

Cost Analysis and Recommendation of Insurance Policies for Ontario Gateway

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Background and Objectives

- **Ontario Gateway Corporation**
 - Formed by a merger between Ontario Airlines (North America) and Air Prix (Europe)
 - Objective is to leverage economies of scale and gain the legal right to operate in both markets
- **Selecting the Best Insurance Policy**
 - Ontario Gateway has significant debts and must find an insurance plan that provides strong coverage at a manageable cost
- **Financial Stability**
 - Company needs an insurance that protects against potential aircraft losses without straining cash flow
- **Leverage Fleet Safety**
 - The firm's newer fleet is potentially safer than the industry average which can impact insurance cost.



Overview of Insurance Plans

- **RCNC Plan 1:**
 - Covers complete replacement cost of aircraft
 - annual premium: 0.45% of fleet's insured value
 - includes rebate clause: 20% rebate on cumulative premiums at the end of 5yrs
- **RCNC Plan 2:**
 - Fixed annual premium of 0.10% of the insured fleet value
 - Additional variable premium: Up to 10% of the fleet's insured value based on actual losses, with the lesser of actual losses or 10% charged.
- **CTC Plan:**
 - Fixed premium: \$13 million per year.
 - Covers 90% of total losses up to \$80 million. Losses beyond \$80 million are not covered.
- **HIC Plan:**
 - Annual premium: 0.65% of the fleet's insured value.
 - Covers 95% of all losses with no specific coverage cap, leaving Ontario Gateway responsible for 5% of any loss.



Simulation Methodology

Set Simulation Parameters

Establish a 5-year analysis period, 100,000 simulation runs, and adjust the crash probability to reflect a 25% safer fleet.

Calculate Insurance Costs

Use the `calculate_premium` function to compute total costs for each insurance plan based on premiums and coverage for simulated losses.

Define Fleet and Insurance Data

Set up information on aircraft models, replacement costs, and insurance plan parameters (premiums, deductibles, and coverage limits).

Simulate Annual Losses

For each simulation run and each year, calculate the number of crashes and add incidental losses for each aircraft model.

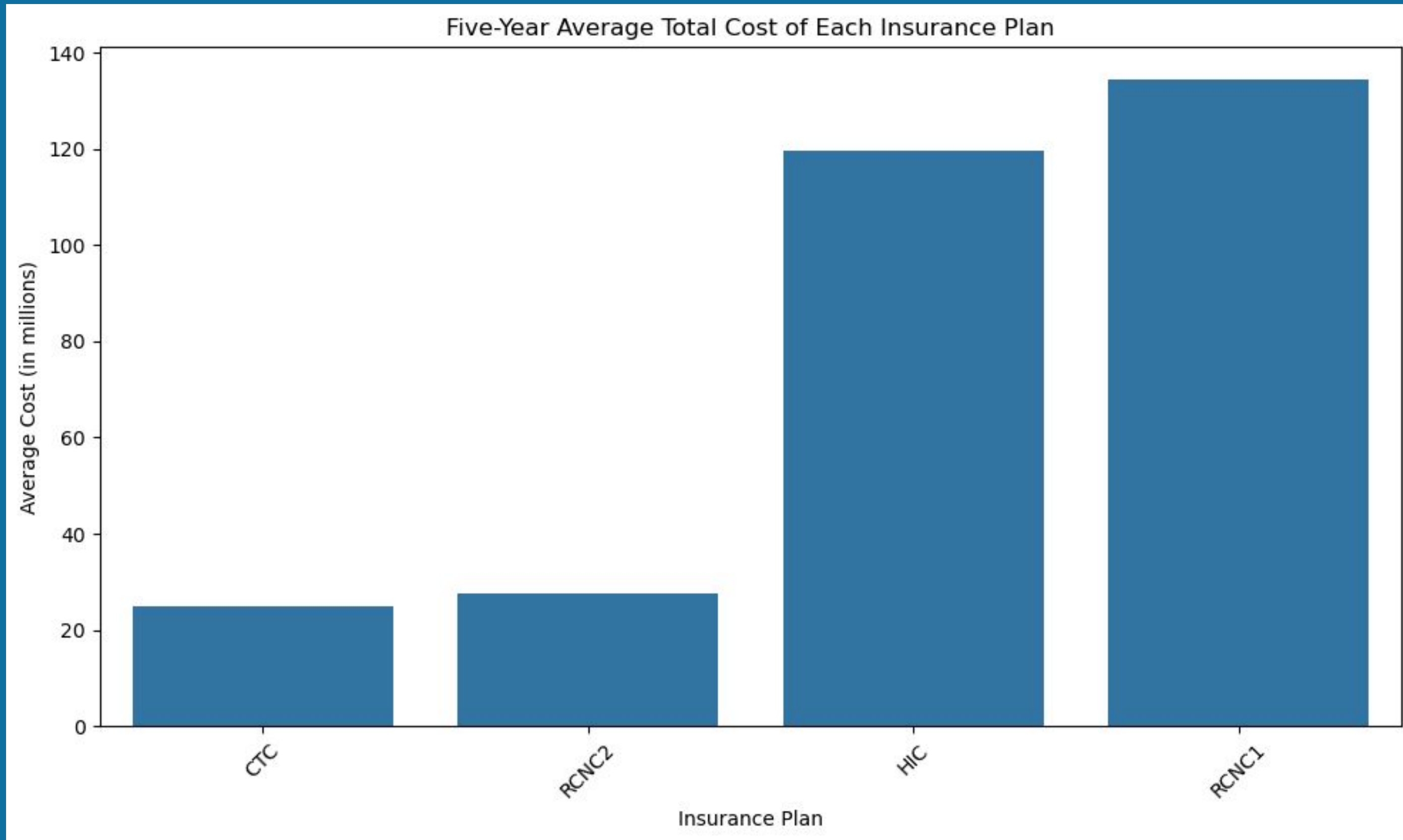
Analyze and Visualize Results

Calculate the average 5-year cost per plan, perform a sensitivity analysis for the safer fleet, and visualize results to identify the most cost-effective plan.



Results and Average Costs

- **Cost Comparison:**
 - CTC emerged as the most cost-effective plan with an average five-year cost of **\$24.88 million** under the industry-standard crash rate.
- **Close Competitor:**
 - RCNC2 was also competitive, with a slightly higher average cost of **\$27.52 million**, offering a good balance of premium and coverage.
- **Higher Cost Plans:**
 - HIC and RCNC1 proved to be significantly more expensive, with average costs of **\$119.75 million** and **\$134.47 million**, respectively.
- **Conclusion:**
 - Both CTC and RCNC2 provide favorable cost-effectiveness, making them viable options for balancing premium costs and loss coverage.



Graph showing the five year average total cost of each insurance plan

Sensitivity Analysis

1. Impact of Safer Fleet:

Adjusting for a 25% safer fleet, average costs declined for all insurance policies.

2. Top Options:

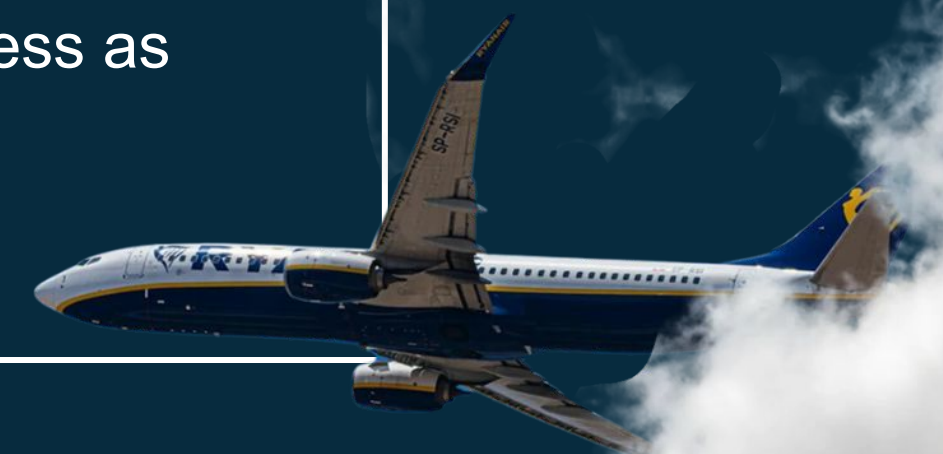
CTC and RCNC2 remained the most cost-effective choices, with average five-year costs of \$18.50 million and \$20.41 million.

3. Higher Cost Plans:

Despite cost reductions, HIC and RCNC1 remained expensive at \$84.90 million and \$96.40 million.

4. Conclusion:

CTC and RCNC2 offer the best value under safer conditions, and reinforces their attractiveness as cost-effective options.



Recommendation



Optimal Choice

The CTC policy is recommended as the best insurance option due to its balance of cost and coverage.



Cost-Effective

CTC consistently offers the lowest average cost in both baseline and safer fleet scenarios.



Comprehensive Coverage

With a fixed premium and 90% coverage up to \$80 million per year, CTC aligns well with Ontario Gateway's \$37 million safety margin.



Supports Financial Stability

Choosing CTC minimizes cash flow disruptions and preserves capital for operational needs and growth.

Conclusion

- **Best Balance of Goals:**
 - CTC achieves Ontario Gateway's objectives of **cost efficiency and strong risk coverage**.
- **Supports Global Expansion:**
 - CTC ensures financial stability as the company expands operations internationally.
- **Action Step:**
 - Recommend formalizing the CTC policy to ensure seamless coverage by **March 1, 1997**.
- **Foundation for Decision:**
 - This analysis provides Mary Litton with a well-supported recommendation for the Board that is **strategic, and cost-effective insurance solution**.

THANK YOU