



**ROYAL & SUNALLIANCE
SUBMISSION TO
THE AUTOMOBILE INSURANCE RATE BOARD**

OCTOBER 20, 2006

PRESENTED BY

- Shawn DeSantis, Vice President, Personal Insurance
- Saskia Matheson, National Automobile and Property Product Line Leader

PRESENTERS

Shawn DeSantis is Vice President; Personal Insurance Mr. DeSantis has been with Royal & SunAlliance in this position since March 2004. He previously held roles at ING as Senior Vice President of Commercial Insurance for Canada, and Vice President of Commercial for Western Union. Earlier in his career, he spent several years at Royal & SunAlliance in Calgary, Vancouver and Hamilton, working in underwriting, claims and marketing.

Saskia Matheson is the National Automobile and Property Product Line Leader for Royal & SunAlliance. She has been with the company since April of 2002. She previously held positions as Vice president of Personal Automobile for Zurich Canada and Manager of Rates and Rules for the Facility Association.

INTRODUCTION

Royal & SunAlliance Canada is part of the Royal & Sun Alliance Insurance Group plc. Dating back to 1710, the Group provides a comprehensive range of insurance and financial services to customers worldwide.

The Royal & SunAlliance Canada Group includes:

- Royal & Sun Alliance Insurance Company of Canada
- Quebec Assurance Company
- Western Assurance Company
- Ascentus Insurance Ltd.
- The Johnson Corporation
- Coast Underwriters Ltd.

The Royal & SunAlliance Canada group employs more than 2,500 people and is represented by a large network of independent brokers across the country.

Royal & SunAlliance and The Johnson Corporation both write in Alberta. As the two companies are separately managed, I am here today representing Royal & SunAlliance, and our comments are specific to that organization.

Royal & SunAlliance is one of Canada's largest property & casualty insurance groups in terms of direct premiums written, with a total of \$1.4 billion as of 2005. Since 1845 – 22 years before Confederation - our company has delivered innovative and cost-effective insurance products and services to Canadians. We're proud to say that we've delivered risk management expertise and given Canadians and Canadian business the confidence to realize their dreams and build this nation.

Royal & SunAlliance writes \$927.5 million in direct written premium, of which \$70 million is Alberta Automobile premium. We employ 145 people in our Calgary office, and deal with 100 brokers and broker groups in the province. We are committed to the Alberta marketplace, and

have recently expanded our broker network, appointed a Regional Vice President of Sales for the province, and a Regional Operating Director.

We look across the country, and our UK parent looks around the globe, for those jurisdictions where we see the opportunity to offer value and service and therefore successfully put the group's capital and resources to work. We are optimistic that the growing economy and business environment in this province can offer opportunity to our company and our shareholders.

The recent changes in the automobile product in Alberta, and the rate regulation; the depopulation in Facility Association and the creation of the Risk Sharing Pool have provided a more stable environment for consumers in this province, and as this has addressed the concern over affordability and availability to a large extent, we applaud those efforts and those changes. However, it is critical that this environment also allow companies to make adequate returns for their shareholders and that the more stable environment for consumers not be confused with a static environment for companies. The changes we have recently gone through in this province have in no way reduced the risk of operation for companies in Alberta, and in some ways have increased the volatility of results, as well as constrained our ability to respond.

We can and do deal with these issues, and we are confident we can succeed in Alberta, but the regulatory decision about the target level of ROE endemic in the annual rate adjustment is an important indicator to us as well as to our parent and our shareholders about the opportunities Alberta offers to business.

In our submission we would offer to the Board for their consideration two components. First, we have asked our colleagues at BMO Capital Markets, who are familiar with the market demand for return, to comment on the target level of Return on Equity. They have prepared a submission included here. Secondly, we offer our own methodology for inclusion of a target OE in ratemaking, the way we translate the target level of ROE to a permissible loss ratio for inclusion in our rate indication exercise for personal lines automobile.

THE LINK FROM ROE TO LOSS RATIO IN RATEMAKING

Target ROE is used both prospectively and retrospectively in ratemaking: to set a permissible loss ratio as well as in the verification of the underlying ROE in specific rate programs. To translate the Target ROE into a permissible loss ratio within the ratemaking exercise the following process is undertaken

Investment income is incorporated into the pricing model through an underwriting margin which reflects the time value associated with the automobile insurance operations and the investment earnings of the insurer's allocated equity. By substitution into the equation, the permissible loss ratio can be calculated for a selected target y% ROE, or the implied ROE can be calculated or verified for the loss ratio underlying proposed rates.

The mathematical derivation below is described in steps a. through h.

$$\begin{aligned}
 \text{ROE} &= \frac{[(\text{Premium} - \text{Underwriting Expenses}) \times (1 + \text{Ru})^{(1-d)} - \text{Loss} \times \text{PV} \times (1 + \text{Ru})]}{\text{E} \times (1 - \text{Tu}) + [\text{Re} \times (1 - \text{Te})]} - \text{TL} \\
 &= \frac{[(1 - \text{ER}) \times (1 + \text{Ru})^{(1-d)} - \text{LR} \times \text{PV} \times (1 + \text{Ru})] \times (\text{P}/\text{E}) \times (1 - \text{Tu}) + [\text{Re} \times (1 - \text{Te})]}{\text{E} \times (1 - \text{Tu}) + [\text{Re} \times (1 - \text{Te})]} - \text{TL}
 \end{aligned}$$

ROE =	Return on Equity
P =	Premium
Ru =	Rate of return available on policy holders' funds
Tu =	Corporate Tax rate
Te =	After tax rate of return available on allocated Equity funds
Re =	Allocated Equity
TL =	Capital Tax on Large corporations (will be eliminated by 2008)
d =	Average number of days, expressed as a fraction of a year, before the premium, which is written and has been paid to the broker, is available to the company
Loss =	Ultimate losses paid within the period of time for which the calculation is made
E =	Equity
ER =	Expense Ratio = Underwriting Expense/Premium
LR =	Loss Ratio = Loss/Premium
PV =	Present Value Factors

The steps:

a	[(Premium - Underwriting Expenses)	Policyholders' funds available to invest.
b	x (1 + Ru)^(1-d)	Investment at Ru per annum earned in (1-d) years.
		It is assumed that funds are received 75 days after the policy effective date and underwriting expenses (d=0.2),

		<p>consisting of policy issuance expenses incurred before effective date and policy servicing expenses incurred after effective date, are on average expended 75 days after the policy effective date.</p> <p>Investment return on policyholders' fund, R_u, is an estimate of Canada Bond rates available when the funds are provided to the insurer to invest, i.e. during the effective period of the proposed insurance rates.</p>
c	$-(\text{Loss} \times \text{PV}) \times (1+R_u)$	Subtract losses adjusted for their investment earnings capacity. PV factors are determined by coverage from Company payment experience.
d	$\times (\text{P/E})$	Express insurance contribution (result of a. through c.) as a ratio of Equity. The operating leverages, P/E, varies by coverages in recognition of the varying risk of the coverages, and are based on the ratios used in Dr. Kalymon's model.
e	$\times (1 - T_u)$	Reduce insurance operation profits (result of a. through d.) for corporate income tax, where the tax rate = T_u
f	$- \text{TL}$	Subtract TL, capital tax on large corporations.
g	$+ \text{Re} \times (1 - T_e)$	<p>Add after-tax investment earnings of allocated Equity</p> <p>Longer term and more risky investment assets are attributed to Long term bonds or marketable securities, while more secure and liquid assets are attributed to policyholders. The selected per annum yield on invested Surplus/Equity funds considers pre-existing and prospective yields on longer term Canada Bonds.</p>
h	$= \text{R.O.E.}$	After-tax return on equity evaluated at end of policy term.

Appendix 1

Estimating the Cost of Equity for Automobile Insurers Operating in Alberta

Submitted by:

Bradley J. Hardie
Managing Director
Head of Financial Institutions
BMO Capital Markets

A. Thomas Little
Director
Financial Institutions
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Introduction

My name is Brad Hardie. I have worked in the financial services industry for 20 years in various capacities, including 15 years in the investment banking industry. I have a Bachelor of Commerce degree from the University of Toronto and am a Chartered Accountant. I am currently a Managing Director and the Head of Financial Institutions, Investment & Corporate Banking at BMO Capital Markets, a member of the BMO Financial Group.

My name is Tom Little. I am a Director in the Financial Institutions Investment & Corporate Banking group at BMO Capital Markets. I have worked in investment banking industry for seven years and previously practiced as a litigation lawyer at a major Canadian law firm. I have a Bachelor of Arts degree from Trinity College, University of Toronto, a Bachelor of Laws degree from the University of Western Ontario and Masters in Business Administration degree from the University of Western Ontario.

The views expressed herein are those of the authors and are not necessarily the views of BMO Capital Markets. The views expressed are derived from our personal experience working in the investment banking industry. We have not been paid a fee to prepare this submission.

Approach to Determining Return on Equity (ROE)

We have been asked to provide input on “an appropriate target level of ROE for automobile insurance written in Alberta”. To do so, we have analyzed the cost of equity for publicly listed property and casualty (“P&C”) insurance companies in Canada and the U.S.. Given the lack of comparability and limited number of publicly listed P&C insurance companies in Canada, we have broadened our data set to include publicly listed U.S. P&C insurance companies. We have used the cost of equity of publicly listed P&C insurance companies as a proxy for target ROE levels for automobile insurers in Alberta.

To calculate the cost of equity, we used the Capital Asset Pricing Model (“CAPM”). The CAPM mathematically describes the relationship between expected risk and expected return and is based on the widely accepted finance theory that investors demand higher returns for higher risks.

Capital Asset Pricing Model (CAPM)

$$E(r) = r_f + \beta (E(R_m) - r_f) + \text{size premium}$$

Where:

$E(r)$ = expected return on equity

r_f = risk free rate

β = beta of the security

R_m = expected market return

The conceptual theory underpinning the CAPM is that investors need to be compensated for both the time value of money and risk. The time value of money component is represented by the risk-free rate (r_f) in the formula and compensates investors for placing money in a risk-free investment over a specified period. The risk component of the formula estimates the premium required to compensate the investor for assuming additional risk. This additional risk is calculated by taking a risk measure, referred to as “beta”, which compares the returns of the asset to the returns of the market over a specified period and applying that risk measure to a market risk premium, defined as the historical market return minus the historical risk-free rate ($E(R_m) - r_f$). The beta is the covariance of a stock in relation to the rest of the stock market. The S&P/TSX Index has

a beta coefficient of 1. Any stock with a higher beta is more volatile than the market, and any with a lower beta can be expected to experience less volatility than the market. A conservative investor whose main concern is preservation of capital should focus on stocks with low betas, whereas one willing to take high risks in an effort to earn high rewards should look for high beta stocks.

Risk-Free Rate

The risk-free rate in the market is generally agreed to be the rate on long-term government bonds due to the low probability that the government will default on its obligation. For our analysis we used 4.24%, which is the current rate on the long-term Government of Canada Bond obtained from Bloomberg Financial Markets on October 20, 2006.

Beta

For our analysis, we obtained the raw beta for each company in our data set from Bloomberg Financial Markets. This beta was calculated over a period of 3-years based on weekly returns. The raw betas obtained from Bloomberg Financial Markets are also leveraged betas, meaning they reflect the underlying capital structures used by the companies included in our data set. As companies operating in the P&C insurance industry utilize a reasonably uniform capital structure no adjustment has been made to the beta data set.

Our analysis produces an average beta of 0.63 and a median beta of 0.64 for publicly listed Canadian P&C insurance companies. The average beta for publicly listed U.S. P&C insurance companies is 0.98 and the median is 1.03. The overall average beta for all publicly listed P&C insurance companies in our data set is 0.91 with a median of 0.88 and a weighted-average value of 0.95. For comparative purposes, the beta for the banking industry is 1.11 and the beta for the life insurance industry is 1.01.

Table 1

Beta Calculation					
<i>In \$ million, denominated in local currency</i>					
Comparable Companies	Market Cap	Raw Levered Beta¹	R-Square	Market Weighting %	Market Weighted Beta²
U.S. P&C Insurers					
Allstate	\$39,942.3	0.72	0.25	26.4%	0.19
St. Paul Travelers	33,947.7	1.35	0.44	22.5	0.30
Chubb	22,183.2	0.96	0.33	14.7	0.14
Progressive	18,661.7	0.74	0.16	12.4	0.09
Safeco	7,094.3	1.03	0.31	4.7	0.05
W.R. Berkley	7,020.7	1.40	0.37	4.6	0.07
Old Republic International	5,313.0	0.87	0.32	3.5	0.03
Erie Indemnity	3,157.4	0.42	0.11	2.1	0.01
Philadelphia Consolidated	2,921.6	1.06	0.23	1.9	0.02
Mercury General	2,899.1	0.88	0.24	1.9	0.02
Commerce Group	2,098.7	0.77	0.17	1.4	0.01
Ohio Casualty	1,694.6	1.04	0.29	1.1	0.01
Selective Insurance Group	1,646.9	1.22	0.30	1.1	0.01
RLI	1,319.0	1.03	0.22	0.9	0.01
Harleysville	1,165.6	1.24	0.22	0.8	0.01
Average of U.S. Companies		0.98	0.26		0.97
Median of U.S. Companies		1.03	0.25		
Canadian P&C Insurers					
ING Canada Inc.	\$7,561.2	0.72	0.13	56.9%	0.41
Fairfax Financial Holdings	2,678.6	0.83	0.07	20.1	0.17
Northbridge Financial	1,543.3	0.40	0.04	11.6	0.05
Kingsway Financial Services	1,512.5	0.56	0.06	11.4	0.06
Average of Canadian Companies		0.63	0.08		0.69
Median of Canadian Companies		0.64	0.07		
Overall Average		0.91	0.22		0.95
Overall Median		0.88	0.23		

1. Based on three years of weekly returns. Source: Bloomberg.

2. Weighted based on market capitalization.

Market Risk Premium

The market risk premium is defined as the excess return that an individual stock or the overall stock market provides over a risk-free rate. This excess return compensates investors for accepting the relatively higher risk of the equity market. For our analysis, we used 5.0% as the market risk premium for Canada. For illustrative purposes, the market risk premium is 6.7% for U.S. capital markets. These risk premia were obtained from “Canadian Risk Premia Over Time Report 2006” and “Risk Premia Over Time Report 2006” produced by Ibbotson Associates, Inc. The market risk premium is calculated by subtracting the long-term arithmetic average of the risk free rate from the

long-term arithmetic average stock market total return (both arithmetic averages were measured over the period from 1937 to 2005). Once these averages are computed, the average for the risk free rate is subtracted from the average stock market return to calculate the market risk premium.

Size Premium

Ibbotson Associates, Inc. defines size premium as the return on small company common stocks in excess of that estimated by CAPM. It is the additional return that cannot be explained by the betas of smaller companies. Historically, smaller companies have demonstrated higher returns, but with much higher variability, suggesting a higher risk premium. To test whether the automobile insurers in Alberta require a size premium, we obtained the book value of equity for each automobile insurer in Alberta from MSA Research Inc., see Appendix, as at June 30, 2006. The average book value of equity for automobile insurers operating in Alberta is \$302 million. We note that the average book value may not reflect the total capital level of firms operating in Alberta where the entity is part of a larger entity or group of companies.

Table 2

Size Premium			
<i>In C\$ millions, unless otherwise noted</i>			
Average Shareholders' Equity ¹	\$302.1		
	Price-to-Book Multiple		
	1.25x	1.50x	1.75x
Illustrative Public Market Capitalization	\$377.6	\$453.1	\$528.7
CAD\$/US\$ Exchange Rate (June 30, 2006)	0.8959	0.8959	0.8959
Implied Public Market Capitalization (US\$)	\$338.3	\$406.0	\$473.6
Size Premium ²	3.95%	3.95%	3.95%

1. Based on average of all P&C auto insurers operating in Alberta .
2. Ibboston Associates, Inc. 2006 Yearbook.

To the average book value we applied the current average Canadian price-to-book multiple of 1.5x to get an average illustrative market capitalization of \$453 million for these largely private P&C insurance companies. Based on analysis conducted by Ibbotson

Associates, Inc., companies with market capitalization less than US\$600 million (C\$670 million) require an additional return on equity, or size premium, of 3.95%, in addition to the return suggested by traditional CAPM analysis.

Conclusion – Required Rate of Return on Equity

Based on the CAPM, our findings suggest that the required rate of return on equity for P&C companies operating in Alberta is in the range of **10.19% (beta of 0.40)** and **15.19% (beta of 1.40)**.

Table 3

Cost of Equity - P&C Insurers					
	Low	Median	Average	Weighted Average	High
Beta (β)	0.40	0.88	0.91	0.95	1.40
Risk Free Rate (r_f) ¹	4.24%	4.24%	4.24%	4.24%	4.24%
Market Risk Premium (E(R _m))	5.00%	5.00%	5.00%	5.00%	5.00%
Size Premium	3.95%	3.95%	3.95%	3.95%	3.95%
Unlevered Cost of Equity (E(r))	10.19%	12.59%	12.74%	12.93%	15.19%

1. Based on yield of Canada 30-year bond, as at October 20, 2006.

Appendix

Alberta Auto P&C Insurers

<u>Company</u>	<u>30-Jun-06 Book Value</u>	<u>Alberta 2005 Auto DWP</u>
Wawanesa Mutual Insurance Company (The)	\$1,600,733	\$367,427
ING Insurance Company of Canada	982,480	360,608
Security National Insurance Company	768,831	176,391
Co-operators General Insurance Company	1,009,058	172,134
Aviva Insurance Company of Canada	600,647	129,815
Alberta Motor Association Insurance Company	113,399	124,630
Dominion of Canada General Insurance Company (The)	643,937	98,483
State Farm Mutual Automobile Insurance Company	1,155,240	85,451
Economical Mutual Insurance Company	1,065,725	73,490
Unifund Assurance Company	158,605	68,063
Royal & Sun Alliance Insurance Company of Canada	758,061	66,720
Peace Hills General Insurance Company	37,793	62,515
AXA Pacific Insurance Company	166,837	57,805
York Fire & Casualty Insurance Company	44,288	54,625
Allstate Insurance Company of Canada	561,273	48,237
Primum Insurance Company	141,684	47,902
Zurich Insurance Company	537,477	45,889
Kingsway General Insurance Company	126,990	40,596
ING Novex Insurance Company of Canada	51,412	36,657
TD Home and Auto Insurance Company	174,558	35,259
Markel Insurance Company of Canada	168,256	33,944
Citadel General Assurance Company (The)	146,717	32,658
Traders General Insurance Company	201,439	31,663
Personal Insurance Company (The)	188,809	30,176
Canadian Direct Insurance Incorporated	31,804	26,736
Lombard General Insurance Company of Canada	535,239	25,441
Federated Insurance Company of Canada	87,024	19,970
Portage la Prairie Mutual Insurance Company (The)	79,197	17,578
St. Paul Fire and Marine Insurance Company	511,113	15,521
Trafalgar Insurance Company of Canada	62,964	13,946
ACE INA Insurance	206,920	13,878
Sovereign General Insurance Company (The)	104,032	12,673
American Home Assurance Company	827,801	12,067
Coseco Insurance Company	57,382	11,617
RBC General Insurance Company	166,186	9,712
Old Republic Insurance Company of Canada	58,019	8,400
Elite Insurance Company (The)	54,794	6,921
CUMIS General Insurance Company	21,139	6,730
Jevco Insurance Company	117,264	6,019
Waterloo Insurance Company	50,279	5,971
Certas Direct Insurance Company	83,140	5,181
Lloyd's Underwriters	448,463	4,494
Ascentus Insurance Ltd.	12,887	4,161
Continental Casualty Company	258,615	4,070
Allianz Global Risks US Insurance Company	53,301	3,416
Liberty Mutual Insurance Company	587,180	3,260
Zenith Insurance Company	48,916	2,343
DaimlerChrysler Insurance Company	31,684	2,206
Scottish and York Insurance Co. Ltd.	117,850	1,865
Motors Insurance Corporation	209,878	1,471
Chubb Insurance Company of Canada	518,020	1,416
Pembridge Insurance Company	188,890	1,340
American Road Insurance Company (The)	21,540	1,082
Guarantee Company of North America (The)	454,807	571
Commerce & Industry Insurance Company of Canada	123,758	434
Mitsui Sumitomo Insurance Company, Limited	24,493	348
Protective Insurance Company	7,303	314
Tokio Marine and Nichido Fire Insurance Company, Limited (The)	32,010	179
Hartford Fire Insurance Company	225,684	133
Average	\$302,099	
Median	158,605	

Source: MSA Research.