Multi-line Aggregate Retention Stop-loss Program (MARS)

A presentation to Energy Insurance Services Members

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Willis Towers Watson

Captive 10-year expanding role

Year 1

Captive provides multi-line retention stop-loss program for $1 million self-insured retentions under workers compensation, general liability, automobile liability, cyber liability and property insurance policies

Year 3

Self-insured retentions increased from $1 million to $2 million and captive's stop-loss protection is expanded to cover increased exposure

Year 6

Medical stop-loss and wage and hour coverages are separately added to captive with $1 million limits

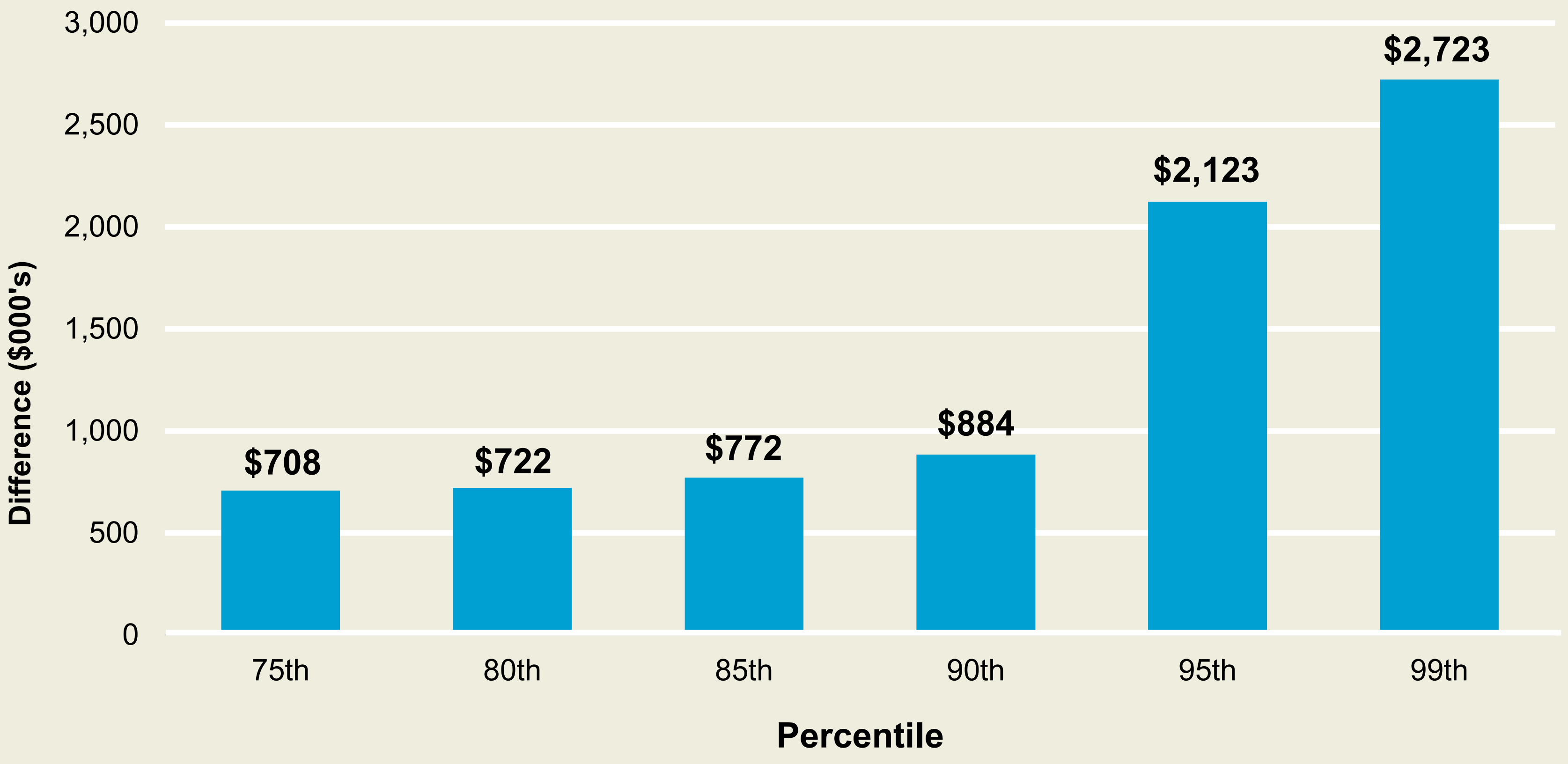
Year 9

Wild fire liability coverage provided by captive to a $100 million limit subject to a $1 million self-insured retention. Reinsurance purchased by captive for top $90 million of coverage

The volatility of retained losses is great, potentially impacting quarterly earnings

Comparison of Distribution of Total Losses ($000's)			
	Siloed (100% Correlation)	**Diversified** (Selected Correlation)	**Difference**
Mean	$6,612	**$6,612**	$0
50th Percentile	6,119	**6,423**	-303
75th Percentile	8,390	**7,682**	708
80th Percentile	8,746	**8,024**	722
85th Percentile	9,188	**8,416**	772
90th Percentile	9,795	**8,911**	884
95th Percentile	11,846	**9,723**	2,123
99th Percentile	13,946	**11,222**	2,723

Difference between siloed and diversified view

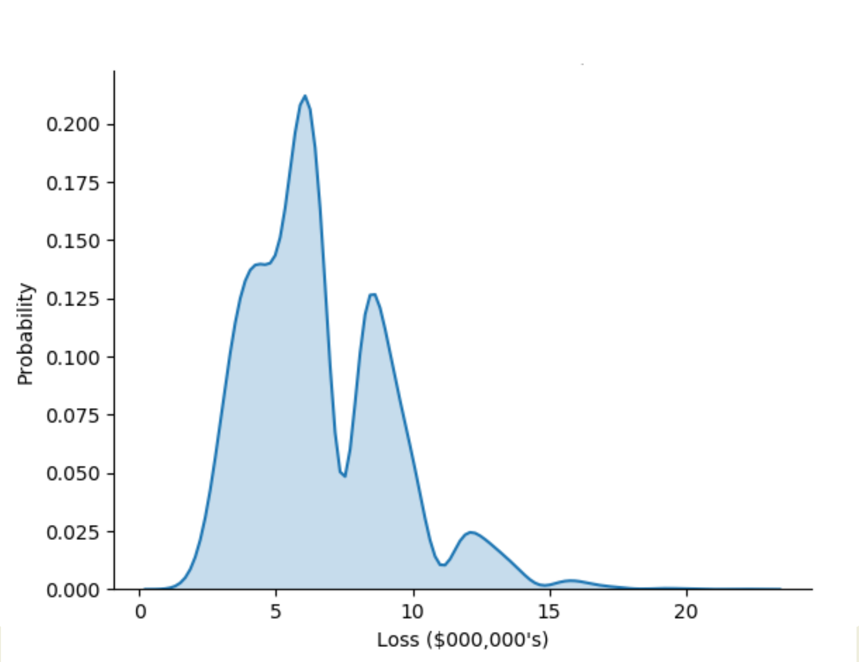


Dependencies are critical in the modeling process as we consider future captive opportunities

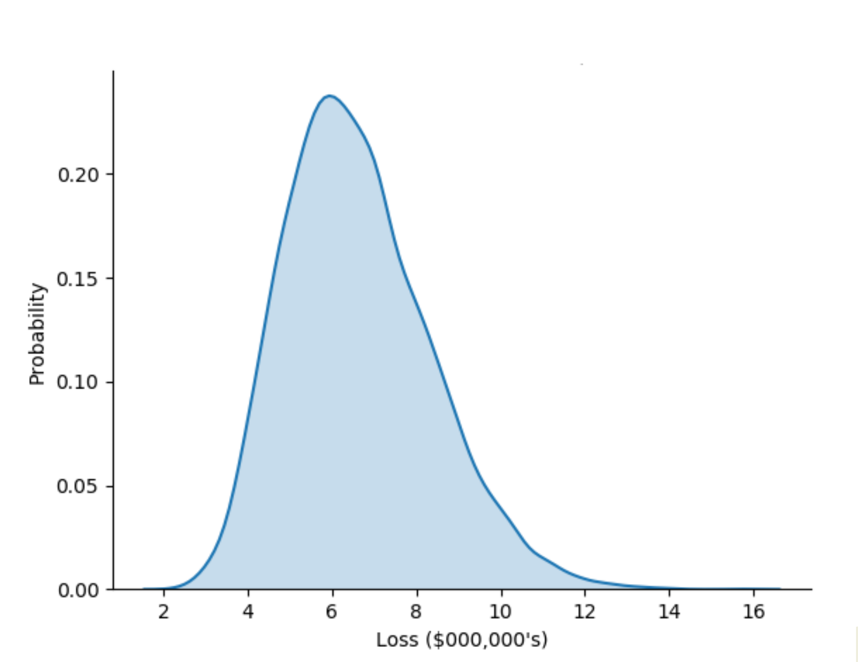
	Workers Compensation	General Liability	Auto Liability	Cyber Liability	Property	Wage and Hour	Medical Stop Loss	Forest Fire
Workers Compensation								
General Liability	0.25							
Auto Liability	0.25	0.25						
Cyber Liability	0.25	0.1	0.1					
Property	0.25	0.25	0.25	0.25				
Wage and Hour	0.25	0.1	0.1	0.1	0.25			
Medical Stop Loss	0.25	0.25	0.25	0.1	0.1	0.1		
Forest Fire	0.25	0.1	0.1	0.1	0.25	0.1	0.1	

Siloed view vs. diversified view at $1 million retentions

A siloed view of risk (100% Correlation) overstates the tail exposure

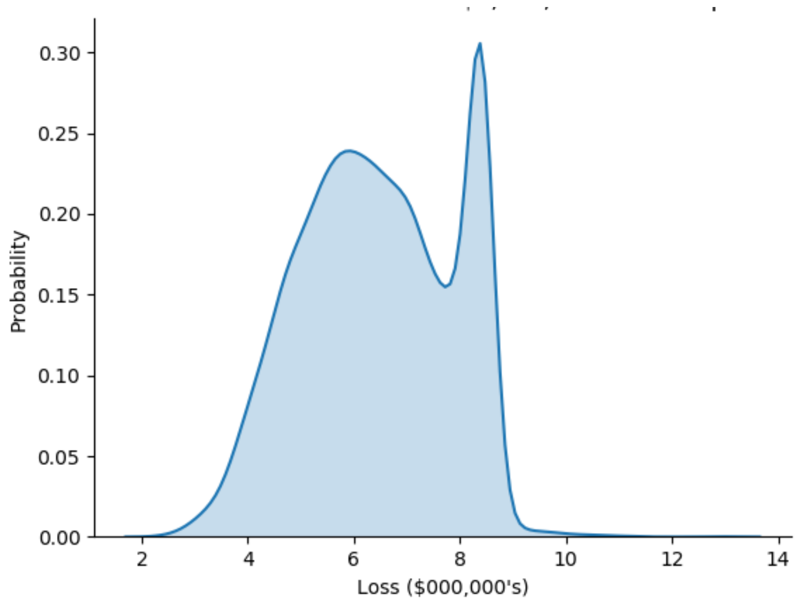


A diversified view gives a better perspective of the risk exposure (Selected Correlation)

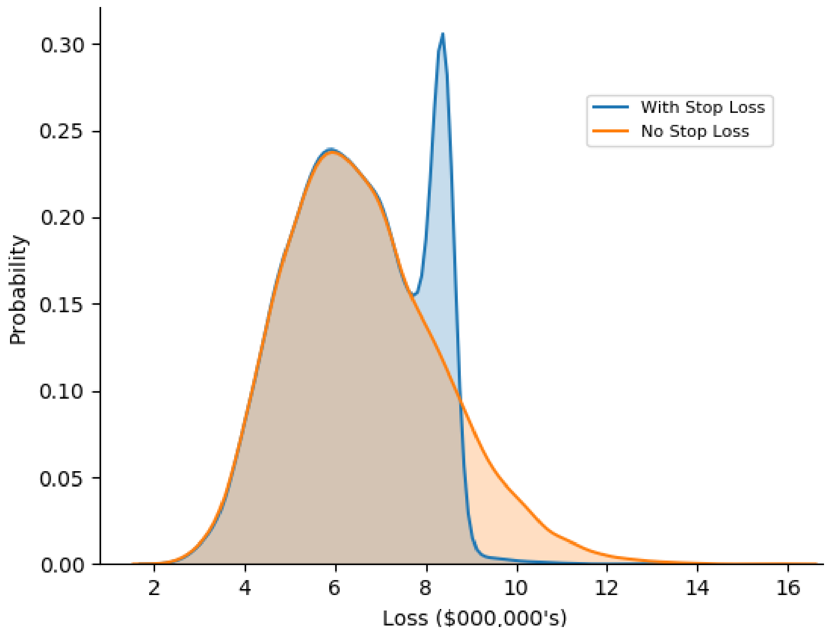


Volatility reduced by introducing captive stop-loss insurance

Captive stop-loss insurance significantly reduces volatility



Considering both risk correlation and the impact of **captive stop-loss insurance** creates a very different risk profile



The modeling process starts with the opening financial statements

Opening Balances ($000's)

	Year 1	Year 3	Year 6	Year 9
Total Assets	$250	$1,147	$3,424	$20,316
Total Liabilities	0	325	1,080	13,765
Held Capital	250	822	2,343	6,552
Excess Capital at 90th Confidence Interval	(86)	258	235	(2,109)
Expected Net Income	234	476	1,256	3,660

Captive opportunities grow as surplus accumulates

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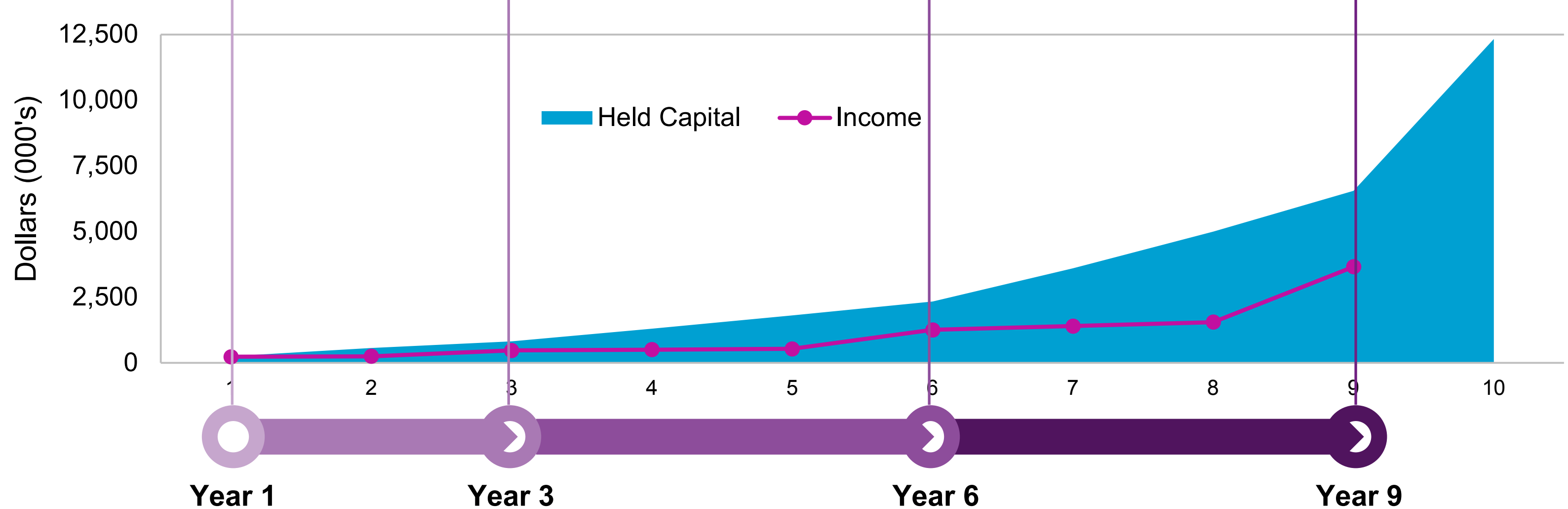
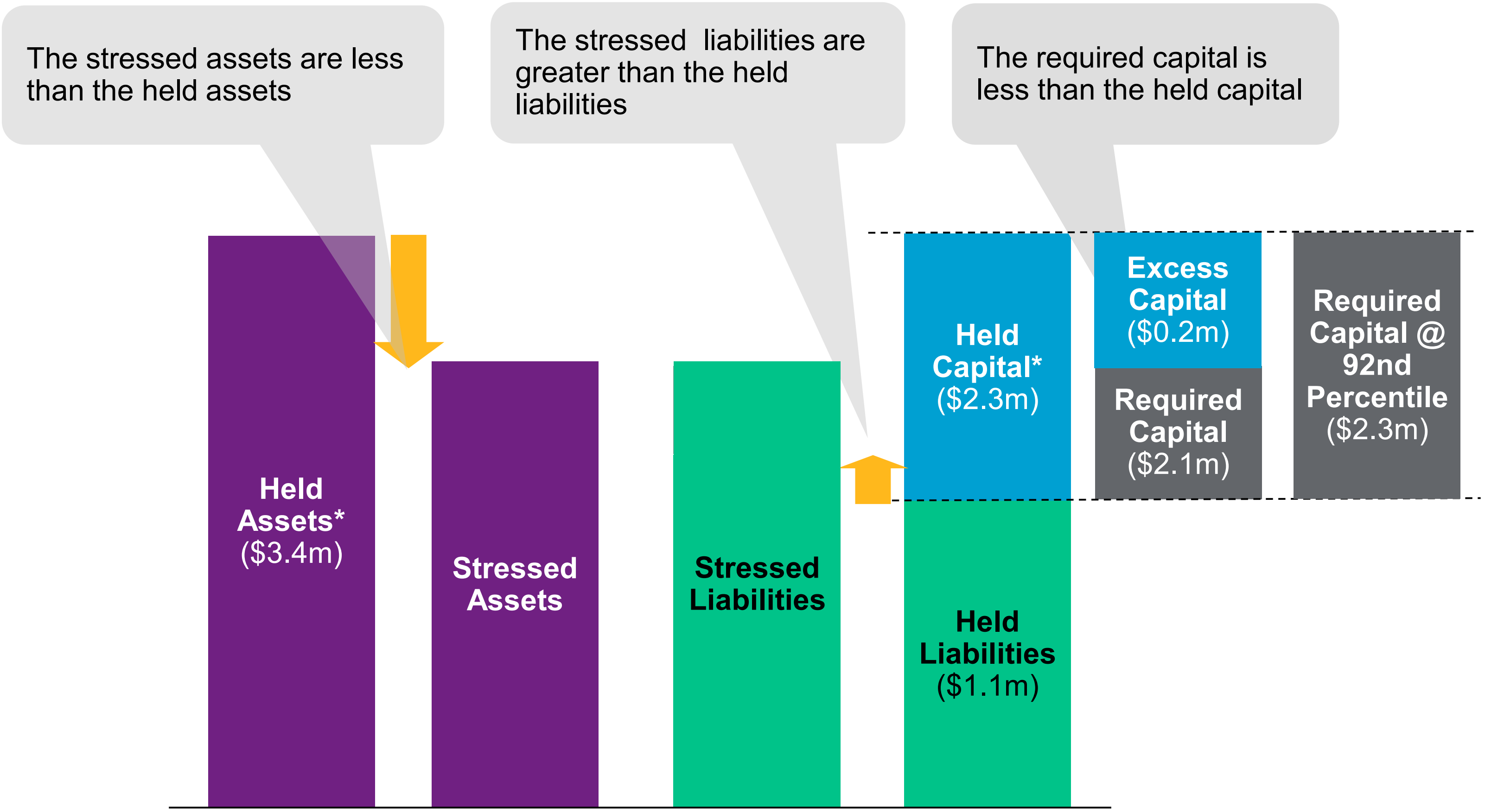
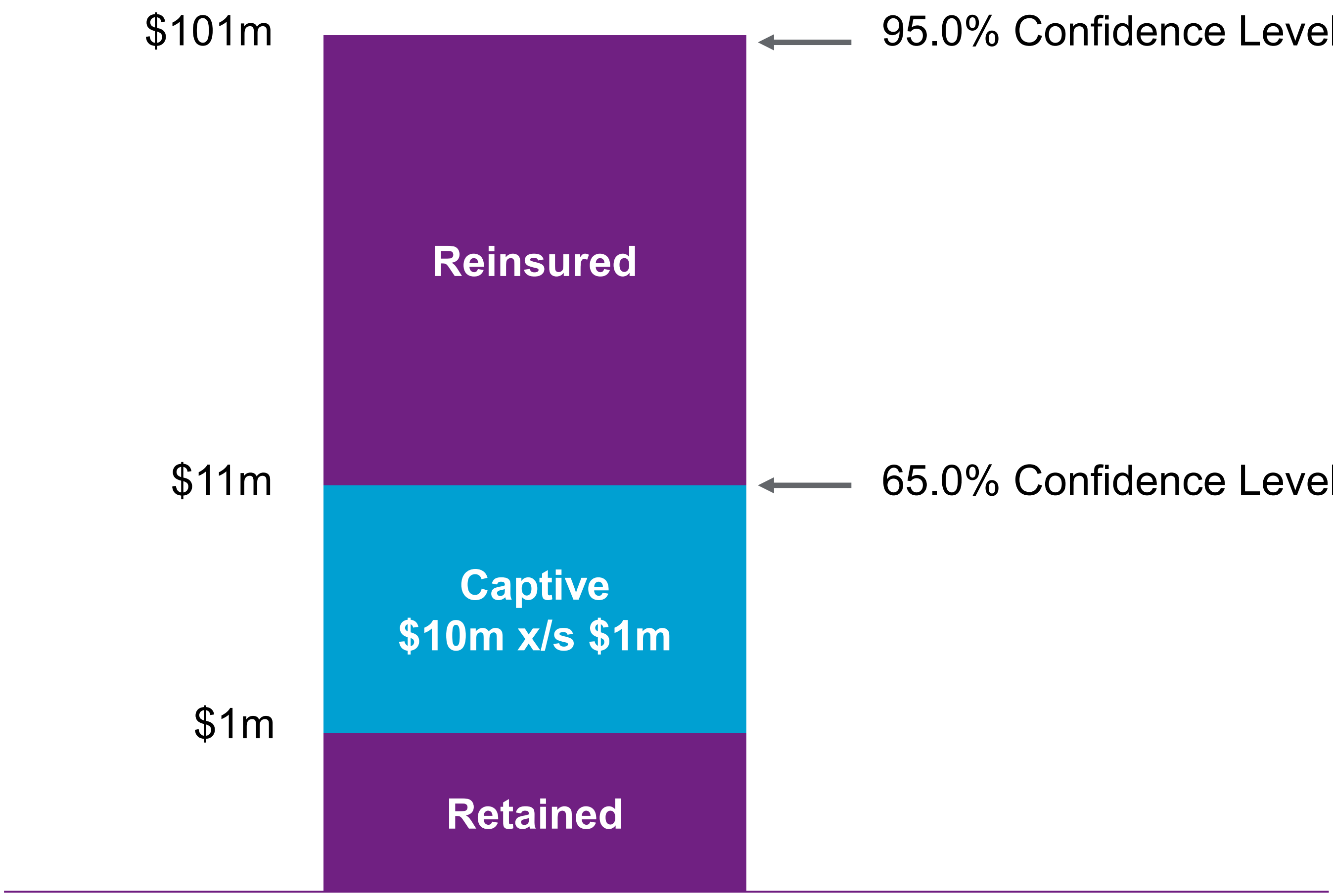


Considering the impact of diversification helps you determine if you have excess capital in year six

The captive requires $2.1 million of capital to protect against adverse events at the 90th percentile



Modeling allows you to evaluate reinsurance opportunities — wild fire liability coverage



Conclusion

- **Taking diversification effect into consideration** gives a more accurate view of the whole portfolio of retained risk allowing evaluation of the trade-offs of risk management decisions
- **Captive offers relief in fiscal quarters** with substantial loss amounts under self-insured retentions reducing earnings volatility of the captive owner
- **Allows captive owner to ease into use of the captive** by building surplus over time eventually permitting the captive to retain and manage additional risks
- **Aggregate stop-loss captive insurance** can have a meaningful impact on reducing volatility in quarterly earnings per share
- **Captive facilitates access to reinsurance markets** otherwise not available allowing for more customized risk management

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