

Montana Commissioner of Securities & Insurance Actuarial Report on Montana State Fund

REPORT TO MONTANA STATE LEGISLATURE
ECONOMIC AFFAIRS INTERIM COMMITTEE

OCTOBER 22, 2013

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FINANCIAL RISK ANALYSTS, LLC



Agenda

- **Purpose and Scope of Review**
- Uncertainties
- Reserves as of June 30, 2012 and June 30, 2013
- Rates Effective July 1, 2013 and July 1, 2014
- Case Reserving
- Recommendations
- Questions



Purpose and Scope

- Financial Risk Analysts was engaged by Commissioner of Securities and Insurance (“CSI”) to support required annual review of Montana State Fund
- Scope included:
 - Review loss reserving methodologies and estimates
 - Review rates and pricing methodologies
 - Review State Fund case reserving practices and levels
 - Comment on actuarial reports of State Fund’s external actuaries (Towers Watson or “Towers”) and Legislative Audit Division’s actuaries (Casualty Actuarial Consultants, Inc. or “CACI”)
 - Provide independent analysis where necessary



Purpose and Scope

- Focus on reserve analysis as of June 30, 2012 and rate/pricing analyses for rates effective July 1, 2012 and July 1, 2013
- Because of the required timing for our report, our study did not include full analysis of the Towers review of reserves as of June 30, 2013 which was presented to the State Fund Board on September 19, 2013. We did receive and review copies of those reports subsequent to completing our analysis and provide brief comments regarding these latest projections in this presentation
- Issued our Actuarial Report to CSI dated October 2, 2013
- Summary comments and results in this presentation should be considered in context of full written report including all conditions and limitations included therein



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Uncertainties

- Towers actuaries indentified in their reports factors that create materially more uncertainty than is usual for analyses of this nature, including changes in:
 - Statutory benefits
 - Volume and mix of State Fund business
 - State Fund operations, including claim handling and case reserving
 - Economic environment
- CACI and Financial Risk Analysts both concur with Tower's view regarding elevated levels of uncertainty
- Necessitates significant adjustments, assumptions, and judgments in application of actuarial methods
- Creates wider range of financial projections than might otherwise be expected



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Overview Regarding Reserves

- Towers and CACI each applied multiple actuarial methods and made differing adjustments to deal with the numerous factors causing material uncertainty for State Fund reserves
- While we believe the adjustments made by each are generally reasonable, we identified certain concerns as detailed in our report
- Financial Risk Analysts completed independent projections of indicated reserve needs as shown in our report
- Based on Actuarial Principles and Standards of Practice, booked reserves that are anywhere within our range of estimates are reasonable



Summary Regarding Reserves for New Fund

as of June 30, 2012 (\$ millions)

UNDISCOUNTED

	<u>Low Range</u>	<u>Central Estimate</u>	<u>High Range</u>
Towers Watson	688.0	763.4	867.8
CACI		819.0	
Financial Risk Analysts	794.3	852.1	920.1

DISCOUNTED (3%)

CACI		616.8	
Financial Risk Analysts	600.3	644.9	696.8

NEW FUND CARRIED RESERVES

State Fund		817.6	
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Summary Regarding Reserves for Old Fund

as of June 30, 2012 (\$ millions)

UNDISCOUNTED

	<u>Low Range</u>	<u>Central Estimate</u>	<u>High Range</u>
Towers Watson	44.1	48.5	88.9
CACI		77.1	
Financial Risk Analysts	57.1	82.8	109.5

DISCOUNTED (3%)

CACI		66.8	
Financial Risk Analysts	49.0	71.0	93.9

OLD FUND CARRIED RESERVES

State Fund		50.7	
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Conclusions Regarding Reserves as of June 30, 2012

- Carried reserves for the New Fund are within our range of estimates on an undiscounted basis. We believe that carried reserves for the New Fund as of June 30, 2012 were reasonable.
- Carried reserves for the Old Fund as of June 30, 2012 are below the bottom end of our range of reasonable estimates on an undiscounted basis but within our range on a discounted basis. They are also in the low end of Towers' range and well below the point estimate of CACI.



Comments on June 30, 2013 Towers Reserve Review

- Results of the latest reserve review were presented to State Fund Board on September 19, 2013
- Towers actuarial methodologies and assumptions appear to be consistent with those applied in their prior reviews
- For losses incurred prior to June 30, 2012, Towers' ultimate loss selection were up overall for both the New and Old Funds

CHANGE IN UNDISCOUNTED ULTIMATE LOSSES Losses Incurred prior to June 30, 2012

	<u>NEW FUND</u>			<u>OLD FUND</u>		
	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
As of 6/30/13	\$1,018.3m	\$1,551.1m	\$2,569.4m	\$785.2m	\$449.2m	\$1,234.4m
As of 6/30/12	1,023.8m	1,542.6m	2,566.4m	784.8m	444.6m	1,229.4m
Change	-5.5m	+8.5m	+3.0m	+0.4m	+4.6m	+5.0m

Historical Changes in Ultimate Losses – Towers Watson

CHANGE IN UNDISCOUNTED ULTIMATE LOSSES				
	<u>NEW FUND</u>		<u>OLD FUND</u>	
<u>Fiscal Year</u>	<u>Indemnity</u>	<u>Medical</u>	<u>Indemnity</u>	<u>Medical</u>
2008-09	\$2.6 m	\$3.4 m	-\$0.5 m	\$4.7 m
2009-10	1.2 m	12.6 m	-0.6 m	3.0 m
2010-11	-8.7 m	11.0 m	-0.0 m	3.1 m
2011-12	-4.2 m	6.2 m	0.1 m	3.6 m
2012-13	-5.5 m	8.5 m	0.4 m	4.6 m

Notes: From prior year for same accident years
 + indicates unfavorable, - indicates favorable



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Observations Regarding Rates – July 1, 2012

- Towers and CACI appear to have used approaches that follow generally accepted actuarial ratemaking principles
- Identified no material flaws with methodologies, assumptions, adjustments, or results of either party
- Both Towers and CACI include 5% provision for adverse loss deviation
- Based on Towers' analysis, the State Fund implemented rate change that varied by class and rating tier and averaged 0.0% for the one-year period effective July 1, 2012
- CACI concluded that the 0.0% average rate change was within a reasonable range on a discounted basis
- Based on our review of Towers and CACI analyses and our independent loss projections, Financial Risk Analysts concurs



Observations Regarding Rates – July 1, 2013

- Based on Towers' analyses, the State Fund implemented a rate change that averaged -6.0% for the one-year period effective July 1, 2013
- Actuaries for the Legislative Audit Division have not yet completed review of the June 1, 2013 rate analysis
- Towers' approaches and judgments appear to be materially consistent with prior year analysis



Observations Regarding Class Rates and Tiered Pricing

- Financial Risk Analysts believes that Towers' analysis and the State Fund's approach to developing rates by class are reasonable
- Financial Risk Analysts believes that Towers' analysis and State Fund's approach to application of rating tiers based on multivariate analysis are reasonable and are an improvement over the qualitative approaches to assigning insureds to rating tiers that are common among commercial insurers



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Observations Regarding Case Reserves

- In our 2012 review of State Fund on behalf of CSI, we observed that State Fund claim examiners were reserving in aggregate at levels far above Towers' indicated reserve needs for most years in the Old Fund and many early years in the New Fund
- Two possible conclusions:
 - If claim examiners are reserving at an appropriate level overall, the actuarial estimates may be too low
 - Alternatively, if the Towers actuarial estimates are more closely predictive of ultimate losses, it would appear that the case reserves are far higher overall than will be required to ultimately settle all claims



Observations Regarding Case Reserves

- In our 2012 review, we recommended that State Fund engage an independent study of case reserves to investigate these differences
- In a letter to CSI dated December 12, 2012 responding to this recommendation, the State Fund stated that:
 - several independent studies had been done over the years
 - the differences between case and actuarial reserves were well understood by State Fund
 - State Fund did not feel another study was warranted
- CSI requested that we look more closely at this phenomenon in our 2013 review



Observations Regarding Case Reserves

Medical Losses at June 30, 2012

Years	Case Reserves	Towers Indicated	Difference
All Old Fund	\$110.9m	\$36.3m	(\$74.6m)
New Fund 7/1/90-00	149.7m	98.5m	(51.2m)

- Based on initial observations, we focused on medical losses where the differences were most acute
- We reviewed State Fund Claim Guideline and related State Fund case reserve worksheet
- We reviewed comments regarding case reserving in prior independent claim studies by Deloitte and AON Global
- We discussed claim reserving practices with State Fund claim management



Observations Regarding Case Reserves

Paid Medical Losses Old Fund		Survival Ratios at 6/30/13 Old Fund Medical Claims		
<u>Fiscal Year</u>	<u>Paid Losses</u>		Reserves	Survival Ratio ¹
2007-08	\$8.5m	State Fund Case	\$107.2m ²	15.2 years
2008-09	8.2m	Towers Indicated	\$33.4m	4.7 years
2009-10	6.8m	¹ Using average of latest 3 years payments ² 780 open claims		
2010-11	6.5m			
2011-12	6.6m			
2012-13	8.0m			

Summary Regarding Case Reserves

- We concur with Deloitte and AON Global that claim reserve policies and practices appear to be reasonable
- We are persuaded by State Fund argument that case reserves are likely redundant overall based on mortality assumptions
- Neither Deloitte nor AON Global attempted to quantify the degree of redundancy in aggregate case reserves
- Financial Risk Analysts projects that the likely cost to settle all claims in the Old Fund will be below the Fund's total case reserves but above the Tower's central estimate



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Recommendation 1 - Case Reserve Study

We reiterate our recommendation that an independent review of State Fund case reserves be undertaken, either including, or focused specifically, on quantifying the level of case reserve redundancy



Recommendation 2 – Reserves for Old Fund & Earlier Years of New Fund

- Carried reserves for the Old Fund are below the low end of our range of reasonable reserves on an undiscounted basis and only slightly above the low end of our range on a discounted basis.
- We recommend that the State Fund review the results of the latest Towers, CACI, and Financial Risk Analysts reserve analyses, together with results from the previously recommended case reserve study.
- We recommend that the State Fund consider increasing carried reserves for the Old Fund and perhaps for earlier years in the New Fund. The magnitude of the increases should be determined based on the outcome of the various analyses.

Recommendation 3 - Actuarial Selections

We observe that the State Fund's actuary has been selecting its central estimate of reserve needs toward the lower end of its range of estimates based upon applying various methods. We recommend that the State Fund discuss with its actuaries whether selecting toward the lower end of the range is appropriate or should be adjusted.



Recommendation 4 – Actuarial Methodologies

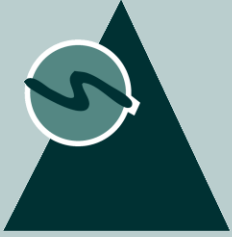
We recommend that the State Fund and its actuaries consider reintroducing incurred loss methodologies for projecting reserve needs for the medical Segments



Actuarial Report on Montana State Fund

- Questions?





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