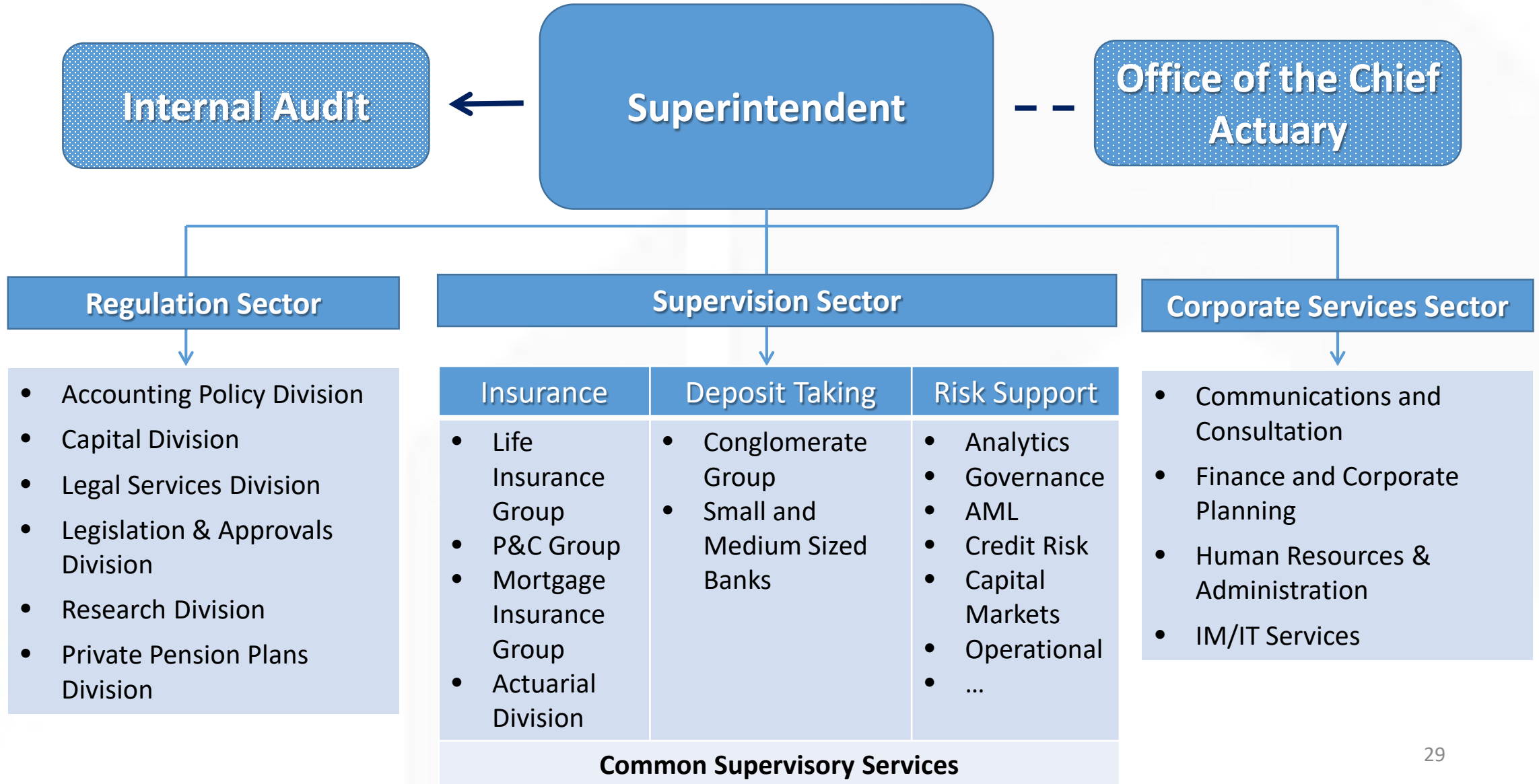
- Annual reviews of the guideline



Questions and discussion



Annex I: Structure of OSFI



Annex II: Where to go for additional information?

Information	Location
OSFI's website	www.osfi-bsif.gc.ca
DRAFT Life Insurance Capital Adequacy Test (LICAT) (June 2017)	http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gl-ld/Pages/LICAT18_index.aspx
Insurance Companies Act (ICA)	http://laws-lois.justice.gc.ca/eng/acts/I-11.8/index.html
Office of the Superintendent of Financial Institutions Act (OSFI Act)	http://laws-lois.justice.gc.ca/eng/acts/O-2.7/index.html