



BERMUDA MONETARY AUTHORITY

CLASS 4 BSCR ANALYSIS REPORT 2009

NOVEMBER 2010

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0. Introduction

This publication provides an overview of the Bermuda Solvency Capital Requirement (“BSCR”), the Bermuda Monetary Authority’s (the “Authority”) risk-based capital adequacy model. This publication is compiled primarily from the Capital and Solvency Return provided to the Authority for the 2009 financial year as part of the Class 4 (re)insurers’ solvency requirements and additional supporting schedules, and also includes information from prior years. The Class 4 (re)insurers are prudentially supervised under the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Order 2008 and the Insurance Accounts Amendment Regulations 2008.

This publication also reviews the financial results of the Class 4 (re)insurers based on statutory returns over the last three years. Measures included in the analysis consider: risk charges under the BSCR model, analysis of the Enhanced Capital Requirement (“ECR”) Ratio, overall statutory profitability and liquidity and results of the Commercial Insurer Risk Assessment (“CIRA”). Definitions for the financial ratios in the main text are included in Appendix A.

We welcome your feedback and suggestions for improvement. Please send any comments to policy@bma.bm.

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Comparison with other BMA publications

This year, analysis has been provided as a rough proxy to facilitate review against benchmarks in different sectors. Certain ratios in this publication have been calculated using a different methodology than last year so will not match last year's publication numbers.

This publication includes information obtained or derived from a variety of publicly available sources. The Authority has not sought to establish the reliability of these sources or verified such information and consequently, does not give any representation or warranty of any kind (whether express or implied) as to the accuracy or completeness of this publication. This publication is for general information only and does not constitute investment or any other advice. Accordingly, it is not intended to form the basis of any investment decisions and does not absolve any third party from conducting its own due diligence in order to verify its contents.

1 Executive Summary

1.1 Overview

This report provides an insight into the financial performance of Class 4 (re)insurers in Bermuda for the 2009 financial year end with comparable performances over the previous two years. The results are based on the Capital and Solvency Returns submitted to the Authority. Such returns comprised the BSCR, the Authority's risk-based capital model, and related supporting schedules; statutory financial returns; and general purpose financial statements for the relevant year.

The report initially provides an overview in Section 1, including the 2009 financial highlights of the overall Class 4 market as well as the three primary sectors based on their relative exposure to property and casualty business on a net premiums written basis, namely casualty, property and casualty and property, whereby the Class 4 market has been grouped.

Section 2 provides an overview of the Bermuda solvency system including a brief description of the BSCR and the solvency control levels.

Section 3 highlights key market trends and developments over the three-year period to 2009 year end, focusing on the following key areas:

- Risk profile – provides overall Class 4 (re)insurers' risk profiles as computed by the BSCR model reflecting capital allocation by risk areas: underwriting risk, investments and market risk, credit risk, and operational risk;
- Capitalisation – provides overall capital levels as reflected by the ECR ratio and its distribution across all the Class 4 (re)insurers over the three-year period. It also includes other key capital and surplus ratios and trends over the period;
- Underwriting – highlights key underwriting ratios and trends, the mix of business by lines of business (catastrophe, property and casualty lines of business) over the period and the results of stress and scenario testing;

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- Investments – highlights key investment ratios and trends and overall composition of the fixed income investment portfolio by security type (government, investment grade, mortgage backed, mutual funds and non-rated securities) over the period;
- Liquidity – highlights key liquidity ratios and trends over the period; and
- Operational risk – highlights the results of the CIRA as completed by the Class 4 (re)insurers and compares the 2009 results to the prior year.

Section 3 continues to provide similar financial performance indicators over the three-year period for the three primary sectors across the Class 4 (re)insurers.

The report culminates with Section 4 which provides an outlook of actual, projected and/or expected trends beyond 2009 year-end relating to natural catastrophe exposures, premium growth expectations, insurers' financial strength ratings and a variety of macroeconomic parameters such as interest rates and inflation.

1.2 Market Highlights

The Class 4 sector staged a significant recovery in 2009 following the prior year's weaker underwriting performance and decline in capital and surplus tied to the investment market turmoil.

The key results of the review were as follows:

- The underwriting risk was the largest risk component, representing an average of 81% (79% and 77% in 2008 and 2007 respectively) of the BSCR prior to covariance adjustment. The increase in 2009 was primarily driven by the increase in the catastrophe risk charge.
- The Class 4s' average ECR ratio was 273% compared to 283% in 2008, which indicated that the (re)insurers remained well capitalised.

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- All Class 4 (re)insurers met the target capital level representing 120% of ECR. About 74% of the (re)insurers had ECR ratios over 201%, a significant increase from 65% in 2008.
- During 2009, the capital and surplus increased by an average of 13%. The Class 4 (re)insurers' profitability improvement was largely the result of positive underwriting and investment performance. The return on equity on average was 19%, up significantly from 4% in 2008.
- Net premiums written decreased by an average of 3%, down from 3% growth in 2008. This reflected greater pricing pressure and a challenging competitive environment.
- In light of the benign hurricane season in terms of those making landfall and dearth of other major catastrophe events in 2009, the Class 4 (re)insurers reported strong full-year underwriting profits. The (re)insurers generated an average combined ratio of 68%, down significantly from 88% in 2008.
- Following the worst financial crisis in decades, the financial markets recovered in 2009 contributing to the Class 4 (re)insurers' rebuilt capital positions. Credit spreads narrowed considerably while equity markets staged meaningful rebounds along with an appreciating S&P 500 index. While the realised losses from the disposal of investments declined significantly in 2009, the unrealised investment losses reversed from a deficit in 2008 to gains in 2009. As a consequence, return on investments, which include unrealised gains or losses, increased significantly to an average of 10% in 2009 from -3% in 2008.
- Generally, the Class 4 (re)insurers appeared to have the ability to meet projected losses under economic, underwriting and worst case scenarios.
- The results of the CIRA marked a continuing trend of stronger Board of Directors' ("Board") oversight of the corporate governance and risk management functions. The key results of the CIRA were as follows:

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- The Class 4s' average operational risk capital charge improved to 6% in 2009 from 7% in 2008. The results imply that the (re)insurers continue to take considerable steps to enhance corporate governance and risk management.
- It appears that the (re)insurers have taken considerable steps to identify, measure, control, monitor and report material risks arising from eight operational risk areas, resulting in significant improvement over the prior year.

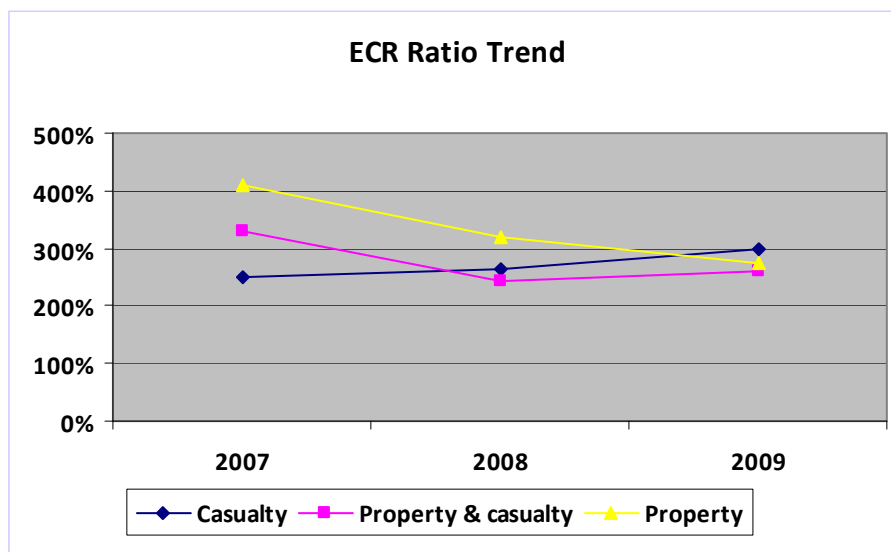
In the first nine months of 2010, the Class 4s experienced a period of unusually large catastrophe-related losses, driven largely by wind and hail events across the United States (the "U.S."), a Chilean earthquake, a European windstorm and a New Zealand earthquake. The current low-interest-rate environment places (re)insurers' focus on generating sustainable underwriting earnings to mitigate the effect of low investment returns. Despite unusually high catastrophe-related losses, on going competitive market conditions and a current low-interest-rate environment, the Class 4s on average posted relatively favourable operating gains in the first nine months of 2010 and balance sheets, for the most part, have remained strong.

1.3 Sector Highlights

Based on the percentages of property premiums to total net premiums written during the financial year ended 2009, the Class 4 market has been grouped into three sectors: casualty, property and casualty and property.

Below is a summary of key financial and operating performance indicator trends for all Class 4 market sectors.

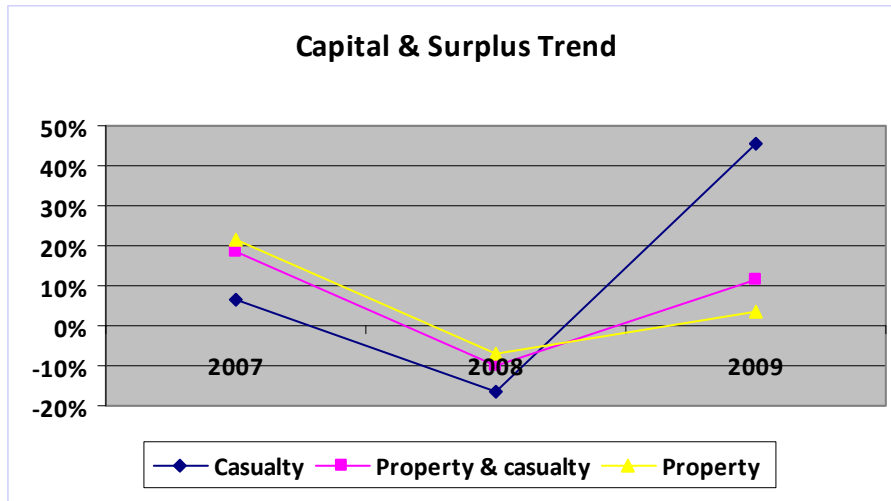
Exhibit 1.3.1: ECR ratio trend by sector



The casualty sector showed an increasing trend though the ratio jumped considerably by the end of 2009. This is largely the result of the sector's considerable profit and reversal of unrealised losses to gains during that year. The declining trend of the property sector, on the other hand, was driven mainly by the increasing risk appetite particularly for catastrophe exposures resulting to higher capital requirements. The combined sector demonstrated an unstable trend reflecting the combined characteristics of the casualty sector and property sector, although in general the sector has reduced its exposures mostly on fixed income investments, equity investments and reserves. Overall, all sectors continued to be well-capitalised.

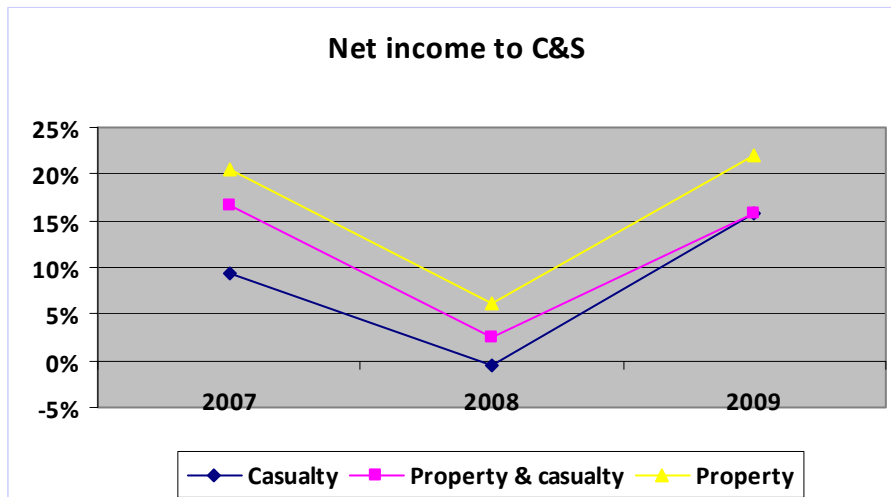
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Exhibit 1.3.2: Capital and surplus trend by sector



2009 showed a capital recovery for all sectors. This is in line with expectations considering the benign hurricane season and improved financial markets for property risk writers. The significant increase in the casualty sector is largely attributed to the improved financial market that generated a favorable investment portfolio performance, as well as a significant appreciation in the investment values, which is in contrast with 2008. In addition, 2008 experienced further capital depletion as a result of natural catastrophes.

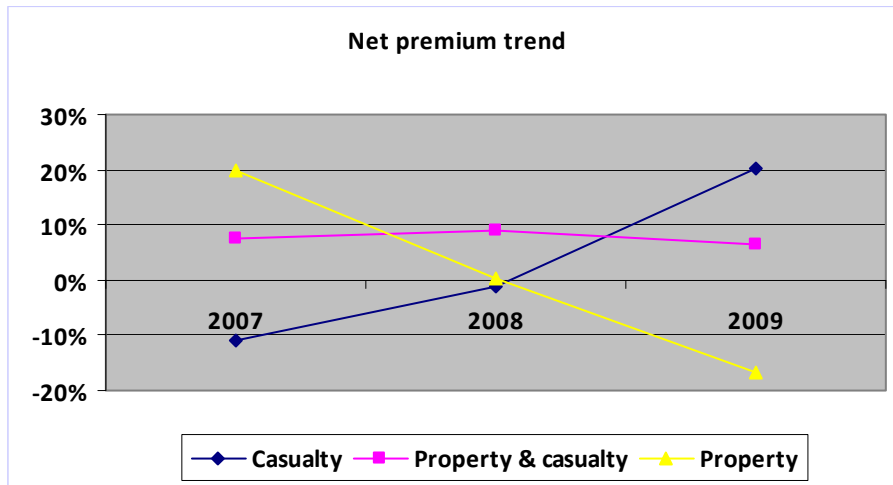
Exhibit 1.3.3: Return on equity by sector



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The operating performance of all sectors showed a similar pattern as the capital and surplus trend in Exhibit 1.3.2. The drop in 2008 was clearly the result of financial and natural catastrophes, while the ascent in 2009 was from positive underwriting results and improved investment portfolio performance with the property sector displaying the highest return on equity over the three-year period among these sectors.

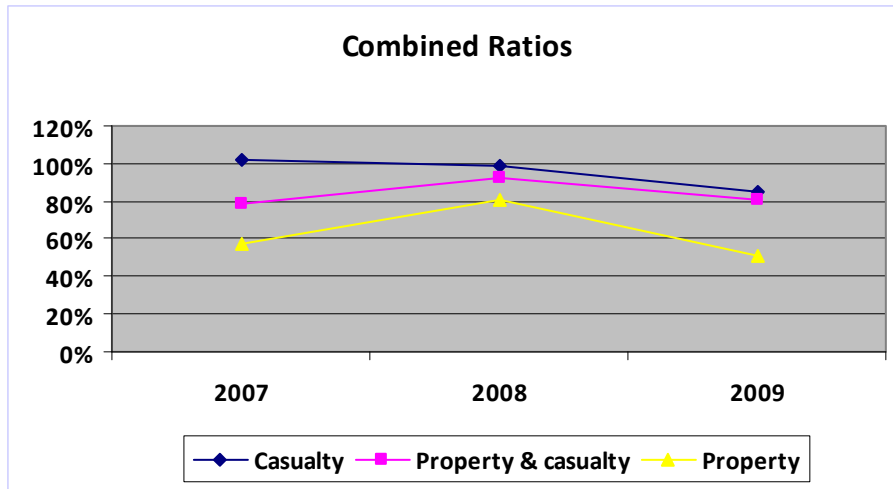
Exhibit 1.3.4: Net premium trend by sector



The property sector's declining net premium trend could be the result of the softening (re)insurance environment for property risks. Meanwhile, the casualty sector showed an increasing net premium trend, despite the reduction in exposure base as a direct outcome of the difficult economic conditions. The casualty sector's increasing trend could be attributed to some (re)insurers materially increasing their underwriting business, even deviating to property lines. In contrast, the fairly stable trend showed by the property and casualty sector is the result of the contrasting elements of property risks and casualty risks.

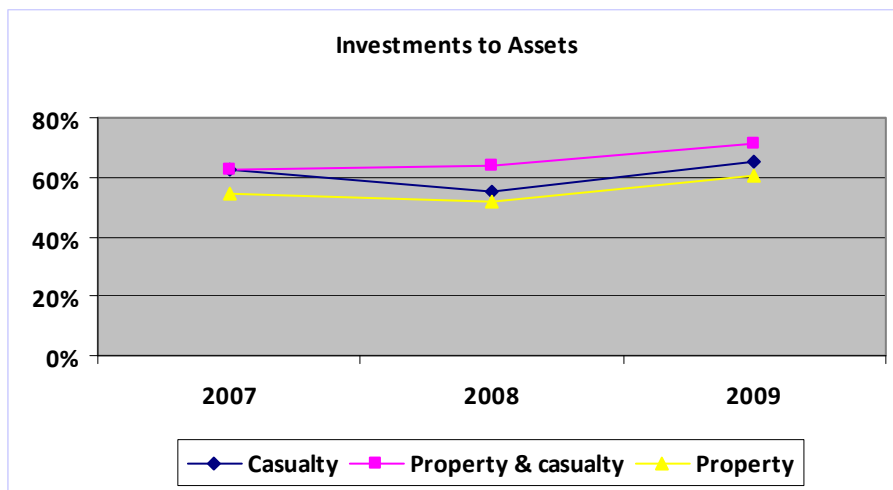
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Exhibit 1.3.5: Underwriting performance by sector



An improved underwriting performance was enjoyed by all sectors in 2009, with the property sector showing the most favorable underwriting result following the benign hurricane season. Despite this improvement, the casualty sector’s combined ratio for that year was the highest among all the sectors suggesting lesser profit from underwriting activities. Clearly, the property and casualty sector’s combined ratio is a mix of the casualty sector and property sector’s underwriting performance.

Exhibit 1.3.6: Total investments to total assets ratio by sector



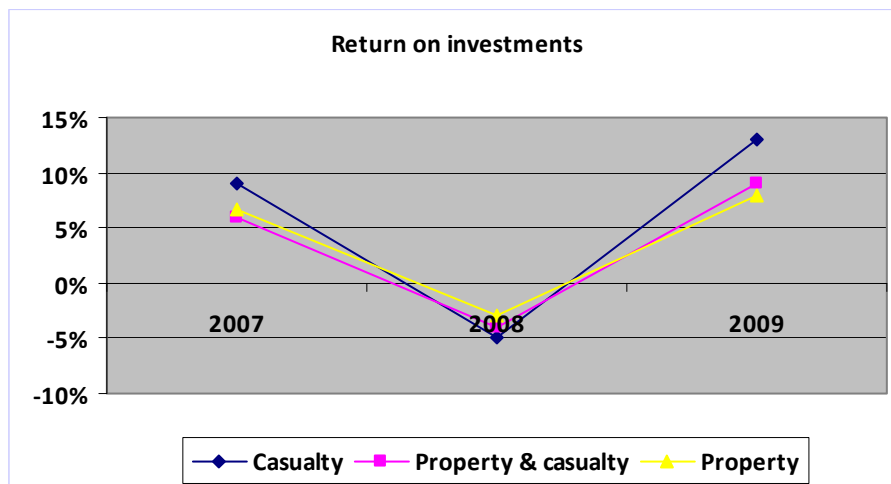
The improved outlook on the capital markets have increased the (re)insurers’ asset values. Lastly, the aggregate additional contributed surplus of approximately \$4 billion

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might have boosted the overall increase in total investments. These factors account for the increasing trend experienced by all sectors.

The property and casualty sector has the highest proportion of investments to total assets. It appears that this sector has supported its reserves by fixed income and equity securities. On the other hand, the property sector has the lowest proportion of investments to assets over the three-year period as they historically hold a fair amount of cash and cash equivalents, funds held and receivables. Meanwhile, a few (re)insurers of the casualty sector have considerable investments in associates, which skewed the sector's investments to assets ratio.

Exhibit 1.3.7: Investment performance by sector



The exhibit shows consistent trend across all sectors with respect to return on investments. The marginal differences among the sectors may be attributed to different investment portfolio compositions and exposures. In particular, 2008 reported negative return on investments driven primarily by significant unrealised losses on investments following the worst financial crisis in decades. However, the general financial markets recovery in 2009, as reflected by significant unrealised gains on investments, has reversed this trend.

2 Class 4 Solvency Regime Overview

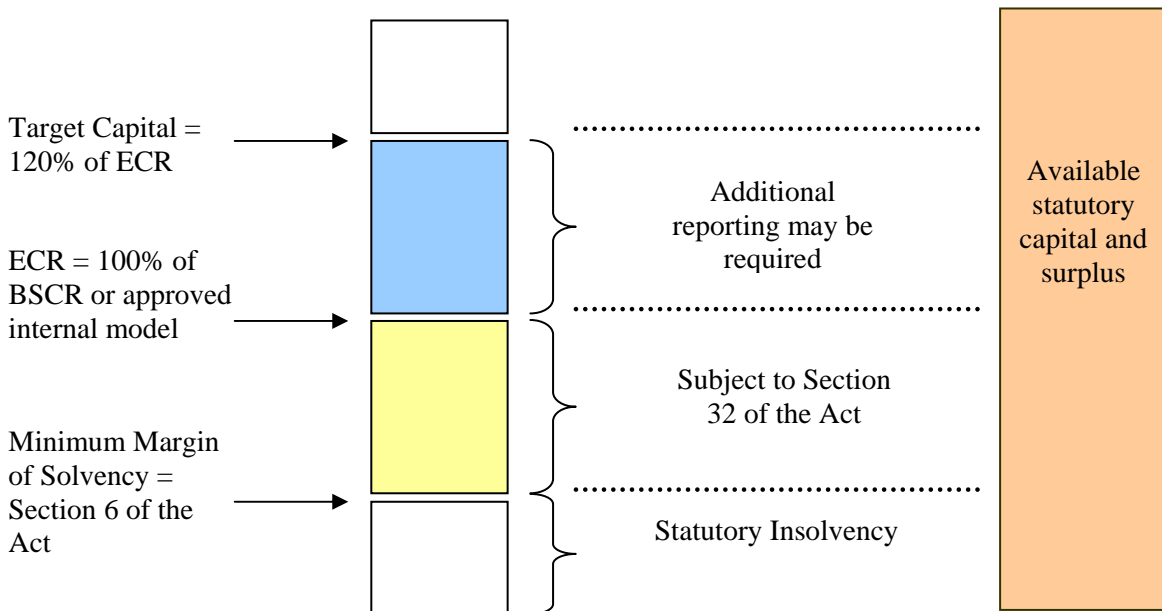
2.1 Risk-based Capital Model

The BSCR is a combined stochastic and factor-based model that establishes a measure of solvency capital that is used by the Authority to monitor the capital adequacy of the Class 4 (re)insurers. The BSCR model calculates a risk-based capital measure by applying capital factors and loss scenarios to statutory financial statement and capital and solvency return elements, including investments and other assets, premiums and reserves, operational risk, and company-specific catastrophe exposure measures, in order to establish an overall measure of capital and surplus for statutory solvency purposes. Covariance adjustments are made to arrive at the BSCR (after covariance adjustment), which is further adjusted to include company-specific operational risk and capital adjustments as assessed by the Authority. The capital factors in the BSCR model have been developed to produce capital requirements at the 99% Tail-Value-at-Risk confidence level over a one-year time period with full run-off of insurance liabilities. A company's available statutory capital and surplus divided by the BSCR gives the BSCR ratio and a company's available statutory capital and surplus divided by the Enhanced Capital Requirement ("the ECR") gives the ECR ratio. The BSCR and ECR ratios assist the Authority's regulators in evaluating the financial strength of each company.

2.2 Solvency Control Levels

The current statutory regime requires all Class 4 (re)insurers to maintain their statutory capital and surplus at a level equal to or exceeding each (re)insurer's respective minimum solvency margin (“MSM”), as defined in the Insurance Act of 1978 (the “Act”). Failure by an (re)insurer to meet its MSM represents a breach and results in the company being deemed insolvent under the Act. Currently all Class 4 (re)insurers are also required to maintain available statutory capital and surplus at a level equal to or in excess of its ECR, which is the higher of the MSM and the figure derived from the (re)insurer's standard risk-based capital requirement model or its Authority-approved internal capital model. The Authority has also established a target capital level (“TCL”) for each Class 4 (re)insurer equal to 120% of its ECR. While a Class 4 (re)insurer is not currently required to maintain its statutory capital and surplus at this level, the TCL serves as an early warning tool for the Authority. Failure to maintain statutory capital at least equal to the TCL will likely result in increased regulatory oversight.

Exhibit 2.2.1: Solvency Control Levels graph displays the (re)insurer's available statutory capital and surplus position relative to the Authority's regulatory action guidelines



2.3 Required Capital and Surplus

The BSCR model generates a capital requirement based on the assessment of risk factors related to credit, equity, fixed income securities, premium, loss reserves, an interest rate/liquidity shock and Probable Maximum Loss (“PML”) catastrophe levels.

The BSCR is determined according to the following formula:

$$BSCR = \sqrt{C_{fi}^2 + C_{eq}^2 + C_{int}^2 + C_{prem}^2 + \left(\frac{1}{2}C_{cred} + C_{rsvs}\right)^2 + \left(\frac{1}{2}C_{cred}\right)^2 + C_{cat}^2} + C_{op}$$

C_{fi} = capital charge in respect of fixed income investment risk;

C_{eq} = capital charge in respect of equity investment risk;

C_{int} = capital charge in respect of interest rate/liquidity risk;

C_{prem} = capital charge in respect of premium risk;

C_{rsvs} = capital charge in respect of reserve risk;

C_{cred} = capital charge in respect of credit risk;

C_{cat} = capital charge in respect of catastrophe risk; and

C_{op} = capital charge in respect of operational risk.

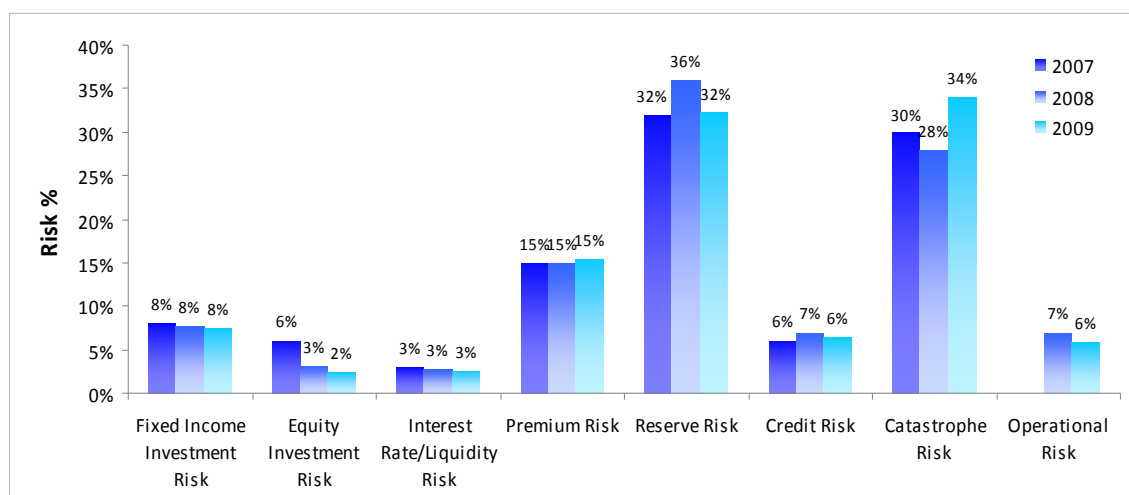
This formula utilises the square root rule to aggregate the various risks under the assumption that the risks are at least partially independent of one another and, therefore, some diversification benefit is provided when aggregating the risk charges. The end result is the BSCR (after covariance adjustment). Operational risk is applied to this result in accordance with the quality of a (re)insurers’ risk management and governance. The higher the quality, the lower the operational risk charge.

3 Trends and Developments

3.1 Market Overview

Below is a summary of the BSCR capital charges for the 2007, 2008 and 2009 reporting years.

Exhibit 3.1.1: The Class 4s' average BSCR risk charge distribution



Note: In Exhibit 3.1.1, the non-operational risk percentages equate to 100%. The operational risk charge is loaded on top of the cumulative non-operational risk capital charges. Refer to the section “Commercial Insurer Risk Assessment” for the details of the operational risk charge.

Underwriting Risk

The underwriting risk includes premium, reserve and catastrophe risks. Consistent with prior years, the underwriting risk was the largest risk component, representing an average of 81% (79% and 77% in 2008 and 2007 respectively) of the BSCR prior to covariance adjustment. The increase in 2009 was primarily driven by the increase in the catastrophe risk charge from an average of 28% to 34% which was attributable to a 20% increase in the net PML in 2009. The increase was offset by a decline in the reserve risk charge from an average of 36% in 2008 to 32% in 2009.

Fixed Income Investment, Equity Investment and Interest Rate/Liquidity Risks

The fixed income investment, equity investment and interest rate/liquidity risk charges slightly declined from an average of 14% in 2008 to 13% of the BSCR prior to covariance adjustment in 2009.

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Credit Risk

The credit risk charge remained stable throughout the years on account of relatively stable receivable balances and relatively flat retention ratios.

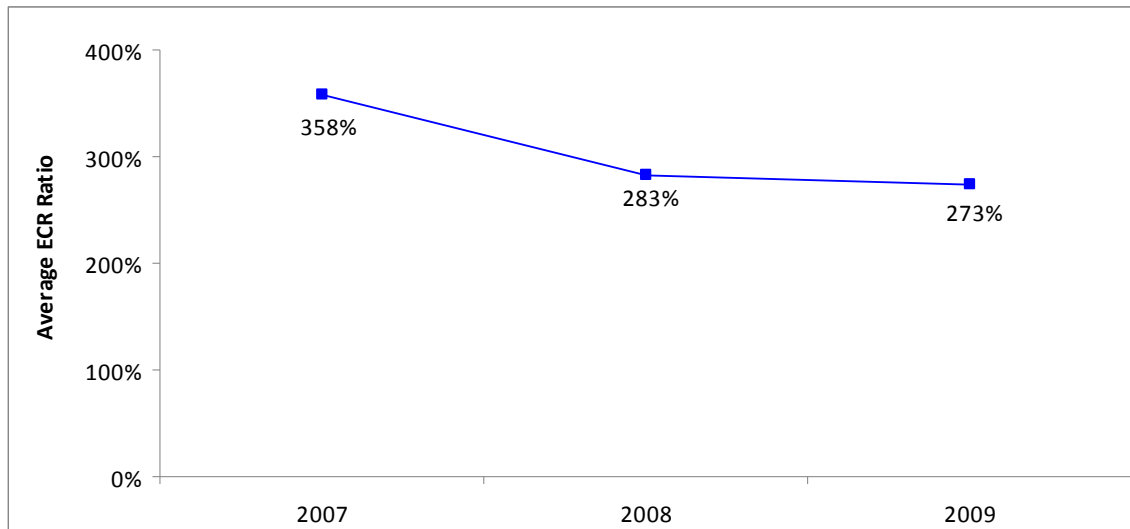
Operational Risk

The operational risk capital charge was first introduced in 2008 through the CIRA framework embedded in the BSCR model. Enterprise-wide risk management continues to play a significant role in how the (re)insurers understand and manage the risk associated with operations. Most Class 4 (re)insurers continue to invest in risk management to minimise the impact of future large loss events and optimise the risk-adjusted return. Most have chief risk officers or equivalent risk management leadership. Overall, the operational risk capital charge improved to an average of 6% in 2009 from 7% in 2008.

Capitalisation

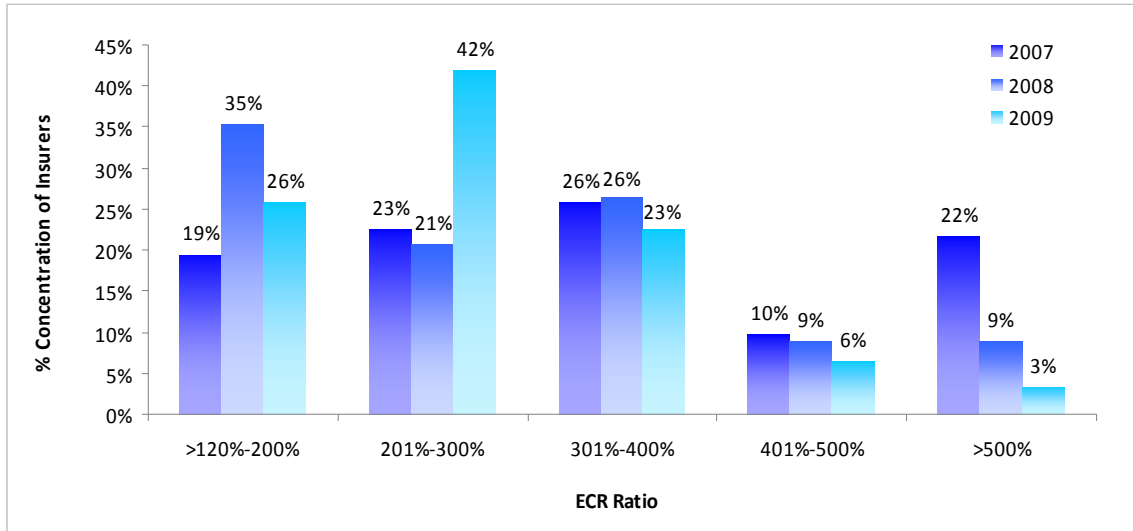
Below is a summary of the ECR ratio and its distribution for the 2007, 2008 and 2009 reporting years.

Exhibit 3.1.2: Class 4’s average ECR ratio trends



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Exhibit 3.1.3: The distribution of Class 4s' ECR ratios



Enhanced Capital Requirement Analysis and Comparisons

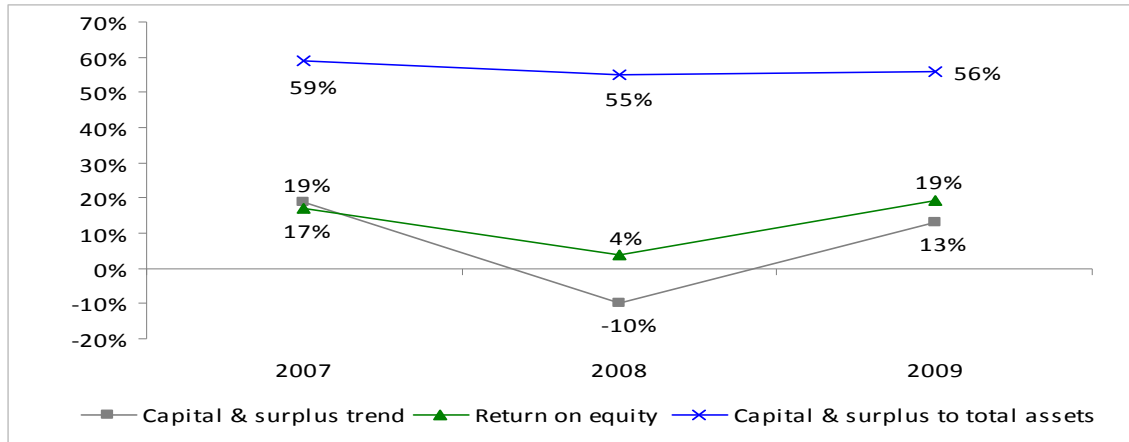
The Class 4s' average ECR ratio in 2009 was 273% compared to 283% in 2008, which indicated that, in spite of the decline, the Class 4 (re)insurers continued to be well capitalised. While the capital and surplus increased by an average of 13%, the risk-based capital requirements also rose due to the increased catastrophe risk charges resulting in a lower average ECR ratio in 2009.

All Class 4 (re)insurers met the target capital level representing 120% of ECR. About 74% of Class 4 (re)insurers had ECR ratios above 201%, a significant increase from 65% in 2008.

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Below is a summary of key capital and surplus ratios for the 2007, 2008, and 2009 reporting years.

Exhibit 3.1.4: Capital and surplus ratios

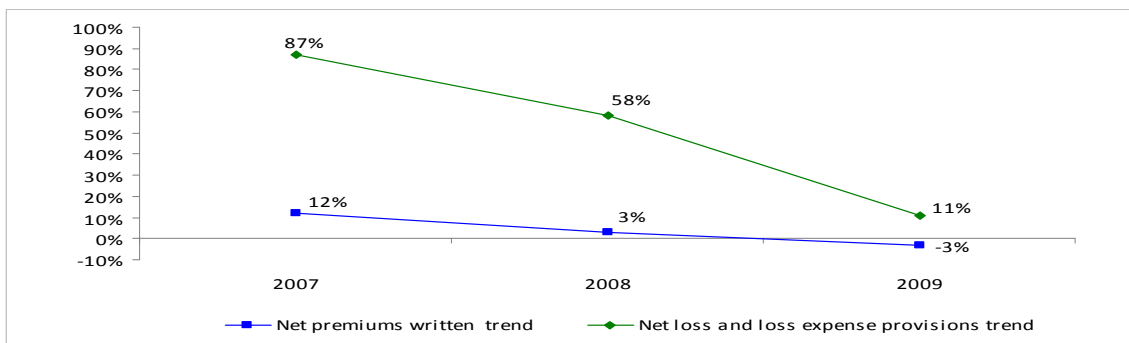


During 2009, the Class 4 (re)insurers' capital and surplus increased by an average of 13%. This profitability improvement was largely the result of positive underwriting and investment performance. The net income of the Class 4 (re)insurers grew significantly due to the benign 2009 natural catastrophe year and improved underwriting earnings coupled with higher net investment income. As a result, the return on equity on average improved to 19% in 2009 from 4% in 2008.

Underwriting

Below is a summary of key ratios related to underwriting for the 2007, 2008 and 2009 reporting years.

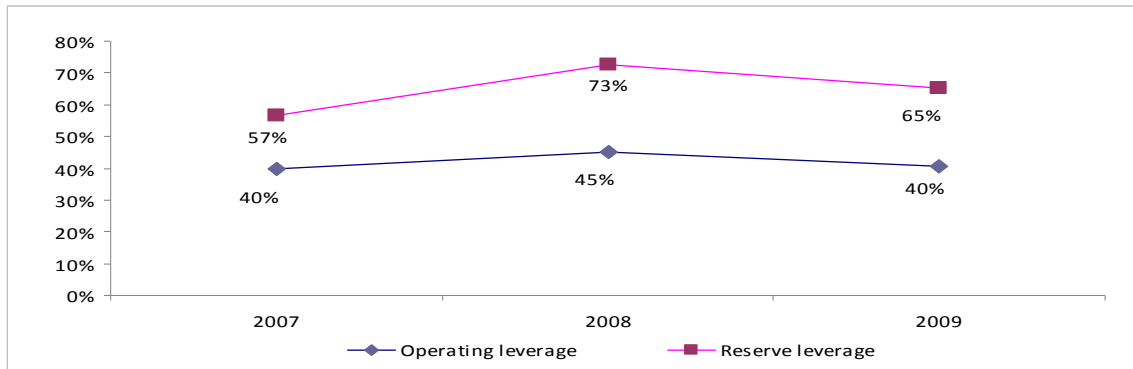
Exhibit 3.1.5: Net premiums written and net loss and loss expense provisions trends



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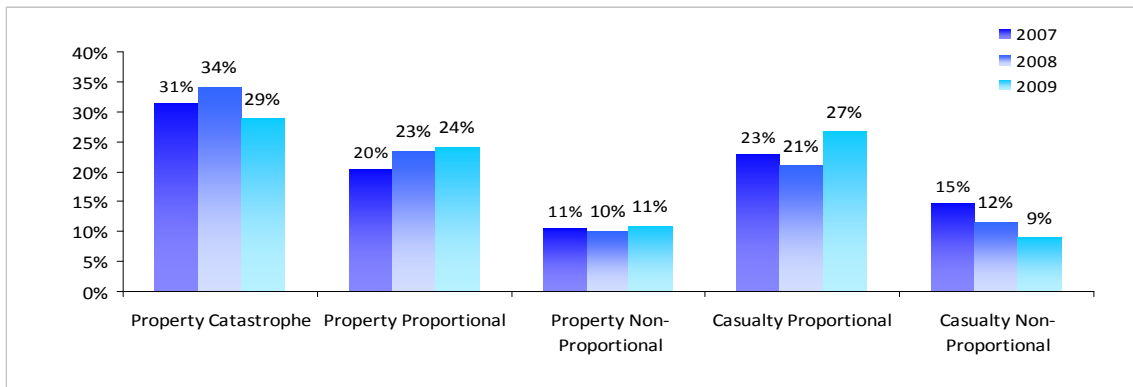
The net premiums written decreased by an average of 3% in 2009, in comparison to 3% growth in 2008. Net property catastrophe premiums grew by an average of 3%, driven by exposure growth. While net casualty proportional premiums grew at an average of 42%, net casualty non-proportional premiums declined by 22%. The net loss and loss expense provisions increased by an average of 11%, down significantly from 58% growth in 2008. The decrease in net loss and loss expense provisions in the property catastrophe line was primarily attributable to the relatively quiet Atlantic hurricane season in 2009. Net loss and loss expense provision in the casualty proportional line grew at an average of 37%, driven mainly by the increase in casualty business.

Exhibit 3.1.6: Operating and reserve leverage



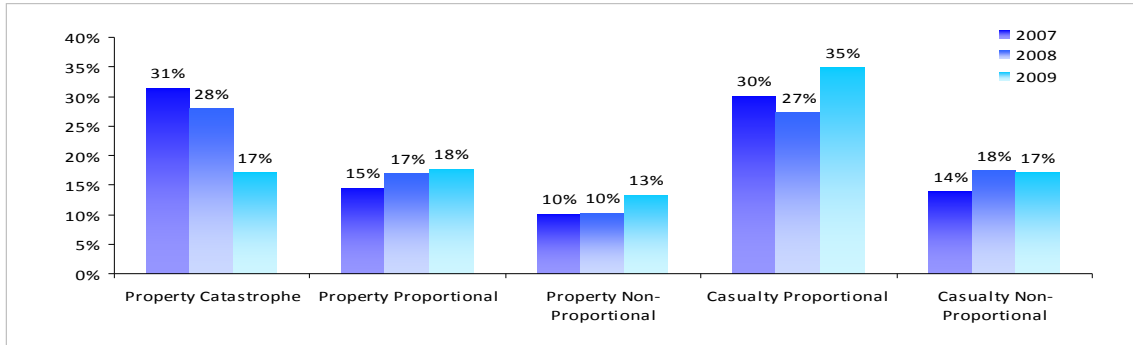
Both the operating and reserve leverage were relatively low compared to the prior year. The operating leverage improved to an average of 40% in 2009 from 45% in 2008 reflecting the improvement in surplus support for various balance sheet risks.

Exhibit 3.1.7: Net premiums written by statutory line of business



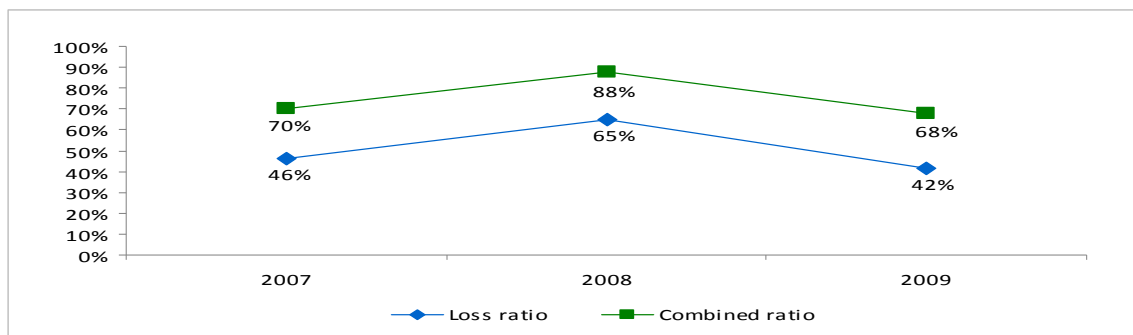
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Exhibit 3.1.8: Net loss and loss expense provisions by statutory line of business



The relative share of net premiums written shifted from property catastrophe and casualty non-proportional lines to casualty proportional lines. All other line of business groupings were written in similar proportions for 2009 compared with the prior year. The decrease in the portion of net loss and loss expense provisions in the property catastrophe line was mainly attributable to the relatively benign catastrophe season in 2009. For casualty proportional lines, the increase in the portion of net loss and loss expense provisions was due in part to its relatively long reserve development and an increase in the relative portion of net casualty proportional premiums written in 2009.

Exhibit 3.1.9: Combined and loss ratios



The Class 4 (re)insurers' underwriting income grew significantly in 2009 with some of the (re)insurers returning to positive territory. In light of the benign hurricane season in terms of those making landfall and dearth of other major catastrophe events in 2009, the Class 4 (re)insurers reported strong full-year underwriting profits and returns on capital. The Class 4s posted a combined ratio on average of 68% in 2009, down substantially from 88% in 2008 when results were impacted by catastrophic losses primarily relating to Hurricanes Gustav and Ike.

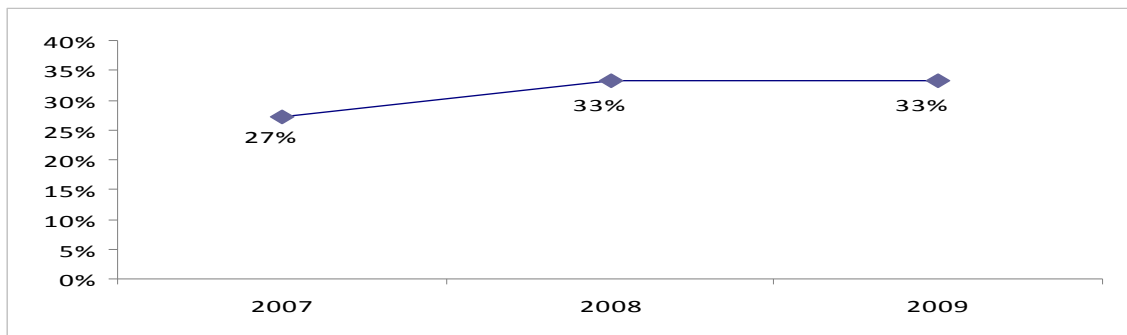
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Stress/Scenario Tests

The stress/scenarios are outlined in the Appendix. They comprise economic/financial market scenarios, U.S. Windstorm, U.S. Earthquake, Non-U.S. Windstorm, Non-U.S. Earthquake, Aerospace/Aviation and Marine event scenarios.

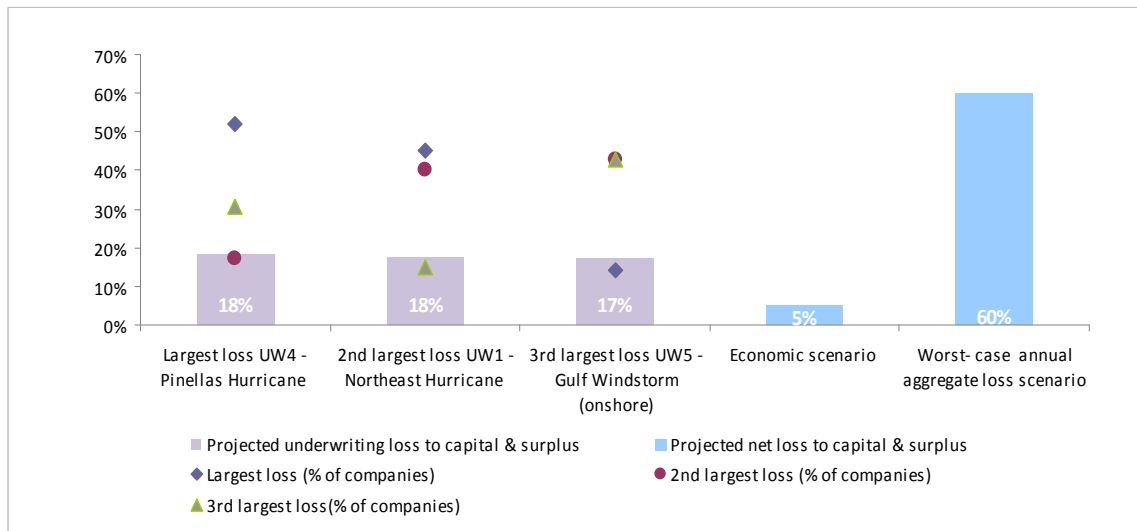
Below is a summary of key ratios related to stress/scenario tests.

Exhibit 3.1.10: Net PML to capital and surplus



The ratio of net PML to capital and surplus remained stable compared to 2008. However, it also indicated the continuing trend of increased underwriting risk appetites.

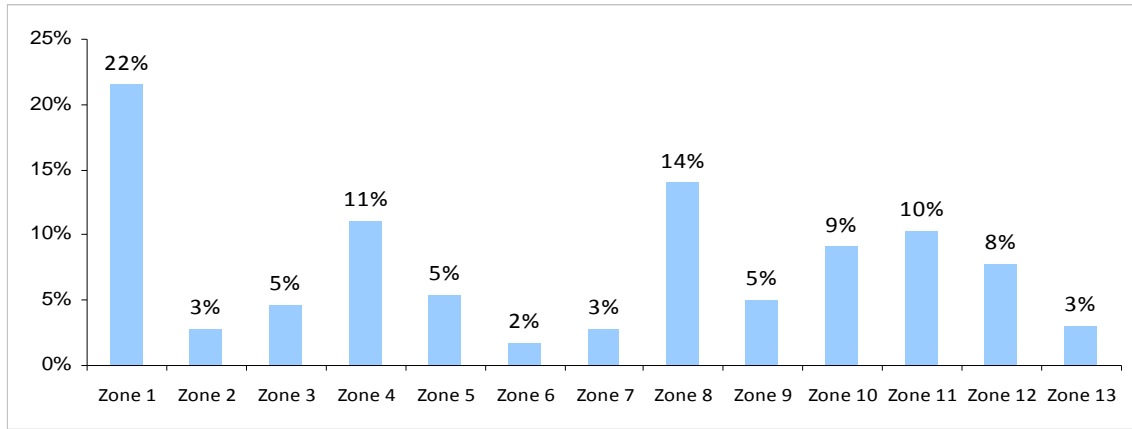
Exhibit 3.1.11: Projected losses under the three largest underwriting scenarios, economic and worst case scenarios



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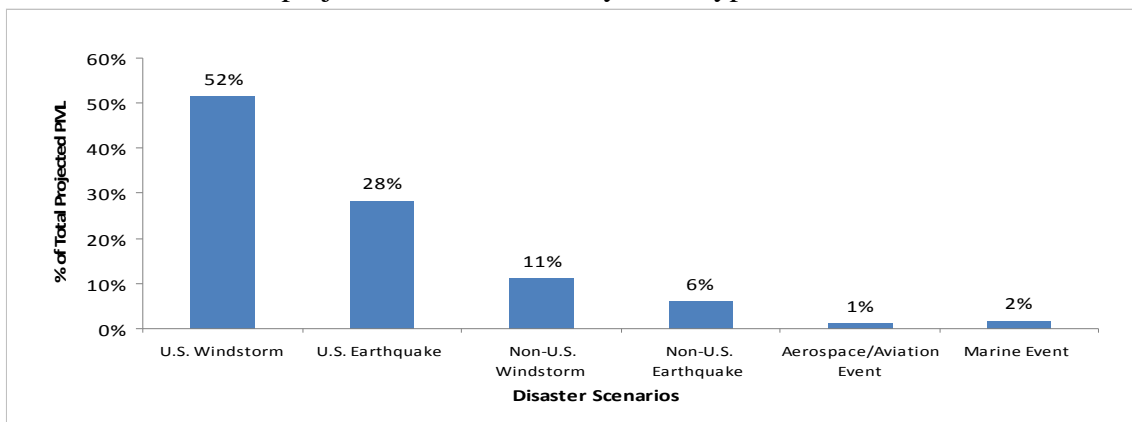
Generally, the Class 4 (re)insurers on average appeared to have the ability to meet projected losses under economic, underwriting and worst case scenarios. The worst case scenario loss projections on average were approximately 60% of the Class 4s statutory capital and surplus.

Exhibit 3.1.12: Catastrophe exposure measured as a percentage of net PML by zone



The largest net PML exposure exists in Zone 1 - Northeast, Southeast and the Gulf coast of the U.S., which represents approximately 22% of the total net PML exposure. Roughly 14% of the exposure exists in Zone 8 - UK & Continental Europe, 11% in Zone 4 - California, followed by 10% in Zone 11- U.S. nationwide covers.

Exhibit 3.1.13: Total projected net PML loss by event type



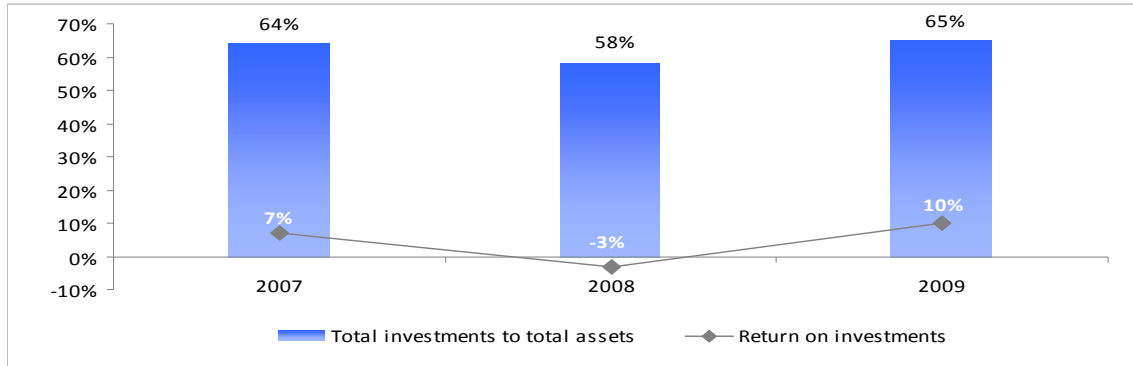
There is a very high loss exposure to major events such as U.S. Hurricane, followed by U.S. earthquake.

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Investments

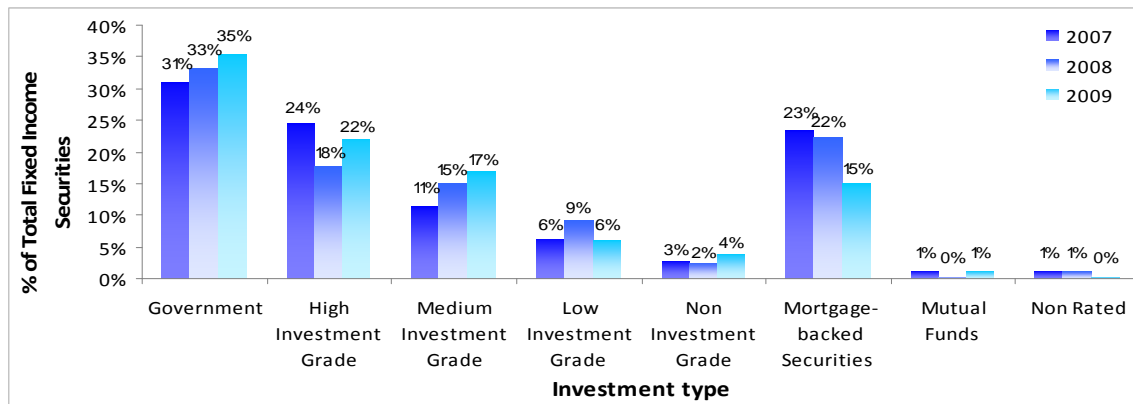
Below is a summary of key investment ratios for the 2007, 2008 and 2009 reporting years.

Exhibit 3.1.14: Total investments to total assets and return on investments



Total investments to total assets increased to 65% in 2009 from 58% in 2008. This increase was mainly attributable to the appreciation in investments in 2009 driven by the economic recovery. The return on investments increased on average from -3% in 2008 to 10% in 2009. This was largely driven by a significant increase in unrealised gains on investments reported by the majority of the Class 4 (re)insurers.

Exhibit 3.1.15: Fixed income securities by investment type



In 2009, some Class 4 (re)insurers de-risked their portfolio by reducing exposure to alternative investments and equities, while reallocating assets into fixed income securities and cash holdings. As depicted above, the (re)insurers increased the concentration in government securities and reduced the exposure in mortgage-backed securities. In light of

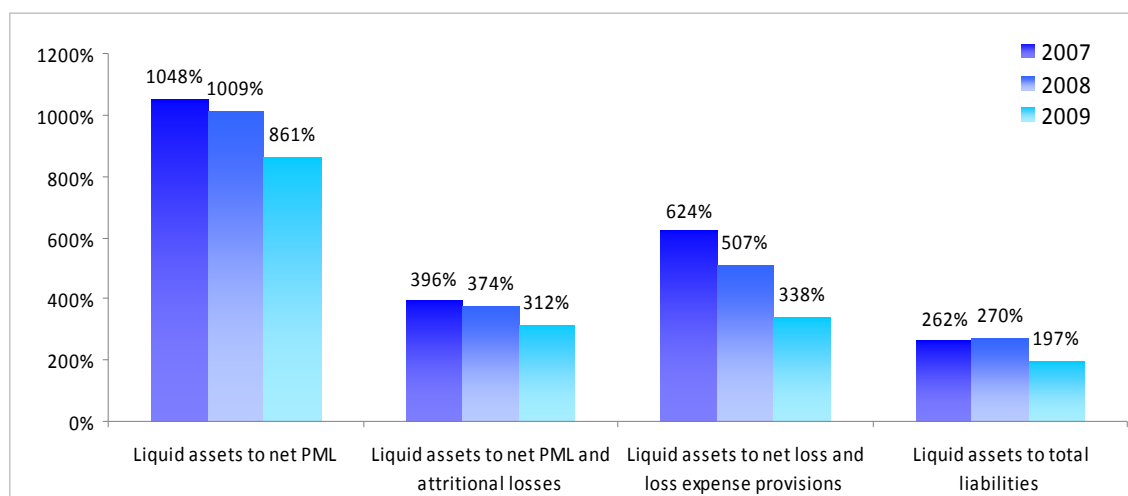
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the low interest rate environment, there is a continuing trend of higher concentration in high and medium investment grade bonds in order to capture higher yield.

Liquidity

Below is a summary of key liquidity ratios for the 2007, 2008, 2009 reporting years.

Exhibit 3.1.16: Liquidity ratios



The liquidity ratios reflect the Class 4 (re)insurers' ability to meet their obligations as they fall due.

In calculating the liquidity ratios above, the following assets were considered to be liquid assets: cash (Form 1A, Line 1), quoted investments (Form 1A, Line 2(f)), investment income due and accrued (Form 1A, Line 9), accounts and premiums receivable (Form 1A, Line 10), and reinsurance balances receivable (Form 1A, Line 11).

In general, the Class 4 (re)insurers have sufficient free liquid assets to support their catastrophe exposures. The downward trend and the volatility of the liquidity ratios over the three-year period reflected the (re)insurers' increased underwriting risk appetites, the interest rate environment and capital market conditions.

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Commercial Insurer Risk Assessment

The CIRA¹ assists the Authority in determining the appropriateness of a Class 4 (re)insurer's operational risk charge for the purposes of determining its ECR as described by the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Order 2008.

The operational risk capital charge is the operational risk charge percentage multiplied by the BSCR (after covariance adjustment). The operational risk charge ranges from 1% to 10% based on each (re)insurer's self-assessment of the CIRA framework.

The CIRA Framework includes a maturity model that has four components: risk identification, risk measurement, risk response, and risk monitoring & reporting. Class 4 (re)insurers undertake the self-assessment regarding the quality of their risk management processes in relation to eight material operational risk areas:

- Fraud Risks
- Human Resources Risks
- Outsourcing Risks
- Distribution Channels Risks
- Business Processes Risks
- Business Continuity Risks
- Information System Risks
- Compliance Risks

The self-assessment is audited by the Authority's on-site team during on-site inspections, and a capital add-on may be assessed if the Authority's view differs in relation to the self-assessment results. The Class 4s' average operational risk capital charge improved to 6% in 2009 from 7% in 2008. Overall, the self-assessment results marked a continuing trend of stronger Board oversight of the corporate governance and risk management functions within the (re)insurers. The results imply that Class 4 (re)insurers continue to take considerable steps to enhance corporate governance and risk management.

¹ Source: Guidance Note #17 Commercial Insurer Risk Assessment, November 2008

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Exhibit 3.1.17: Corporate Governance

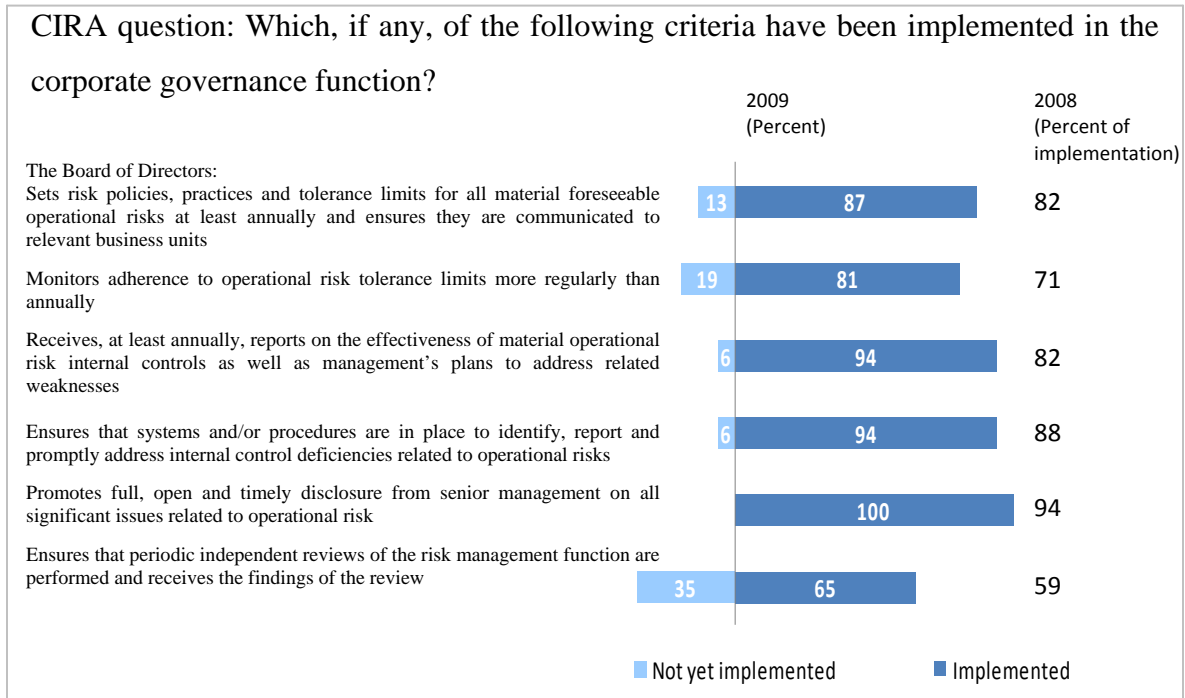
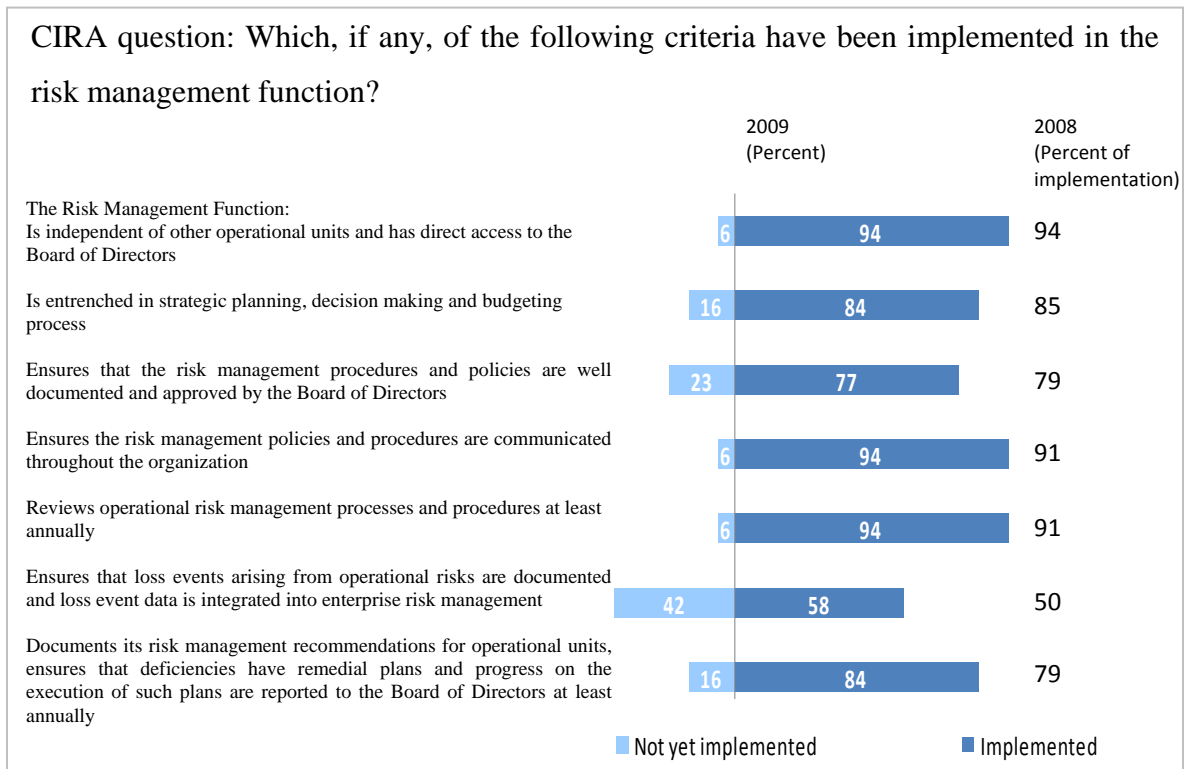


Exhibit 3.1.18: Risk management function



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All Class 4 (re)insurers indicated that their Board promoted full, open and timely disclosure from senior management on all significant issues related to operational risk. Accordingly, 65% of the (re)insurers stated that the Board ensured periodic independent reviews of the risk management function were performed and reported to the Board – this compares to 59% of the (re)insurers meeting this criterion in 2008.

About 94% of Class 4 (re)insurers indicated that the Board ensured systems and/or procedures were in place to identify, report and promptly address internal control deficiencies related to operational risks. Almost 94% of them indicated that the Board received, at least annually, reports on the effectiveness of material operational risk internal controls as well as management's plans to address related weaknesses.

Consistent with the apparent higher importance placed upon the corporate governance function, the results indicated that the majority of Class 4 (re)insurers showed improvement in their risk management functions. Almost 58% of Class 4 (re)insurers indicated that risk management functions ensured loss events arising from operational risks were documented and loss event data was integrated into enterprise risk management – this compares to 50% of Class 4 (re)insurers meeting the criterion in 2008.

Eighty-four percent of Class 4 (re)insurers stated that their risk management functions documented the risk management recommendations for operational units, and ensured that deficiencies have remedial plans and progress monitoring on the execution of the plans, and these were reported to the Board at least annually. This represents an increase from 79% of Class 4 (re)insurers meeting the criterion in 2008.

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The CIRA also embodies a maturity model approach to identify where Class 4 (re)insurers are on the continuum, from “no implementation” to having a process that is entrenched within their operations, well documented, understood by relevant staff and reviewed at least annually with the view to assessing effectiveness and introducing improvements. The (re)insurers identify the stage of progression of each operational risk area based upon the Dimension descriptor. The details of the stage of progression are as follows:

Progression

Stage	Dimension
1	“ad hoc”
2	Implemented but not standardized across the organization
3	Implemented, well documented policies and procedures that are understood by relevant staff, and standardized across the entire organization
4	In addition to Stage 3, processes are reviewed at least annually with the view to assessing effectiveness and introducing improvements

The Class 4 (re)insurers continue to formalise and expand their enterprise risk management programs to minimise the impact of loss events arising from operational risks. It appears that they have taken considerable steps to identify, measure, control, monitor and report material risks arising from eight operational risk areas and the results imply significant improvement over the prior year.

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Exhibit 3.1.19: Developmental stage with respect of the operational risk areas for risk identification:

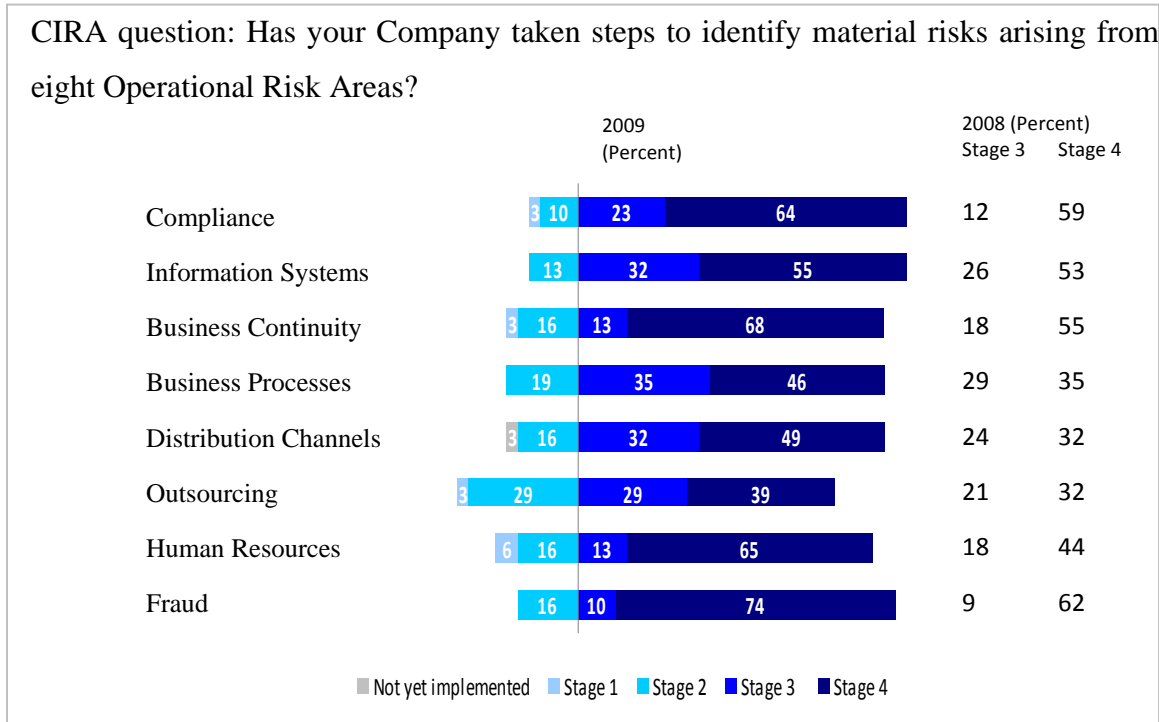
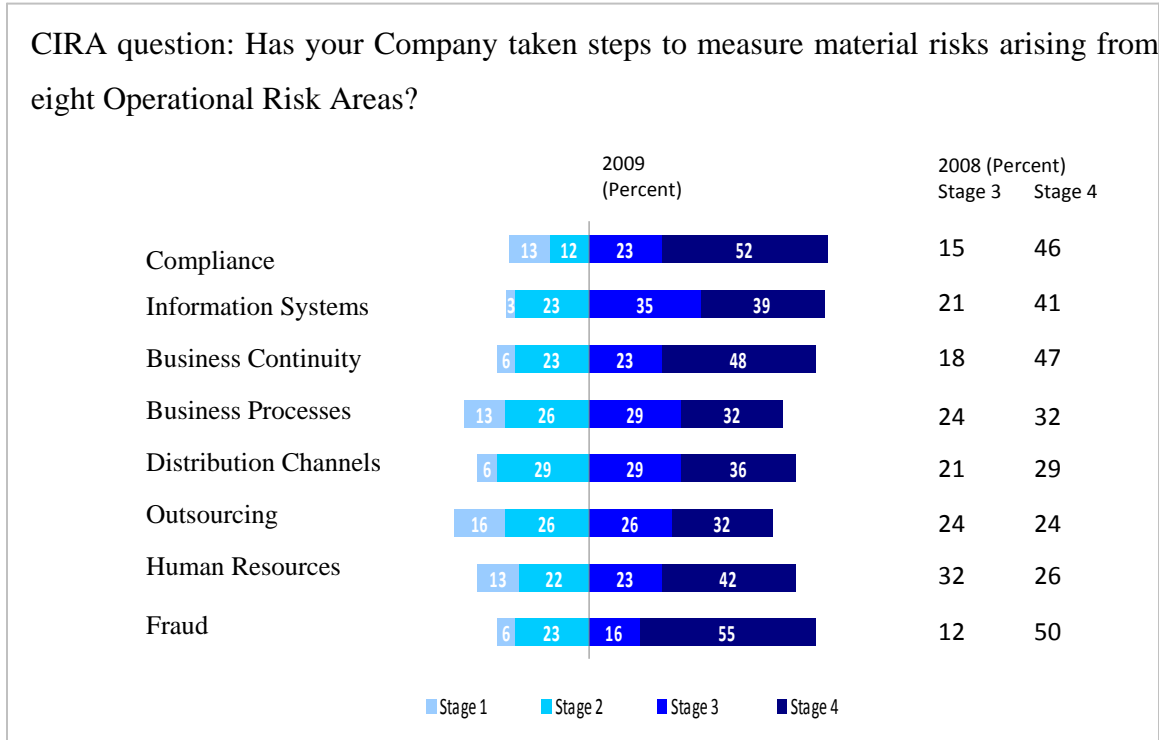


Exhibit 3.1.20: Developmental stage with respect of the operational risk areas for risk measurement



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Exhibit 3.1.21: Developmental stage with respect of the operational risk areas for risk response

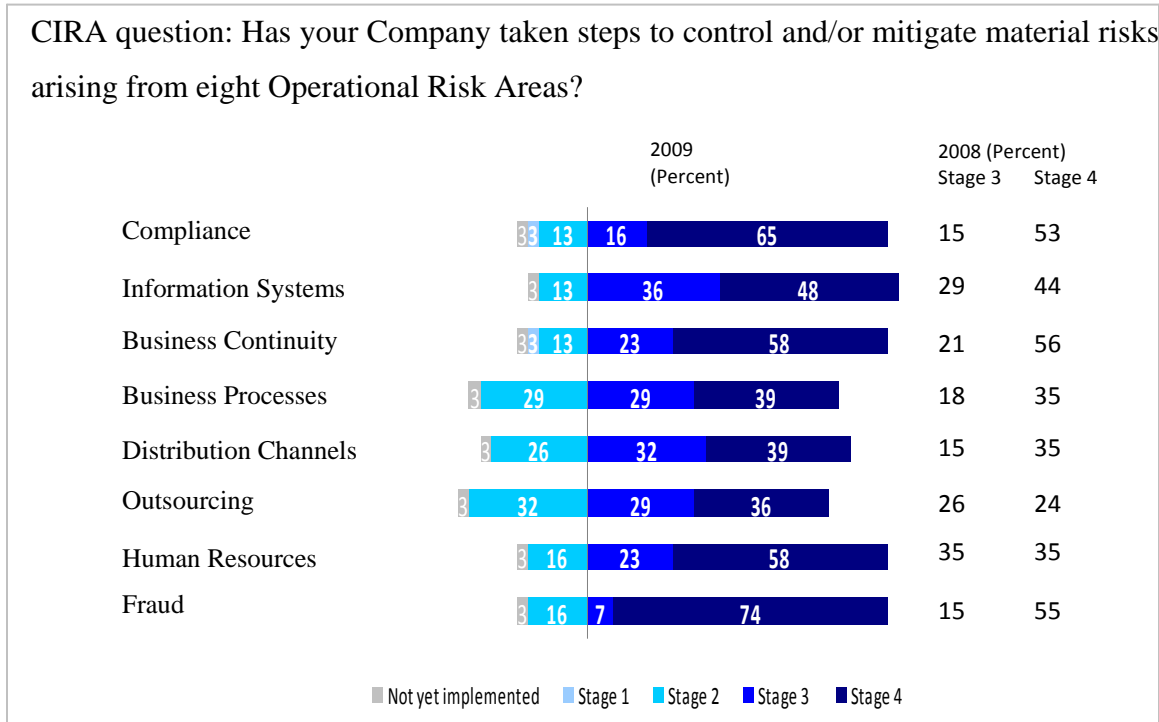
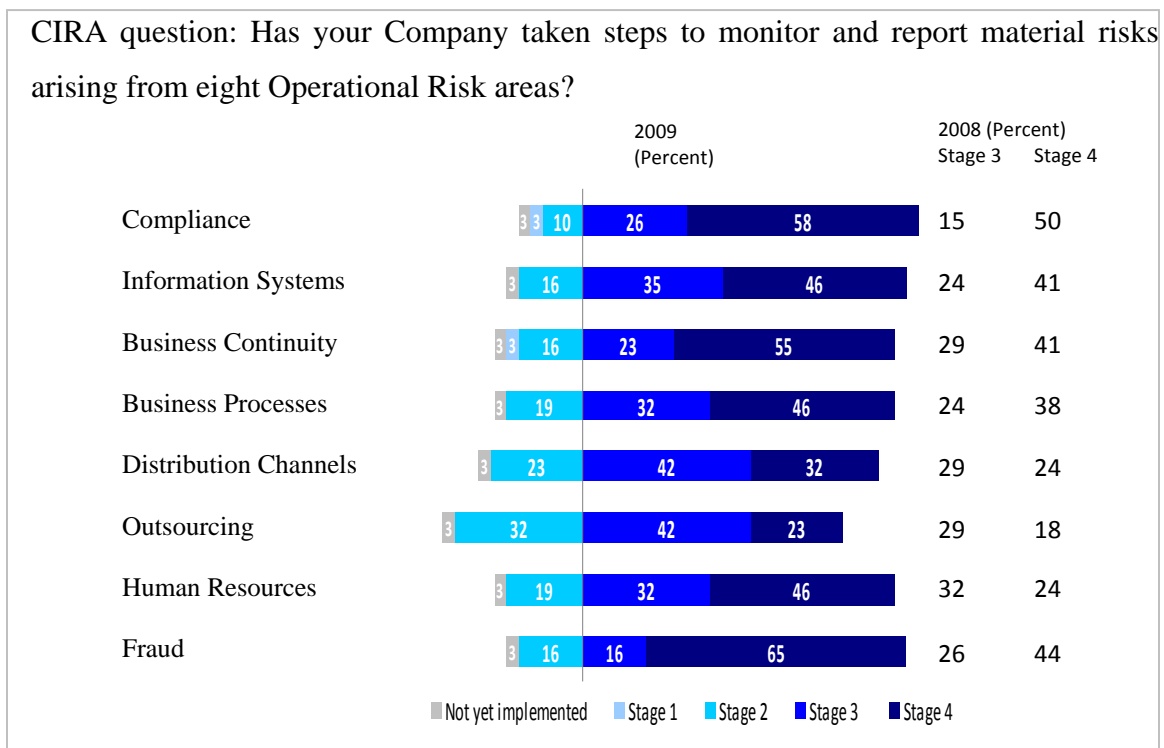


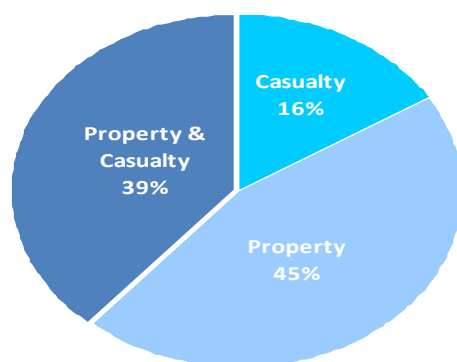
Exhibit 3.1.22: Developmental stage with respect of the operational risk areas for risk monitoring and reporting



3.2 Sector Review

For the purposes of this report, the Class 4 (re)insurers have been grouped into three primary sectors² including casualty, property and casualty and property based on the percentage of property premium³ relative to the total net premiums written throughout 2009.

Exhibit 3.2.1: Class 4 (re)insurers by sector



3.2.1 Casualty Sector Review

The Class 4 Casualty sector includes (re)insurers writing less than 40% of property-related premiums (on a net premiums written basis). The casualty sector represents the smallest sector in the Class 4 market.

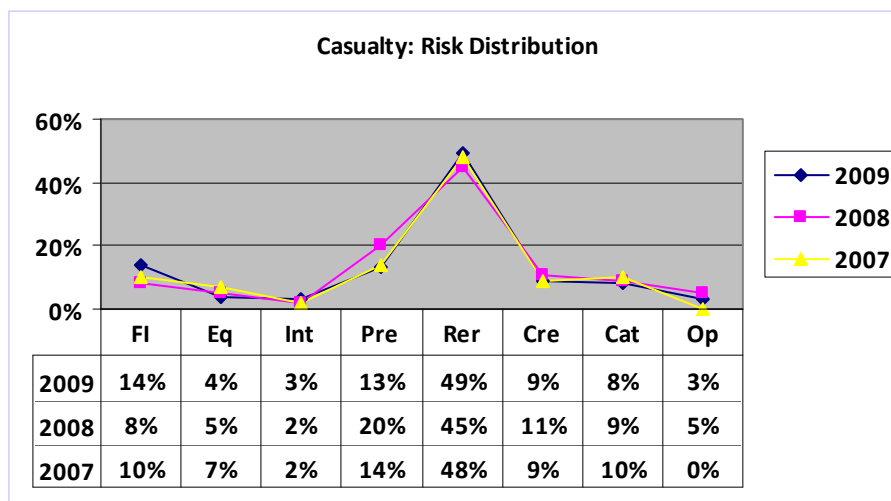
Property-related premiums include the following lines: Property catastrophe, Property, Aviation, Energy offshore/marine, International Motor, and Retro Property.

² (Re)insurers with percentage of property premium less than 40%, between 40% to 60% and greater than 60% are classified into casualty, property & casualty and property sectors respectively.

³ The calculation of the percentage of property premium is based on line 1,2,3,6,7,10,11,18,19, 22 of under Schedule IV (Schedule of Premiums Written By Line of Business) divided by the total net premiums written.

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Exhibit 3.2.1.1: BSCR risk distribution



Based on the exhibit above, the risk profile of the casualty sector has not changed materially, on average.

The risk distribution for this sector indicates that reserve risk is the largest driver of the ECR. Reserve risk which relates to incurred claims is the risk that actual claims arising from claim sizes, timing of claims payments and claims frequency vary from those expected. This is reasonably expected considering the long-tail nature of casualty risks, where claims generally take more time to develop, get reported and settled than short-tail exposures. The 4% increase in reserve risk from 45% in 2008 was primarily driven by the internal restructuring of certain (re)insurers and lower prior year reserve releases, leading to a higher reserve balance for the overall sector.

Lagging behind is premium risk, which relates to future claims. This is the risk that the premiums charged are insufficient to cover future claims resulting from actual claims being different from those expected in terms of size, timing and frequency. The reduction to 13% in 2009 from 20% in 2008 was mainly attributed to the re-distribution in the risk charges caused by the spike in net reserves during the year.

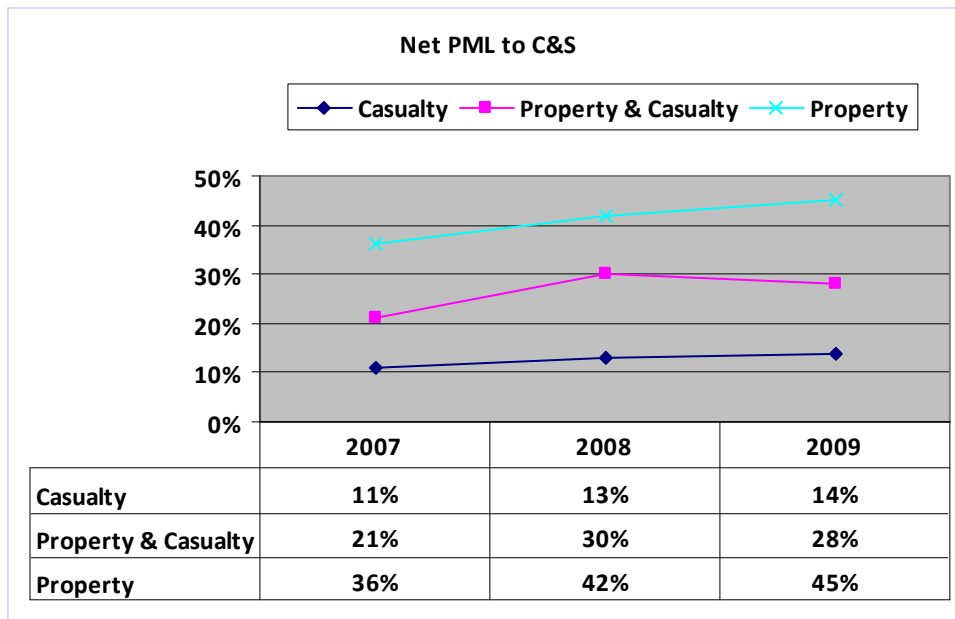
Casualty risk writers have historically held a modestly higher percentage of assets in fixed income investments than the other sectors. As a result, of the Class 4's, this sector has the highest capital risk charge for fixed income investments.

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The casualty sector has shown an average operational risk of 3% in 2009, the lowest among the sectors. This suggests that this sector has the highest quality of corporate governance and risk management framework in place when compared to the rest of the sectors.

The equity, interest rate/liquidity, credit and catastrophe risk charges were largely unchanged from the previous year.

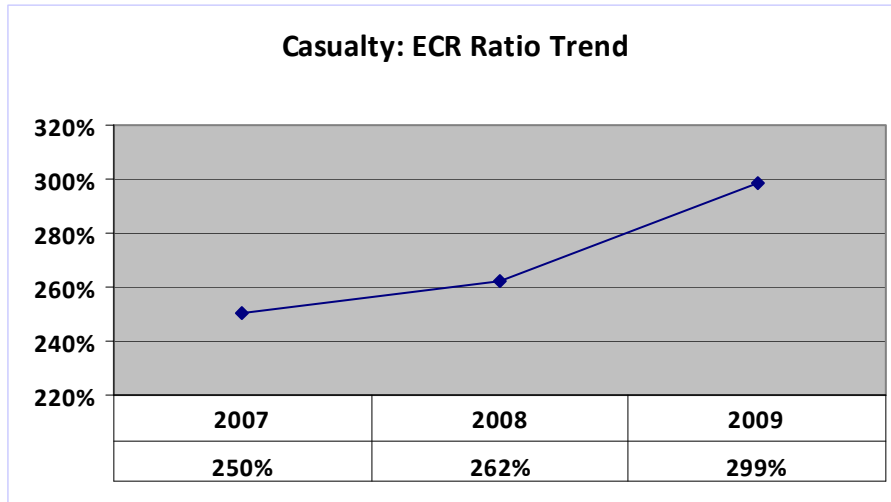
Exhibit 3.2.1.2: Net PML to capital and surplus



The casualty sector as expected has a very low proportion of property catastrophe exposures, resulting in its average net PML to capital and surplus being at the bottom of the range of ratio trends. Although in 2009 the sector’s net PML has increased quite considerably, at 33% both on an aggregate and average basis, this has been mitigated by the increase in its capital and surplus – at 46%. As a consequence, the average net PML to capital and surplus is only 1% higher than the previous year.

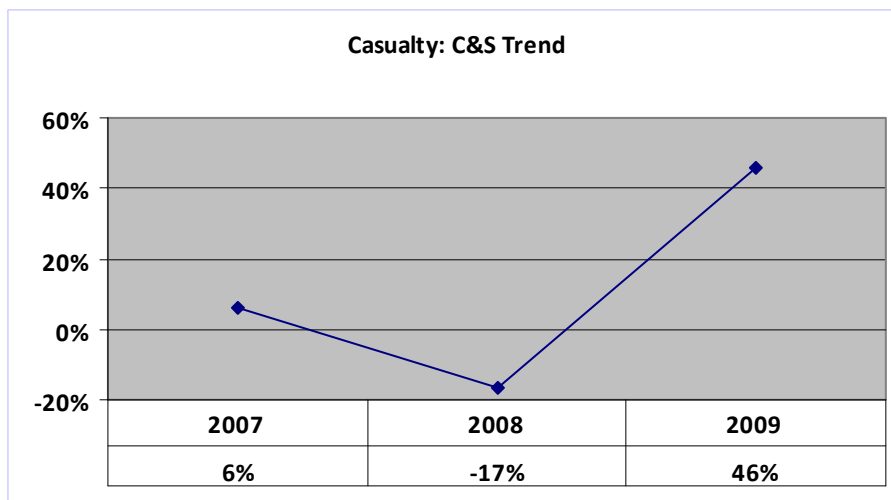
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Exhibit 3.2.1.3: ECR ratio trend



The ECR ratio of this sector shows an increasing trend with a ratio of 299% in 2009, up from 262% in 2008. This increase is largely driven by the substantial increase in this sector’s statutory capital and surplus by end of 2009 – by as much as 46%. This was partially mitigated by the average increase in fixed income investments and net reserves, as noted in Exhibit 3.2.1.1, which resulted in a higher capital requirement.

Exhibit 3.2.1.4: Capital and surplus trend

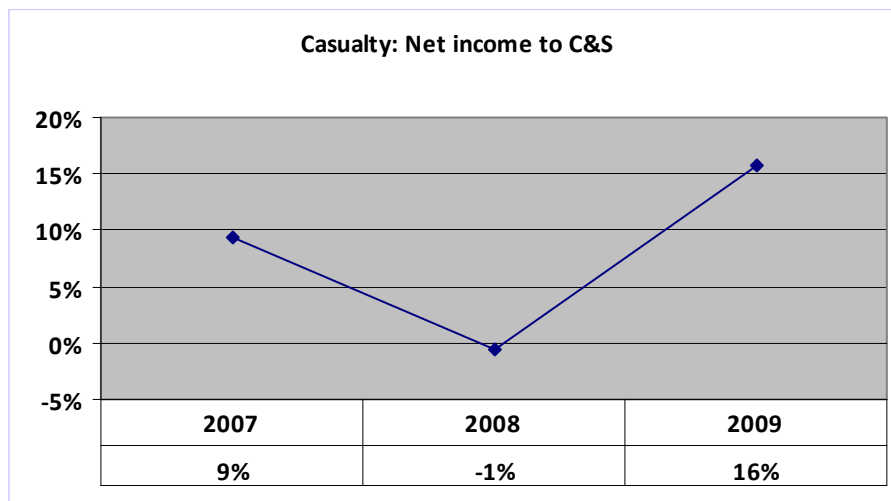


Of the Class 4 market, this sector experienced the highest increase in statutory capital and surplus in 2009. The increase was the result of a \$2.2 billion additional contribution to surplus, an overall net profit for the sector plus unrealised gains on investments which was partially mitigated by a \$0.8 billion dividend payment during the year.

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On the other hand, the casualty sector incurred an overall net loss, substantial unrealised losses and a dividend payment of about \$1.9 billion in 2008. Approximately \$2.6 billion of additional capital partially restored the capital levels of this sector.

Exhibit 3.2.1.5: Net income to capital and surplus

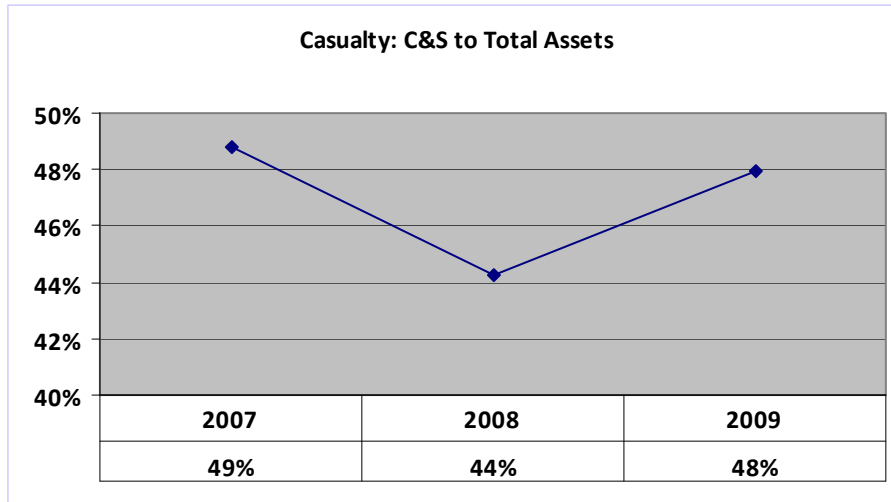


The Class 4 casualty sector enjoyed a stronger earnings performance in 2009, which is relatively comparable to the other sectors. This could largely be attributed to the improved underwriting results reported by the sector during the year – with its average combined ratio of 85%.

In contrast, this sector incurred an average combined ratio of 99% in 2008. Although this sector's overall investment performance appears to have not suffered at all, there were a few (re)insurers whose operating results were hit by impairments on investments in associates accounted under the equity method.

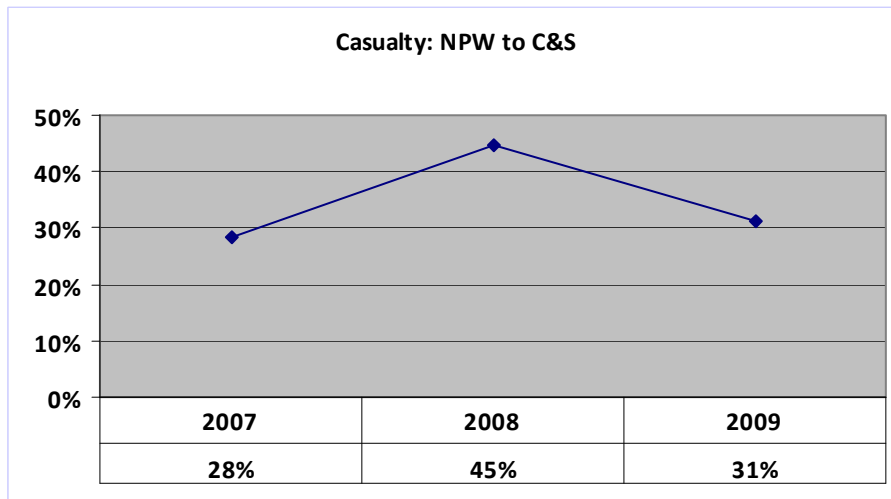
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Exhibit 3.2.1.6: Capital and surplus to total assets



The casualty sector has the lowest statutory capital and surplus as a percentage of total assets trend when compared to the other Class 4 sectors. This is expected in light of the casualty sector's high net reserve balance as a percentage of total assets, which is consistent with the result of the BSCR risk distribution showing reserve risk as the largest share. As noted in Exhibit 3.2.1.1, there was an overall increase in net reserves largely due to some (re)insurers undergoing internal restructuring and lower prior year reserve releases in 2009 than 2008.

Exhibit 3.2.1.7: Operating leverage

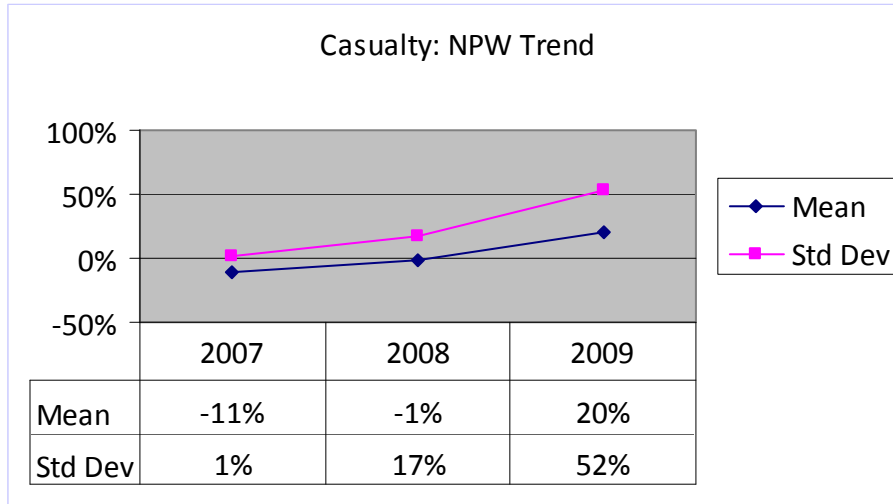


This sector shows an unstable operating leverage trend which also suggests a volatile financial strength. This trend of volatile financial strength might be caused by the few

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(re)insurers in this sector that have been materially increasing their business in light of the softening pricing environment in the casualty market.

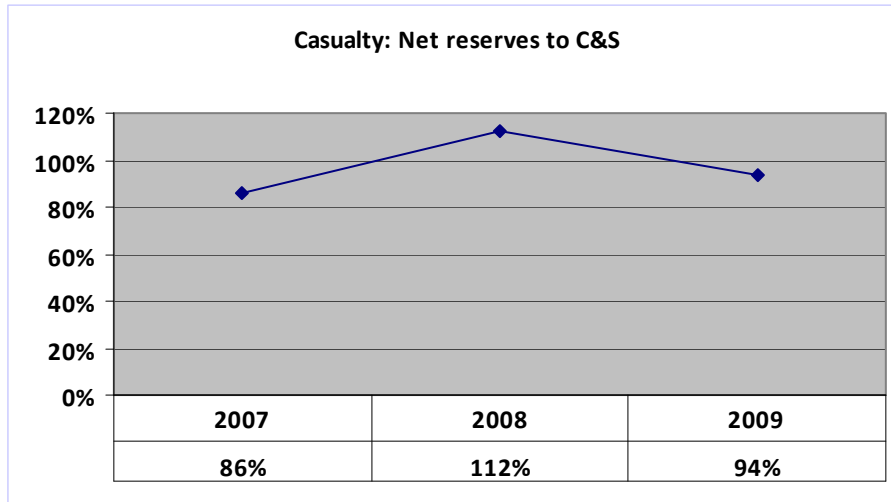
Exhibit 3.2.1.8: Net premiums written trend



The casualty sector shows an increasing net premium written trend although the general casualty market has been experiencing a soft pricing environment, particularly the US casualty market partly due to a reduction in the exposure base arising from the difficult economic conditions. The increase in 2009 by 20% could be attributed to some (re)insurers who are undergoing internal restructuring and are materially increasing their underwriting business. This has resulted in the huge variances for the year.

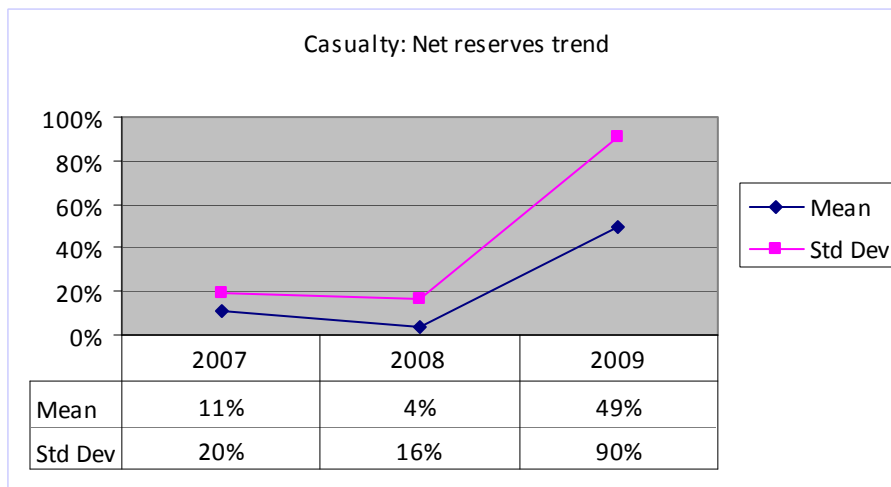
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Exhibit 3.2.1.9: Reserve leverage



As noted previously, this sector holds considerable net reserves in its balance sheet in light of its long-tail exposures. As a result, the Class 4 casualty sector has the highest net reserves as a percentage of capital and surplus. In spite of the fact that an increase in net reserves was noted for the casualty sector, as indicated in Exhibit 3.2.1.1, the ratio of net reserves to capital decreased quite considerably to 94% or by 18% in 2009. This arises from the material increase in the casualty sector’s capital level.

Exhibit 3.2.1.10: Net reserves trend

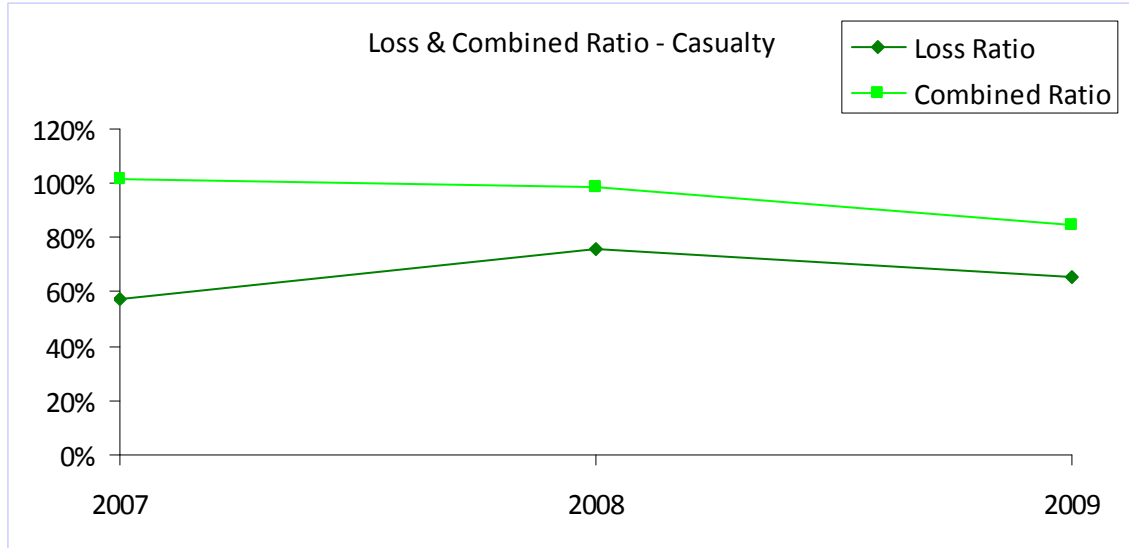


The net reserves trend of the Class 4 casualty sector has a fairly consistent distribution trend for reserve risk as that in Exhibit 3.2.1.1. As previously identified, some

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(re)insurers in the casualty sector have undergone internal restructuring and have lower prior year reserve releases in 2009, than in 2008.

Exhibit 3.2.1.11: Underwriting performance

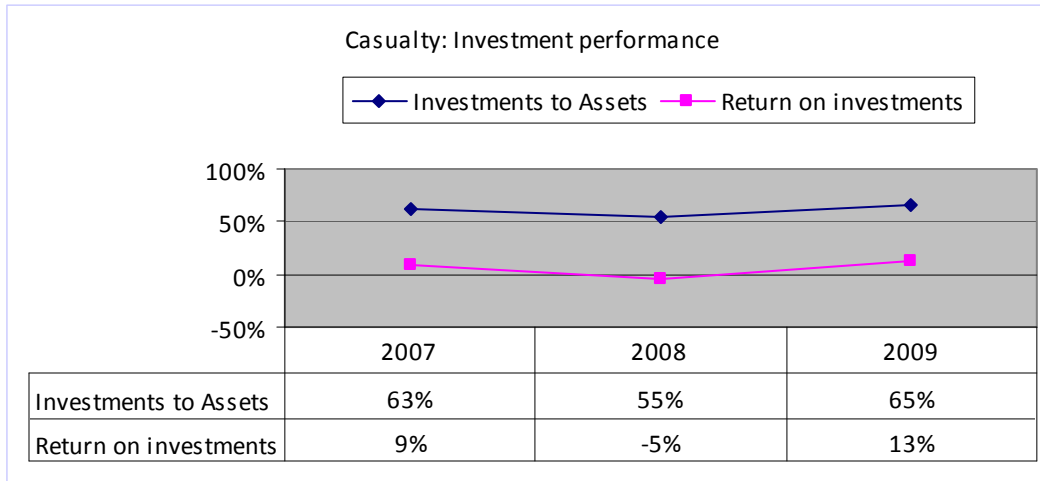


With a loss and combined ratio of 58% and 85%, respectively, the underwriting performance of the casualty sector improved considerably in 2009. Although loss payments increased by 10%, prior year reserves of about \$0.42 billion was released due to favorable claims development.

On the other hand, 2008 generated a higher loss ratio of 76% for the casualty sector due to the increased claims payments plus additional provisioning in light of the economic conditions, which was partially offset by the release of prior year reserves on other exposures.

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Exhibit 3.2.1.12: Investment performance



As indicated in Exhibit 3.2.1.1, the Class 4’s casualty sector has historically held a considerable portion of their assets in fixed income investments which are generally expected due to the nature of their underwriting exposures. A few (re)insurers in the casualty sector have substantial investments in associates, which has skewed the above ratios. The increase in the ratio to 65% in 2009 from 55% in 2008 was largely due to the additional contributed surplus of about \$2.2 billion as well as recoveries in investment values during the year.

In light of the global financial crisis in 2008, the Class 4 casualty sector reported negative return on investments primarily driven by significant unrealised losses. Further, the casualty sector incurred the highest realised loss from sales and disposals of investments in 2008. The significant depletion in the investment values in 2008 was also reflected in the statutory capital and surplus of the casualty (re)insurers.

In contrast, 2009 showed a discernible decline in realised losses from sales and disposals of investments. Additionally, the outlook on the financial markets improved tremendously resulting in recoveries in asset values further enhancing the return on investments.

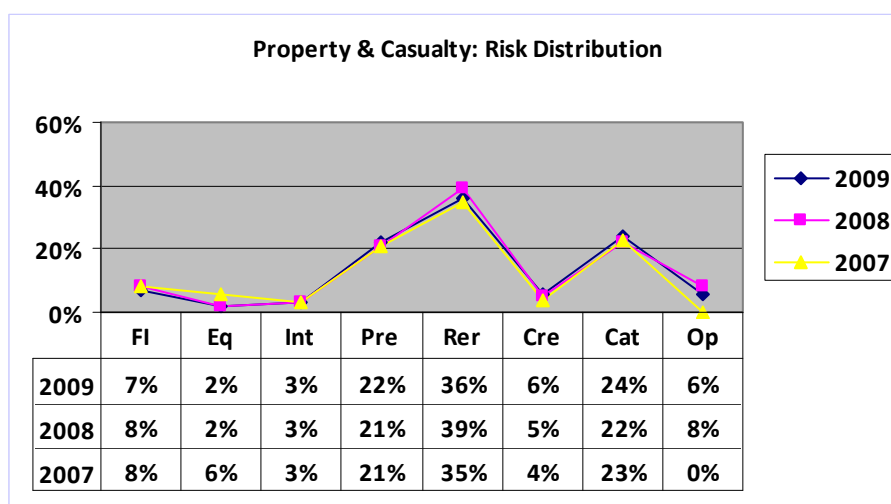
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3.2.2 Property and Casualty Sector Review

The Class 4 property and casualty sector includes (re)insurers writing greater than or equal to 40%, but no greater than 60%, of property-related premiums (on a net premiums written basis).

Property-related premiums include the following lines: Property catastrophe, Property, Aviation, Energy offshore/marine, International Motor, and Retro Property.

Exhibit 3.2.2.1: BSCR risk distribution



The risk profile of the average Class 4 property and casualty sector appears unchanged from the prior year. The top two risks for this sector based on the results of the BSCR risk distribution, remain reserve risk and catastrophe risk.

Despite the strengthening of reserves of some property and casualty (re)insurers, overall net reserves declined. The decline is primarily due to a significant reduction in reserves due to favorable prior year development and an internal transfer of reserves. An increased appetite for catastrophe risk also contributed to this decline in reserve risk distribution.

Non-property catastrophe lines generally also have natural catastrophe exposures. As a result, catastrophe risk is a material risk for the property and casualty sector. The slight

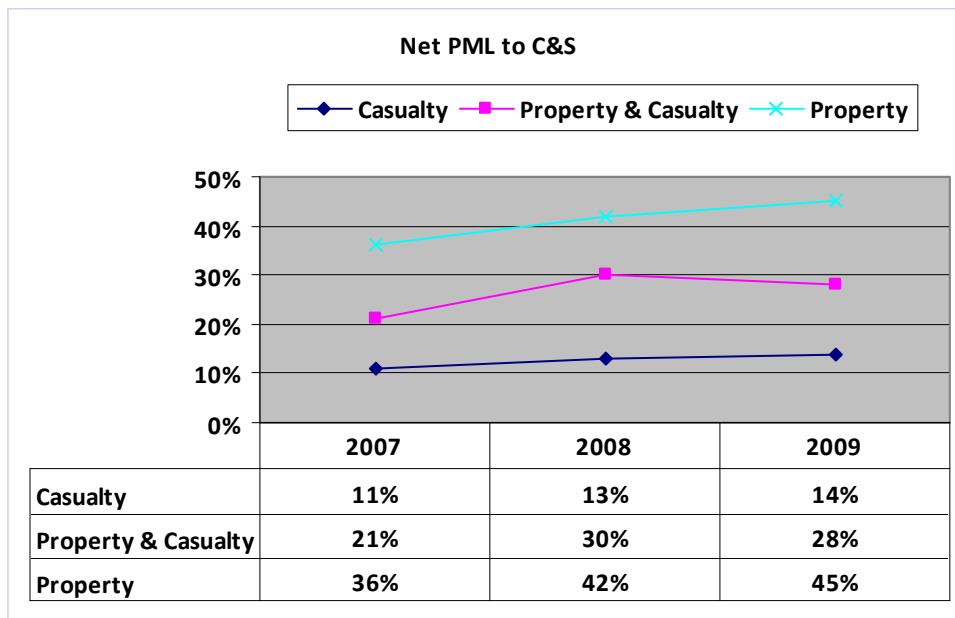
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increase of 2% in the distribution for catastrophe risk could be the result of an increased catastrophe risk appetite coupled with reserve releases as noted above.

The property and casualty sector showed an average decline in its operational risk - from 7% in 2008 to 6% in 2009 - suggesting a general improvement in the corporate governance and risk management frameworks of these (re)insurers.

The fixed income investment, equity investment, interest rate/liquidity, premium and credit risk charges remain largely unchanged from the prior year.

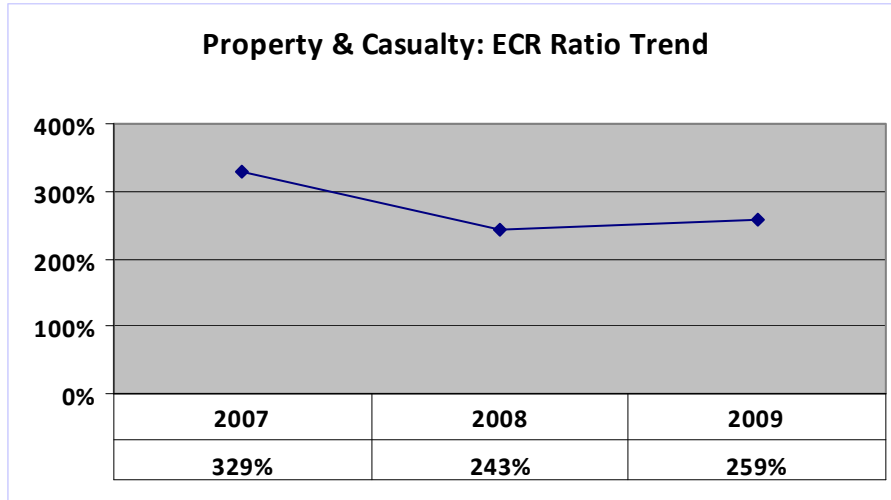
Exhibit 3.2.2.2: Net PML to capital and surplus



As noted previously, there was a slight increase in the 2009 distribution for catastrophe risk in the property and casualty sector whereby the aggregate and average net PML of the sector showed an increase of 8%. However, the exhibit above shows a contradicting trend. This is largely because the increase in net PML was mitigated by the increase in the sector's capital levels.

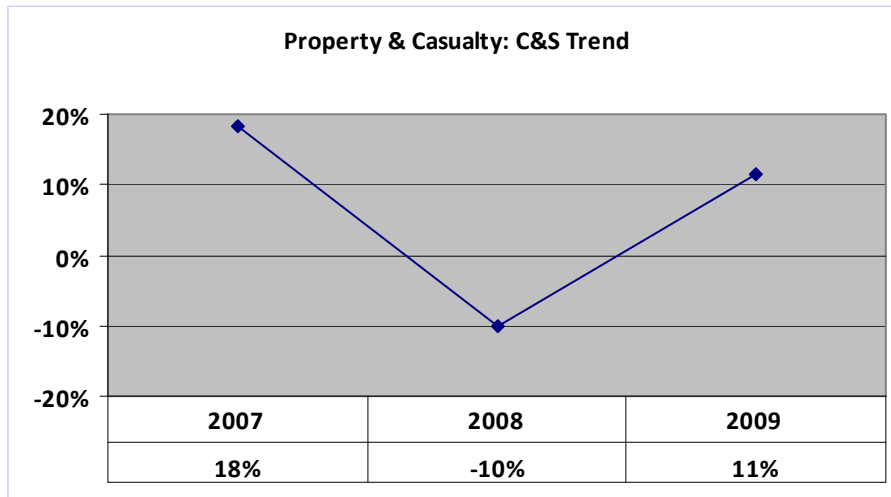
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Exhibit 3.2.2.3: ECR ratio trend



The property and casualty sector’s ECR trend appears unstable which is consistent with the statutory capital and surplus trend of the sector. The increased ECR ratio in 2009 could be attributed to the rise in the capital levels. The general move to more secure investments by the sector also contributed to the improved ratio. In addition, on average the sector has reduced its net premiums and net reserves which resulted in a lower capital requirement at the end of the year.

Exhibit 3.2.2.4: Capital and surplus trend



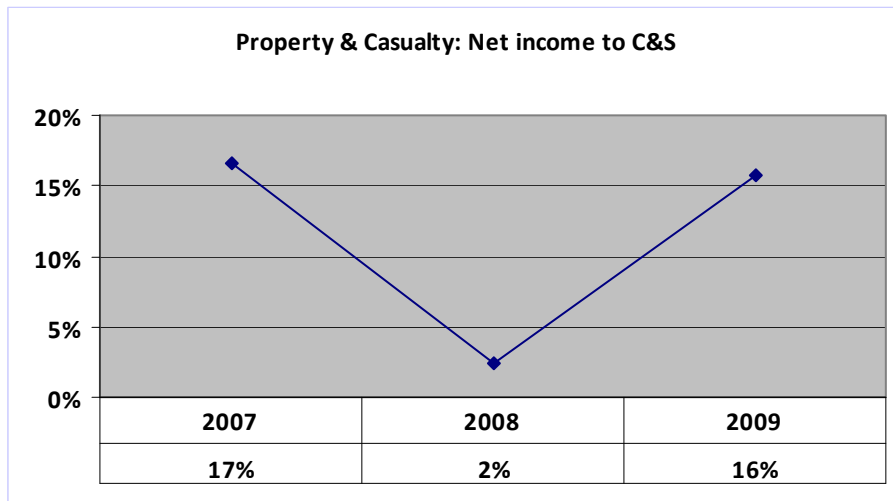
The statutory capital and surplus level of this sector has recovered to nearly the same level previously reported in 2007 before the global financial crisis. Despite the \$5.1 billion dividend, the increase of 11% in 2009 was the result of a \$0.2 billion capital contribution, a net profit that tripled that of the previous year and an appreciation in the

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overall value of invested assets contributed to the recovery in statutory capital and surplus.

In contrast, the property and casualty sector had a net capital return out of the contributed surplus of approximately \$0.18 billion, a much lower net profit, and a dividend payment of \$1.7 billion. The unrealised investment loss of \$2.5 billion in 2008 contributed to the 10% reduction in the capital level during that particular year.

Exhibit 3.2.2.5: Net income to capital and surplus

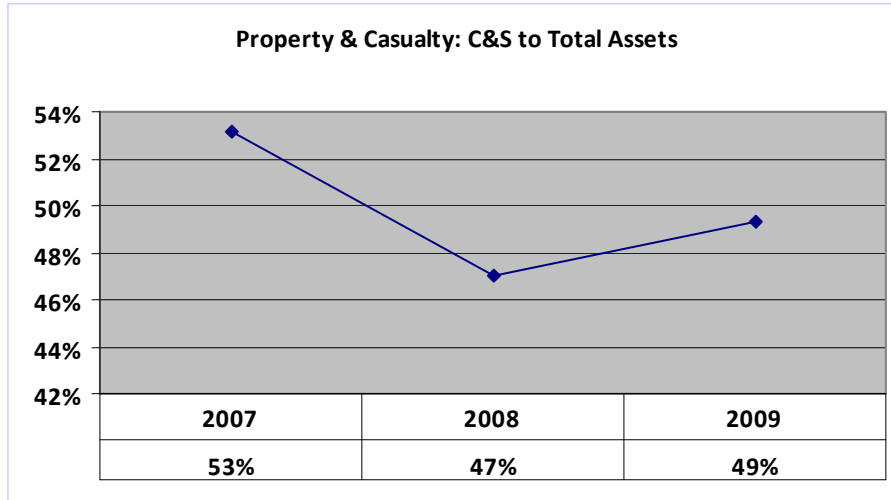


As noted in Exhibit 3.2.2.4, the property and casualty sector has much higher earnings in 2009, which is similar to the other sectors in the Class 4 market. A combination of excellent underwriting results and improved net investment returns contributed to this earning performance.

On the other hand, 2008 was remarkably the worst of the three years in terms of underwriting experience for the property and casualty sector. Additionally, the sector was adversely affected by lower investment returns and significant realised losses from the disposal and sale of investments, including huge impairments on investments.

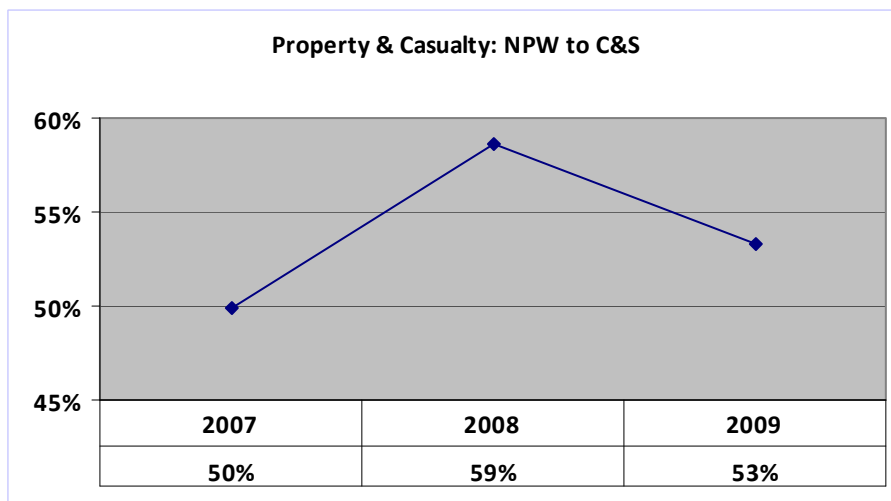
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Exhibit 3.2.2.6: Capital and surplus to total assets



The Class 4 property and casualty sector’s statutory capital and surplus as a percentage of total assets trend is in the middle of the other sectors. This is consistent with the fact that the property sector has the highest capital levels relative to assets, largely due to the unpredictability and severe nature of catastrophe events while the casualty sector has the lowest levels due to the long-tailed nature of casualty exposures.

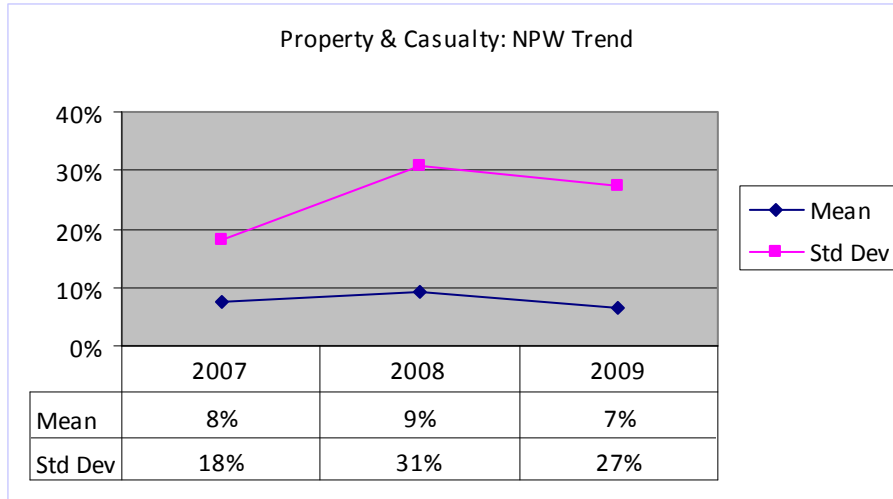
Exhibit 3.2.2.7: Operating leverage



The property and casualty sector was found to have the highest operating leverage ratios of the Class 4s. On account of the severity of their catastrophe exposures, these (re)insurers are expected to hold adequate capital to absorb such losses. However, with a few property and casualty (re)insurers undergoing internal restructuring and mergers and acquisitions, these might have skewed the ratios above.

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Exhibit 3.2.2.8: Net premiums written trend

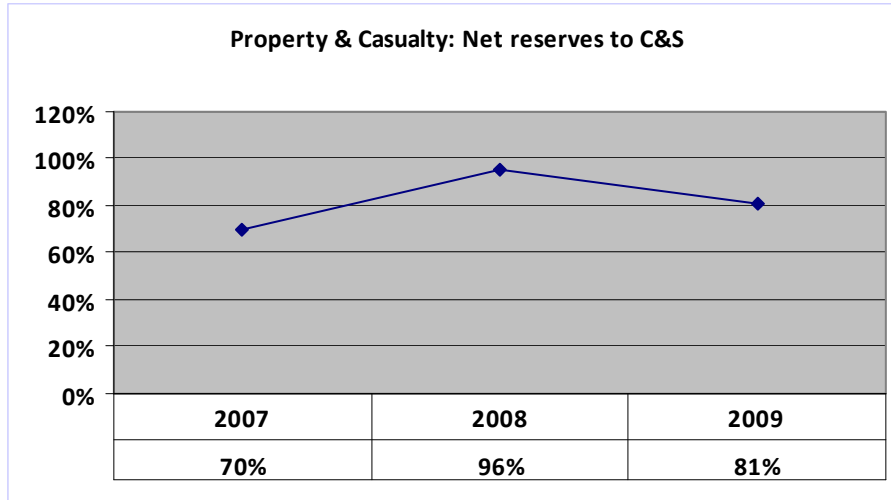


The Class 4 property and casualty sector appears to have experienced a softening pricing condition in 2009 as indicated by the average decline of 2% in the sector’s net premiums. This could be due to the recovered capital position across all sectors at end of the year, thereby increasing competition in the insurance marketplace.

The benign hurricane season in 2009 could be a contributing factor in the flat to small rate increases for property lines. On the other hand, the casualty sector suffered a general drop in the exposure base, likely due to the difficult economic conditions, even though there might be some rate increases in other lines of business. A few Class 4 (re)insurers undergoing internal restructuring and merger and acquisition activities eased the contracting pricing environment generally experienced in 2009 by the property and casualty sector.

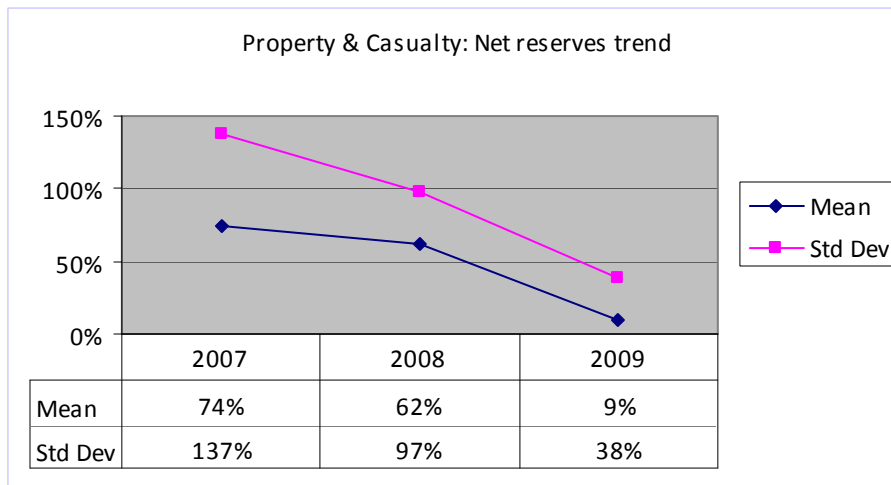
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Exhibit 3.2.2.9: Reserve leverage



Similar to Exhibit 3.2.2.6, the property and casualty sector’s reserve leverage trends at a level between the property sector and casualty sector. On average, the property and casualty sector historically appears to hold considerable reserves for its casualty related exposures which has driven the ratios up. The decrease to 81% from 96% in 2009 was caused largely by the capital recovery of the sector at the end of the year.

Exhibit 3.2.2.10: Net reserves trend



The net reserves for the Class 4 property and casualty sector showed a declining trend. As noted in Exhibit 3.2.2.1, there was a relative strengthening of reserves but due to the considerable release of prior year reserves, and internal transfer of reserves of some (re)insurers, the property and casualty sector reported a slightly lower net reserve

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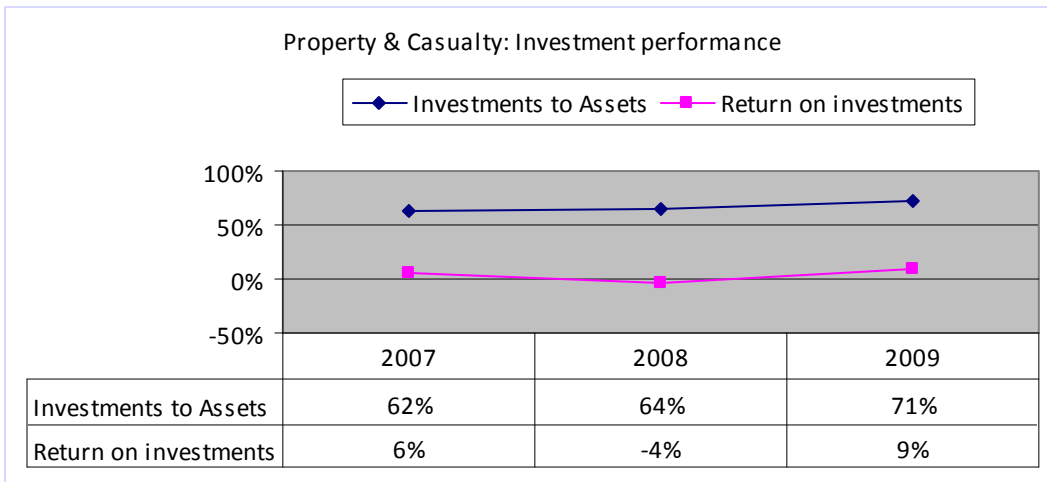
balance. The release of reserves could be attributed to the favorable underwriting performance enjoyed both by property risk and casualty risk writers.

Exhibit 3.2.2.11: Underwriting performance



The Class 4 property and casualty sector clearly benefited from the significantly low catastrophe insured loss on property risks and the favorable claims development on casualty risks. This sector’s underwriting performance trend was found to be consistently in between that of the property sector and the casualty sector, except in 2009 where it was much closer to the casualty sector with a loss and combined ratio of 54% and 80%, respectively.

Exhibit 3.2.2.12: Investment performance



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The Class 4 property and casualty sector has the highest investment relative to total assets in the Class 4 market. It appears that this sector supports its high reserve balance with fixed income investments. In comparison, the casualty sector has the highest reserve balance among Class 4s but has fixed income investment levels that are slightly lower than that of the property and casualty sector.

Similar to the Class 4 casualty sector, investment performance for the property and casualty sector improved from a negative return in 2008 to a positive return in 2009. The sector's increase could be attributed to the reversal of realised losses recognized in 2008 to realised gains in 2009 and more so to financial markets recovery in 2009 resulting in significant unrealised gains on investments.

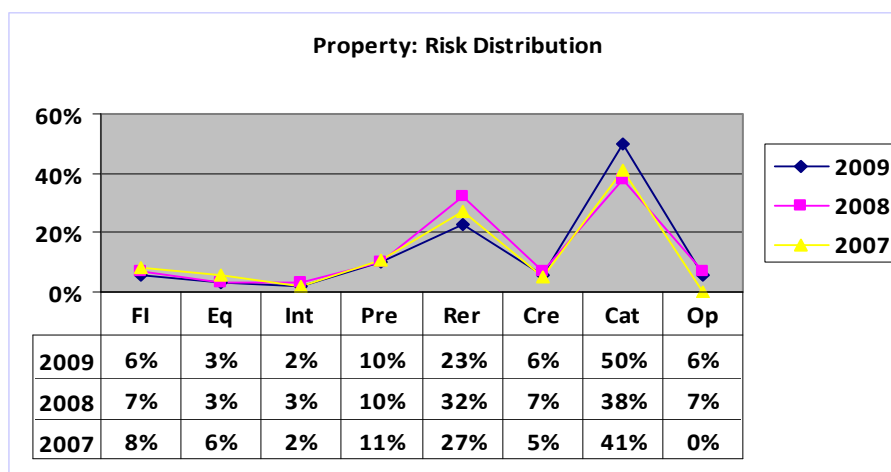
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3.2.3 Property Sector Review

The Class 4 Property sector includes (re)insurers writing more than 60% of property-related premiums (on a net premiums written basis). The property sector is the largest Class 4 sector.

Property-related premiums include the following lines: Property catastrophe, Property, Aviation, Energy offshore/marine, International Motor, and Retro Property.

Exhibit 3.2.3.1: BSCR risk distribution



The risk distribution above indicates that catastrophe risk is the largest ECR driver for the property sector.

The exhibit above suggests that the risk profile of the property sector has, on average, changed slightly in 2009 particularly for catastrophe risk which increased to 50% from 38% in 2008. The Net PML, which is a key component in the BSCR catastrophe risk calculation, increased both on an aggregate and average basis by 8% and 31%, respectively, for this sector.

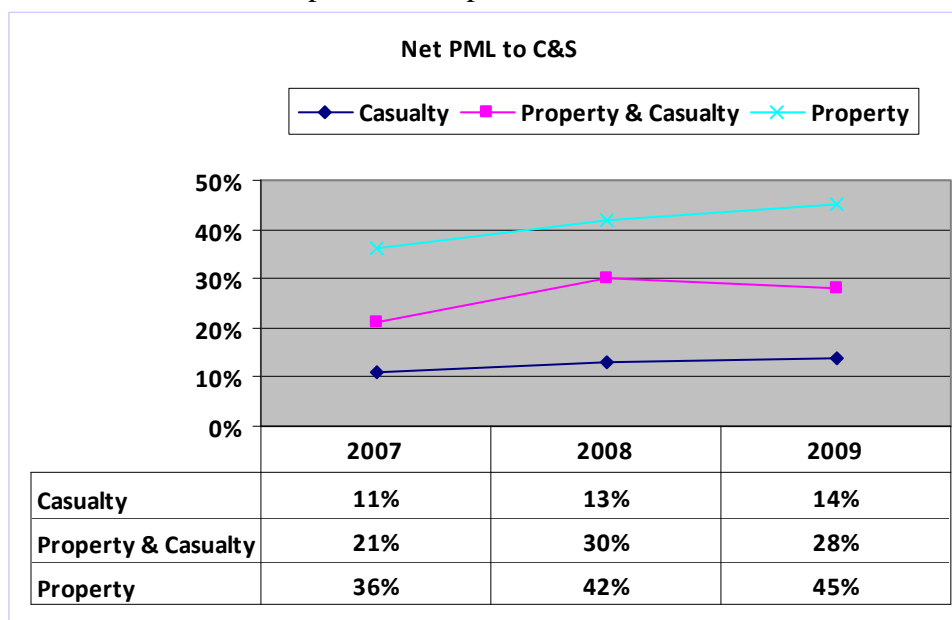
Following catastrophe risk is reserve risk. The reduction in the reserve risk distribution - from 32% in 2008 to 23% in 2009 - is mainly caused by the increased appetite for catastrophe exposure resulting in a re-allocation in the distribution, although net reserves have actually increased on average.

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Due to the nature of catastrophe events, which can be highly severe in terms of losses and can potentially decimate a (re)insurer’s capital, it is particularly important for property risk writers to exercise prudent risk and capital management. This sector’s operational risk showed a slight decline, on average, from 7% in 2008 to 6% in 2009 suggesting a general improvement in the (re)insurers’ corporate governance and risk management frameworks.

The fixed income, equity, interest rate/liquidity, premium and credit risk charges were materially unchanged from the previous year.

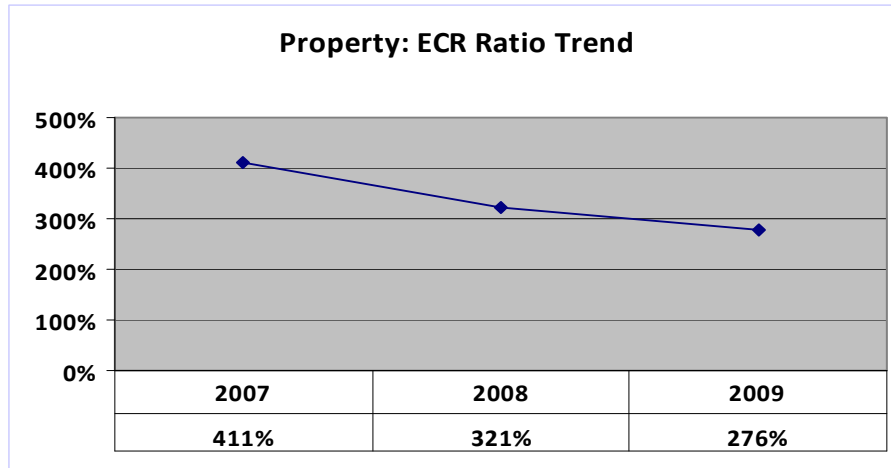
Exhibit 3.2.3.2: Net PML to capital and surplus



As indicated above, there was an increase in the distribution for catastrophe risk in 2009 for the property sector. The exhibit above shows that the Net PML as a percentage of capital and surplus has increased by 3% from 42% in 2008 to 45% in 2009. This supports the apparent increased appetite for catastrophe risk by the property sector. A likely factor that contributes to this increase could be the benign hurricane season and improved investment market in 2009 resulting in a stronger capital position at the end of the year causing the property risk writers to take advantage.

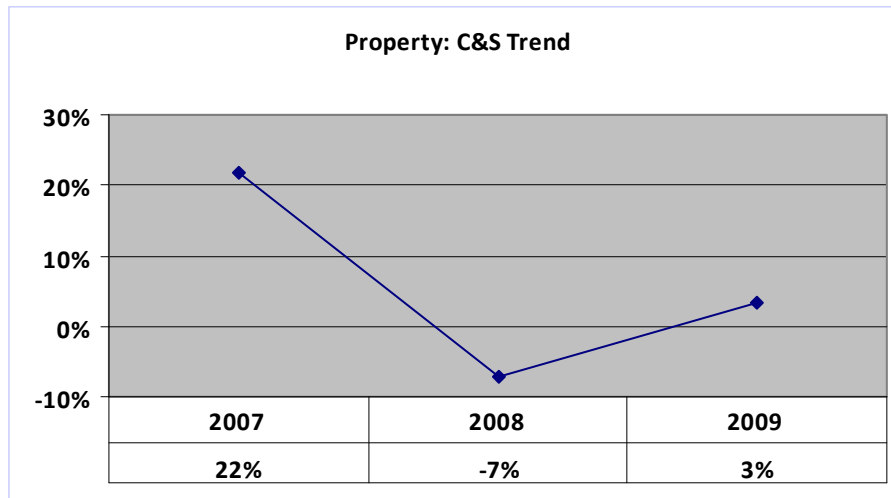
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Exhibit 3.2.3.3: ECR ratio trend



This sector shows a declining ECR ratio trend. Its ECR ratio is down by 45% from 321% in 2008 to 276% in 2009. This could likely be the result of the increased appetite for risks by this sector, particularly catastrophe risk as noted above. This is offset by the 26% increase in its statutory capital and surplus which exceeded the level of statutory capital and surplus seen in 2007 before the global financial crisis took effect.

Exhibit 3.2.3.4: Capital and surplus trend



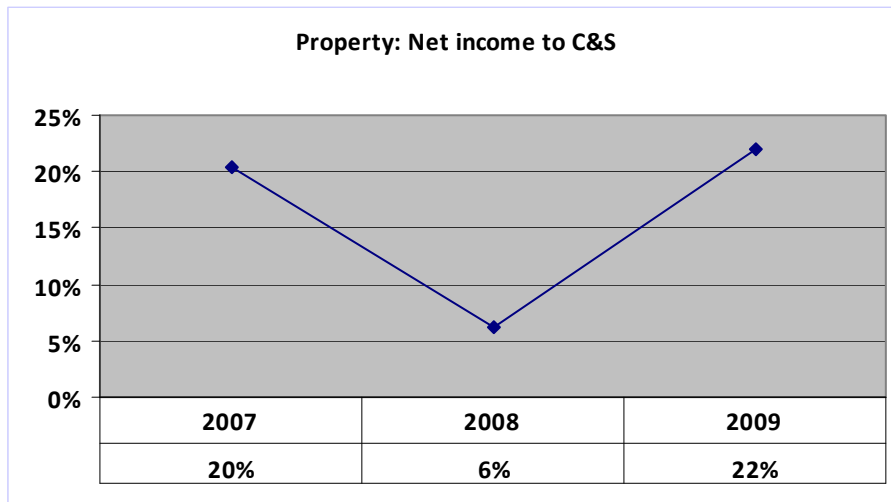
The statutory capital and surplus level of this sector grew, on average, by 3%. This is the result of the additional contribution to surplus of approximately \$1.6 billion and a net profit that is four times higher than the prior year. Additionally, the turnaround in unrealised investment losses to gains due to the more favorable financial markets

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improved the capital position of the (re)insurers in this sector despite the dividend payment amounting to \$2.6 billion.

Unlike 2009, the previous year showed a net return of capital of approximately \$0.21 billion plus a total dividend payment of \$2.4 billion. The sector also suffered a significantly lower net profit than the previous year which was further intensified by huge unrealised losses in investment values. As a result, the capital level of the property sector was negatively impacted in 2008 by 7%, on average.

Exhibit 3.2.3.5: Net income to capital and surplus

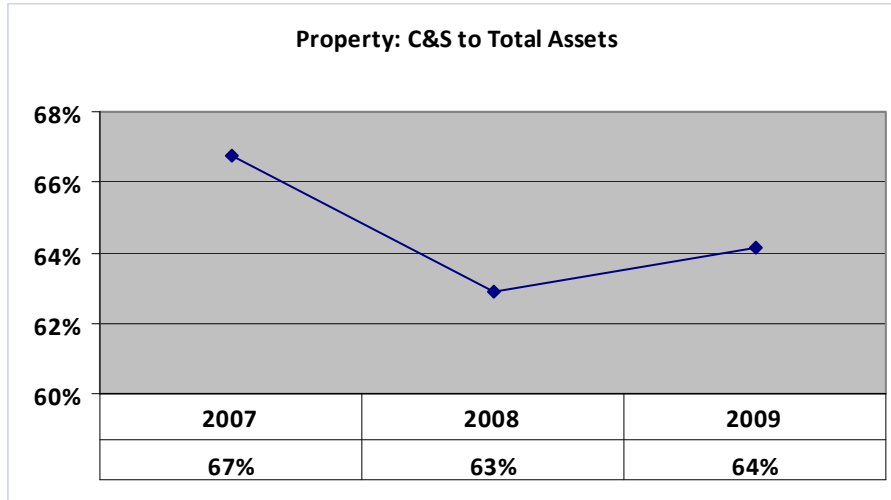


As mentioned above, the net profit earned for 2009 by this sector was four times more than that of the previous year, on an aggregate basis. The highly improved earnings performance of this sector was generated from excellent underwriting results. The positive outlook on the financial markets during 2009 also contributed to the earnings of the (re)insurers as this led to the recovery in asset values that resulted in a fairly substantial gain from sale and disposal of investments and a higher investment return.

Compared to 2009, the Class 4 property sector was severely affected by high insured losses caused largely by the active hurricane season coupled with the global financial crisis in 2008. The latter resulted in a lower net investment income and significant losses from the sale and disposal of investments.

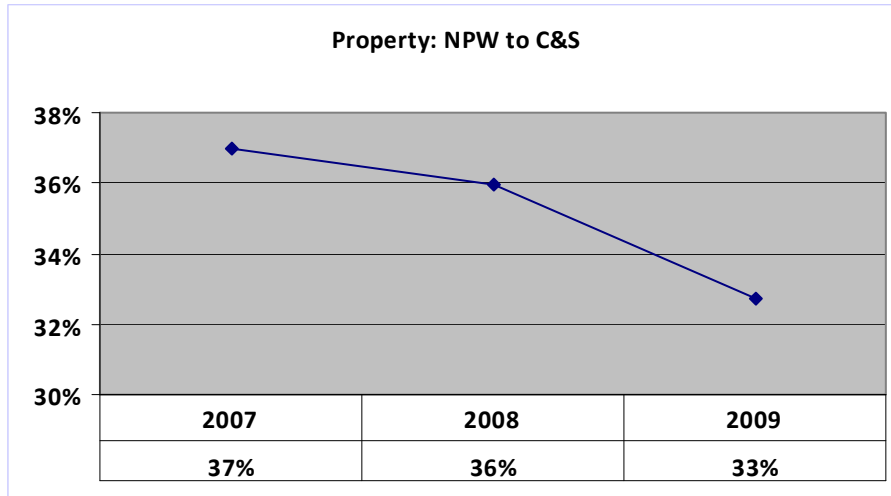
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Exhibit 3.2.3.6: Capital and surplus to total assets



As previously mentioned, capital management is a key function for the property sector due to the nature of its risk exposures. Naturally, the property sector has the highest capital and surplus as a percentage of total assets in the Class 4 market.

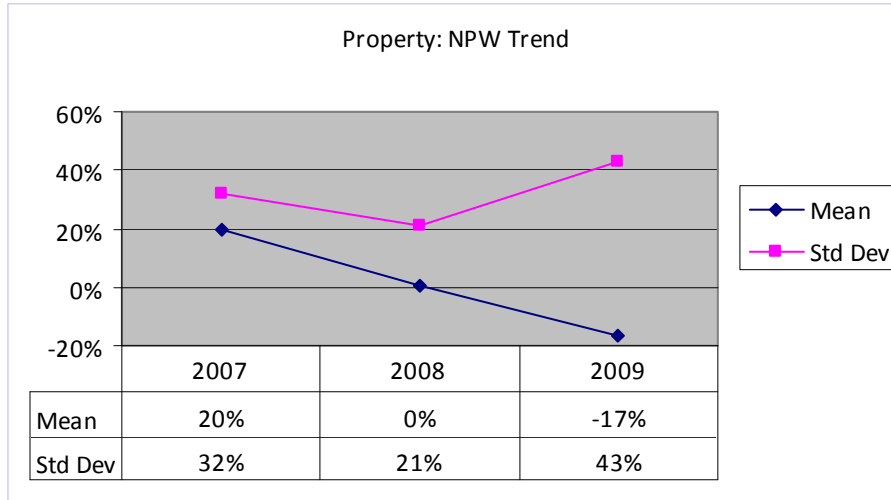
Exhibit 3.2.3.7: Operating leverage



The declining operating leverage trend of the Class 4 property sector suggests a financial strength that is improving over time. This sector has the lowest net premium to capital and surplus ratio among the Class 4 market. This is typical for property risk writers since they are expected to have capital levels, as noted in Exhibit 3.2.3.6, which can sufficiently withstand the impact of severe catastrophe events.

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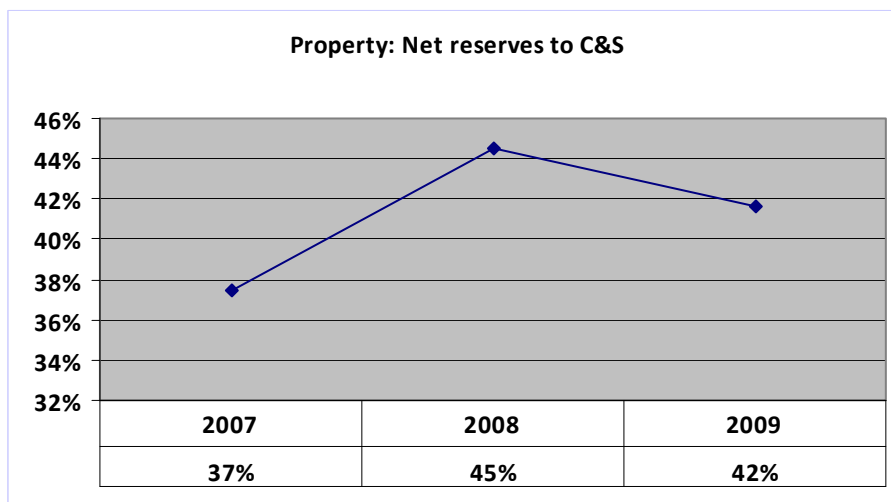
Exhibit 3.2.3.8: Net premiums written trend



On an aggregate basis, the sector has experienced a very small increase. Generally, most (re)insurers that showed the most growth in gross underwriting business increased the purchase of reinsurance (retrocession cover) while those that suffered reductions in gross premiums have increased retentions.

Although an increased appetite for catastrophe exposure was noted in Exhibit 3.2.3.2, net premiums for this sector have decreased by 17%, on average, as the market for catastrophe reinsurance appears to soften. This is likely driven by the capital recovery and low insured losses experienced in 2009 experienced among most (re)insurers.

Exhibit 3.2.3.9: Reserve leverage

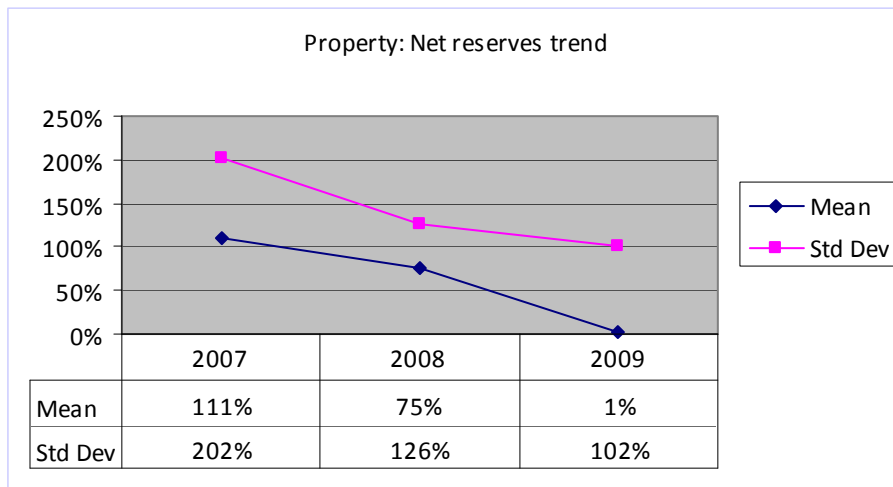


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This sector has the lowest net reserves as a percentage of capital and surplus among the Class 4 market. This is expected considering the high proportion of capital and surplus to total assets this sector has, as noted in Exhibit 3.2.3.6.

This ratio dropped from 45% in 2008 to 42% in 2009 largely due to the growth in statutory capital and surplus for this sector, as noted in Exhibit 3.2.3.4.

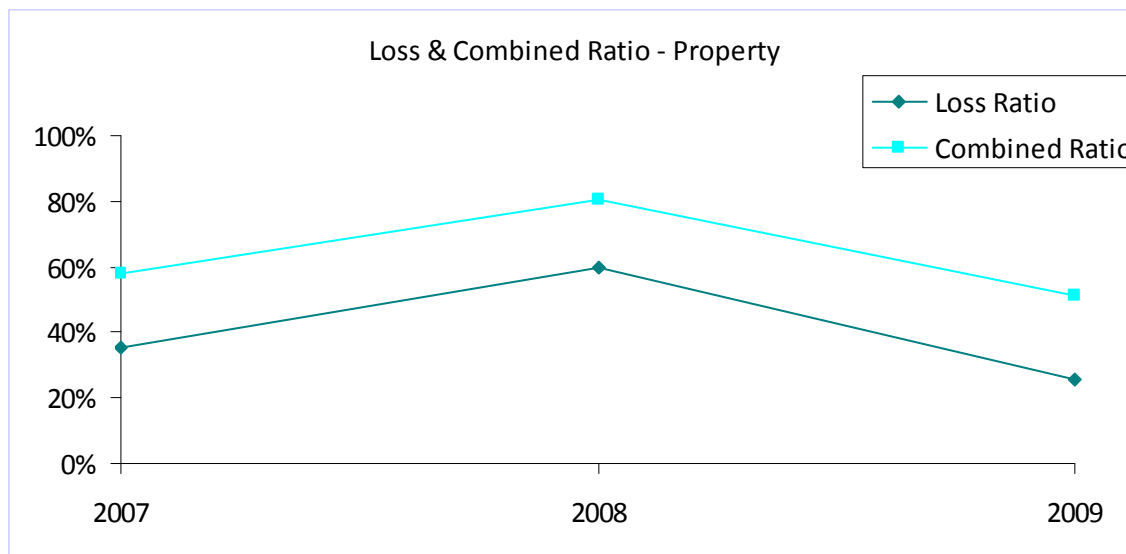
Exhibit 3.2.3.10: Net reserves trend



The significant variance from the mean was largely due to a few Class 4 property (re)insurers who have strengthened their net reserves in 2009. However, there has been a consistent pattern of releasing prior year reserves as well as lower payments of losses during the year. The former due to the favorable development of claims while the latter is due to the low insured losses in 2009.

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Exhibit 3.2.3.11: Underwriting performance



This sector clearly enjoyed a positive underwriting performance largely due to the lack of major catastrophe losses in 2009 as can be clearly seen in the improvement in the loss ratio to 25% from 60% in 2008.

Global insured property losses in 2009 came in below average at \$24 billion⁴ when compared to the previous years. The benign Atlantic tropical storm and hurricane season contributed significantly to this low figure, although Europe and the US tallied the most insured losses for 2009 primarily due to the damaging winter and springtime weather. The most costly event of the year in terms of insured loss was Europe's windstorm Klaus causing an estimated \$3.3 billion for insurance companies. A combination of winter storms, severe weather, flooding, tropical system activity and earthquakes comprised 2009's insured losses.

Comparatively, 2008 was considered as one of the costliest catastrophe years in history with global insured property losses of about \$52.5 billion⁵. This was the result of a record-setting Atlantic hurricane season and above-average man-made catastrophe losses. The events which caused the biggest insurance claims were related to storms, as follows:

- Hurricanes Ike and Gustav in the US;

⁴ Swiss Re Sigma *Natural catastrophe and man-made disasters in 2008* pg 3

⁵ Ibid.

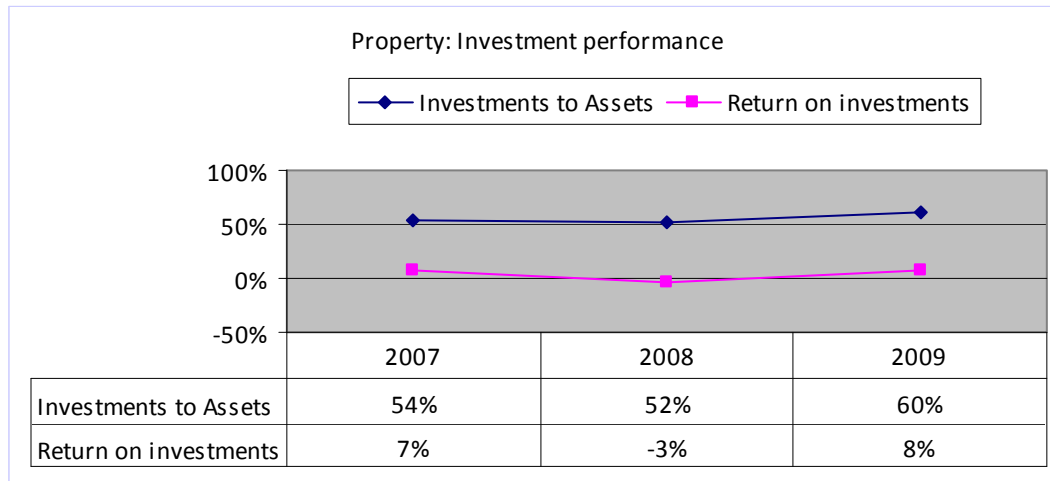
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- Tornadoes and thunderstorms in the US;
- Winter storm Emma and storm depression Hilal in Europe; and
- Snow storms and freezing rain in China.⁶

Inevitably, these insured losses have affected the Bermuda market where of the \$26.5 billion of net premiums written for the financial year 2009, approximately 22% and 36% is comprised of property catastrophe and property business, respectively. It should be pointed out that non-property catastrophe lines also include natural catastrophe exposures.

The Class 4 property sector enjoyed the strongest underwriting performance, achieving a combined ratio of 51%, on average, in 2009. Along with the improved financial markets, this helped boost the capital position of the property sector.

Exhibit 3.2.3.12: Investment performance



Among the Class 4 market, the property sector has the lowest equity and reported fixed income investments as a percentage of assets. Their assets include considerable cash and cash equivalents, funds held and receivables. A substantial number of (re)insurers in this sector also have investments in affiliates of approximately 13% on average. The apparent increase in investments to 60% in 2009 from 52% in 2008 might have come from the

⁶ Ibid.

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additional capital contribution of approximately \$1.6 billion. Investment values also increased sometime in 2009 as the financial markets improved.

Similar to other Class 4 sectors, investment performance for the property sector improved from a negative return in 2008 to a positive return in 2009. The sector's increase could be attributed to the reversal of realised losses recognized in 2008 to realised gains in 2009 and more so to financial markets recovery in 2009 resulting in significant unrealised gains on investments.

4 Looking Ahead

Catastrophes – Key Influences and Trends

The Class 4s overall experienced a period of unusually large catastrophe-related losses in the first nine months of 2010, driven largely by wind and hail events across the U.S., a Chilean earthquake, a European windstorm and a New Zealand earthquake. Despite unusually high catastrophe-related losses and on going competitive market conditions, the Class 4s on average posted relatively favourable operating gains in the first nine months of 2010 and balance sheets, for the most part, have remained strong.

Active Atlantic Hurricane Season and Forecasted Weather Conditions

The National Oceanic and Atmospheric Administration (the “NOAA”)⁷ has predicted there is a 90% chance that the 2010 season will be above normal and a 10% chance of near-normal activity. The NOAA’s 2010 updated Atlantic Hurricane Season outlook projected with a 70% probability, a total of 14 to 20 named storms (>39 mph), including eight to twelve hurricanes (>74 mph), of which four to six would be major hurricanes – category 3 or stronger, which means sustained winds of 111 mph or greater. As of mid-October, 16 named storms and nine hurricanes appeared, of which five were major hurricanes. However, most of the storms that developed did not reach the U.S. coastline. With the end of the season approaching, only two of the 16 named storms – Bonnie and Julia – made landfall in the U.S., but no significant damage was reported.

One of the conditions that have historically been conducive to the above normal Atlantic hurricane activity is the El Niño/ Southern Oscillation (“ENSO”). The three phases of ENSO are El Niño, La Niña, and Neutral. La Niña refers to a periodic anomalous cooling of sea surface temperatures in the central and eastern equatorial Pacific Ocean. This cooling affects rainfall patterns across the tropical Pacific which, in turn, alters wind patterns so as to reduce the vertical wind shear in the Main Development Region. Consequently, La Niña is typically more conducive to increased Atlantic hurricane

⁷ Source: <http://www.cpc.ncep.noaa.gov/products/outlooks/hurricane.shtml>

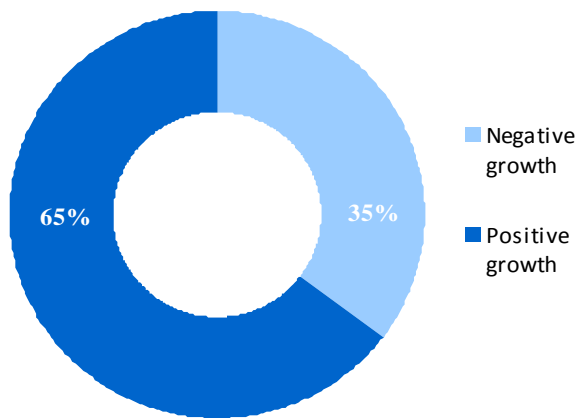
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activity. In early November 2010, the Climate Prediction Center⁸ announced that La Niña is expected to last at least into spring 2011 in the Northern Hemisphere. The expected impact in the U.S. includes an enhanced chance of above-average precipitation in the Pacific Northwest, Northern Rockies (along with a concomitant increase in snowfall) and Ohio Valley, while below-average precipitation is most likely across the south-central and southeastern states. An increased chance of below-average temperatures is predicted for coastal and near-coastal regions of the northern West Coast, and a higher possibility of above-average temperatures is expected for much of the southern and central U.S.

Premiums Growth Expectations

Based on their projected net premiums written for 2010, about 65% of the Class 4 (re)insurers looked ahead into 2010 optimistically and expected a top-line growth. The casualty sector was relatively upbeat about the outlook for premiums growth while property & casualty sector had a mixed viewpoint on the market outlook. About 65% of (re)insurers in the property sector expected positive premiums growth in 2010.

Exhibit 4.1: Expectation for premiums growth in 2010



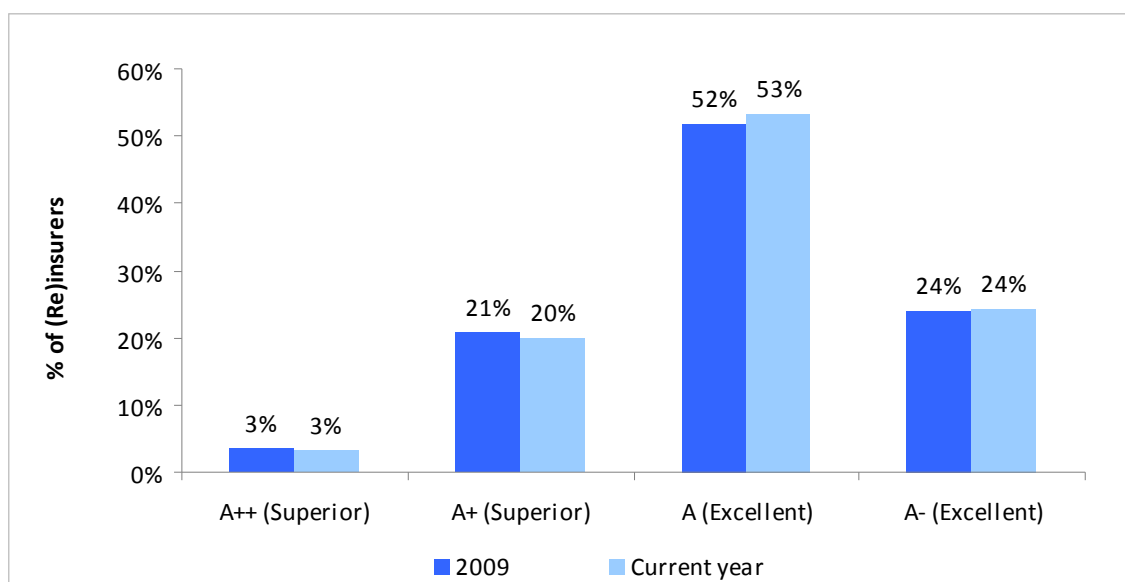
⁸ Source: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf

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Financial Strength Ratings

A.M. Best is maintaining a stable outlook in 2010 for the global non-life reinsurance industry⁹. This outlook implies that the majority of future rating actions are likely to be affirmations, with a modest number of anticipated rating or outlook changes. A.M. Best also has a stable outlook on the reinsurance segment, reflecting the view that the reinsurance segment has a strong capitalisation position and is well-positioned for continued profitability. These results are driven by market discipline, conservative investment portfolios and enhancement of risk management capacity.

Exhibit 4.2: Class 4s' Financial Strength Rating Distribution



Source: A.M. Best Data

The Class 4s' A.M. Best's rating has remained fairly stable over the last two years with the majority of the (re)insurers (76% currently) rated an A-rating or above.

⁹Source: <http://www3.ambest.com/frames/frameserver.asp?site=press&tab=1&altsrc=26&altnum=&refnum=65494653775046546652>

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Macroeconomic Conditions

Softening Premium Rate Environment

Due to record levels of capital, the (re)insurance industry remains plagued by an extended soft underwriting cycle. During the first half of 2010, (re)insurer capital was commensurate with 2007 peak capital levels. This, coupled with reduced insured exposures due to a weak economy and insured's increasing retentions, has resulted in continued pressure on pricing and profitability. After a 2008 calendar year which experienced higher catastrophe claims and significant investment losses, underwriting capacity, as measured by statutory capital and surplus, remains relatively strong for the industry. A rebound in asset values and a very benign hurricane season in 2009 have resulted in the lowest operating leverage ratios.

According to statistics released by Guy Carpenter¹⁰, regional catastrophe reinsurance rates in the U.S. fell during the January, April, June and July 2010 renewals. The prices generally moved downward by 6% to 15%, with the decline varied by region, exposures and loss history. Heavy losses from the Chilean earthquake were insufficient to turn prices upward. There is nothing on the horizon to suggest that 2011 renewals will improve materially unless significant events occur that erode (re)insurer capital.

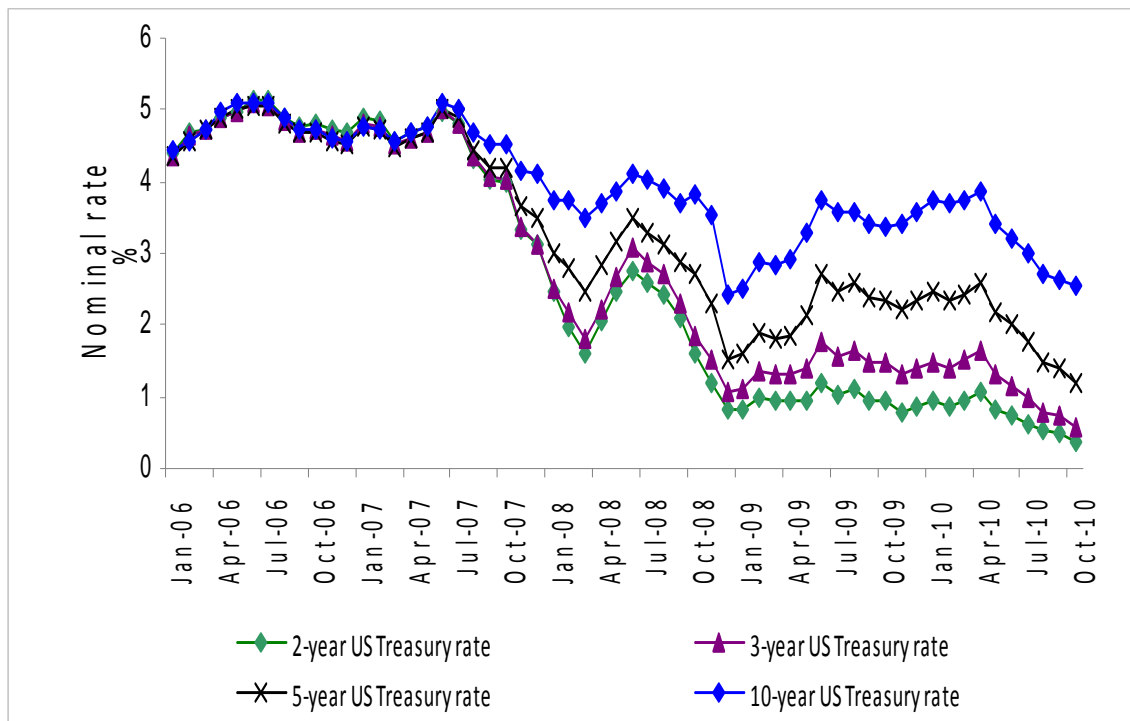
¹⁰ Source: <http://www.gccapitalideas.com/2010/10/20/chart-regional-catastrophe-reinsurance-rate-fluctuations/>

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Low interest rate environment

Interest rates have remained very low due to unprecedented efforts by central banks to stimulate the economy. The rebounding financial markets and tightening credit spreads have allowed (re)insurers to restore capital. However, interest rates, which are expected to remain low through 2010, will continue to present a challenge for the (re)insurers. Strong underwriting discipline would need to be maintained as investment markets are not expected to produce strong returns.

Exhibit 4.3: Investment yield data¹¹ (2006 – October 2010)



As shown above, the U.S. Treasury rates declined to their lowest levels in the past four years. In early November 2010, the Federal Reserve announced the staggered purchase of \$600 billion in Treasury bonds through to next June in an effort to revive economic growth. While the impact of such bond market intervention is largely unknown, the Federal Reserve hopes to drive down the yield of government bonds.

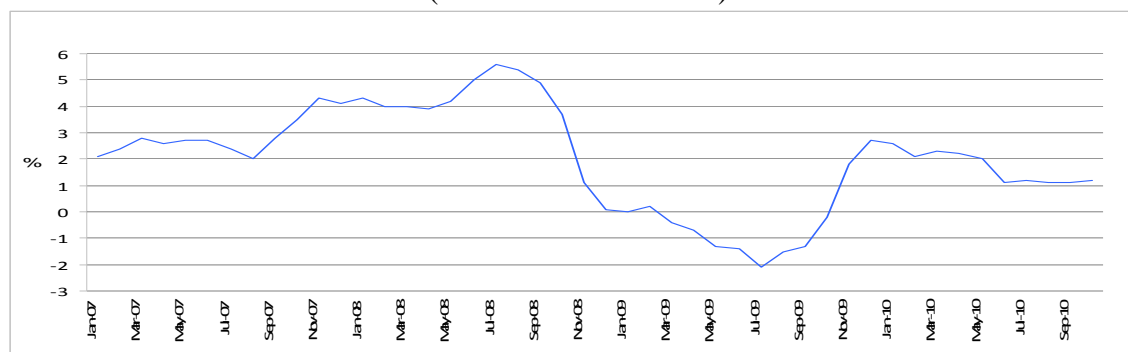
¹¹ Source: <http://www.federalreserve.gov/releases/h15/data.htm>

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General Inflation

Generally, inflation is defined as “the overall general upward price movement of goods and services in an economy”.¹² In this publication, the discussion is confined to the general inflation in the U.S. given this is the most significant market for Bermuda (re)insurers.

Exhibit 4.4: U.S. inflation rate¹³ (2007 to October 2010)



While the Federal Reserve reiterated that the current underlying inflation level of 1% was too low, Deutsche Bank¹⁴ believed that stronger than expected U.S. economic activity could mean inflation is set to increase. The ISM manufacturing index¹⁵ in October 2010 was reported to be 56.9 and beat the 54 estimate. It signals the manufacturing sector remains robust.

While an increase in inflation may not be a concern now, it is possibly more imminent than currently anticipated. The pumping of money by governments into the financial system could set the stage for a spike in inflation¹⁶. These developments could be exacerbated by non-monetary “superimposed” inflationary factors, which could make it more challenging for long-tail (re)insurers to write profitable business. On the other hand, the increased economic activity may facilitate an increase in the exposure base, allowing more (re)insurance business to be written.

¹² Source: <http://www.bls.gov/bls/inflation.htm>.

¹³ Source: <http://www.usinflationcalculator.com/inflation/current-inflation-rates/>

¹⁴ Source: <http://www.businessinsider.com/deutsche-beware-the-coming-us-inflation-rebound-2010-11>

¹⁵ The ISM manufacturing index is an economic measure for the U.S. business sector. This index is run by the Institute of Supply Management in Arizona, which releases a monthly report on the first working day of the month on the overall state of the business sector in the U.S.

¹⁶ Source: <http://www.businessweek.com/news/2010-11-02/volcker-says-quantitative-easing-may-create-inflation.html>

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Insurance Index – Relative Strength

Following the volatility of 2008 and 2009, year to date October 2010 has proven more stable but still with significant ups and downs throughout the year.

Exhibit 4.5: Performance of Standard & Poor’s 500 Index (“S&P 500”), for the period from November 2007 to October 2010 in comparison to A.M. Best U.S. Property & Casualty Composite Index (“AMBUPC”)¹⁷ for the same period



As depicted above, the U.S. financial market has rebounded from its March 2009 low. In October 2010, AMBUPC and S&P 500 were down 5% and 22% respectively from November 2007 to October 2010. In the ten months to October 2010, the market overall, as measured by S&P 500, was up 5% while the AMBUPC was up 18%. The gap between the AMBUPC & S&P 500 first widened in the second half of 2008. It has since spread further and the AMBUPC continues to outperform S&P 500.

While the markets begin to recover, concerns about the availability and cost of credit, inflation, mortgage markets, risks associated with global sovereign entities, the stability of banks and other financial institutions, and declining real estate markets remain and may contribute further market volatility.

The challenge for the listed (re)insurers is to demonstrate strengthening risk and capital management, and that earnings volatility is curtailed as much as possible to ensure favorable share prices and access to reasonably priced capital.

¹⁷ Source: <http://money.cnn.com/>

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Appendix A – Glossary

Attritional Losses – as prescribed by the Order.

Capital & Surplus (“C&S”) – as disclosed on the Statutory Balance Sheet, Form 1A, Line 40.

Capital & Surplus To Total Assets – calculated as the capital and surplus (Form 1A, Line 40) to total assets (Form 1A, Line 15).

Capital & Surplus Trend (“C&S Trend”) – calculated as the current year’s capital & surplus less the prior year’s capital & surplus divided by the prior year’s capital & surplus.

Casualty Non-Proportional LOB Grouping – include personal accident non-proportional (Line 5), credit/surety non-proportional (Line 9), U.S. casualty non-proportional (Line 13), U.S. professional non-proportional (Line 15), U.S. specialty non-proportional (Line 17), and international casualty non-motor non-proportional (Line 21) as prescribed by the Order.

Casualty Proportional LOB Grouping – include personal accident (Line 4), credit/surety (Line 8), U.S. casualty (Line 12), U.S. professional (Line 14), U.S. specialty (Line 16), international casualty non-motor (Line 20), and structured/finite reinsurance (Line 23) as prescribed by the Order.

Combined Ratio – calculated as the sum of expense ratio and loss ratio.

ECR – Enhanced Capital Requirement as prescribed by the Order.

ECR Ratio – calculated as the available statutory capital and surplus divided by the ECR.

Expense Ratio – calculated as the sum of the commissions and brokerage (Form 2A, Line 9), the general and administrative expenses (Form 2A, Line 10), the personnel costs (Form 2A, Line 11) and other expenses (Form 2A, Line 12) divided by the net premiums written (Form 2A, Line 3).

Form 1A – the Statutory Balance Sheet as prescribed by the Insurance Accounts Regulations 1980.

Liquid Assets – calculated as the sum of the cash (Form 1A, Line 1), the quoted investments (Form 1A, Line 2(f)), the investment income due and accrued (Form 1A, Line 9), the accounts and premiums receivable (Form 1A, Line 10), and the reinsurance balances receivable (Form 1A, Line 11).

Liquid Assets To Net Loss And Loss Expense Provisions – calculated as the liquid assets divided by net loss and loss expense provisions.

Liquid Assets To Net PML – calculated as the liquid assets divided by net PML.

Liquid Assets To Net PML And Attritional Losses – calculated as the liquid assets divided by net PML and attritional losses.

Liquid Assets To Total Liabilities – calculated as the liquid assets to total liabilities.

LOB – the statutory lines of business as prescribed by the Order.

Loss Ratio – calculated as net losses incurred and net loss expenses incurred (Form 2A, Line 8) divided by net premiums earned (Form 2A, Line 5).

MSM – the Minimum Margin of Solvency as prescribed by the Insurance Act 1978.

Net Income – as disclosed on the Statutory Statement of Income, Form 2A, Line 42.

Net Loss and Loss Expense Provisions – as disclosed on the Statutory Balance Sheet, Form 1A, Line 17(d).

Net Loss and Loss Expense Provisions Trend – calculated as the current year’s net loss and loss expense provisions less the prior year’s net loss and loss expense provisions divided by the prior year’s net loss and loss expense provisions.

Net PML – the net probable maximum loss as prescribed by the Order.

Net Premiums Written (“NPW”) – as disclosed on the Statutory Statement of Income, Form 2A, Line 3.

Net Premiums Written Trend (“NPW Trend”) – calculated as the current year’s NPW less the prior year’s NPW divided by the prior year’s NPW.

Operating Leverage – calculated as the net premiums written divided by the capital and surplus.

Property Catastrophe LOB – LOB Line 1 as prescribed by the Order.

Probable Maximum Loss (“PML”) – based on Company CAT models; probable maximum loss is the anticipated maximum loss that can occur with a certain level of probability. The BSCR utilises a probable maximum natural catastrophe loss at a 99% Tail-Value-at-Risk level for annual aggregate exposure to all related risks and all perils, including reinstatement premiums.

Property Non-Proportional LOB Grouping – include property non-proportional (Line 3), aviation non-proportional (Line 7), energy off-shore/marine non-proportional (Line 11), and international motor non-proportional (Line 19) prescribed by the Order.

Property Proportional LOB Grouping – include property (Line 2), aviation (Line 6), energy off-shore/marine (Line 10), international motor (Line 18), and retro property (Line 22) as prescribed by the Order.

Reserve Leverage – calculated as the net loss and loss expense provisions divided by the capital and surplus.

Return On Equity – calculated as the net income divided by the capital and surplus.

Return On Investments – calculated as the sum of the general business investment income- net (Form 2A, Line 17), the realised gains (losses) (Form 2A, Line 41) and the change in unrealised appreciation/depreciation of investments (Form 8, Line 2(d)) divided by the total investments.

Stress/Scenario – see Appendix B.

The Order – the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Order 2008.

Total Assets – as disclosed on the Statutory Balance Sheet, Form 1A, Line 15.

Total Investments – calculated as the Statutory Balance Sheet, Form 1A, aggregate of Lines 2(f) and 3(f).

Total Investments To Total Assets – calculated as the total investments divided by total assets.

Total Liabilities – as disclosed on the Statutory Balance Sheet, Form 1A, Line 39.

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Appendix B – Stress/Scenario and Exposure Territories

Economic Scenarios

- R1 40 percent decline in equity prices internationally
- R2 Widening of credit spreads from 40bps to 150bps
- R3 Combined R1 and R2

Underwriting Loss Scenarios

U.S. Windstorm

- UW1 Northeast Hurricane
- UW2 Carolinas Hurricane
- UW3 Miami-Dade Hurricane
- UW4 Pinellas Hurricane
- UW5 Gulf Windstorm (onshore)
- UW6 Gulf Windstorm (offshore)

U.S. Earthquake

- UE1 Los Angeles Earthquake
- UE2 San Francisco Earthquake
- UE3 New Madrid (NM) RDS
- UE4 NM Extreme Stress Scenario

Non-U.S. Earthquake

- IE1 Japanese Earthquake

Non-U.S. Windstorm

- IW1 European Windstorm
- IW2 Japanese Typhoon

Aerospace/Aviation Event

- A1 Aerospace /Aviation

Marine Event

- M1 Marine Collision in Prince William Sound
- M2 Major Cruise Vessel Incident

Worst-Case Annual Aggregate Loss Scenario

1. Company specific scenario; and
2. Either Series of loss simulations or Economic scenario (R3) and three largest underwriting scenarios

Exposure Territories

Zone Territories

- 1 Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, New Jersey, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, the District of Columbia, Alabama, Arkansas, Louisiana, Mississippi, Texas, Florida, Georgia, North Carolina, and South Carolina
- 2 Caribbean
- 3 Arizona, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Montana, Minnesota, Missouri, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Utah, Wisconsin, and Wyoming
- 4 California
- 5 Oregon, Washington
- 6 Hawaii
- 7 Canada, Alaska
- 8 United Kingdom, Continental Europe
- 9 Australia / New Zealand
- 10 Japan
- 11 Nationwide covers
- 12 Worldwide covers
- 13 All exposures not included in Zones 1 to 12