

Presentation on the Insurance Policy  
Advisory Committee (IPAC) Report on  
the Potential Impact of the ICS on the  
U.S. Life Insurance Industry,  
Policyholders and Markets

Link to the report

<https://www.milliman.com/IPAC>

# Disclaimer

- ▶ Today's presenters are speaking *to* the IPAC report, but they are not speaking on behalf of the IPAC
- ▶ These views do not necessarily reflect those of the Federal Reserve Board or the employers of the IPAC members/presenters

# Introduction

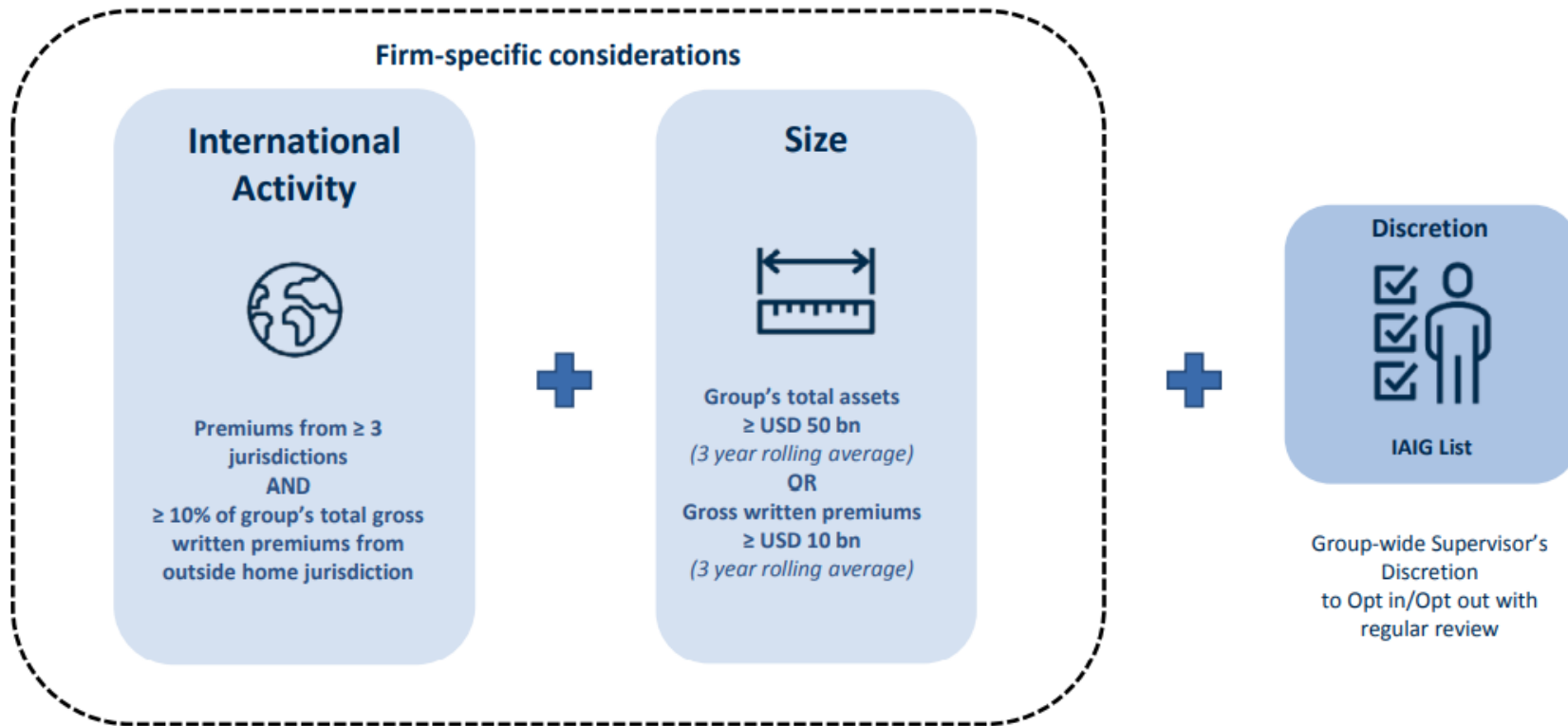
- ▶ The Insurance Policy Advisory Committee (IPAC) was established in 2018 by an act of Congress to provide information, advice, and recommendations to the Board of Governors of the Federal Reserve (Board) on international insurance capital standards and other insurance policy issues
- ▶ IPAC members bring their expertise via US industry, trade groups, academia and consumer advocacy
- ▶ IPAC formed a working group in 2020 comprised of its members to provide advice to the Board based on a study of the International Association of Insurance Supervisors' (IAIS) Insurance Capital Standard (ICS) impact on the US

# Introduction

- ▶ The objective of this study is to assess the potential impact of the IAIS' ICS on the US insurers, policyholders, and markets, with a focus on long-duration life insurance and retirement products
- ▶ This focus was based on prior feedback from ICS field-testing volunteers and other stakeholders that the ICS (reference method) does not accurately reflect key features of these products and misrepresents the financial strength of insurers that offer them
- ▶ The study incorporates the results and finding from a quantitative 'stylized' insurer model

# ICS Applicability as a Group Prescribed Capital Rule (PCR)

- ▶ ICS applies to internationally active insurance groups (IAIGs)



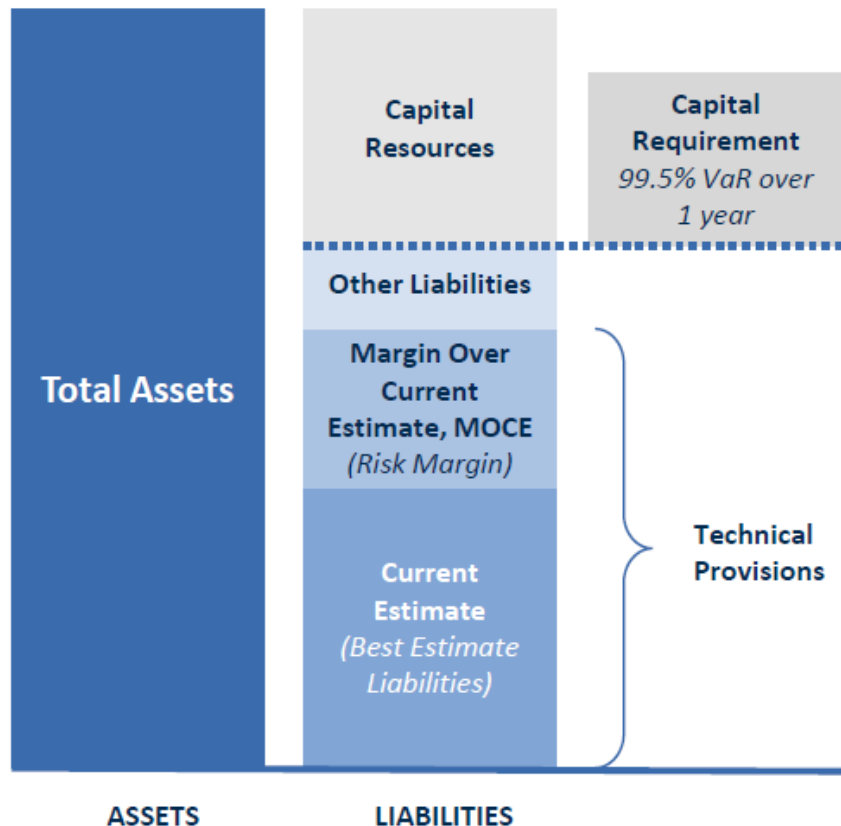
# Reference ICS

The paper considers the impact specifically of the ICS 2.0 for the Monitoring Period Reference Method or Reference ICS as described below:

- ▶ **Valuation:** Market Adjusted Valuation (MAV) approach
- ▶ **Qualifying Capital Resources:** Based on the criteria provided in the ICS Technical Specifications
- ▶ **Capital Requirement:** Based on the ‘Standard Method’ as defined in the ICS Technical Specifications

The April 2020 ICS Technical Specifications (public) were referenced in the design of the IPAC stylized insurer model and in the evaluation of the ICS design. An IPAC review of subsequent ICS Technical Specifications noted only minor changes which were not deemed to have a material impact on the model design or report conclusions.

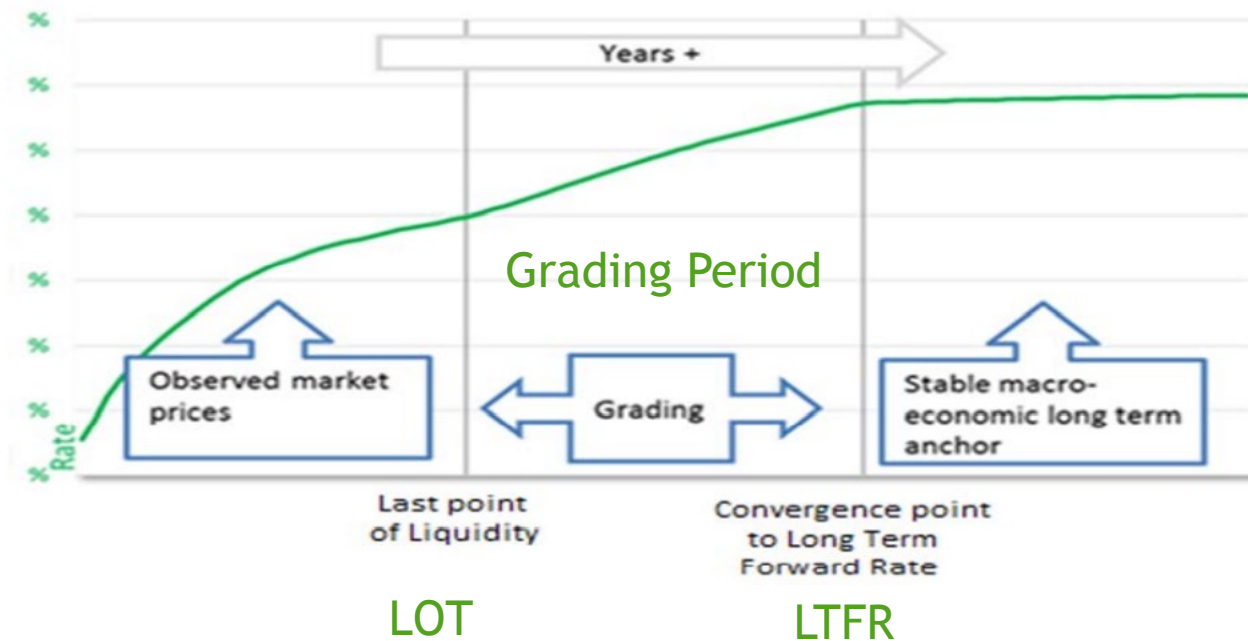
# ICS Market Adjusted Valuation (MAV)



- ▶ Total Balance Sheet Approach with assets and liabilities valued on a consistent basis
- ▶ Fair value for invested assets
- ▶ Insurance liabilities:
  - ▶ **Current estimate:** probability weighted average of present values of future cash-flows using a *prescribed MAV discount curve*
  - ▶ **MOCE:** Margin over the current estimate to cover uncertainty inherent in cash flows
- ▶ Other assets/liabilities: only revalue the most material items, otherwise use applicable IFRS or GAAP reported values

# ICS MAV Discounting - Base Yield Curve

Insurance liabilities, particularly life insurance liabilities, are long-term so a base yield curve needs to extend beyond the observable risk-free instruments in the market...



# ICS MAV Discounting - Three Bucket Approach

**Insurance liabilities are assigned to buckets based on criteria that assess the extent of cash flow matching and illiquidity of the liability**

**The more illiquid and cash flow matched, the higher the spread allowed. An average spread adjustment is added to the base yield curve**

## ▶ Top Bucket

- ▶ Fully matched cashflows, highly illiquid
- ▶ 100% insurer's own portfolio spread

## ▶ Middle Bucket

- ▶ Partially matched cashflows, generally illiquid
- ▶ Weighted Average of Multiple Portfolios (WAMP) spread \* 90% application ratio

## ▶ General Bucket

- ▶ Default bucket
- ▶ General portfolio spread \* 80% application ratio

# IPAC ICS Stylized Model

- ▶ The IPAC ICS Stylized Model ('Model') leverages the work of the CRO Coalition and the IAIS' reference ICS approach
- ▶ It provides a platform to perform a limited calculation based on the April 2020 specifications for the reference ICS version 2.0 for the monitoring period ('ICS')
- ▶ Six large US life insurers ('Data Volunteers') contributed data that was aggregated for use in the Model

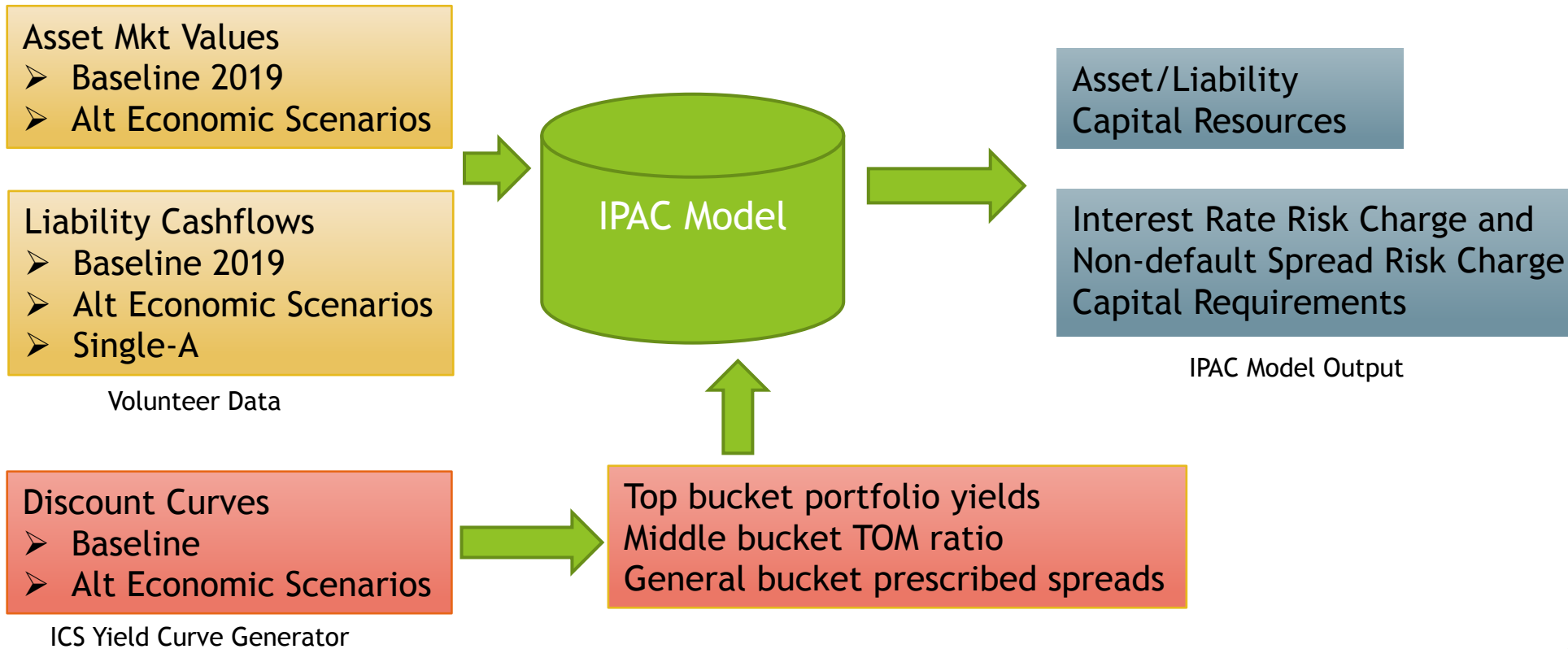
# Model Scope

- ▶ Includes only specific long-duration life insurance and retirement products offered in the US
- ▶ Valuation of insurance liabilities and related investment assets under the MAV approach
- ▶ Capital requirement calculation for Interest Rate Risk and Non-Default Spread risk charges only
- ▶ Not as full ICS ratio calculation. Produces an excess capital amount under each IPAC defined scenario

# Model Inputs

- ▶ Data provided for the Model represents actual data from Data Volunteers' long-term portfolios
- ▶ Data was limited to specified product portfolios and the assets backing them, including term life, participating ('Par-life') and non-participating whole life, universal life, payout annuities, structured settlement annuities, and long-term disability
- ▶ Data Volunteers contributed the following data to populate the Model
  - ▶ Market value of investments
  - ▶ Insurance liability cash flows
  - ▶ Top and Middle bucket supporting data (i.e., Top bucket spreads, TOM ratios)

# IPAC ICS Stylized Model Diagram



- ▶ Liability balances were derived from applying ICS discount curves to Dec 31<sup>st</sup> 2019 liability cash flows determined under 2019 baseline and alternative economic scenarios (per April 2020 ICS Technical Specifications design)

# Model Scenarios

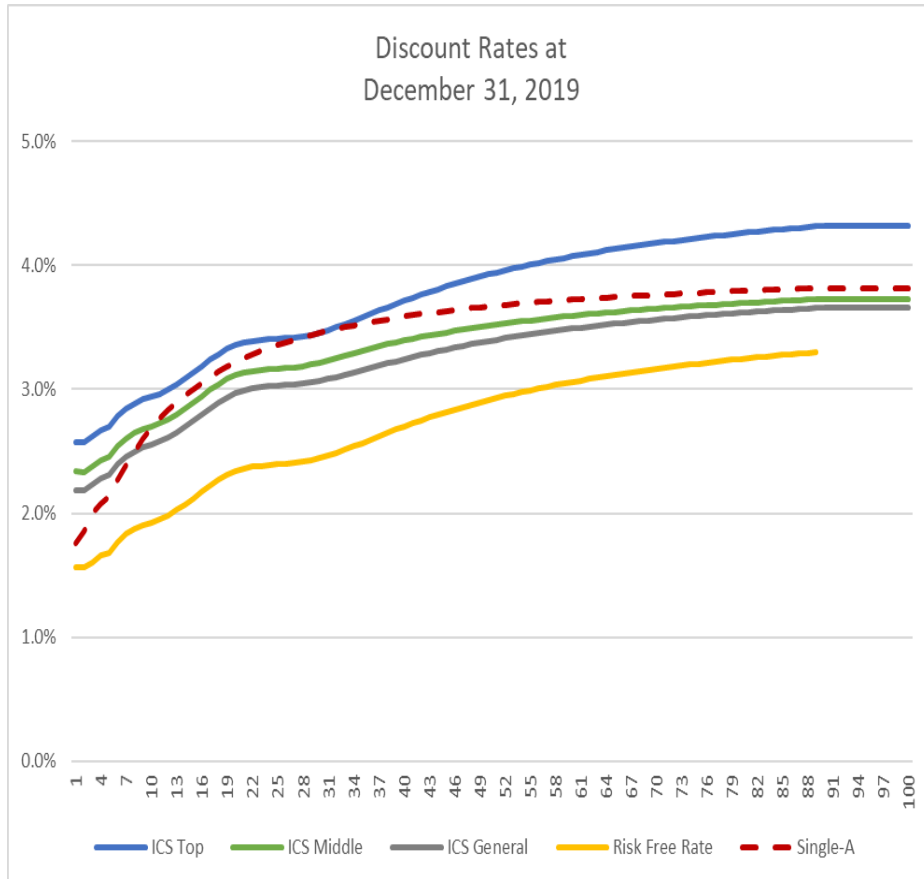
## Economic Scenarios

- **12.31.2019:** Baseline scenario under ICS and Single-A discount curves
- **3.31.2020:** Selected as an example of spread widening and risk-free rates falling
- **6.30.2020:** Selected as an example of a drop in credit spreads
- **Interest Rate 'Spike up':** Shock of risk-free rate using high point over last 5 years above the Baseline scenario

## Alternative 'What if' Scenarios

- **ICS Base Yield Curve**
  - Increase the spread over the long-term forward rate (LTFR) from 20 to 100 bps
  - In addition to the above, reduce grading period from last point of liquidity (LOT) to LTFR from 60 to 40 years
- **ICS Three-Bucket Approach**
  - Modified Top and Middle bucket spread adjustment to reflect spread of certain ineligible assets
  - Modified spread adjustment of Middle and General buckets by applying 100% application ratio
  - Moved all General bucket liabilities to Middle bucket

# Model Results and Analysis



- ▶ ICS General and Middle bucket liability discount rates are meaningfully more conservative (lower) than the Single-A discount rates over most tenors
- ▶ ICS capital resources are significantly lower than those calculated using a Single-A discount rates\*
- ▶ Notably for long duration liabilities, the impact is significantly punitive

\* A Single-A corporate bond curve was selected as a benchmark to compare to results of the ICS. The IPAC chose a Single-A curve as it aligns with US GAAP accounting (FASB Accounting Standards Update 2018-12), and serves as a broad proxy for the average credit quality of assets held by US insurers to back long-duration insurance liabilities

# ICS MAV Discounting Produces Excessive Conservatism

12.31.2019 Baseline: December 31, 2019 market conditions (Fixed liability cash flows only)

\$ in Millions	ICS MAV				Single-A			
	Top	Middle	General	Total	Top	Middle	General	Total
Assets	64,933	50,480	110,308	225,721	64,933	50,480	110,308	225,721
Liabilities	55,325	35,634	103,552	194,511	56,642	34,928	100,278	191,849
Capital Resources	9,607	14,846	6,756	31,209	8,290	15,552	10,030	33,872
Interest Rate Risk				10,023				8,187
NDSR				695				1,931
Diversification				(499)				(1,249)
Excess Capital				20,990				25,003

Capital resources under ICS **33%** lower than those under Single-A for General bucket liabilities

Excess Capital under ICS **16%** lower than under Single-A

- ▶ ICS results are dependent on the mix of liabilities allocated to each bucket, with conservatism in the General and Middle buckets being offset by less conservatism in the Top bucket
- ▶ The bucket allocation criteria have an emphasis on explicit asset/liability cash flow matching that is not aligned with US long-term business ALM practices. The majority of US life business is allocated to General bucket
- ▶ The combination of the allocation of liabilities to the ICS three buckets not being aligned with the actual ALM practices of US insurers and the inherent offsetting level of conservatism between the buckets, increases the likelihood of the ICS producing inappropriate signals to regulators and markets as a result of the liability bucketing
- ▶ Conservatism in the ICS discount rate curves results in additional conservatism in the interest rate risk and non-default spread risk (NDSR) risk charges

# Economic Scenario Analysis

Baseline 12.31.2019 ➔ 3.31.2020

(A) 12.31.2019 Baseline: December 31, 2019 market conditions (all liability cash flows)

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	64,933	50,480	222,030	337,443
Liabilities	55,325	35,634	205,723	296,682
Capital Resources	9,607	14,846	16,307	40,760

(B) 3.31.2020 Scenario: March 31, 2020 market conditions (all liability cash flows)

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	64,885	49,470	218,672	333,027
Liabilities	52,552	35,638	204,291	292,481
Capital Resources	12,333	13,831	14,381	40,545

Change: 3.31.2020 Scenario - 12.31.2019 Baseline (all liability cash flows)

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	(48)	(1,010)	(3,358)	(4,416)
Liabilities	(2,773)	5	(1,432)	(4,201)
Capital Resources	2,726	(1,015)	(1,926)	(215)

Conservative ‘representative’ spreads, application ratios and the average spread over risk-free calculation are all sources of non-economic volatility, the impacts of which appear to have largely cancelled out under the 3.31.2020 scenario.

This appears to be at odds with the highly stressed market environment in Q1 2020 and brings into question the ability of ICS to provide a meaningful solvency signal in respect of U.S. long-term business, in a stressed market environment

# Economic Scenario Analysis

3.31.2020 ➡ 6.30.2020

**(B) 3.31.2020 Scenario: March 31, 2020 market conditions**

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	64,885	49,470	218,672	333,027
Liabilities	52,552	35,638	204,291	292,481
Capital Resources	12,333	13,831	14,381	40,545

**(C) 6.30.2020 Scenario: June 30, 2020 market conditions (all liability cash flows)**

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	69,208	52,655	234,760	356,623
Liabilities	59,190	39,335	223,309	321,834
Capital Resources	10,018	13,321	11,451	34,789

**Change: 6.30.2020 Scenario - 3.31.2020 Scenario (all liability cash flows)**

\$ in Millions	ICS MAV			
	Top	Middle	General	Total
Assets	4,323	3,186	16,088	23,596
Liabilities	6,638	3,697	19,018	29,352
Capital Resources	(2,315)	(511)	(2,930)	(5,756)

In contrast to the results of the 3.31.2020 scenario, the results for the 6.30.2020 scenario are much more severe relative to the significant improvement in market conditions in Q2 2020 from Q1 2020.

This further reinforces the concerns around the ICS being able to provide a meaningful solvency signal in respect of U.S. long-term business, during periods when there are large movements in market inputs.

# Risk Charges and Non-Economic Volatility

## All liability cash flows

\$ in Millions	12.31.2019 Baseline			
	IRR	NDSR	Diversification	Total
ICS MAV	14,762	582	(426)	14,918
Single-A	11,796	1,980	(1,336)	12,440
Difference	2,966	(1,398)	910	2,479

\$ in Millions	ICS MAV			
	IRR	NDSR	Diversification	Total
3.31.2020 Scenario	12,358	3,404	(2,148)	13,614
6.30.2020 Scenario	19,728	5,222	(3,317)	21,633

\$ in Millions	Change in ICS			
	IRR	NDSR	Diversification	Total
3.31.2020 - 12.31.2019	(2,405)	2,822	(910)	(493)
6.30.2020 - 3.31.2020	7,371	1,818	(1,169)	8,019

- ▶ The interest rate risk (IRR) charge exhibits non-economic volatility that is highly sensitive to short-term changes in the economic environment.
- ▶ IRR is measured assuming an artificially low starting interest rate environment that consequently overstates the impact of minimum interest rate guarantees and negative interest rates.
- ▶ The non-default spread risk (NDSR) charge is a source of non-economic volatility as the artificial disconnect between the measurement of assets and liabilities due to the ICS liability discount rate methodology is exacerbated when quantified under a shocked spread scenario and when impacted by market environments where there are large temporary changes in spreads

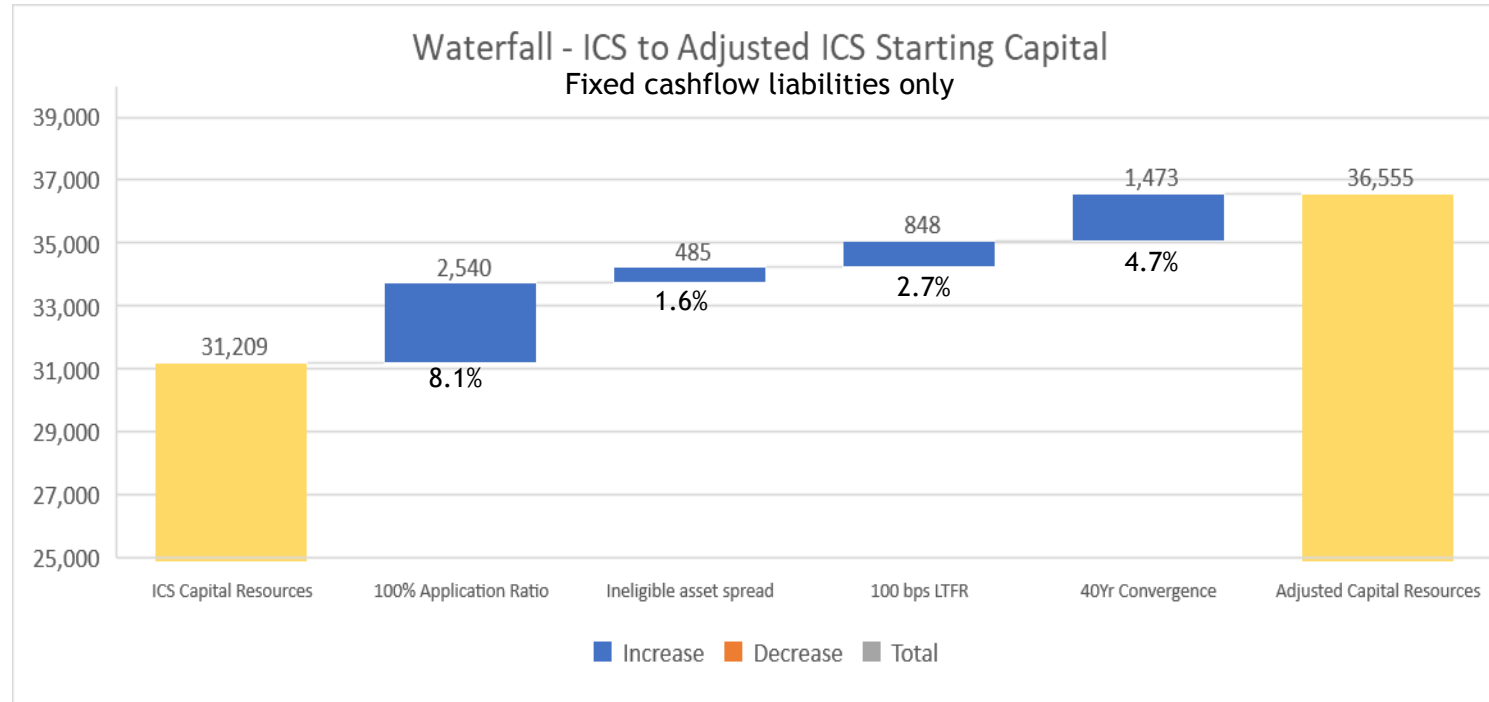
# Par Business Observations

- ▶ The criteria used to allocate products to the ICS three buckets fails to recognize the lower risk profile of Par-life business in terms of its ability to pass through risk via management actions
- ▶ As a result, Par-life business is allocated to the General bucket instead of the Middle or Top buckets, which are more appropriate for products with lower asset/liability mismatch risk
- ▶ The use of the conservative General bucket discount rate artificially limits the amount of pass through of risk that can be assumed as a result of management actions in the determination ICS IRR charge. Consequently, the ICS IRR charge with respect to Par-life products may be overstated
- ▶ This increases the risk that ICS may produce an inappropriate solvency signal in a low interest rate environment

## IPAC Proposed Revisions to ICS Discounting Design

- ▶ Align Three-Bucket criteria to modern ALM practices for long duration products
  - ▶ Top bucket requirements should be broadened to evaluate ALM strategies beyond strict cash-flow matching
  - ▶ Remove limitations on future premium for Top and Middle Buckets for products with substantial premium risk mitigation
  - ▶ Remove overly conservative requirement based on risk-free rates (Middle bucket)
- ▶ Refine liability discounting construction to better align asset & liability valuation
  - ▶ Application ratios should be removed
  - ▶ Spreads should use insurer's own asset portfolio or a more representative portfolio
  - ▶ Spreads should not be diluted by holdings of ineligible assets
- ▶ Replace flat spreads by tenor with tenor-specific design recognizing granular asset type within a given rating (e.g. public v. private, structured credit, etc.)
- ▶ LTFR spread should reflect stable, long-term expectation by currency, likely far higher than 20bp for USD portfolios

# Impact of Discounting Design Changes



- ▶ The Model estimates that the increase in capital resources from the proposed changes would amount to 17%

# ICS Capital Requirement Issues

- ▶ Any flaws in the Three-Bucket mechanism distort risk charges based on shocks to asset and liability values and should be remedied
- ▶ Interest Rate Risk
  - ▶ The variation in LTFR in up and down shocks adds inappropriate conservatism because there are few asset cash flows beyond the LOT to measure
  - ▶ Down-rate shocks dominate the charge, made more conservative by flat spread adjustments, LTFR adjustments [and fixed shocks even in low-rate environments]
- ▶ Non-Default Spread Risk
  - ▶ NDSR measures the change in asset and liability values under spread shocks, so by definition measures the flaws in the ICS liability discounting approach
  - ▶ Application ratios directly increase NDSR
  - ▶ Flat spread adjustments result in mismeasurement

# Insurance Group and Market Impacts

## ► Product Strategy

- A high percentage of US long-duration life and retirement products falls within the General bucket which translates into lower levels of capital resources, higher capital requirements, and ultimately a lower ICS Ratio
- The IPAC Model shows that ICS capital resources (excluding Par-life) are about one third lower as compared to the valuation under the Single-A benchmark.
- The conservatism of the General bucket also creates additional non-economic misalignment for Par-life products.

## ► Asset Liability Management (ALM)

- The current ICS design does not recognize the full benefit of ALM hedging programs in the calculation of the ICS ratio.
- As interest rates started trending down from Q4 2019 through Q1 2020, the IPAC Model shows capital resources did not move much under the 3.31.2020 scenario, primarily because at Q1 2020 spreads also widened
- An appropriately structured market-based capital measure should provide risk signals and prompt more timely need for risk mitigation, while also recognizing the benefit of risk mitigation actions such as dynamic hedging

# Insurance Group and Market Impacts

## ► Strategic Asset Allocation

- ICS liability discounting fails to recognize the differential yield that a number of asset classes, including illiquid assets that provide important illiquidity premium, have historically generated while supporting long duration products
- The ICS framework, including spread haircuts and shocks, thus further distorts the ALM benefits of assets classes termed broadly as ‘Alternatives’ as well as long-term equity investments in infrastructure

## ► Capital Markets and Cost of Capital

- Capitalization influences insurers’ ratings which, in turn, directly impacts the costs they will incur in raising and maintaining capital (e.g., debt service costs).
- In considering the results from the IPAC model generally, the financial strength of an insurer would be perceived very differently if looking at the overly conservative results of the reference ICS versus the Single-A benchmark

# Insurance Group and Market Impacts

## ► Competitive Landscape

- ICS applies to IAIGs only, which would create an unlevel playing field
- US IAIGs would face unfair competitive challenges from non-IAIGs that operate in the same market

## ► Impact on Long Duration Products

- IAIGs would likely be economically pressured to reduce or stop selling such products, pass additional capital-associated costs on to consumers, or change the product design to make it more capital efficient
- Some jurisdictions have signaled that they are moving towards ICS-like capital regimes for all insurers of a certain size and complexity; If the US were to follow a similar approach, the ICS design issues identified in this report would impact all US insurers and translate into higher cost and/or reduced product availability market-wide, thus adversely impacting consumers

# Regulatory Perspective

## ▶ The ICS as a US PCR

- Not appropriately tailored to US business practices, products and markets
- Results are overly conservative
- Results may also reflect exaggerated risk charges and risk charge movements period-over-period, due to conservatism and discounting mismatch
- NDSR charge is also prominent source of inappropriate volatility

▶ Given the high probability for false signals and significant ramifications of such false signals, the ICS, as currently designed, would not be appropriate as a PCR for US IAIGs.

# Regulatory Perspective

- ▶ **The ICS utility as a monitoring tool**
  - A redesigned ICS has the potential to provide regulators with a globally comparable measure of group solvency that is consistently market-based and reflective of an expanded set of risk factors relative to the existing US state-based capital regime.
  - Use of the ICS as a monitoring tool could introduce conflicting signals with the US supervisory system and heighten the risk of errant supervisory decisions.
  
- ▶ **Adjustments to existing local regulations could more efficiently deliver similar insights than implementation of a whole new framework such as the ICS**

# Report Conclusions

- ▶ With respect to the ICS, the IPAC understands the objectives of the IAIS to establish a common language for supervisors to discuss solvency of Internationally Active Insurance Groups (IAIGs) and to enhance global convergence among the group capital standards that are in place.
- ▶ The ICS, in its present form, does not appropriately reflect the product and risk-mitigation features of long-duration life and retirement products sold in the US and, perhaps just as important, it does not reflect how investment choices available in US capital markets support such long-duration products.
- ▶ As currently constructed, the ICS would not be appropriate as a PCR for US internationally active insurance groups.

# Report Conclusions

- ▶ Three broad observations:
  - ▶ The ICS fails to reflect several relevant asset classes and is overly reactive to credit spread movements. This could introduce excessive conservatism and significant volatility into required capital and excess capital indicators, potentially leading to false solvency signals for regulators and markets.
  - ▶ The treatment of Par-life in the ICS discounting methodology is misaligned with the actual risk-mitigating profile of that business causing overstatement of risk charges in low interest rate environments
  - ▶ The ICS does not recognize dynamic hedging programs or the use of long-term alternative assets in liability management. This introduces regulatory conflict between the ICS and the US statutory rules to which many businesses conform potentially impairing prudent management of these businesses and even introducing inappropriate risk and supervisory signals

# IPAC Recommendations

- ▶ To be “appropriately designed” for the business practices, products, markets and supervisory regime in the US, **at a minimum**, the proposed revisions described in the IPAC report will need to be satisfactorily addressed and incorporated
- ▶ Further, the IPAC also proposes that these changes be considered in the determination of comparability with the ICS in the forthcoming Aggregation Method comparability assessment

# Questions

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