SOCIETY OF ACTUARIES

Case Study

SPRING/FALL 2019

Strategic Decision Making Exam

EXAM CFE SDM

CFESDM

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Disclaimer

The companies and events depicted in this Case Study are fictitious. Any similarity to any event, corporation, organization and person living or dead is merely coincidental, with the exception of Section 2A Exhibit 5 which includes some actual press releases related to the airline industry. Some narrative material utilizes real locations and real news organizations to make the Case Study seem real. The Associated Press, Wall Street Journal, Standard & Poor's, A.M. Best and others used in this context have never actually commented on any of the fictitious companies.

RPPC Dynasty Corporation: A BOX FULL OF GROWTH

1 RPPC Dynasty Corporation

1.1 Introduction

The leaves rustled as Julia and Emmanuel walked down the trail that surrounded Frenz Corporation's home office. The autumn air was refreshingly cool and awakened the senses and mind after an exhilarating and exhausting two weeks. "I appreciate all you've done the past couple of months," Emannuel said, handing Julia a box. "I thought this would be appropriate given the words of wisdom you shared at the beginning of this trip." She unwrapped the gift to find a box of gourmet chocolates – one of the many products Frenz sold.

Just two weeks earlier on October 6, 2015, Julia was with eleven others waiting at the airport, part of two Corporate Planning Teams assigned to visit management at RPPC Dynasty's major businesses and review their 3-year plans. Others had asked what she expected from all the people they would meet. "Hmmm … my favorite movie is Forrest Gump. Forrest's maxim was, 'Life is like a box of chocolates -- you never know what you're going to get.'" Everyone chuckled as they recounted their favorite Forrest Gump scenes.

Julia's team had been on a whirlwind tour to Russia, Ontario, Texas, and their final stop in Antwerp, Belgium to talk tires, airlines and coffee.

The other team was already in the air on their way back from New Mexico to RPPC's headquarters in Luxembourg. Harry looked out the window and could see the Atlantic coastline in the distance. His team had covered the financial businesses – life insurance, banking and P&C insurance. On his left sat Olivia and Sophie. Olivia was full of energy talking about all the people they had met and the opportunities that had been discussed over the past two weeks. There was a lot to do in the next month before next year's plans were finalized in mid-December - a lot of proposals and alternatives to evaluate. Of course there were questions and issues to resolve - products, markets, distribution, investment strategies and impending regulatory and accounting changes. Some thought they should grow cautiously given the stagnant economy. They felt that selling insurance products and making bank loans in this environment squeezed out any margins and added too much additional risk. But Olivia thought the opportunities were now and that RPPC couldn't move fast enough. She recalled that Winston Churchill always favored action - the time to act is now. Harry said, "In any case, the financial and risk management areas are going to be busy the next eight weeks. Remember what happened during the Redeploy Project last year."

Julia thought herself lucky to have been given this opportunity – a chance to shine in a prominent role, a chance to really make a difference. The Risk Management function at RPPC had only been formally established in 2013. In reality RPPC Dynasty was lucky to have her. She worked long hours in preparation. She had read report after report, countless management memos, policies and process documents, and had looked at numbers, metrics, market intelligence analyses and even more numbers. She preferred meeting in small groups. Julia was known as the "Friendly Interrogator". You couldn't survive a meeting unless you'd done your homework and had thought through the issues. She helped you be at your best.

Julia had been the CRO's right hand and was just appointed as CRO recently. Her risk management team was earning the reputation of being business savvy. Her CERA studies had been useful but she was glad she had taken the Corporate Finance & ERM Track in getting her Fellowship in 2012. The material covered in the Strategic Decision Making exam gave her a solid business foundation and a strategic mindset, and it sharpened her critical thinking skills. By continuing to read business and strategy books, mixed in with first-hand experience, her communication skills and business acumen had been noticed. Life was indeed a box of chocolates.

RPPC Dynasty Corporation History

RPPC Dynasty was established in 2003 with head offices in Luxembourg by four founding partners. The corporation's name is derived from the four founders' surnames - Ruiz, Putin, Patel and Chan. They had ambitious goals to grow the corporation to become its namesake – a business dynasty respected throughout the world. From the beginning, and still to this day, the focus has been to meet the needs of a globally mobile clientele. The corporation holds a diverse group of businesses. Luxembourg was chosen due to its being a European low tax jurisdiction.

The business roots began in 1990. Mr. Ruiz won a $700,000 lottery. With his winnings and his $20,000 savings, he started a coffee shop business. His business had grown steadily and became a billion dollar company.

In 2003, Mr. Ruiz and Ms. Chan formed a partnership. The Chan family had owned and operated a small business since 1998. Soon thereafter two other entrepreneurs, Mr. Patel and Mrs. Putin, were brought in to expand the brand.

In 2004, with the guidance of Mr. Patel, a Bank group was formed.

In 2008, with the influence of the mariner background of Mrs. Putin, a P&C Insurer was acquired. The P&C group is a leader in personal and commercial marine insurance.

In 2012, the aftermath of the financial crisis presented an opportunity to acquire a life insurance group to expand the wealth management capabilities of the bank operations.

In 2013, an Airline was bought to appeal to the growing global mobility of the group's clientele. The Airline has been put through a restructuring initiative to better fit into the group's vision.

RPPC Dynasty's growing empire consists of nearly two dozen companies spanning a variety of industries and services.

Mission

Provide high quality and uniquely tailored service to families or businesses that are globally active.

Our family is your family, come experience our difference that is so familiar to you!!

Vision

We provide our customers the comfort of a family friend when they are away from home. We are your family away from home!!

Executive Team

The Executive Team includes:
CEO – Mr. Gilroy Clyde (since inception)
CFO – Mr. Houben Huang (5 years)
CRO – Ms. Julia Reich (recently appointed)
COO – Ms. Jane Mulroney (since incorporation, previously performed CRO functions)

Selling a Success Story

Mr. Houben Huang looked out his window. The trees were bare and the silhouettes against the morning sun always left an impression. December was always a busy month – final business decisions to bring the year to a close, planning always went into overdrive, holiday gatherings and parties, school concerts and plays.

On his desk were materials for a debt rating review session with the Trusty Rating Agency on January 6. Much of the material would also be used for the upcoming investor analysts' meeting and excerpts would form the theme in the 2018 Annual Report to shareholders. But the upcoming debt issuance was paramount to their growth plans. Later this morning he would be meeting for most of the day with Gilroy, Jane and Julia. Within the past few weeks, the Boards of RPPC and its many businesses had adopted many of Management's recommendations. The Board had also sent a few proposals back for further analysis and consideration. The Corporate Planning Teams had been invaluable working with the businesses and their planning teams.

The Trusty Presentation Materials highlighted the RPPC story - main messages and points Management wished to articulate. Some of the content was done and some needed to be updated or revised. Houben had scribbled some notes – how did the material convey and package the following themes?

Business Strategies

Airline	*new management with a focus on customer*
Tire	*niche market, needs new investment or will be sold*
Coffee	*market leader, growth focused*
P&C	*cash cow, niche market (Marine (UK), Pet (Canada), Liability, Commercial, Catastrophic) looking to expand to the US*
Bank	*customer oriented wealth management focus, growth by M&A integration*
Insurance	*long term interest rate risk*

Trusty would hammer management on challenges, struggles and missteps. There were a few headaches but the biggest message to sell was the RPPC success story. There were tremendous opportunities in the company's major businesses and the acquisition team had several attractive prospects under consideration. RPPC was well positioned to grow.

Trusty Presentation Materials also included an executive summary of the global market outlook (see Exhibit 1A). This outlook helps the company in strategizing its global expansion plan. It identifies areas where the company has capitalized on these global market changes.

1.2 Governance and Risk Management Overview

Governance

RPPC has the following Executive Committees:

1. Operations Committee
2. Audit Committee
3. Finance Committee
4. Risk Committee
5. Compliance and Legal Committee

RPPC Risk Management Framework

Vision Statement

We are exposed to a variety of risks that are inherent in carrying out our business activities. *Having an integrated and disciplined approach to risk management is key to the success of our business*. In order to achieve prudent and measured risk-taking that aligns with our business strategy, we are guided by a risk management framework that is embedded in our daily business activities and planning process.

Strengths and Value Drivers

- A Risk Appetite that shapes business strategies and is integrated into our decision-making processes. Risk management is considered a profit generating activity. We believe preventing our organization from experiencing loss is as beneficial as creating new profit streams from new arenas.
- A unified and strong risk culture that is embedded across the enterprise means that there is consensus opinion on the value and purpose of risk management.

Challenge

- Continued volatility in global economic conditions, causing heightened marketplace uncertainty. This is both a risk and an opportunity.

Our Priority

- Broaden and strengthen risk capabilities, including enhancing our stress testing functions to deliver better insights to both our risk and business groups. We believe strongly in assessing risk through a variety of lenses, not simply looking at past performance.

Our Path to Differentiation

- Within our independent oversight framework and the limits of our risk appetite, contribute to the enterprise's customer focus.
- Ensure that risk awareness is pervasive throughout the organization, at all levels, and all functions.
- Ensure that the risk-reward trade-off is applied effectively and consistently in all levels of decision-making.

Key Objectives and Recent Achievements

A key objective is to continue embedding our strong risk culture across the enterprise, including newly acquired businesses:

- Emphasize and ensure that risk management is a process of continual improvement at RPPC Dynasty.
- Reinforce our risk independence and our three-lines-of-defense approach to managing risk across the enterprise.

Recent Achievements

RPPC achieved the roll-out of our five step message on our value-based approach to enterprise risk management:

- Understand and manage
- Protect our reputation
- Diversify; limit tail risk
- Maintain strong capital and liquidity
- Optimize Risk-Return

RPPC established and formalized the role of **Risk Champion** to ensure strengthened engagement between the office of the CRO and Business operating groups.

Value-Based Enterprise Risk Framework

RPPC risk governance has three pillars.

I The first line of defense at RPPC is the Business operating groups, which are responsible for ensuring that products and services adhere to the approval process and profit guidelines of their businesses. Their mandate is to pursue suitable business opportunities within the Risk Appetite, and to adopt strategies and practices to optimize return on capital employed. They accomplish this by using complicated models of risk, reward and economic capital. RPPC officers must act within delegated risk taking authority and must have effective processes and controls in place to enable the businesses to operate within their delegated risk authorities and limits.

II The second line of defense is the office of the CRO, along with Enterprise Risk Officers (EROs) and Subject Matter Experts (SMEs) as assigned for specific risk categories or sub categories. The risk officers provide oversight, challenge and an independent assessment of risks. They have a significant influence on the level of risk that the company takes.

III The third line of defense is the Corporate Audit Division, which, in conducting the internal audit process, will provide assessment as to the effectiveness of internal controls including control, risk management and governance processes that support the Enterprise, its objectives and the Board of Directors' discharge of its responsibilities. The audit process includes assessment of the underwriting processes, claims management, and other processes that result in significant risks for the company.

The CEO is responsible for the business operating groups. This is known as the first line of defense. The second line is made up of risk officers (ERO's and SME's) who work collaboratively with the business operating groups and are engaged through corporate policies that support ERM & Portfolio Management (EPM). These risk officers are governed by the CRO and the Risk Management Committee. The second line has a direct line to the Board and therefore meets "in camera[1]" with the Board. The third line, the Audit officers, also has an "in camera" with the Board.

RPPC Board				
Board Risk Committee	**CEO**			**Board Audit Committee**
Risk Management Committee	*Operating Groups*	*ERM & Portfolio Management*	*ERO's and SME's*	*Corporate Audit Group*
• Capital Management • Reputational Risk • Operational Risk	1st line of defense	2nd line of defense	2nd line of defense	3rd line of defense

Risk Culture

Every employee is responsible for risk management at RPPC. The three lines of defense model promotes engagement and dialogue between the Business Operating Groups (first line) and the risk office (second line) within the protocols of the Corporate policies that support EPM. The key facilitator of this engagement process is the Risk Champion. The role of the Risk Champion is critical to ensuring that there is buy-in to the process among both business managers and risk officers, and ultimately that enterprise risk management (ERM) is successful. This engagement is central to a value based ERM approach as it promotes understanding and alignment with our risk appetite leading to sound decision making.

[1] In camera is a legal term that means in private.

In support of an overarching goal of continual improvement, the company has two human resource corporate policies that improve risk management:

(1) Two-way rotation policy (TWRP): allows employees to rotate between risk roles and business management roles;
(2) Continued professional development policy (CPDP): obligates employees to attend training on risk management principles and techniques at least once every two years.

Risk Principles
All material risks to which the enterprise is exposed are identified, measured, managed, monitored and reported. Risk awareness must be demonstrated to drive all decision-making within the enterprise. For any risk, a risk-based approach is used to calculate its reported Economic capital. Economic Capital is used to measure and aggregate all risks.

Risk Appetite
The Risk appetite is at the center of our value-based enterprise risk management approach. The clear communication of risk appetite at all levels within each line of business is critical to effective risk-taking in decision making. This is achieved with business-specific risk appetite statements that are aligned with the RPPC risk appetite statement approved by our Board of Directors.

The following RPPC Risk Appetite Statement is a clear articulation of the value creation principles of RPPC. The Board of Directors of RPPC and its executive officers declare that the business operating groups, with the support of risk officers:

- Do not take risks that are opaque, not well understood or that cannot be well managed.
- Identify and quantify low probability tail events.
- Limit exposure to low probability tail event risks that could jeopardize RPPC's credit rating, capital position or reputation.
- Subject all new products or services to a rigorous review and approval process.
- Ensure that the performance management system incorporates risk measures.
- Protect and enhance the RPPC brand by exceeding expectations in the products and services that we deliver to our clients.
- Promote focused differentiation on products and services that leverage RPPC's core competencies to build client trust and to surpass expectations.
- Maintain strong capital and liquidity and funding positions that exceed regulatory requirements.
- Maintain compliance standards, controls and practices that prevent regulatory exposures that could adversely affect our reputation.

Incentive Compensation and Risk Appetite

The business management of RPPC is governed by Key Performance Indicators (KPI) and Key Risk Indicators (KRI). All officers of the company will have their compensation dependent on the following:

- For any risk, the return on its economic capital must exceed the cost of the capital acquired to fund that risk. The CEO of each business operating group must identify and report KPI that indicate that this requirement is being met.
- The payback period on capital invested in a business operating group must not exceed 10 years from the date that capital is first employed. Each operating group CEO must report KRI that indicate for the aggregate of all risk underwritten, that if the business group were to suffer a 1-in-100 year tail event that the capital thereafter would still be able to withstand another 1-in-100 year event. This is referred to as redundant capital. This is critical to RPPC's market discipline, because client relationship management and sustainability is promoted over price leadership.
- Through the identification of KPI and KRI, business management indicates whether the risk being underwritten is within the group's risk appetite. The KPI and KRI are recommended by the business CEO and are approved by a Risk Appetite Consensus Meeting that includes the business executives, CRO, the appropriate risk and business Subject Matter Experts (SME's).

When reporting business plans and KPI, the financial projection must be based on a complete business cycle inclusive of severe market conditions rather than simply best estimate assumptions.

When reporting KRI, scenario results and any stress testing must be demonstrated in the context of the business and directly related to its business driver. Such KRI value-based results must be reported, well-understood and actionable at all levels of management within each business group and in all risk decision-making. Scenarios and stress tests are based on transparent deterministic scenarios recommended by the Business and approved by the Risk team.

Only actual past events are deemed relevant in communicating the financial impact of a KRI. Severity is assessed when economic events or business impact are greater than three standard deviations from the average.

Risk Review and Approval Policy

This policy outlines the procedures for the development, review, and approval of new products and services within the RPPC conglomerate. The policy balances the goal of delivering new products in a timely and efficient manner with the need to manage pricing and product development risk. Pricing and product development risk is the risk of financial and/or reputational loss as a result of the unexpected performance of a product or where the costs incurred are greater than those assumed in the pricing of the product.

This policy requires the establishment of product pricing guidelines that describe profit targets for RPPC and performance metrics that must be calculated for all new products and services. This policy also requires the establishment of a product pricing committee that meets periodically to examine the profitability of current and future sales as compared to the product pricing guidelines.

This policy involves the following stages:

Feasibility – For all new products and services, a report assessing the feasibility of the new product or service must be created. This report will provide a high-level business rationale and risk assessment for the product or service and must be presented to the product pricing committee before any further development is undertaken. In this phase, all key stakeholders must be identified and interviewed, key issues would be identified, and further information may be required before proceeding with development.

Product Assessment – All aspects of the product design must be assessed including the marketing analysis and supporting research, the distribution plan, pricing estimates, sales projections, risk adjusted return on capital, and tax implications.

Risk Assessment – All aspects of the risks of the product or service must be assessed, including exposures and ratings as compared to the risk appetite statement. The assessment should also include a summary of the appropriate procedures and controls to be implemented, or already in place, that are required to manage the new product or service once it is launched.

Sign-off and Approval – Sign-off and approval of the new product or service by the office of the CRO, the product pricing committee, and the operational head of the business unit is required. This approval is gained through the initial feasibility study, the product and risk assessments, and any subsequent discussion and analysis.

Documentation – An official record must be kept of the feasibility study, product and risk assessments, and the approval and sign-off forms. These can be reviewed by the internal audit function, external auditors, or regulators as evidence of appropriate due diligence and compliance with internal procedures, as well as providing the rationale for the assessments and decision making.

The Role of Risk Champion

The Risk Champion is a critical role which facilitates the Risk Review and Approval Process (RRAP). The Risk Champion is responsible for identifying the relevant business managers, risk managers and SMEs who are needed to complete the required risk assessment and risk analysis. In this way, the Risk Champion serves in the role of arbitrator for finding the appropriate forum to resolve areas of dispute between the business and the risk reviewers. The purpose of fostering dialogue and collaboration is to build and maintain the buy-in of all stakeholders throughout the RRAP. The Risk Champion is the key communication bridge between the first line and the second line of defense in the risk framework.

Risk Monitoring
There are three disciplines to the risk monitoring approach:
- Post implementation review
- Risk-based capital assessment
- Stress testing

Post implementation review is the core discipline within the engagement approach that embodies our three lines of defense model. Whenever a business operating group has launched an initiative, the group business managers are obligated to develop and report KPI and KRI that are specifically related to the initiative and that speak directly to the risk appetite of the enterprise.

The assessment of risk-based capital within an Economic Capital framework is one of the key metrics in the measurement and communication of any risk taken on. Economic capital is determined by the Risk Management Committee and is underpinned by the Redundant Capital philosophy. Capital is determined to withstand a 1-in-100 year event, after which the capital position is still sufficient to meet another 1-in-100 year event. Economic capital is also compared with regulatory capital to ensure compliance.

Allied with the Economic Capital framework, strong risk management and good business management relies on identifying “what-ifs”. Stress testing is the use of historical extreme economic events and/or periods of poor market conditions to quantify and to communicate the impact on the financial results of a given business operation. Scenarios based on historical events are easy to communicate and make it easy to get engagement when assessing value based impact.

On an ongoing basis, key risk factors are identified on a global basis by the Risk Management Committee. These key risk factors are developed from global market research and outlook studies that identify global market trends and areas of emerging risks. Exhibit 1 provides an executive summary of the recent global market outlook completed by the Risk Management Committee.

Operations Committee
In an effort to create a more holistic risk oversight structure, the CRO, in conjunction with the Risk Champion, seeks to better understand the commonality and interaction of risks between individual business operating groups.

A new initiative this year is to establish a CRO-sponsored Operations committee. The Operations committee will meet on a quarterly basis, separate from the Risk Committee, to assess ongoing risk in RPPC. The goals of the Operations Committee are to understand the risks being taken throughout the company, discuss different risk policies and issues, and strengthen governance. One of the major mandates of the Operations Committee will be to explore in depth the risk of different operating functions.

The members of this Committee are the COO, CEO, CRO, Risk Champion, and a Human Resources representative from RPPC. Guest attendees are invited on an as-needed basis from the various business groups, depending on the agenda of the meeting.

Risk Modelling

Julia, the CRO, has recently hired a risk consultant group, FAST Analytics, to propose a quantitative framework for measuring and managing RPPC's risks due to the diversity of its investment and business ventures. Mr. Otto, principal of FAST Analytics, has drafted a proposal, "*Managing Risks with Fast Actuarial Simulation Technology*" as shown in Exhibit 2.

1A RPPC Dynasty Corporation Exhibits

Exhibit 1
Global Market Outlook

Key factors for the global market outlook are summarized as follows:

1. Change in demographics
   a. World population is growing by around 1.2 billion every 15 years. About 95% of this growth is accounted for by developing countries and about 5% by developed countries.
   b. The world population is also aging, mainly due to greater life expectancy and to declining birth rates. Life expectancy doubled from 30 to 60 years in the 20th century. At the same time, the global average age has risen from 23 years to 30 years.
   c. Global migration flows, whereby people are migrating from south to north and between developed countries, are increasing. Industrialized countries are reliant on immigrants to maintain their economies and compete with one another for resources.

2. Increasing complexity and accelerating globalization
   a. Complex and international trade flows. Global trade continues to increase each year, though the rate of increase has slowed in recent years. Global capital transactions are still important, though the volume of capital flows may have peaked in 2017.
   b. Increasing value chains. Multinational companies are on the rise, from 7,000 in the 1990s to some 65,000 parent companies today, with 85,000 foreign subsidiaries.
   c. Increasing complexity in terms of the number of parties involved and all of their inter-connections, stability of the connections, networking of systems, etc. These measures increased significantly as globalization processes increased beginning in the 1990s.
   d. Transport and travel are expanding, increasing pandemic risk.

3. Growing demand in micro-insurance
   a. About 3 billion of the world population are in the target group for micro-insurance, mostly in the South Asia, East Asia, Africa and Pacific regions.

b. Micro-insurance is strongly supported by the governments of developing countries and emerging countries, aid agencies and NGOs as a means to tackle poverty.

4. Advancing climate change
    a. Rising number of weather-related natural catastrophes
    b. Changes in the availability of fresh water
    c. Higher losses from weather-related natural catastrophes
    d. Accelerated climate change could lead to a significant decline in the global GDP level.

Exhibit 2

Managing Risks with Fast Actuarial Simulation Technology (FAST)

In recent years, stochastic simulation has become the standard tool used for measuring and managing complex risks. Compared to deterministic tools, stochastic simulation provides a full distribution of results instead of a single best-estimate result. Thus, risk can be measured by applying risk measures on the distribution. On a micro level, companies may use stochastic simulation to generate risk profiles for individual products and businesses. This is commonly done for the pricing and valuation of individual products. The effectiveness of risk management strategies can also be tested with stochastic simulations. On a macro level, companies may be interested in knowing the total capital requirements projected for the future and the associated costs of holding capital. Stochastic simulation can be used in this case to project the corporation's future balance sheets under a range of scenarios.

Despite its usefulness, implementing stochastic simulation is quite complex, with many IT systems and manual processes. Further, stochastic simulation may require a significant investment in computational power despite the numerical techniques available. Fast Actuarial Simulation Technology (FAST) is a high-performance actuarial simulation platform that enables companies to efficiently manage risks using stochastic simulations. FAST implements stochastic simulation in a robust 5-step process that eliminates the discontinuity between systems and enables efficient risk aggregation.

FAST Simulations

Stochastic simulation is used in many situations where simple formulas are not available. FAST implements stochastic simulation in an integrated 5-step process:

1) Identify the risk factors related to the product/business

   This first step is critical. Real world results would be significantly different if an important risk factor or economic variable were left out of the simulation. FAST identifies the important risk factors by re-computing results by varying risk factor levels. The factors associated with the most variations in results are kept. This is a model-free sensitivity or Greeks computation. Greeks are hugely important for risk management. The ability to look at Greeks before any risk aggregation makes sure that the model is realistic and no important risk factors are missing. FAST considers all common risk factors.

2) Specify appropriate stochastic equations and correlations for modeling the risk factors

   Choosing the right model is very much linked to its calibration. An inappropriate model choice would limit the possible distributions it could generate. For example, if the desired distribution of a risk factor has a fat tail, then it would not be possible for a Normal model to model the tail realistically regardless of the calibration procedure. The same can be said about correlation structure. The classical Pearson's linear correlation may not be the best choice for many risks that have been shown to have non-linear relationships. A copula is likely to be more suitable for modeling RRPC's complex portfolio of businesses. FAST recommends the appropriate models based on the historical data specified by the user.

3) Calibrate the parameters to statistical distributions

   Depending on the application, the parameters can be calibrated to either risk-neutral distributions or real-world distributions. For pricing and valuation of liquid traded instruments, the parameters are calibrated to the risk-neutral distribution implied from the market prices of related instruments. On the other hand, real-world distributions are usually obtained from historical data. By using models calibrated to real-world distributions, we assume that the statistical properties in the past will continue to be valid in the future. In practice, one needs both risk-neutral and real-world calibrations (see next step). Because of this, FAST calibrates the model to both distributions. The two distributions are further linked by a variable called risk premium to ensure consistency. FAST is compatible with leading market data providers.

4) Run Monte Carlo simulations using the calibrated model

   Once the model is calibrated, we generate random scenarios for all risk factors for a certain time horizon. The cash flows are re-calculated under each scenario. The cash flows may include only liabilities (in the case of pricing) or both assets and liabilities (in the case of hedging or asset liability management). The simplest type of simulation is so-called time-0 simulation where all the cash flow calculations are based on the current point in time.

   Increasingly common in risk management is the use of nested stochastic simulations. Nested stochastic simulation projects the value of assets and liabilities for each scenario in the future by recalculating the value of real-world cash flows at a future point in time.

The projection of cash flows at a future time is a repeat of the time-0 simulation but assumes the then evolved (risk-neutral or real-world) distributions for the risk factors. One of the applications of nested stochastic simulation is the valuation of American options. Another application is to measure the effectiveness of hedging strategies. In some cases where pricing or valuation is the goal, Least-squares Monte Carlo can be used to eliminate the need for brute-force nested stochastic simulations.

This is the most computationally time-consuming step. Depending on the number of simulation paths and the complexity of the model, computation time could be hours or days even with a grid of computers. FAST utilizes the power of graphic processing units (GPUs) to reduce computation time up to 100 times. Because of this technology, users are able to view results in near real-time.

5) Analyze results

The last step is to extract information from the data we have produced from the stochastic simulation. For individual products, for example, we may calculate the expected net profit of a business, the average payoff of an option, or the profit and loss of a hedging strategy. For enterprise risk management, we can measure the risk by computing the VaR or the Expected Shortfall (Tail Expectation) from the resulting distribution. Due to the huge data output from the previous step, this is not as easy as it seems. Fortunately, FAST is designed to work with big data. Information can be instantly extracted from huge databases without the constraint of spreadsheet size limits.

FAST Solutions

FAST provides solutions for corporations looking to integrate stochastic simulations into their risk management systems. FAST could be used in many parts of RRPC's business to improve business-level risk management. A few examples include:

- Evaluate commodity price risk and the potential impact of a hedge program to mitigate the risk (Blue Jay Tire Co)
- Estimate the fair value of the loyalty program (Blue Jay Air)
- Evaluate the possible worst outcomes of the loyalty program related to the economic risks (Blue Jay Air)
- Valuation of real options embedded in the business especially when the payoff is path-dependent or the exercise time is flexible (All subsidiaries)

- Use catastrophe models to simulate the worst-case scenarios and the solvency capital required (Blue Ocean P&C)
- Monitor foreign exchange risk in-house by simulating FX rates (Big Ben Bank)
- Aggregate and report all risks, e.g., credit risk, market risk, liquidity risk, operational risk (Big Ben Bank)
- Price secondary guarantees and evaluate the hedging of such guarantees (Darwin Life)

On the corporate level, FAST can be used to provide the following solutions:

- Incorporate simulation-based internal modeling into the economic capital calculation
- Establish a risk aggregation framework across the enterprise
- Satisfy regulatory guidelines and produce forward-looking risk and capital reports for the banking and insurance divisions
- Evaluate and compare subsidiary performance on a risk-adjusted return basis, i.e., return adjusted for the cost of capital

Stochastic simulation plays an important role in these applications. A major challenge in implementing stochastic simulation is to make sure the system is able to produce results in a timely manner, especially during times of stress. Due to the large number of scenarios that need to be generated, RPPC needs to balance between accuracy and speed (as a consequence of computational power). The market-leading performance of FAST enables the company to deal with the most complex situation efficiently. Instead of waiting for the system to finish computation, the user can be focused on business problems and receive real-time risk statistics. Additionally, FAST is a transparent system. Auditors and regulators may look at the details of the models and coding if so desired.

Grosso Bank used to rely on in-house ad hoc systems to compute its portfolio risks. The models were run overnight to obtain risk statistics. With the introduction of Basel III, the bank is further required to provide long term risk estimates. Combined with the timely reporting principle, the existing infrastructure was clearly inadequate. After switching to FAST, Grosso Bank was able to reduce the run time to 10 minutes and automate the processes. As a result, the bank not only enhanced its reporting capabilities but also reduced its overall overhead expenses.

In conclusion, FAST provides a streamlined 5-step process that eliminates the need for many separate systems and improves productivity. The high performance of the system enables the company to achieve the goal of efficient risk management and timely reporting.

2 Blue Jay Air

Other services are customer-oriented. The airline industry is increasingly anti-consumer. It's become a real hassle to travel. That is our opportunity - as long as we are given a chance to compete fairly.

John Feather, CEO of Blue Jay Air, was sitting in his newly renovated executive office and pondering the future strategic direction of his company. Blue Jay Air had undergone a major corporate reorganization two years ago. With a newly appointed Board and a total replacement of senior management, the company had a completely new face. It was time to rebuild its image, re-position itself in the highly competitive local airline market, and reconsider expanding into the international arena.

Blue Jay Air had made substantial investments that included major infrastructure improvements. Change couldn't come fast enough for John. Every aspect of service and operations needed to get better. It was the only way. Changing infrastructure was hard up to a point. Changing attitudes and behavior and winning customers – that was really hard. How fast and how hard should he push? Some wanted reams of data to move forward. Stay local? Go international? Which routes? Which planes? Remodel or new? Did they have enough capital? Access the capital markets? Sell Blue Jay Tire? He had a good team. He recalled one of Warren Buffett's comments, which he applied to his management style, "Give a person or a nation a fine reputation to live up to and they will live up to it." John was establishing Blue Jay Air's reputation. He was confident his team would meet the challenge.

2.1 Background

Blue Jay Air was originally incorporated in the United States in the early 1980s. It was a small local commercial passenger carrier, operating only in the Eastern region of the United States. Its target market was high-end business clientele located in major cities along the east coast of the United States. Since then, Blue Jay has gone through three mergers and two significant acquisitions over the last 35 years. The company has been transformed from a focused high-end regional company to an expanded price-competitive commercial carrier, covering the full geographical region of United States as well as major cities in Canada.

During the past 30 years, the airline industry has gone through several significant business cycles, with each earning cycle trending lower than the preceding cycle. This resulted in significant pressure on the business margins and profits. In addition, with the deregulation in the airline industry during the Reagan administration, the number of commercial carriers has exploded exponentially, thereby materially decreasing consumer prices and reducing the service level of the airline industry. Due to reduced margins, most companies have severely curbed operating costs by reducing staff levels or restraining salary increases. As a result, labor disputes and disruptions have become a major concern in the industry. The negative impact on the industry has been compounded by an aging workforce and insufficient training for the new staff, especially for the pilots. Frequency of accident occurrences have trended upwards due to a lack of qualified manpower and insufficient compensation levels.

Despite all the perils in the industry, Blue Jay Air has been resilient in surfing the destructive waves through various reorganization and restructuring efforts. The acquisition of Blue Jay Air by RPPC was viewed positively by shareholders and investors. In 2013, the Wall Journal quoted that “RPPC’s takeover is a step forward for Blue Jay Air.” John Feather, who has over 20 years of airline experience, is viewed as a “turnaround” CEO by the industry. Thus, RPPC has high expectations of John’s new strategic vision.

2.2 Strategies

Blue Jay Air’s new strategic vision is to become the most customer-oriented airline company in the world, providing the best services to the marketplace. Comfort, punctuality and safety are the three important virtues that the company has adopted. Thus, the number one priority for Blue Jay is to rebrand the company and image. In order to successfully rebrand the company, the company has done an extensive study on its customer base and identified its customers. John believes that understanding and knowing the customers is an important step to improving profitability for the company in the long run.

Based on the customer base study, the company found that more than 55% of its customers are travelling for business reasons. This percentage is significantly above the industry norm which is generally around 20%. This finding could stem from the fact that the company was originally a commercial passenger carrier catering to business travelers; thus, its relationship with the business community is deep-rooted and unique compared to its competitors. In fact, the expansion to leisure travel over the last 15 years did not increase its market share and profit margin as the number of business travelers declined from over 80% to 55% due to reduced services. The rebranding and the change of business model may regain the company’s marketability and improve profitability over time.

Under RPPC’s influence, the company reconsidered its market operations, including the expansion to international operations due to increased demand for international travel caused by globalization of the business world. In order to make this strategy possible, the company has been negotiating with international airport authorities in several European and Asian financial centers and major cities over the last two years to secure boarding gates. Some of these negotiations are close to fruition.

Cost control is a key element in this industry. Labor relationship management is a key cost control element for Blue Jay Air as the labor force is not currently unionized, which is very rare in the industry. In order to maintain this niche, Blue Jay requires an effective management team to foster a cultural change without damaging the relationship with the employees and to ensure that their needs are addressed to reduce the desire to unionize. In the past few decades, the company has implemented profit sharing schemes, regular salary scale and benefit reviews, frequent employee networking events, employee suggestion boxes and an employee diversity team to foster communication and pay equity between management and regular staff. These efforts have been working as unionization has not materialized. Thus, the company would like to maintain its current employee relationship strategy. The only caveat is that in order to stay competitive, the company has to continue taking further significant expense control measures particularly in the areas of staff count, staff expenses and information technology expenditures. As a result, the company has started to cut back on most training programs, other than the current pilot and safety training programs needed to foster its vision of being the "safest" airline in the industry. The company also imposes tougher standards to qualify for the "top-scaled commercial pilot" category in order to ensure Blue Jay pilots are of the highest quality.

Another expansion option available today is to serve more customers through a code-share agreement (CSA), which has been widely used by many airlines. Blue Jay Air's executive team is actively looking into the option. More details about CSA are described in Section 2A Exhibit 8.

2.3 Risk Management

As a highly-leveraged capital-intensive company, the ability to raise and service debt is crucial to Blue Jay Air. Thus, a key risk management objective is to maintain the credit rating of the company within the investment grade categories, i.e., BBB- or higher.

As Blue Jay Air has significant pension liabilities for its existing labor force, ability to fund the pension liabilities has become a crucial issue for the company, especially in today's low interest rate environment. Blue Jay Air has increased exposure to interest rate volatility due to the significant amount of long-term debt and finance leases that it has entered into since incorporation.

Since being acquired by RPPC Dynasty, Blue Jay Air has established a risk management committee headed by a well-known risk manager, Jim Peters. Jim was formerly the Chief Risk Officer (CRO) of a major Canadian bank and he was recruited by John based on the recommendation of Howard Creston, former CRO of RPPC Dynasty. Jim was a hedge fund manager before he became the CRO of the bank and has extensive knowledge in implementing risk management strategies. Over the last two years, Jim has put together a dynamically hedged portfolio that handles the commodity exposures that the company has been facing as well as interest rate risks.

In addition, Jim has established a Treasury role under the risk management committee to centralize long-term and short-term fund raising activities and deal with liquidity and credit risks. This role is headed by Elaine Saunders who was a former Treasurer of a New York-based investment bank. Elaine has a significant network with venture capitalists, pension fund managers, and private equity fund managers. Elaine has also worked in the Investor Relations area of a major US Commercial Bank and thus has dealt with credit rating agencies such as Standard & Poor's, Moody's, A.M. Best and Fitch. Over the last two years, she has implemented a liquidity model and a credit model to monitor the company's ongoing liquidity and credit needs.

The Risk Management roles and functions are still in the progress of refinement and adjustment. The staffing requirement in these areas is highly specialized, and it will take time to establish a full staff complement. As a result, the staff workload is currently intensive, and the turnover rate is slightly higher than in other areas.

2.4 Operations

Planes

It has been ten years since Blue Jay Air purchased the current fleet of planes. The fleet is starting to age. Limited passenger capacity renders most of the fleet unsuitable for international flights. In order to implement an international expansion strategy, the company will have to order or lease some larger planes with updated features such as Wi-Fi, expanded business classes, flat beds, bars, and stronger engines with additional safety features, to be delivered over the next few years. The new planes are designed for added comfort, safety and shorter flight time. They are the ideal planes for international travel. However, the costs of these new planes and refurbishments are significant and will require a capital injection or debt guarantees from RPPC Dynasty as Blue Jay Air alone cannot bear these costs without jeopardizing the credit rating of the company.

Even for the short haul planes, the current fleet requires updates such as Wi-Fi capability and individual TV screens to provide additional comfort for business travelers. The fleet also needs more fuel-efficient engines. This will also require additional funding and support from RPPC Dynasty.

Given the current business needs, the majority of aircraft owned by Blue Jay Air are X730 manufactured by Xolar Aircraft. The X730 is a twin-engine short- to medium-range wide body jet airliner which can typically seat 280 passengers in a two-class layout, with a maximum range of 8000 km when fully loaded. Other than Blue Jay Air, only five airlines possess this type of aircraft. Four of them use X730 as well for short to medium distances. The remaining ones use the S999 manufactured by Skylite Aircraft for medium distance. The S999 is a twin-engine medium-range wide body jet airliner which is comparable to the X730. Xolar Aircraft has a very long history and is more famous than Skylite Aircraft. As of today, the stock price for Skylite Aircraft is substantially depressed as measured by its high book-to-market value.

Blue Jay Air is considering acquiring one of the two aircraft manufacturers above in order to extend the company's presence into another stage of the industry chain. It will not have enough cash for either of the companies; therefore, it needs to bring in new investors or sell Blue Jay Tire in order to complete the acquisition. Rebecca Gibbs, VP of Operations, has submitted the following information and considerations for both aircraft manufacturers.

- Xolar Aircraft is a United States-based corporation with a very long history that designs, manufactures and sells fixed-wing aircraft. The company produces the X730, which has been among the most recognizable aircraft in the air for many years. The X730 has been involved in 27 accidents in 40 years of services, including a very famous incident known as the 306 Air Disaster. Xolar had been profitable for over ten years until last year, when it lost a number of new orders to competitor Skylite Aircraft. Considering the results of the past ten years, Rebecca believes that last year was just a one-off bad experience and Xolar will perform at its normal level again next year. In particular, Xolar Aircraft is having a cost-cutting campaign and expects to see positive trends in cost control. Rebecca believes that the campaign will be effective. Therefore, she included some cost reduction in her forecast, the result being that Xolar Aircraft would turn a profit next year.

- Skylite Aircraft is an aircraft manufacturing subsidiary of a global aerospace and defense corporation. The company produces and markets the S999, which has been a direct competitor of the X730 in the last 20 years. The S999 was involved in only 11 accidents in this period. Rebecca is in favor of Skylite for safety reasons since safety is very important to airlines. On the other hand, due to its substantial operations, Skylite has had significant cost overrun issues, and the company has not been profitable for a 5-year period. However, last year Skylite engineered a turnaround due to a new marketing strategy, which led to a number of new orders during the year. Using the latest data collected over the past year, Rebecca has forecast a profitable position for Skylite Aircraft in the coming years.

Loyalty Program

As part of Blue Jay Air's rebranding strategy, a business travel loyalty program is being considered to encourage frequent business travel. Blue Jay Air is considering a progressive bonus point system as flight frequency increases. In addition, Blue Jay Air would like to expand its reward systems by partnering with other business partners and its affiliated companies. This will substantially increase the incentive for travel by business executives.

For example, Blue Jay Air is partnering the loyalty card with Big Ben Bank's credit and debit cards to introduce a combined credit card with an "enhanced air points reward system." This partnership should further increase the value of the loyalty program.

A modification to the existing application form is required to accommodate the expansion of this new enhanced loyalty program. The current application is an online form which is an electronic version of a paper form. The paper form is currently five pages long with 30 different questions related to the customers' personal information and preferences. The customer data is crucial for current and future marketing analysis. However, the current completion rate is much lower than the target rate due to the extensive information requested.

Travel Insurance Program

In addition to the travel loyalty program, Blue Jay Air is also exploring an opportunity to offer travel insurance to the airline's customers. As part of its commitment to become the most customer-oriented airline, the proposed solution envisions a fully customizable coverage package that allows each traveler to choose what best fits his needs.

Blue Jay Air has identified Blue Ocean as the ideal strategic partner to successfully execute this venture, and CEOs John Feather and Edward Blue have eagerly prepared a business case to bring forward to the RPPC Board. They are very excited about the potential synergies this initiative could realize for RPPC Dynasty.

As part of the proposal, the risk functions from both companies have collaborated on a preliminary risk review, and have identified some concerns with the initiative.

An email thread discussing the key issues of this new proposal are shown in Section 2A Exhibit 1.

Booking System enhancements

With the technological advancements over the last few decades, Blue Jay Air is considering revamping its booking system to enhance its internet booking capability as well as introducing mobile phone apps for the major mobile phone systems.

The new system will automatically link up with the loyalty and credit cards for ease of use of loyalty points. It will include tracking of flight schedules, weather systems, time zones and other pertinent information. It will incorporate many added features that will make business travel enjoyable.

Business Lounges

Blue Jay Air will renovate all of its business lounges in major cities to enhance the competitiveness of its business travel. New business lounges will offer free Wi-Fi, free internet access, and amenities such as gourmet Frenz coffee and specialty teas, snacks, massage chairs with music selections and flat beds. The goal is to make business travelers as comfortable as possible while waiting for their flights.

Baggage and Baggage Systems

Blue Jay Air will incorporate a charge for each piece of checked luggage, consistent with its competitors' pricing. Since most business travelers do not check in their luggage, this is not expected to be a negative in Blue Jay's target market. Free luggage check-in will no longer be available except for international flights, for which Blue Jay Air will reduce its free luggage check-in policy from two pieces to one piece with no change to the current weight limit. The current Baggage Tracking system seems to be adequate and Blue Jay Air has no plan to upgrade its systems.

Other Cost Measures

Blue Jay Air has decided to discontinue its travel agency programs as part of the continuing effort to keep the company as cost efficient as possible. Instead the company will establish direct business relationships with its business client base. Blue Jay Air will negotiate direct contractual arrangements with its business clients in order to customize client needs and leverage long-term client relationships.

A referral program will also be offered to business clients in order to expand its customer base in the most direct and efficient manner. This referral program will be combined with the loyalty program to optimize value for existing customers.

Financial Statements

Detailed financial statements are shown in Section 2A Exhibits 2 to 4.

Recent News on Competitors

Recently, several airline companies have appeared in the headlines in both the US and Canada as shown in Section 2A Exhibit 5.

Balanced Scorecard

In order to clarify Blue Jay Air's vision and strategies and to enhance execution of these strategies, the business operations team has established a balanced scorecard for Blue Jay Air.

The intent of this balanced scorecard is to provide senior management with feedback on both the internal business processes and external outcomes, which will allow for continuous improvement of strategic performance and results. The balanced scorecard framework is shown in Section 2A Exhibit 6.

2.5 Loyalty Program Proposal

Blue Jay Air has promoted a marketing campaign for the past two years for its primary customer segment, the business traveler. This campaign, named the Lucky 7 program, offered 1 free one-way business class flight for every 7 one-way business class segments purchased (a round-trip is equivalent to two one-way segments). The program has been very successful according to the results presented by the BJA CEO, John Feather, at a recent RPPC Board meeting.

Excerpts from the executive summary

- Business Travelers now account for 57% of the total one-way flight segments with BJA.
- Business Travelers now provide 71% of the airline's total revenue.
- The marketing cost of the Lucky 7 program for the past two years was 12% below budgeted cost for the selected routes.
- In the two years prior to the Lucky 7 program, BJA's marketing campaigns achieved 23% lower sales revenue.
- The introduction of the Lucky 7 program has increased both the number of one-way flight segments and the average revenue per one-way segment.
- Purchases of business class one-way segments were up 13% in period over period comparatives due to the 30% increase in the routes with the Lucky 7 program.
- Much of these gains were attributed to the ability of the Lucky 7 promotion to overcome the higher than usual staff turnover in both air crew staff and the operational management team.
- The retirement of several long serving staff resulted in several employment promotions being offered to internal candidates. The operations have transitioned effectively to new leadership. In fact, in the year-end employee survey, the morale, energy, and commitment to the team showed a dramatic improvement in period over period comparatives.
- The BJA client persona has also changed due to the Lucky 7 program. The average age of the client, the average number of business class round-trips per client, and the amount of ancillary service purchases per stay were all up period over period in the routes with the program. On these routes the BJA client is now more likely to be an Executive Vice President or member of the C-suite rather a member of middle management.
- The Lucky 7 program was only offered on the Toronto to New York and subsequently Chicago to New York routes. But the research team believes similar results can be achieved on other BJA routes, especially the eight other commercial centers with population greater than one million in the USA across the carrier network.

Marketing research committee discussion notes

The BJA CEO formed a research committee to assess the feasibility of expanding the Lucky 7 program into a company-wide loyalty program.

The marketing research committee has concluded that the loyalty program is a $69 million value-added project on an NPV basis. The committee estimates that if the increased revenue from business class purchases of 30% from the Lucky 7 program can be achieved across the network, then the BJA gross margin will improve from 8.10% to 8.73% of annual revenues of $1,500 million.

The marketing research committee has estimated that the loyalty program can be funded from within the existing operational margins; therefore, the current marketing budget is expected to remain the same as the past four years, at approximately 10% of revenue. The estimated IT system development work to launch the loyalty program, USD $17 million, will be repaid in three years due to the anticipated revenue increases.

The additional cost of annual administration of a loyalty card program, namely, the development of promotional materials, management of a new customer relationship management (CRM) system and maintenance of a mobile app for customer engagement, will be funded by the anticipated continuation of the 12% marketing cost savings achieved by the Lucky 7 program. No new staff is anticipated to be required because the loyalty program will leverage the expertise developed from recently promoted managers of the Lucky 7 program. Cross-regional training programs are proposed which will be managed by Human Resources. The committee anticipates this will go smoothly at relatively low cost because the staff who manage other flying routes are very experienced and highly competent.

Also, the committee strongly believes that the proposed loyalty program will not require a contingency fund in support of the loyalty points system. The marketing research committee believes that being disciplined about applying the same structure and parameters of the Lucky 7 promotion is the best form of risk management for the loyalty program. Therefore, the committee proposes a loyalty points system that mirrors the 1 for 7 promotion: namely, each one-way business class segment earns 100 points and a 700 point redemption is needed to claim one free business class one-way segment. However, to appease economy class passengers the loyalty program will also offer 25 points earned for each purchased one-way economy class segment and a 300 point redemption is needed to claim 1 free economy class one-way segment. The 10 year historical data on BJA flights indicates that no client has ever purchased 12 economy class one-way flight segments in any one calendar year, so this economy class loyalty benefit is estimated to have no cost.

The research committee understands that this is not a risk that was tested within the Lucky 7 promotion but the committee is confident that the economy class passengers are a low risk because this passenger class is a small customer segment for BJA. Statistics indicate that economy class passengers are not as likely to be repeat travelers within a given calendar year. The committee proposes that all loyalty points will have a fixed duration for redemption.

The research committee also points out that their proposed approach will be a cost savings over the alternative of joining an existing loyalty Alliance. The committee estimates that an Alliance approach might save administrative development cost and ongoing operational maintenance. But the Alliance approach requires as part of its fee a contribution to build a contingency reserve fund that provides backing for the loyalty obligations. The market research committee believes this contingency reserve is overkill and that the Alliance fee at 9% revenue is not economical given that the Alliance fee plus staff cost will result in a budget overrun for the Marketing department. The research committee believes that the 9% is too high because it uses up 90% of their total marketing budget.

The committee is aware of another North American airline, Air Canada, that had an in-house loyalty program (Aeroplan) that ultimately was spun-off into its own company, AIMIA. The committee closely studied key excerpts from the AIMIA Management Discussion Notes from the company's Annual filings. These are provided for reference.

AIMIA does hold a contingency fund for the Aeroplan loyalty points. The committee points out that the AIMIA contingency fund is not estimated using actuarial principles, and, in the estimation of the committee, this fund appears to be simply a cash flow management tool rather than a contingent point redemption liability reserve.

CRO and CFO correspondence emails

In a series of emails, the CRO, Jim Peters, has been discussing the merits of the proposal with the CFO. A senior actuary, Richard Smith, who works for the CRO, has been asked to summarize this exchange of concerns and positives for the proposal from these emails.

To: Jim Peters
From: Richard Smith

Hi Jim
I hope you are well. Sorry for the delay on this. I have reviewed all of our email discussion on the loyalty program expansion and I have summarized the findings below.

Business objective

- CFO is comfortable with the growth objective in the business traveler segment, which is in keeping with his overall commitment to the RPPC Board in the 2019-2023 Strategic Plan.
- CRO is pleased that the proposal seeks to activate and leverage a very successful pilot project that contains very useful customer data and market behavior insight. There is strong adherence to the risk appetite of BJA for the high-end market.
- Financial metrics of the Lucky 7 pilot are impressive. To successfully extend this performance to other routes would result in a financially stable BJA after years of sub-par performance. This is a critical objective of the RPPC Board.

Financial Objectives

- Marketing cost effectiveness and sales performance within the Lucky 7 promotion are noteworthy.
- CFO agrees that this level of operational effectiveness can support a viable and profitable business.
- Operations have managed well within the existing budget, but what happens to cost as the young team gains in seniority (wage inflation)?
- CFO is concerned about scalability because the pilot was conducted on the busiest flying routes
- CFO would appreciate more research on the drivers of sales/marketing costs and staff resource needs (e.g., seasonality, general economy, business cycle, size of client market, competitors)

Risk Objectives

- CRO is concerned that the sales mix is held to be one of the critical success factors but what if this proves to be different on other flying routes? How high a market share of the C-suite travelers is needed to sustain success?
- CRO points out that the cost estimate comparison is apples vs oranges – (a) approach with no contingency fund, no business diversification, versus (b) the Alliance which includes a contingency fund, diversity among various carriers and geographies.
- CRO suggests that even using a simple Multi-normal sales and marketing distribution model for economy class passengers and business class passengers could be insightful about the tail risk in recession periods or contagion risks.
- CRO also points out that the improvement in sales for business class travel might have had nothing to do with the Lucky 7 promotion but simply reflected good macro-economic conditions and a positive business climate.

CRO and CFO proposed the following areas for future research and analysis work to be done.

1. Gather the historical data for sales, marketing, seat vacancy rates and client profiles for the last 10 years (i.e., a complete business cycle).
2. Gather data on potential business drivers such as macro-economics and industry statistics – compare and model against sales.
3. Research and apply actuarial practices for estimation of the loyalty points contingency fund (or liability reserve).
4. Consider whether behavioral economics could impact actual performance of the loyalty points incentives.

Regards,
Richard

Excerpts from the Air Canada Annual Report

FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

SUMMARY OF FUEL AND OTHER DERIVATIVES

The following is a summary of fuel and other derivatives included in non-operating income (expense) on Air Canada's consolidated statement of operations for the periods indicated:

	FULL YEAR	
IN MILLIONS	**2017**	**2016**
Fuel derivatives	$ -	$ 14
Share forward contracts	$ 54	$ 40
Prepayment options on senior secured notes	$ -	$ (5)
TOTAL FUEL AND OTHER DERIVATIVES	**$ 54**	**$ 49**

RISK MANAGEMENT

Under its risk management policy, Air Canada manages its fuel price risk, foreign exchange risk and interest rate risk through the use of various financial derivative instruments. Air Canada uses these instruments solely for risk management purposes, not for generating trading profit. As such, any change in cash flows associated with derivative instruments is designed to be offset by changes in cash flows of the relevant risk being hedged.

As noted below, Air Canada uses derivative instruments to provide economic hedges to mitigate various risks. The fair values of these instruments represent the amount of the consideration that could be exchanged in an arm's length transaction between willing parties who are under no compulsion to act. The fair value of these derivatives is determined using prices in active markets, where available. When no such market is available, valuation techniques are applied such as discounted cash flow analysis. The valuation technique incorporates all factors that would be considered in setting a price, including Air Canada's own credit risk, as well as the credit risk of the counterparty.

FUEL PRICE RISK MANAGEMENT

Fuel price risk is the risk that future cash flows will fluctuate because of changes in jet fuel prices. In order to manage its exposure to jet fuel prices and to help mitigate volatility in operating cash flows, Air Canada enters into derivative contracts with financial intermediaries. Air Canada may use derivative contracts based on jet fuel, heating oil and crude oil. Air Canada's policy permits hedging of up to 75% of the projected jet fuel purchases for the next 12 months, 50% for the next 13 to 24 months and 25% for the next 25 to 36 months. These are maximum (but not mandated) limits. There is no minimum monthly hedging requirement. There are regular reviews to adjust the strategy in light of market conditions.

INTEREST RATE RISK MANAGEMENT

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Air Canada enters into both fixed and floating rate debt and leases certain assets where the rental amount fluctuates based on changes in short-term interest rates. Air Canada manages interest rate risk on a portfolio basis and seeks financing terms in individual arrangements that are most advantageous taking into account all relevant factors, including credit margin, term and basis. The risk management objective is to minimize the potential for changes in interest rates to cause adverse changes in cash flows to Air Canada. The cash and short-term investment portfolio, which earns a floating rate of return, is an economic hedge for a portion of the floating rate debt.
The ratio of fixed to floating rate obligations outstanding is designed to maintain flexibility in Air Canada's capital structure and is based upon a long-term objective of 60% fixed and 40% floating but allows the flexibility in the short term to adjust to prevailing market conditions. The ratio at December 31, 2017, was 73% fixed and 27% floating, including the effects of interest rate swap positions (76% and 24%, respectively, as at December 31, 2016).

CRITICAL ACCOUNTING ESTIMATES

Critical accounting estimates are those that are most important to the portrayal of Air Canada's financial condition and results of operations. They require management's most difficult, subjective or complex judgments, often because of the need to make estimates about the effect of matters that are inherently uncertain. Actual results could differ from those estimates under different assumptions or conditions.

Air Canada has identified the following areas that contain critical accounting estimates utilized in the preparation of its consolidated financial statements.

EMPLOYEE FUTURE BENEFITS

Air Canada maintains several defined benefit plans providing pension and other retirement and post-employment benefits to its employees. The cost and related liabilities of these benefit programs are determined using actuarial valuations. The actuarial valuations involve assumptions, including discount rates, future salary increases, mortality rates and future benefit increases. Due to the long-term nature of these programs, such estimates are subject to significant uncertainty.

ASSUMPTIONS

Management is required to make significant estimates about actuarial and financial assumptions to determine the cost and related liabilities of Air Canada's employee future benefits.

Financial Assumptions

Discount Rate
The discount rate used to determine the pension obligation was determined by reference to market interest rates on corporate bonds rated "AA" or better with cash flows that approximate the timing and amount of expected benefit payments. Future increases in compensation are based upon the current compensation policies, labour agreements and economic forecasts.

The significant weighted average assumptions used to determine Air Canada's accrued benefit obligations and costs are as follows:

	PENSION BENEFITS		OTHER EMPLOYEE FUTURE BENEFITS	
	2017	2016	2017	2016
DISCOUNT RATE USED TO DETERMINE:				
Net interest on the net benefit obligation for the year ended December 31	3.9%	4.1%	3.9%	4.1%
Service cost for the year ended December 31	4.1%	4.3%	4.1%	4.3%
Accrued benefit obligation as at December 31	3.6%	3.9%	3.6%	3.9%
RATE OF FUTURE INCREASES IN COMPENSATION USED TO DETERMINE:				
Accrued benefit cost for the year ended December 31	2.5%	2.5%	N/A	N/A
Accrued benefit obligation as at December 31	2.5%	2.5%	N/A	N/A

SENSITIVITY ANALYSIS

Sensitivity analysis is based on changing one assumption while holding all other assumptions constant. In practice, this may be unlikely to occur, and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to variations in significant actuarial assumptions, the same method (present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as that used for calculating the liability recognized in the consolidated statement of financial position.

Sensitivity analysis on 2017 pension expense and net financing expense relating to pension benefit liabilities, based on different actuarial assumptions with respect to discount rate, is set out below. The effects on each pension plan of a change in an assumption are weighted proportionately to the total plan obligation to determine the total impact for each assumption presented.

	0.25 PERCENTAGE POINT	
	DECREASE	INCREASE
DISCOUNT RATE ON OBLIGATION ASSUMPTION		
Pension expense	$ 19	$ (18)
Net financing expense relating to pension benefit liabilities	$ 23	$ (17)
TOTAL	$ 42	$ (35)
INCREASE (DECREASE) IN PENSION OBLIGATION	$ 723	$ (699)

The increase (decrease) in the pension obligation for a 0.25 percentage point change in the discount rate relates to the gross amount of the pension liabilities and is before the impact of any change in plan assets. As at December 31, 2017, approximately 75% of Air Canada's pension liabilities were matched with fixed income products to mitigate a significant portion of the interest rate (discount rate) risk.

An increase of one year life expectancy would increase the pension benefit obligation by $445 million.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A 5.8% annual rate of increase in the per capita cost of covered health care benefits was assumed for 2017 (2016 – 5.8%). The rate is assumed to decrease to 5% by 2020. A one percentage point increase in assumed health care trend rates would have increased the total of current service and interest costs by $5 million and the obligation by $64 million. A one percentage point decrease in assumed health care trend rates would have decreased the total of current service and interest costs by $4 million and the obligation by $65 million. A 0.25 percentage point decrease in discount rate would have increased the total of current and interest costs by less than $1 million and the obligation by $55 million. A 0.25 percentage point increase in discount rate would have decreased the total of current and interest costs by less than $1 million and the obligation by $44 million.

IMPAIRMENT CONSIDERATIONS OF LONG-LIVED ASSETS

Long-lived assets include property and equipment, definite-lived intangible assets, indefinite-lived intangible assets and goodwill. Assets that have an indefinite useful life, including goodwill, are tested annually for impairment or when events or circumstances indicate that the carrying value may not be recoverable. Assets that are subject to depreciation or amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. When required, an impairment test is performed by comparing the carrying amount of the asset or cash generating unit to its recoverable amount. Recoverable amount is calculated as the higher of an asset's or cash-generating unit's fair value less costs to dispose and its value in use.

For the purpose of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units or CGUs). Management has determined that the appropriate level for assessing impairments in accordance with IFRS is at the North American and international fleet levels for aircraft and related assets supporting the operating fleet. Parked aircraft not used in operations and aircraft leased or subleased to third parties are assessed for impairment at the individual asset level. Value in use is calculated based upon a discounted cash flow analysis, which requires management to make a number of significant assumptions including assumptions relating to future operating plans, discount rates and future growth rates. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount.

DEPRECIATION AND AMORTIZATION PERIOD FOR LONG-LIVED ASSETS

Air Canada makes estimates about the expected useful lives of long-lived assets and the expected residual values of the assets based on the estimated current fair value of the assets, Air Canada's fleet plans, and the cash flows they generate. Changes to these estimates, which can be significant, could be caused by a variety of factors, including changes to maintenance programs, changes in jet fuel prices and other operating costs, changes in utilization of the aircraft, and changing market prices for new and used aircraft of the same or similar types. Estimates and assumptions are evaluated at least annually. Generally, these adjustments are accounted for on a prospective basis, through depreciation and amortization expense. For the purposes of sensitivity analysis on these estimates, a 50% reduction to residual values on aircraft with remaining useful lives greater than five years results in an increase of $15 million to annual depreciation expense. For aircraft with shorter remaining useful lives, the residual values are not expected to change significantly.

MAINTENANCE PROVISIONS

The recording of maintenance provisions related to return conditions on aircraft leases requires management to make estimates of the future costs associated with the maintenance events required under the lease return condition and estimates of the expected future maintenance condition of the aircraft at the time of lease expiry. These estimates take into account current costs of these maintenance events, estimates of inflation surrounding these costs as well as assumptions surrounding utilization of the related aircraft. Any difference in the actual maintenance cost incurred and the amount of the provision is recorded in maintenance expense in the period. The effect of any changes in estimates, including changes in discount rates, inflation assumptions, cost estimates or lease expiries, is also recognized in maintenance expense in the period. Assuming the aggregate cost for return conditions increases by 5%, holding all other factors constant, there would be a cumulative balance sheet adjustment to increase the provision by $52 million at December 31, 2017 and an increase to maintenance expense in 2018 of approximately $7 million. For illustrative purposes, if the discount rates were to increase by 1%, holding all other factors constant, there would be a cumulative balance sheet adjustment to decrease the provision by $16 million at December 31, 2017. A 1% decrease in discount rates would result in a similar impact in the opposite direction.

Excerpts from AIMIA AUDITED CONSOLIDATED FINANCIAL STATEMENTS

RISKS AND UNCERTAINTIES AFFECTING THE BUSINESS

The results of operations and financial condition of AIMIA are subject to a number of risks and uncertainties and are affected by a number of factors outside of the control of Management. The following section summarizes certain of the major risks and uncertainties that could materially affect our future business results going forward. The risks described below may not be the only risks faced by AIMIA. Other risks which currently do not exist or which are deemed immaterial may surface and have a material adverse impact on AIMIA's results of operations and financial condition.

RISKS RELATED TO THE BUSINESS AND THE INDUSTRY

Dependency on significant Accumulation Partners and Clients

AIMIA's top four Accumulation Partners were responsible for approximately 68% of Gross Billings for the year ended December 31, 2017. A decrease in sales of Loyalty Units to these partners or to any other significant Accumulation Partner, for any reason, including a decrease in pricing or activity, or a decision to utilize another service provider or to no longer outsource some or all of the services provided, could have a material adverse effect on Gross Billings and revenue. The success of our coalition programs is dependent to a large extent on our relationships with certain key anchor partners. There is no assurance that contracts with AIMIA's principal Accumulation Partners, including anchor partners, will be renewed on similar terms, or at all, when they expire.

The Aeroplan Program derives a significant portion of its Gross Billings from its agreements with TD, CIBC, and Air Canada.

On January 1, 2014, ten-year financial credit card agreements between AIMIA and each of TD and CIBC (the "New Credit Card Agreements") became effective. Under the New Credit Card Agreements, TD became Aeroplan’s primary financial services partner and credit card issuer, while CIBC also continues to be an issuer of the Aeroplan credit cards. In connection with the New Credit Card Agreements, on December 27, 2013, TD acquired approximately half of the Aeroplan card portfolio and CIBC retained the balance, comprised of Aeroplan cardholders with broader banking relationships with CIBC. The terms of the New Credit Card Agreements are materially different from the previous agreement with CIBC (the "Old CIBC Agreement") which expired on December 31, 2013, pursuant to which CIBC administered various Visa and other products through which Aeroplan members could accumulate Aeroplan Miles from the credit cards and other spending. There can be no assurance that the New Credit Card Agreements will provide, over the course of the term of the New Credit Card Agreements, a financial contribution to AIMIA similar to the historical contribution of the Old CIBC Agreement and, in particular, similar to the contribution from the first year of the term during which there was substantial bonusing activity as well as card acquisition incentives. In the event the New Credit Card Agreements provide, over the course of the term of the New Credit Card Agreements, a lesser financial contribution to AIMIA as compared to the historical contribution of the Old CIBC Agreement or as compared to the first year of the term, there would be an adverse effect on our Gross Billings, revenue, redemption costs and profitability. The New Credit Card Agreement with CIBC also includes an option for either party to terminate the agreement after its third year if certain conditions related to the migration of Aeroplan credit cards in CIBC's retained portfolio to other CIBC credit cards are met. In the event the termination option is exercised under the New Credit Card Agreement with CIBC, there can be no assurance that CIBC Aeroplan cardholders would migrate to TD or what level of cardholder migration, if any, may occur at that time. Consequently, the exercise of such termination option could have an adverse effect on AIMIA's Gross Billings and revenues.

The Commercial Participation and Services Agreement (CPSA) between Aeroplan and Air Canada expires on June 29, 2020, subject to four automatic renewals of five years each, unless either party provides written notice to the other of its intention not to renew at least 12 months prior to the expiry of the initial term or the then current renewal term. See "Supply and Capacity Costs" below. Subject to the minimum number of Aeroplan Miles to be purchased by Air Canada under the CPSA, Air Canada can change the number of Aeroplan Miles awarded per flight without Aeroplan's consent, which could lead to a significant reduction in Gross Billings.

On May 11, 2017, Air Canada gave formal notice of non-renewal of its CPSA with AIMIA.

The Nectar Program derives a significant portion of its Gross Billings from its founding coalition partner, Sainsbury's. The commercial agreements governing the participation of Sainsbury's as an Accumulation Partner and Redemption Partner in the Nectar Program expire in 2019, unless renewed by the parties. On October 13, 2014, AIMIA announced that Nectar members will earn one point for every £1 (British pound) spent in stores or online with Sainbury's starting in April of 2015, compared with the existing two points per £1, with greater emphasis being placed on bonus offers and increased personalized points offers. While these changes are intended to drive increased engagement and activity with more frequent and targeted bonusing, there can be no assurance that the new accumulation program will be successful in doing so and instead may lead to decreases in member engagement with the Nectar Program generally. Any material decrease in member engagement with the Nectar Program could have an adverse effect on AIMIA's Gross Billings and revenues.

AIMIA's proprietary loyalty services clients are generally able to reduce marketing spending or cancel projects on short notice at their discretion. It is possible that such clients could reduce spending in comparison with historical patterns, or they could reduce future spending. A significant reduction in marketing spending by AIMIA's largest proprietary loyalty services clients, or the loss of several large clients, if not replaced by new accounts or an increase in business from other clients, could adversely affect our proprietary loyalty service revenues and impact AIMIA's results of operations and financial condition.

Failure to Safeguard Databases, Cyber Security and Consumer Privacy

As part of our coalition and proprietary loyalty programs and in connection with the activities of AIMIA's proprietary loyalty and loyalty analytics businesses, member databases are maintained for our programs and those of our clients. These databases contain member information including account transactions. Although we and third parties providing services to us have established rigorous physical and cyber security procedures, the databases may be vulnerable to potential unauthorized access to, or use or disclosure of member data. If we or our service providers were to experience a security breach, our reputation could be negatively affected and an increased number of members in our loyalty programs could opt out from receiving marketing materials or resist providing their personal data. The use of loyalty marketing services by partners and clients could decline in the event any compromise of security occurred. Any public perception that we released consumer information without authorization could subject our businesses to complaints and investigation by the applicable privacy regulatory bodies and adversely affect relationships with members, clients and partners. In addition, any unauthorized release of member information, or any public perception that member information was released without authorization, could lead to complaints from consumers and by the applicable privacy regulatory bodies and adversely affect relationships with members and Commercial Partners and expose us to litigation (including class action litigation) and other enforcement proceedings, material fines, remediation costs and other compensatory damages, any of which could adversely affect our results of operations and financial condition.

Changes to the Aeroplan Program

AIMIA implemented significant changes to the Aeroplan Program on January 1, 2014, including: new Market Fare Flight Rewards which replaced ClassicPlus Flight Rewards, offering members significantly improved value; the launch of Distinction, a new tiered recognition program that rewards top accumulating members with preferential mileage levels for redemption; and the cancellation of the seven-year mileage redemption policy, with miles no longer expiring for members active in the program each year. The ongoing implementation of the enhanced Aeroplan Program on a financially successful basis is partially dependent on expectations of increased engagement by current Aeroplan members and the attraction of new members to the Aeroplan Program. There can be no assurance that the changes to the Aeroplan Program will result in the increased member engagement or the attraction of new Aeroplan members at the levels expected by AIMIA, which may have an adverse effect on AIMIA's Gross Billings and revenue. In addition, there can be no assurance that the actual level of redemption activity and anticipated costs of rewards will be achieved at the levels expected by AIMIA. Higher than expected redemption activity or costs may have an adverse impact on AIMIA's profitability.

Reliance on Redemption Partners

We rely on third party Redemption Partners to provide air travel and other rewards to members upon redemption of Loyalty Units. Our profitability could be adversely impacted if they fail to fulfill their obligations. The failure of our Redemption Partners to deliver products and services in sufficient quantities and in a timely manner could adversely affect our business. If we were unable to renew our existing contracts with our significant Redemption Partners, we might not be able to replace the related product or service at the same cost, which would negatively impact our profitability.

Conflicts of Interest

AIMIA's businesses provide services to a number of clients who are competitors in various industries. Our ability to retain existing, and attract new, Accumulation Partners and clients may be limited by perceptions of conflicts of interest arising out of other relationships. If we are unable to adequately manage multiple client relationships and avoid potential conflicts of interests, there could be an impact on our results of operations and financial condition.

Greater Than Expected Redemptions for Rewards

A significant portion of our profitability is based on estimates of the number of Loyalty Units that will never be redeemed by the member base. The percentage of Loyalty Units that are not expected to be redeemed is known as "Breakage" in the loyalty industry. Breakage is estimated by Management based on the terms and conditions of membership and historical accumulation and redemption patterns, as adjusted for changes to any terms and conditions that may affect members' future redemption practices.

Management, assisted by an independent expert, developed an econometric model that takes into account historical activity, and expected member behavior, projected on a going concern basis. This tool is used by AIMIA to estimate and monitor the appropriate Breakage estimates of several programs it operates on a regular basis. The consolidated weighted average Breakage estimate at December 31, 2017 is 13% (December 31, 2016: 13%). The consolidated weighted average Breakage estimate is calculated based on the total Loyalty Units outstanding under the Corporation's loyalty programs. This Breakage estimate is based on the results of the application of the model in 2017. The amount of revenue recognized related to Breakage is based on the number of Loyalty Units redeemed in a period in relation to the total number expected to be redeemed, which factors in the Corporation's estimate for Breakage. Breakage for the Aeroplan and Nectar Programs may decrease as such programs grow and a greater diversity of rewards becomes available. If actual redemptions are greater than current estimates, profitability could be adversely affected due to the cost of the excess redemptions. Furthermore, the actual mix of redemptions between air and non-air rewards could adversely affect profitability. Management believes that the estimates, methodologies, judgments and assumptions made in the preparation of the Corporation's financial statements, including those relating to the treatment of Breakage, are reasonable based upon the information available and reliance on subject matter experts. However, there can be no assurance that applicable tax or other regulatory authorities will agree with such estimates, judgments and assumptions.

Regulatory Matters

AIMIA's businesses are subject to several types of regulation, including legislation relating to privacy, telemarketing, consumer protection, competition, advertising and sales, and lotteries, gaming and publicity contests. In addition, an increasing number of laws and regulations pertain to the Internet, including liability for information retrieved from or transmitted over the Internet and online content regulation. Moreover, the applicability to the Internet of existing laws governing personal privacy, intellectual property ownership and infringement and other issues continues to be uncertain and is developing. There is also the possibility that additional laws and regulations will be adopted to specifically regulate the loyalty industry, or portions thereof. AIMIA closely monitors and regularly participates in dialogues with the appropriate governmental departments to ensure that we are constantly apprised of the current status of global regulatory matters that could have a material impact on AIMIA's business in the short or long term, including the following:

A. Privacy

In Canada, AIMIA is subject to laws and regulations relating to consumer privacy and/or marketing, including: (i) the Privacy Act, (ii) the Personal Information Protection and Electronic Documents Act which sets out rules for how private sector organizations may collect, use or disclose personal information in the course of commercial activities; (iii) the Safeguarding Canadians' Personal Information Act, which includes provisions regarding individuals' consent to the collection, use or disclosure of their personal information; and (iv) Canada's anti-spam legislation, which prohibits the sending of a commercial electronic message to a recipient without prior consent, and prescribes form and content requirements. Failure to comply with the provisions of applicable consumer privacy and/or marketing laws and regulations may result in monetary penalties that could have an impact on AIMIA's results of operation and financial condition.

The enactment of new, or amendments to existing, legislation or industry regulations relating to consumer privacy issues and marketing, in Canada or in any of the markets where AIMIA conducts business, may materially impact our relationships with members and our Commercial Partners. Any such legislation or industry regulations could also place restrictions upon the collection and use of information and could adversely affect our ability to deliver loyalty marketing services.

B. Payments in Canada

The voluntary Code of Conduct for the Credit and Debit Industry in Canada was introduced by the Federal Minister of Finance in 2010 in response to calls for greater transparency in respect of the fees associated with accepting electronic payments at the point of sale, specifically the costs incurred by merchants when accepting "premium" card products vs. "standard" card products. On February 11, 2014, as part of the 2014/2015 federal budget, the then Minister of Finance announced that the Government would continue to work with stakeholders to promote fair and transparent practices and to help lower credit card acceptance costs, while encouraging merchants to lower prices to consumers. In order to attain these objectives, the Government stated that it intended to strengthen the voluntary Code of Conduct for the credit and debit card industry, in consultation with stakeholders.

AIMIA actively participated in numerous stakeholder discussions and meetings, including with the then-Minister and his staff. Consistent with past consultations, AIMIA provided information and the company's views, to ensure that the impacts on AIMIA that could arise due to changes in the Canadian payments eco-system were thoroughly understood and considered by the Canadian Government.

On November 4, 2014, Visa and MasterCard submitted separate and individual voluntary undertakings to reduce their credit card fees to an average effective rate of 1.50% for the next five years. As stated by the Canadian Minister of Finance, the two commitments represent a reduction in credit card fees of approximately 10%. AIMIA worked with TD and CIBC to develop a satisfactory outcome for the parties.

The Code was enhanced in April, 2015, including requirements for increased transparency and disclosure from credit card issuers to merchants.

Any further changes to the current payments system, including further changes to the system for setting interchange rates of credit cards, could affect revenue for credit card companies and, as a result, could have an adverse effect on our Gross Billings.

Retail Market/Economic Conditions

The markets for the services that AIMIA's businesses offer may contract or continue to contract, and this could negatively impact growth and profitability. Loyalty and database marketing strategies are relatively new to retailers, and there can be no guarantee that merchants will continue to use these types of marketing strategies. In addition, Gross Billings and marketing revenues are dependent on levels of consumer spend with Accumulation Partners and clients, and any slowdown or reduction in consumer activity may have an impact on our business.

Industry Competition

Competition in the loyalty marketing industry is intense. New and existing competitors may target Accumulation Partners, clients and members, as well as draw rewards from Redemption Partners. The continued attractiveness of AIMIA's businesses will depend in large part on their ability to remain affiliated with existing Commercial Partners and clients, to add new partners that are desirable to consumers, and to offer rewards that are both attainable and attractive to consumers. Many of our current competitors may have greater financial, technical, marketing and other resources. We cannot ensure that we will be able to compete successfully against current and potential competitors, including in connection with technological advancements by such competitors.

Air Canada Liquidity Issues or Air Travel Industry Disruptions

Aeroplan members' strong demand for air travel creates a significant dependency on Air Canada in particular and the airline industry in general.

In the past, Air Canada has sustained significant losses and may sustain significant losses in the future. In its public filings, Air Canada has indicated that it is faced with a variety of risks, including risks related to leverage, the need for additional capital and liquidity, foreign exchange rates, economic and geopolitical conditions, volatility in fuel costs and other expenses, competition, labor issues, pension plan funding, low gross profit margins and high fixed costs, as well as risks relating to restrictive terms under its financing agreements.

Air Canada has, and is expected to continue to have and incur, a significant amount of indebtedness, and as a result of any challenging economic or other conditions affecting Air Canada, Air Canada may incur greater levels of indebtedness. The amount of indebtedness that Air Canada has and which it may incur in the future could have a material adverse effect on Air Canada. There can be no assurance that Air Canada will at all times be able to generate sufficient cash from its operations to pay its debts and lease obligations or to obtain, on a timely basis, sufficient funds to provide adequate liquidity if cash flows from operations and cash on hand are insufficient. If Air Canada is unable to meet its financial liabilities and other contractual obligations as they become due, or to conclude arrangements to secure additional liquidity should it be unable to do so, it may be required to commence proceedings under applicable creditor protection legislation.

The bankruptcy or insolvency of Air Canada could lead to a termination or renegotiation of the CPSA. Upon such a renegotiation, AIMIA may be required to pay more for seat capacity from Air Canada than the currently negotiated rates under the CPSA. If the CPSA is terminated, AIMIA would have to purchase seat capacity from other airlines. Seat capacity from other airlines could be more expensive than comparable seat capacity under the CPSA, and the routes offered by the other airlines may be inconvenient or undesirable to the redeeming members. As a result, AIMIA would experience higher air travel redemption costs, while at the same time member satisfaction with the Aeroplan Program could be adversely affected by requiring travel on other carriers.

The bankruptcy or insolvency of Air Canada could also lead certain Accumulation Partners to attempt to renegotiate certain terms of their commercial relationships with Aeroplan. Depending on the results of any such negotiation, AIMIA's gross proceeds from the sale of Aeroplan Miles could be negatively affected.

Any disruptions or other material adverse changes in the airline industry, whether domestic or international, affecting Air Canada or a Star Alliance member airline, could have a material adverse impact on the business. This could manifest itself in Aeroplan's inability to fulfill members' flight redemption requests or to provide sufficient accumulation opportunities. Airline or travel services industry disruption or delays may result from terrorist attacks or terrorist activity, accidents or disasters involving an aircraft, political instability, acts or war, epidemic diseases, environmental conditions, such as volcanic eruptions or other natural phenomena, or from increasingly restrictive security measures. As a result of such disruptions, too much uncertainty in the minds of the traveling public could have a material adverse effect on passenger demand for air travel and on the number of passengers traveling on Air Canada's flights. Consequently, members might forego redeeming miles for air travel and therefore might not participate in the Aeroplan Program to the extent they previously did, which could adversely affect revenue from the Aeroplan Program. A reduction in member use of the Aeroplan Program could impact Aeroplan's ability to retain its current Commercial Partners and members and to attract new Commercial Partners and members.

Airline Industry Changes and Increased Airline Costs

Air travel rewards remain the most desirable reward for consumers under the Aeroplan Program. An increase in low cost carriers and the airline industry trend which has major airlines offering low cost fares may negatively impact the incentive for consumers of air travel services to book flights with Air Canada or participate in the Aeroplan Program. Similarly, any change which would see the benefits of Star Alliance reduced either through Air Canada's, or, to a lesser extent, another airline's withdrawal from Star Alliance, or the dissolution of Star Alliance, could also have a negative impact since Aeroplan's members would lose access to the existing portfolio of international reward travel. In addition, the growth or emergence of other airline alliance groups could have a negative impact on Aeroplan by reducing traffic on Air Canada and Star Alliance member airlines.

The airline industry has been subject to increasing costs over the last several years, including increases in the cost of fuel, insurance, airport user fees and air navigation fees. In addition, new and proposed legislation has been considered or adopted concerning carbon emissions emanating from the airline industry, including the setting of emissions allowances and charging aircraft operators for a certain percentage of these allowances. These increased costs may be passed on to consumers, increasing the cost of redeeming Aeroplan Miles for air travel rewards. This may negatively impact consumer incentive to participate in the Aeroplan Program.

Supply and Capacity Costs

Costs may increase as a result of supply arrangements with Air Canada and other suppliers for our coalition loyalty programs. Aeroplan may not be able to satisfy its members if the seating capacity made available to Aeroplan by Air Canada and Star Alliance member airlines or other non-air rewards from other suppliers are inadequate to meet their redemption demands at specific prices.

If, upon the expiry of the CPSA, Aeroplan is unable to negotiate a replacement agreement with Air Canada on similarly favorable terms, or if Air Canada sharply reduces its seat capacity, Aeroplan may be required to pay more for seat capacity from Air Canada than the currently negotiated rates under the CPSA or to purchase seat capacity from other airlines. Seat capacity from other airlines could be more expensive than comparable seat capacity under the CPSA, and the routes offered by the other airlines may be inconvenient or undesirable to the redeeming members. As a result, Aeroplan would experience higher air travel redemption costs, while at the same time member satisfaction with the Aeroplan Program may be adversely affected by requiring travel on other carriers on certain routes.

Unfunded Future Redemption Costs

In the coalition loyalty program model, Gross Billings are derived from the sale of Loyalty Units to Accumulation Partners. The earnings process is not complete at the time a Loyalty Unit is sold as most of the costs are incurred upon the redemption thereof. Based on historical data, the estimated period between the issuance of a Loyalty Unit and its redemption is currently approximately 30 months for the Aeroplan Program and 15 months for the Nectar Program; however, Aeroplan and Nectar have no control over the timing of the redemption or the number of units redeemed. Aeroplan and Nectar currently use proceeds from Gross Billings (which are deferred for accounting purposes) in the fiscal year in which the unit was issued to pay for the redemption costs incurred in the year. As a result, if Aeroplan or Nectar were to cease to carry on business, or if redemption costs incurred in a given year were in excess of the revenues received in the year of the issuance of the Loyalty Units, the company would face unfunded Future Redemption Costs, which could increase the need for working capital and, consequently, affect the payment of dividends to Shareholders.

Changes to Coalition Loyalty Programs

From time to time we may make changes to our coalition loyalty programs that may not be well received by certain segments of the membership and may affect their level of engagement. These members may choose to seek such legal and other recourses available to them, which if successful, could have a negative impact on results of operations and reputation.

Seasonal Nature of the Business, Other Factors and Prior Performance

Aeroplan has historically experienced lower Gross Billings from the sale of Aeroplan Miles in the first and second quarters of the calendar year and higher Gross Billings from the sale of Aeroplan Miles in the third and fourth quarters of the calendar year. In addition, Aeroplan has historically experienced greater redemptions and, therefore, costs for rewards, in the first and second quarters of the calendar year and lower redemptions and related costs for rewards in the third and fourth quarters of the calendar year. This pattern results in significantly higher operating cash flow and margins in the third and fourth quarters for each calendar year compared to the first and second quarters. This pattern may vary in future years as the degree of seasonality evolves over time.

Nectar's Gross Billings from the Nectar Program are also seasonal, with fourth quarter gross billings typically higher than the preceding quarters, as a result of the impact of Christmas shopping. Gross Billings for the other three quarters are broadly similar. Redemption activity in the Nectar Program is more seasonal than Gross Billings. More than 40% of all redemptions for the Nectar Program in the last three years have taken place during the fourth quarter, as a result of members redeeming for gifts and other rewards prior to Christmas. Consequently, operating results for any one quarter may not be indicative of operating results for an entire year.

Demand for travel rewards is also affected by factors such as economic conditions, war or the threat of war, fare levels, and weather conditions. Due to these and other factors, operating results for an interim period are not necessarily indicative of operating results for an entire year, and operating results for a historical period are not necessarily indicative of operating results for a future period.

The proprietary loyalty business also fluctuates seasonally, with award redemptions typically higher around the Christmas shopping season, and business loyalty events typically occurring during the spring and fall.

Foreign Operations

A significant portion of AIMIA's Gross Billings is generated outside Canada. We expect Gross Billings from outside Canada to continue to represent a significant portion of AIMIA's consolidated Gross Billings in the foreseeable future. As a result, we are subject to the risks of doing business internationally, including changes in foreign laws and regulations and general changes in economic and geopolitical conditions.

Legal Proceedings

From time to time, AIMIA becomes involved in various claims and litigation as a result of carrying on its business. Please see “Provisions, Contingent Liabilities and Guarantees”. Our businesses are susceptible to various claims and litigation, including class action claims, arising in the course of operating our business or with respect to the interpretation of existing agreements. Any future claims or litigation could also have a material adverse effect on our business and results from operations.

Reliance on Key Personnel

AIMIA's success depends on the abilities, experience, industry knowledge and personal efforts of senior Management and other key employees, including the ability to retain and attract skilled employees. The loss of the services of such key personnel could have a material adverse effect on our business, financial condition or future prospects. AIMIA's growth plans may also put additional strain and demand on senior Management and key employees and produce risks in both productivity and retention levels. In addition, we may not be able to attract and retain additional qualified Management as needed in the future.

Labour Relations

Aeroplan's contact center employees are unionized. The collective agreement for these employees expired on November 14, 2018. AIMIA and the contact center employees’ union are currently in negotiations for a renewal of the collective agreement. No strikes or lock-outs may lawfully occur during the term of the collective agreement, nor during the negotiations of its renewal until a number of pre-conditions have been satisfied. There can be no assurance that the collective agreement will be renewed without labour conflict or action or that there will not be a labour conflict that could lead to a dispute. Any interruption or stoppage in Aeroplan's contact center service could have an adverse effect on our business, operations, and financial condition.

Pension Liability

The funding requirements of the defined benefit pension plan, resulting from valuations of its assets and liabilities, depends on a number of factors, including actual returns on pension plan assets, long-term interest rates, plan demographics, and pension regulations. Changes in these factors could cause actual future contributions to differ significantly from our current estimates and could require us to make contributions in the future and, therefore, could have a negative effect on our liquidity and results of operations.

Technological Disruptions and Inability to use Third-Party Software and Outsourcing

AIMIA's ability to protect the data and contact centres of our coalition loyalty programs, and those of our clients that are within our control, against damage from fire, power loss, telecommunications failure, and other disasters is critical. In order to provide many of our services, we must be able to store, retrieve, process and manage large databases and periodically expand and upgrade our technological capabilities. While we continue to invest in technology security initiatives and disaster recovery plans, these measures may not be adequate or may not be implemented properly. Any damage to data and contact centres, any failure of telecommunication links that interrupts operations, or any impairment of the ability to use licensed software could adversely affect our ability to meet our Commercial Partners', clients' and members' needs and undermine their confidence in utilizing our services or programs. In addition, proper implementation and operation of technology initiatives is fundamental to the ability to operate a profitable business. We continuously invest in new technology initiatives to remain competitive, and our continued ability to invest sufficient amounts to enhance technology will affect our ability to operate successfully.

In order to achieve cost and operational efficiencies and to have access to leading processes and solutions, specialized expertise, and innovation, we outsource to third-party vendors many of the computer systems and other services that are integral to the operations of our global businesses. A failure to adequately manage our third-party service providers or to monitor our third party service providers' compliance with regulatory or legal requirements could result in economic and reputational harm to us. There is also a risk that the confidentiality, privacy, or security of data held by third parties or communicated over third party networks or platforms could become compromised, which could significantly harm our business even if the attack or breach does not impact our systems. In addition, the management of multiple third-party vendors increases our operational complexity and decreases our control.

Failure to Protect Intellectual Property Rights

Third parties may infringe on or misappropriate our trademarks or other intellectual property rights or may challenge their validity, which could have a material adverse effect on our business, financial condition or operating results. The actions that are taken to protect trademarks and other proprietary rights may not be adequate. Litigation may be necessary to protect intellectual property rights and trade secrets or to determine the validity and scope of the proprietary rights of others. AIMIA cannot ensure that the company will be able to prevent infringement of intellectual property rights or misappropriation of proprietary information. Any infringement or misappropriation could harm any competitive advantage that we currently derive or may derive from proprietary rights. Third parties may assert infringement claims against our businesses. Any such claims and any resulting litigation could result in significant liability for damages. An adverse determination in any litigation of this type could require us to design around a third party's patent or to license alternative technology from another party. In addition, litigation may be time-consuming and expensive and could result in the diversion of time and resources. Any claims from third parties may also result in limitations on the ability to use the intellectual property subject to these claims.

RISKS RELATED TO AIMIA

Interest Rate and Currency Fluctuations

AIMIA may be exposed to fluctuations in interest rates under its borrowings. Increases in interest rates may have an adverse effect on earnings.

AIMIA's results are sensitive to fluctuations in the Canada/U.S. dollar exchange rate and to the exchange rate from pound sterling (GBP) to Canadian dollars. Aeroplan incurs expenses in U.S. dollars for such items as air travel, car rental and hotel rewards issued to redeeming Aeroplan members, while a substantial portion of its revenues are generated in Canadian dollars. A significant deterioration of the Canadian dollar relative to the U.S. dollar would increase AIMIA's costs. Substantially all of AIMIA EMEA Limited's revenues and expenses are denominated in pounds sterling (GBP), rendering its results and their impact on AIMIA's consolidated statements sensitive to fluctuations in the Canadian dollar exchange rate. AIMIA US and APAC's activities are located in the United States and the Asia Pacific region. Financial results are sensitive to the changing value of the Canadian dollar and foreign operations are sensitive to the fluctuations of other currencies, including the United States dollar, British pound sterling and the Australian dollar.

Leverage and Restrictive Covenants in Current and Future Indebtedness

The ability of AIMIA to pay dividends, make distributions or make other payments or advances is subject to applicable laws and contractual restrictions contained in the instruments governing any indebtedness (including the credit facilities). The degree to which AIMIA is leveraged has important consequences to Shareholders. For example, : (i) AIMIA's ability to obtain additional financing for working capital, capital expenditures or acquisitions in the future may be limited; (ii) a significant portion of cash flow from operations may be dedicated to the payment of the principal and interest on its indebtedness, thereby reducing funds available for future operations; (iii) certain borrowings will be at variable rates of interest, which exposes AIMIA to the risk of higher interest rates; and (iv) AIMIA may be more vulnerable to economic downturns and be limited in its ability to withstand competitive pressures.

In addition, the credit facilities contain a number of financial and other restrictive covenants that require AIMIA to meet certain financial ratios and financial condition tests and limit the ability to enter into certain transactions. A failure to comply with the obligations in the credit facilities could result in a default which, if not cured or waived, could permit acceleration of the relevant indebtedness. If the indebtedness under the credit facilities, including any possible hedge contracts with the lenders, were to be accelerated, there can be no assurance that the assets of AIMIA would be sufficient to repay in full that indebtedness.

AIMIA may need to refinance its available credit facilities or other debt, and there can be no assurance that it will be able to do so or be able to do so on terms as favorable as those presently in place. If AIMIA is unable to refinance these credit facilities or other debt, or is only able to refinance these credit facilities or other debt on less favorable or more restrictive terms, it may have a material adverse effect on AIMIA's financial position, which may result in a reduction or suspension of payments of dividends to Shareholders

Uncertainty of Dividend Payments

Payments of dividends are dependent upon operating cash flows generated by Subsidiaries of AIMIA, the financial requirements of AIMIA, and the satisfaction of solvency tests on the payment of dividends pursuant to the Canada Business Corporations Act.

Managing Growth

We regularly review potential acquisitions of businesses we believe may be complementary to ours. As part of any acquisition we conduct customary due diligence with the goal of identifying and evaluating material risks. Notwithstanding our review, we may be unsuccessful in identifying all such risks or realizing the intended synergies of any given acquisition and our results of operations and financial condition could be adversely impacted. In addition, our inability to effectively manage growth could have a material adverse impact on our business, operations and prospects.

Credit Ratings

AIMIA has been assigned issuer credit ratings of BBB with a stable trend by DBRS and BBB- by S&P. The Notes have also been assigned credit ratings of BBB with a stable trend by DBRS and BBB- by S&P. There can be no assurance that the credit ratings assigned to AIMIA and the Notes will remain in effect for any given period of time or that the ratings will not be withdrawn or revised by either or both of the rating agencies at any time. The interest rates payable pursuant to AIMIA's credit facilities and the Notes will be subject to adjustment from time to time if either of DBRS or S&P downgrade (or upgrade) the ratings. Additionally, AIMIA's access to capital markets could be adversely affected by changes to the debt credit ratings assigned by independent rating agencies such as DBRS and S&P.

Audits by Tax Authorities

In the ordinary course of business, the Corporation is subject to ongoing audits by tax authorities. While AIMIA believes that its tax filing positions are appropriate and supportable, from time to time certain matters are reviewed and challenged by the tax authorities. We regularly review the potential for adverse outcomes in respect of tax matters and believe that any ultimate disposition of a reassessment will not have a material adverse impact on our liquidity, consolidated financial position or results of operations due to adequate provisioning for these tax matters. Should an outcome materially differ from existing provisions, the Corporation’s effective tax rate, its earnings, and its liquidity and working capital position could be affected positively or negatively in the period in which such matters are resolved.

2A Blue Jay Air Exhibits

EXHIBIT 1

Email thread discussing the Travel Insurance program issues

From: Jim Peters
Sent: August 28th, 2018 9:00pm
To: Geoff Olive
cc: John Feather, Edward Blue
Subject: Travel Insurance Risk Review

Hi Geoff,
Has your team reviewed the pricing on the travel insurance proposal? I'm not comfortable that the tail risk is being picked up here. Isn't it possible that a tail event like a plane crash can affect multiple travel insurance policies?

Thanks,
Jim Peters
Head of Risk Management Committee, Blue Jay Air
==

From: Geoff Olive
Sent: August 29th, 2018 8:45am
To: Jim Peters
cc: John Feather, Edward Blue
Subject: RE: Travel Insurance Risk Review

Hi Jim,
I'm worried the tail risk is actually too high for us to retain. As we all know, RPPC wants to limit its exposure to tail event risks. We should sit down and discuss some risk transfer options.

Thanks,
Geoff Olive
CRO, Blue Ocean Inc.
==

From: Jim Peters
Sent: August 29th, 2018 10:30am
To: Geoff Olive
cc: John Feather, Edward Blue
Subject: RE: RE: Travel Insurance Risk Review

I think that's worth exploring. I also have a few suggestions on the economic capital model you've been using for pricing. We'll need to ensure that tail dependence is properly modeled. I'll send you some of our work on this.

Jim

==

Exhibit 2

Blue Jay Air Corporation
NON-CONSOLIDATED STATEMENTS OF OPERATIONS
(US Dollars in millions)

Fiscal Year Ended	**Dec 31, 2018**	**Dec 31, 2017**	**Dec 31, 2016**
Operating revenues:			
Passenger	1,544	1,235	1,074
Other	291	242	207
Total revenues	**1,835**	**1,477**	**1,281**
Operating expenses:			
Aircraft fuel	574	462	401
Wages, salaries and benefits	359	289	251
Capacity purchase agreements	172	138	120
Airport and navigation fees	158	127	110
Depreciation, amortization & impairment	96	77	67
Aircraft maintenance	110	89	77
Sales & Distribution costs	73	59	51
Aircraft rent	49	39	34
Food, beverages and supplies	42	33	29
Communications and Information technology	33	27	23
Other	19	15	13
Total operating expenses	**1,684**	**1,356**	**1,176**
Net Operating income	**150**	**121**	**105**
Non-operating income (expenses)			
Foreign exchange gain(loss)	15	10	(29)
Interest income	5	5	5
Interest expense	(44)	(36)	(31)
Interest capitalized	2	1	(5)
Net financing expense relating to employee benefits	(2)	(2)	(15)
Loss on financial instruments recorded at fair value	(3)	(7)	(33)
Other	(1)	(2)	(19)
Total non-operating expense	**(28)**	**(31)**	**(127)**
Income (loss) before income taxes	**122**	**90**	**(22)**
Income taxes	(43)	(32)	8
Net income (loss)	**79**	**59**	**(14)**

EXHIBIT 3

Blue Jay Air Corporation

NON-CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(US Dollars in millions)

Fiscal Year Ended	**Dec 31, 2018**	**Dec 31, 2017**	**Dec 31, 2016**
ASSETS			
Current:			
Cash and Cash equivalents	150	140	136
Short-term investments	210	182	83
Total cash & Short-term investments	360	322	219
Restricted cash	15	15	15
Accounts receivable	200	160	127
Aircraft fuel inventory	91	63	48
Spare parts and supplies inventory	120	80	33
Prepaid expenses & other current assets	150	100	70
Total current assets	**576**	**418**	**293**
Property and equipment	545	509	474
Intangible assets	21	21	21
Goodwill	31	31	31
Deposit and other assets	9	7	1
Total assets	**1,542**	**1,308**	**1,039**
LIABILITIES			
Current:			
Account payable & accrued liabilities	150	107	70
Advance ticket sales	310	250	181
Current portion of long-term debt & finance leases	110	80	61
Total current liabilities	**570**	**437**	**312**
Long-term debt and finance leases	470	450	320
Pension & other benefit liabilities	545	556	580
Maintenance provisions	60	55	60
Other long-term liabilities	50	48	43
Total liabilities	**1,695**	**1,546**	**1,315**
EQUITY			
Shareholders' equity			
Share capital	90	90	90
Contributed surplus	30	25	45
Deficit	(273)	(352)	(411)
Total shareholders' equity	**(153)**	**(238)**	**(276)**
Total liabilities & equity	**1,542**	**1,308**	**1,039**

EXHIBIT 4

Blue Jay Air Corporation

NON-CONSOLIDATED STATEMENT OF CASH FLOW

(US Dollars in millions)

Fiscal Year Ended	**Dec 31, 2018**	**Dec 31, 2017**	**Dec 31, 2016**
Cash Flows from (used for)			
Operating:			
Net income (loss)	**79**	**59**	**(14)**
Adjustments to reconcile to net cash from operations:			
Adjust for non-cash items:			
Depreciation, amortization & impairment	96	77	67
Fuel & other derivatives	(20)	(11)	14
Adjust for Changes in non-cash working capital items:			
Change in inventories	(68)	(62)	(32)
Change in account receivable	(40)	(33)	(59)
Change in Account Payable	43	37	(37)
Change in advance ticket sales	60	69	57
Change in pension & other benefit liabilities	(11)	(24)	24
Change in maintenance provisions	5	(5)	5
Other	(50)	(30)	(20)
Net cash flow from operating activities	**95**	**77**	**5**
Financing			
Proceeds from borrowings	150	100	125
Reduction of long-term debt obligations	(63)	64	(104)
Reduction of finance lease obligations & Distributions related to aircraft special purpose leasing entities	(35)	(10)	(74)
Contributed Surplus	6	(20)	35
Net cash flows used in financing activities	**58**	**134**	**(18)**
Investing			
Short-term investments	(28)	(99)	(8)
Additions to property, equipment & intangible assets	(136)	(114)	(36)
Proceeds from sale of assets	4	2	4
Foreign exchange gain(loss)	(4)	(3)	7
Other	2	(1)	0
Net cash flows used in investing activities	**(162)**	**(214)**	**(33)**
Decrease in cash & cash equivalents	**(10)**	**(4)**	**(46)**
Cash & cash equivalents, beginning of year	155	151	105
Cash & cash equivalents, end of year	165	155	151

EXHIBIT 5
Headline News Excerpts on Competitors

Southwest Airlines

Key Revenue Measure Is Flat for Southwest Airlines
DALLAS -- Southwest Airlines Co. said Friday that a key revenue measure was flat in March, another sign that airlines are struggling to sell more high-fare tickets.

Southwest said that traffic rose 4 percent last month compared with a year earlier, as passengers flew 9.44 billion miles.

Despite the increase in traffic, Southwest said that passenger revenue for each seat flying one mile was unchanged from March 2018. That statistic is a closely watched indicator of pricing power in the airline business.

Airlines are leaving fewer empty seats on their planes -- occupancy is at levels not seen since 1945 -- but they appear to be selling fewer seats at the highest fares and are discounting more tickets.

Earlier this week, Delta Air Lines, Inc. and American Airlines, Inc. reported weaker-than-expected figures for the same revenue-per-mile statistic and said that last-minute bookings were disappointing. That's important because passengers usually must pay more for last-minute tickets.

Delta and American blamed the weakness in late bookings on automatic federal spending cuts, which presumably would result in less travel by government employees.

Dallas-based Southwest, the nation's fourth-largest airline, raised passenger-carrying capacity in March by 3.8 percent. Airlines can increase capacity by adding flights or making longer trips. With traffic rising slightly faster than capacity, planes were a bit fuller. Southwest said average occupancy was 82 percent, up from 81.8 percent in March 2012.

In late morning trading, shares of Southwest fell 16 cents, or 1.3 percent, to $57.57 -- about double the rate of decline in the Standard & Poor's 500 index.

Virgin America

Virgin America: More Elite Fliers Wanted
In a bid to attract coveted elite frequent fliers from other airlines, Virgin America on Tuesday extended its status match program.

Virgin America first introduced the program last November. Certain American and **United** road warriors holding elite status were matched to Virgin's Silver or Gold Elevate status. (*Read more*: **Virgin America Woos Elite American, United Fliers**)

The program was scheduled to end April 30. But Virgin has extended it until June 30 and is inviting **Southwest Airlines** elites to participate.

Travelers who fly at least 25,000 miles annually on American or United will be matched to Virgin America Elevate Silver status. Those who fly 75,000 miles or more on United—or 100,000 miles or more on American—will be given Elevate Gold status. (*Read more*: **How Flying, Just For the Miles, Can Pay Off**)

For **Southwest** fliers, those who hold A-List or A-List Preferred status—25 or 50 qualifying one-way flights annually—will be matched to Elevate Silver status. Southwest Companion Pass holders—100 or more one-way flights annually—will be given Elevate Gold Status.

The matched status upgrade will be valid until June 30. Travelers can extend their status through the end of 2019 by accumulating either 8,000 status points for Silver, or 12,000 status points for Gold by June 30, 2019.

…

Air Canada & WestJet

A new set of headwinds for Air Canada & WestJet
By Brenda Bouw, The Globe and Mail

Airline stocks have hit some recent turbulence amid concerns over slowing global economic growth and the Ebola outbreak, but some investors see a buying opportunity, especially as lower fuel prices cut operating costs.

Shares of Canada's two major airlines, WestJet Airlines, Ltd. and Air Canada, have dipped in recent weeks, even as both report steady traffic increases and expect to receive extra revenue from newly introduced baggage fees.

A lower Canadian dollar is a headwind for the airlines, since they make major purchases, such as fuel, in U.S. dollars. Fuel makes up about 25 per cent to 35 per cent of an airline's cost base. Some analysts say that should be offset by the drop in the price of the commodity produced from oil.

Benchmark Gulf Coast jet fuel prices have fallen to about $2.40 (U.S.) per gallon, down almost 20 per cent from $2.95 in June.

"The dramatic drop in fuel prices recently does, in our view, provide significant cost relief that should benefit everyone in the industry," said Ben Cherniavsky, an analyst at Raymond James Ltd., in a recent note.

Still, he discourages investors from viewing airline stocks as a way to play falling oil prices, saying GDP growth has a greater impact on airline profits. "It doesn't matter what fuel costs if the seats are empty," Mr. Cherniavsky said.

He has a “strong buy” on WestJet, calling it the carrier with the lowest costs, and recently upgraded Air Canada to “market perform” (similar to a hold) from “underperform” (similar to a sell), citing lower fuel prices and its underperformance compared with the overall sector and the S&P/TSX composite index.

Air Canada shares have fallen about 25 per cent from a six-year high of $26.11 (Canadian) reached in June. WestJet shares hit an all-time high of $33.33 in mid-September, but have fallen about 7 per cent since. (Both stocks have recovered in the past couple of days alongside the broader markets.)

Both stocks have been affected by concerns about the impact on traffic from a downturn in the global economy, the spread of the Ebola virus and competition from other, smaller carriers.

Konark Gupta, an analyst at Macquarie Capital Markets, said Air Canada has been harder hit than WestJet and over a longer period because of its thinner margins and greater exposure to international markets, including the weakening European economy.

Mr. Gupta also doesn’t believe investors should bet on lower fuel prices to lower costs long-term.

“Fuel is uncertain. What we are seeing with fuel prices right now is likely a temporary shift. [Prices] could rebound,” said Mr. Gupta, who has a “buy” on WestJet and a “hold” on Air Canada.

Bruce Campbell, president and portfolio manager at Campbell Lee & Ross, said his firm doesn’t own airline stocks because the industry’s costs are mainly fuel and labour, both of which they have little control over.

However, if the stocks were hit by a rebound in fuel prices he might consider them as a short-term play given what he calls the “fragile psyche of the market” today.

“We don’t like the long-term business, but if they got hit a lot then you might have to look and say, ‘There’s so much value here we have to do it.’ If we did do that, it would be new for us,” he said.

BMO Nesbitt Burns analyst Fadi Chamoun said steep sell-offs in airline stocks have proven to be buying opportunities in the past, with the exception of recessions.

“We do not sense the demand environment has deteriorated and we remain positive on the outlook for passenger traffic,” Mr. Chamoun said in a note. He has an “outperform” on both Air Canada and WestJet.

Canaccord Genuity analyst David Tyerman believes it’s a good time to buy airline stocks, but said the “wild card” is the health of the North American economy.

"At this point, the Canadian and U.S. economic outlook remains supportive for airline demand," Mr. Tyerman said in a note.

Air Canada confirms novel financing for new planes
By Ross Marowits, THE CANADIAN PRESS

MONTREAL — Air Canada confirmed Wednesday that it plans to tap into a novel way — at least in Canada — of financing the purchase of five new Boeing 777 aircraft. The Montreal-based airline announced the private offering of three tranches of enhanced equipment trust certificates (EETC) worth US$714.5 million.

The aircraft are scheduled for delivery between June 2019 and February 2020.

Loxley Aviation Ltd. has been created to facilitate Air Canada's inaugural offering, Moody's Investors Service said, in assigning ratings of Baa3 to tranche A, B1 to tranche B and B3 to tranche C.

The aircraft, configured with 458 seats in economy, premium economy and premium classes, will be used as collateral. Air Canada (TSX:ACB) uses the largest planes in its fleet on long-haul routes.

…

Chris Murray of PI Financial Corp. had predicted the carrier would become the first Canadian airline to tap into a new way to finance aircraft purchases that reduces interest rates. Ottawa's approval in December of an aircraft protocol effective April 1 opens the doors to the EETC trust market that has been used by U.S. carriers for nearly 20 years. Murray added in a report last week that Air Canada may also consider the same financing arrangement for its new Boeing 787 planes set to begin delivery next year.

…

Air Canada's poor punctuality could cost customers, expert warns
Carrier ranked last of 28 major international airlines
CBC News

Air Canada has the worst on-time arrival performance of any major international airline, a CBC *Marketplace* investigation has found.

Numbers from travel information group FlightStats showed just 60.89 per cent of the Canadian carrier's flights landed on time in 2018, the worst on-time performance record of 28 international airlines.

Air Canada's record worsens on the popular Vancouver-Toronto corridor where only 55 per cent of flights arrived on time in 2018. Air Canada competitor WestJet landed on time 70 per cent of the time on that same route.

The airline's performance is "not good," says Anming Zhang, professor of air transportation at the University of British Columbia. He speculates that the airline's poor punctuality will cost it customers.

"If you can arrive on time, it is considered by passengers as a quality of service," he said. "Unhappy customers are not willing to take your flight if there's a competitor flight [that's on time]."

Zhang says many factors can cause late flights, including poor weather and international connections.

He points out that WestJet has the advantage of being a largely domestic airline, while Air Canada flies to Europe and Asia, long-haul flights that are more prone to delays.

He also says Air Canada's fleet could be a problem, since the variety of aircraft types can slow maintenance and repairs.

"If the airline works with a single aircraft type, it's much easier; you know the aircraft inside and out," he told *Marketplace* co-host Erica Johnson. "Once you mix different aircraft types and parts, there will be more complicated operations."

WestJet uses just one aircraft type.

"[Using one model] is much simpler," he said. "If you have just one aircraft type, versus seven or eight aircraft types, the parts are uniform and mechanics know exactly what happened. It's much faster."

Top-ranked Japan Airlines, which lands more than 90 per cent of flights on time, has 10 different aircraft types.

Air Canada responded to *Marketplace*'s investigation with a written statement saying, in part, "Air Canada is now engaged in a company-wide, on-time-performance initiative that is resulting in continuous improvement in this area."

Starting April 10, Air Canada will require customers on most flights to check their bags 45 minutes before departure time, instead of the current 30 minutes.

Zhang says checking bags earlier is a positive step that should save time, but he also encourages Air Canada to be more transparent about its delays.

"Customers pay for this service and they have the right the right to consume the product as the company has advertised," he said. "They have a scheduled departure time [and] a scheduled arrival time, and they are entitled to see why there is a deviation from the product you provide and the product you declared in terms of quality aspects."

Porter Airline

Porter aims to become Canada's 3rd national airline
CBC News

Porter Airlines confirmed today it plans to buy up to 30 CS100 jets from Montreal-based Bombardier, which would expand the regional carrier's reach from coast to coast, and take direct aim at Air Canada and WestJet.

"We believe it is time to spread our wings," president and CEO Bob Deluce said at a news conference at Billy Bishop Toronto City Airport, where Porter is based. "And so I present to you our vision for the future of Porter Airlines — a vision with service to destinations across North America, from Calgary and Vancouver, to Los Angeles, Miami and Orlando."

The move pushes Porter into direct competition with Air Canada and WestJet as a national carrier, while setting up a potential political standoff over expansion of the island airport in downtown Toronto.

'We believe the CS100 is the perfect aircraft for the next stage of our growth for many reasons, not the least of which is that it is the quietest commercial jet in production.'*—Bob Deluce, Porter CEO*

The conditional deal is to buy 12 Bombardier CS100s, with options on 18 more.

The deal also includes purchase rights for six of Bombardier's Q400 turboprop aircraft, currently the mainstay of the Porter fleet.

The total purchase could reach US $2.29 billion if all the options and purchase rights are exercised.

Delivery of the first jet, which has seating for 107 passengers, is expected in 2019.

The conditional purchase agreement signed on Tuesday is a coup for Bombardier and ushers in a change in Canadian aviation. That's because the CSeries jets can fly 5,400 km without refueling, much farther than the current fleet of Q400 turboprop planes that Porter flies to connect 19 cities across Eastern Canada and the U.S.

The airline said the expansion could mean 1,000 new employees, which would bring the total to 2,400.

Potential price war

Joseph D'Cruz, a University of Toronto business professor and aviation expert, said the move could be good news for consumers.

The announcement could lead to a political dispute over the airport, which is near residents on the island and the city's heavily populated downtown. (Marivel Taruc/CBC)

"It's going to be interesting to watch how WestJet and Air Canada react once Porter starts biting into their business," he told CBC News. "They're going to retaliate, and the only way they can retaliate is lower prices."

"This may trigger a vicious price war," D'Cruz said.

Air Canada said that before it takes a position on further investment at the island airport, it wants assurance that takeoff and landing slots will become available for other airlines that have been seeking increased access.

Canada's largest airline currently has only enough landing and takeoff slots to offer service between Montreal and the airport on the Toronto waterfront.

WestJet Airlines did not directly address Porter's plans, but said it remains focused on keeping its own business.

"We expect competition to increase and are preparing accordingly," WestJet spokesman Robert Palmer said in a statement.

…

In a separate interview with The Canadian Press, Kokonis noted that Porter's planes have been flying less full while load factors at WestJet and Air Canada have been improving.

"In a zero sum game where they're all sort of chasing the same passenger, it does give one pause for concern that Porter might be struggling in some areas."

Despite the expansion, Deluce said taking the privately held airline public and raising money through an initial public offering is not a priority right now.

The company had planned to issue shares on the public markets at various times in the past, but shelved them for various reasons.

"We've not thought about an IPO in recent times," Deluce said. "Sometime in the future it's a possibility."

Orange Sky Airline

Orange Sky Troubled Past Finally Emerging From Bankruptcy
Excerpt Adaptation from 3rd Edition of Organizational Behavior: A Strategic Approach by Hitt, Michael, Miller, C. Chet, and Colella, John Wiley & Sons

Orange Sky Airlines finally emerged from bankruptcy on April 1, 2017 after 3 years and 51 days of internal conflicts and deteriorating management-labor relations, which led to falling stock prices and increasingly dissatisfied customers. The long-dated labor problem dated back at least to 2004 when the company's union groups (pilots, mechanics, flight attendants) were at odds with the company and with each other. The company was able to obtain agreement with the pilots' and the mechanics' union members to reduce their pay in exchange for 25% and 20% of company's stock respectively, along with providing 10% to non-union employees. However, this exchange was not endorsed by the flight attendants' union, which resulted in a dispute among the various unions. As a result, customer services were impacted and flight delays occurred more frequently than at other airlines. Management blamed the unions for the problems that resulted, whereas the unions felt management was making poor decisions and ignoring their input. Top executives were still receiving excessive compensation, thereby leading to toxic management-labor relations.

As time progressed, Orange Sky experienced further losses caused by substantial reduction in flight sales, especially during the 2008 financial crisis, general mismanagement, and the inability of Orange Sky to obtain a loan of almost $1.5 billion from the Air Transportation Stabilization Board (ATSB) to cover its debt in early 2009. As a condition of such loan, Orange Sky would have had to make more cutbacks and reductions in wages and benefits. For this to occur, agreement would have been needed from all the unions. Orange Sky management was unable to reach consensus with the unions. As a result, Orange Sky Airline filed for bankruptcy in early 2014 in order to settle with its unions and creditors. Today, Orange Sky stock dropped to less than US $1 per share.

Recent Airline Incidents

British Airways plane catches fire at Las Vegas airport
The Guardian

A British Airways jet has caught fire at Las Vegas airport, sending smoke billowing into the air, after suffering what the pilot described as a "catastrophic failure" of the left engine.

Fire officials said 14 people were taken to Sunrise hospital to be treated for minor injuries, including cuts and bruises, most a result of sliding down the inflatable chutes to escape.

All 157 passengers and 13 crew – including three pilots – on board were evacuated, and the fire was swiftly extinguished by 50 firefighters. An airport spokeswoman told reporters: "All passengers were evacuated quickly and safely and taken by bus to the terminal.

"We cannot express enough gratitude to the emergency response crews, as well as the British Airways crew. The National Transportation Safety Board is investigating the incident. "

The plane aborted take-off shortly before the fire broke out. The Federal Aviation Administration (FAA) said the Boeing 777's left engine – manufactured by General Electric – burst into flames.

Dramatic images of flight BA2276 were shared on social media by members of the public at the airport, which is five miles south of downtown Las Vegas.

Guardian reporter Jacob Steinberg was on the plane and tweeted about the evacuation: "Just evacuated on a British Airways flight at Las Vegas airport after an engine caught fire. Don't think anyone hurt."

"Was asleep as the plane took off. Came to a crashing halt. Smell of smoke. Initially told to stay seated, then shouts to evacuate. Could smell and see smoke but was on other side of plane. One person said fire melted a couple of windows."

The Crash of Delta 1086: Typical!
The Economist

MOST aviation accidents aren't like the disappearance of Malaysia Airlines Flight 370 in 2014. The crash of Delta Air Lines Flight 1086 at New York's LaGuardia airport last week is far more typical. Delta 1086, a McDonnell Douglas MD-80, was landing at LaGuardia in a snowstorm when it skidded off the runway and into an earthen berm that separates the airport from Flushing Bay. Three people were hospitalized, but no one was killed and all passengers were successfully evacuated.

This is as close to a prototypical airline accident as you can get. It was survivable, happened during takeoff or landing, and didn't result in the total loss of the plane. Many planes get into trouble because of bad weather, which certainly could have been a contributing factor in this case (the National Transportation Safety Board is still investigating). It is also not clear whether pilot error played any role, but the crew of the plane certainly deserves credit for managing a quick and complete evacuation, especially since the aircraft was leaking fuel. The Associated Press has a good roundup of possible causes the NTSB will investigate.

As Dennis Mersereau notes over at *Gawker*, one of the lessons here is that travelers should resist complaining to the airlines about bad weather. It is totally outside of their control, and poor conditions make flying significantly more dangerous. American airports have, in recent decades, struck a good balance between remaining open when it is safe to do so and closing when it's not. And when you think about airplane accidents, remember: you're incredibly unlikely to be in one. But if you are, it'll probably be more like Delta 1086 than MH370.

EXHIBIT 6

Blue Jay Air Corporation's Balanced Scorecard Framework

Blue Jay Airlines' Balanced Scorecard Framework

	Objectives	Measurements	Targets	Initiative
Financial	Revenue Growth	Total Revenues	35% Annual Growth	
	Frequent Business Travels	Business Class Load Factor	95%	
	Expense Reduction	Total Operating Expense	2% Annual Decrease	
	Asset Utilization	Higher Tangible Asset	Increase Service Capacity	Refurbish / Purchase
Customer	Frequent Business Travels	% Business Traveler	85%	
	Enhance Loyalty Program	Number of Participants	25% Annual Growth	
	Rebranding / Image	Business Traveler Ranking	# 1	
Internal	Booking System Enhancements	Utilization Internet, Mobile	50% Annual Growth	
	Enhance Comfort and Service	Increase Business Class Capacity	80% of Fleet	
	Turnaround	On Time Departure	85%	
Innovation and Learning	Labor Relationship Management	Employee Satisfaction	Top 10% of Industry	
	Labor Efficiencies	Deacrease Staff Expenses	10% Decline over next 5 years	
	Safety	JACDEC Safety Index, Rank	# 1	

EXHIBIT 7
JACDEC 2017 Aviation Safety Review

From: Jim Peters
Sent: December 1, 2018 9:00am
To: John Feather
Subject: JACDEC 2017 Aviation Safety Review

John –

My team has reviewed results of the 2017 Aviation Safety Review and summarized it as follows. Please let me know if you would like to discuss changes to any of our programs based on the results of this report.

- Jim

In 2017 the world´s death toll in commercial air transport has risen nearly four times over the 2016 numbers. Spectacular accidents crippled the unprecedented safety record of last year.

“This is the second highest in the past ten years.” writes Jan-Arwed Richter, founder of the Hamburg Aircraft Accident office, called “Jet Airliner Crash Data Evaluation Centre” (JACDEC). The number lies almost four times higher than in the previous year, when only 251 people were killed in aviation accidents, Righter explained in a previously published paper for the aviation magazine “Aero International“.

About half of the fatalities came from the Asia-Pacific region. Although flying remains the safest way of travelling, 2017 marks an atypical year compared to a series of years with falling numbers of victims.

2017 also whirled through the JACDEC security list of the 60 largest airlines.

The world’s new leading airline in terms of its safety record is **Cathay Pacific** from Hong Kong, followed by **Emirates**, **EVA Air** of Taiwan and **Air Canada**. The safest airline in Europe is therefore now the Dutch **KLM** in fifth, ahead of **Air New Zealand** and **Qantas** of Australia.

Two major disasters affected **Malaysia Airlines**, which fell from 34th to 57th place.

Lufthansa remains unchanged and claimed 12th place. Germany’s second largest airline **Air Berlin** climbed from 26th to 20th place.

“From the observed 60 largest airlines more than half a dozen lost one of their aircraft”, it says in the article. The JACDEC safety score is primarily calculated by the revenue traffic performance of an airline in relation to the number of serious incidents and total losses it experienced up to 30 years back.

The safest regions were North America and Eurasia (including Russia plus all GUS[2] States east of Ukraine): There was not a single flight accident death.

For Latin America, the analysis came to 10 deaths mostly on flights with vintage machines on non-scheduled operations. The Middle East and Central Asia remained at 57.

Africa was once again a point of focus; it experienced 18 aircraft losses and 134 fatalities, although the total was exceeded by Europe. Including the disaster of the Malaysian Boeing 777 over eastern Ukraine, the region had a total number of 300 fatalities and came in 2nd to last place.

The most deaths occurred in the Asia-Pacific region, where half of all fatalities occurred in the past year.

From: John Feather
Sent: December 1, 2018 9:05am
To: Jim Peters
Subject: RE: JACDEC 2014 Aviation Safety Review

Jim –

Budget for improvements is limited, but interested in improving our rank. Please advise.

JF

[2] GUS States are members of the Commonwealth of Independent States which is a regional organization formed during the dissolution of the Soviet Union.

EXHIBIT 8
Code-Share Agreement

A code-share agreement is an aviation business arrangement where two or more airlines share the same flight. Sharing, in this sense, means that each airline publishes and markets the flight under its own airline designator and flight number as part of its published timetable or schedule. A seat can be purchased on each airline's designator and flight number, but is operated by only one of these cooperating airlines, commonly called the operating carrier. The carrier marketing the flight under its own code is commonly called the marketing carrier. The number of marketing carriers for one flight technically is not limited.

In certain situations, an operating carrier does not also act as a marketing carrier. These types of carriers primarily consist of smaller, regional airlines doing business as another marketing carrier or subsidiary thereof. For instance, a flight may be listed as operated by Endeavor Air DBA Delta Connection. It is often the case that these carriers do not have a sound infrastructure in place to market and sell seats to the consumer directly. These flights may also involve more than one marketing carrier.

Airlines are motivated to enter into code-sharing agreements primarily to expand the number of flights an individual airline can offer its customers. These additional offerings may take the form of additional routes or additional flight timings. The marketing carrier is able to avoid the costs and difficulties of obtaining equipment and gate access necessary to add an additional flight on its own. Code-share agreements do involve significant costs, however, due to the initial setup and continuing negotiations, as well as ever-changing contracts between airlines in dealing with how seats are exchanged between them.

Furthermore, the marketing carrier must be confident that the operating carrier offers a safe and suitable product when the marketing carrier's passengers board the operating carrier's planes. Likewise, the operating carrier must rely upon the marketing carrier's service and systems to bring them to their planes in a reliable manner. Moreover, the systems of all associated parties must reliably interact and provide the appropriate information to each other.

Membership in one of the three major Airline Alliances (Star Alliance, SkyTeam, and Oneworld) is distinguishable from code-share agreements, though alliance members often enter into CSAs. In fact, one alliance requires CSAs to become a member of the alliance. The mutual obligations among the members of an alliance are outside of the CSAs, and alliance membership does not dictate the agreement details.

One of the basic provisions of a code-share agreement is 'The Inventory Control Procedure', which specifies how booking classes are to be mapped among the parties and how access to the seat inventory will be provided to the marketing carrier by the operating carrier. Generally, booking classes (sometimes known as fare classes) refer to the type of fare (e.g., flexible or nonrefundable) and type of traffic (e.g., a flight with a long-haul connection.) Revenue differs according to each booking class.

Seat inventory can be provided as one of the following:

- Freesale arrangement – The marketing carrier(s) and operating carrier both sell tickets from the same inventory of seats and booking classes for each carrier are directly mapped to each other.

- Hard Block Space arrangement – The marketing carrier pre-arranges with the operator to set aside a given number of seats for the marketing carrier to sell. The marketing operator will purchase these seats from the operator at an agreed upon price.

- Soft Block Space arrangement – Similar to a Hard Block Space arrangement, but with an option to return some of the seats at an agreed-upon number of days prior to departure.

Additional provisions of code-share agreements are as follows.

- List of routes
- Marketing and product display
- In-flight product and quality monitoring
- Technical and operational requirements
- Safety and security
- Passenger handling and airport procedures
- Pricing, revenue management, ticketing, commission payments and financial settlement
- Taxes
- Liability, indemnification, and insurance
- Exclusivity – The code-share agreement is exclusive for the parties entering into the agreement and those parties will not be able to enter into further code-share agreements with other carriers in certain markets.

In addition to the basic provisions of a code-share agreement, separate, parallel agreements between the parties involved may be established. The most common of these parallel agreements are Special Prorate Agreements (SPAs) and revenue settlement agreements.

The SPA will specify how revenue will be divided among the carriers in the case when a leg of a total passenger's journey is operated by the operating carrier and a leg is operated by the marketing carrier. SPAs may be "gross" or "net," as defined below.

- Gross SPAs – the SPA specifies a straight-rate proration among the operating carrier and marketing carrier(s)

- Net SPAs – the SPA specifies the amount to be paid to the airline carrying the passenger on a specific leg; the amount also depends on the booking class to which the passenger is booked

A revenue settlement agreement is similar to the SPA, but possesses a broader scope. Provisions for the allotment of revenues and the payment of code-share commissions, as well as the settlement procedures are likely included in such agreements.

Code-share agreements are also subject to further regulatory scrutiny. Governments are concerned if entering into the agreement creates an unfair market position for any of the airlines involved. For instance, in 1999, the Department of Transportation in the US demanded that a CSA between Continental and Northwest could not include flights between each airline's hub airports. Additionally, regulatory authorities will closely watch airlines with existing CSAs to make sure no collusion or other anti-competitive practices exist as a result.

3 Blue Jay Tire Co

“Who said any publicity is good publicity,” wondered Pierre Beaudry, CEO of Blue Jay Tire Co (BJT). He further reflected that it was paradoxical that leaders who live during severe crises get the most press and thus the highest rankings from historians and the popular public – ministers, presidents, mayors and civil leaders. BJT was experiencing both publicity and a crisis. Pierre was confident his team would navigate the recall crisis successfully. It was not the first challenge they had faced nor would it be the last.

“How many major strategic issues can pile on at once?” thought Pierre. “We have a tire recall and union negotiations at the same time that oil prices are decreasing and the minimum wage is increasing.”

Decreasing oil prices have proven to be a positive for tire sales as both consumer and commercial vehicle usage is on the rise. The industry is rife with growth, but production plants in the southern states are near capacity. BJT needs to expand its production capacity soon to support its growth. This and other labor concerns need to be discussed with the union representatives as new contracts are negotiated.

Even though the tire recall had caused only a small ripple in consumer sentiment so far, Pierre remained wary. In light of the recall, Pierre knew the press would show no mercy. He knew the Board would demand change. What went wrong? They had risk governance policies, they had risk dashboards, they performed policy audits, they had training programs, and they had a well-staffed risk management function. How would the recall crisis alter the company’s plans and growth strategies? Before the crisis, management had tough choices to make. Now the choices would be even tougher. How should Pierre reshape their plans?

3.1 Background

Early History

The Durable Tire Corporation (also referred to as Durable) has been operating in Canada since 1926. The company founders, the Eastern family, were originally farmers. The Easterns always focused on providing the best quality tires that would live up to the family name and brand. The company had a small and loyal customer base in rural areas. The high-quality products proved to be very well suited to the rugged Canadian frontier. Durable built tires for farm vehicles and small planes. These tires were intended for dirt roads or off-road on farms and small community towns. Durable also manufactured specialty tires sold in niche markets.

When the family patriarch passed away in 2003, the family decided to sell its interest in the company. The company was acquired by Blue Jay Air (BJA). BJA had been one of Durable’s clients for specialty tires in small aircraft that flew in the Northern reaches of Canada.

Under BJA Since 2004

The BJA group felt that it could leverage the capabilities of the manufacturing process to develop a broader range of tires. The tire company was re-branded within the BJA group to become Blue Jay Tire (BJT). In 2004, the BJA team put in place a 5-year plan to expand the sales and distribution reach into commercial vehicles across the USA.

The BJA management team increased its focus and oversight toward the BJT venture and its ever-improving financial results, particularly as Blue Jay Air's struggles worsened due to increased competition and squeezed margins.

In 2009, having successfully met and surpassed the 5 year plan objectives set out in 2004, the BJA board directed the BJT division to pursue an even more ambitious growth strategy. With funding, BJT purchased two manufacturing plants in the southern USA and re-fitted the operations with direction from the Canadian operation. An executive team under the banner of Blue Jay Tire USA (BJT-USA) was set up by the BJA board. This company operated with oversight from its Canadian head office. BJT-USA engineers were asked to set targets at double their pre-acquisition production levels or about triple the level of the Canadian manufacturing plant. At the same time, BJT introduced a tire warranty program that helped to enhance the tire sales and establish the tire brand. With a premium of about 50% of the tire costs, the warranty program provides free tire replacement for seven years from the purchase date of every tire. Since inception, this tire warranty program has been well received. The warranty program is currently maintained on a pay-as-you-go basis.

BJT-USA surpassed its sale targets every year from 2009-2018. BJT-USA, despite its size, achieved a 3rd place market position in tire sales for compact cars and small SUV vehicles in the southern U.S.A. By 2011, BJT dominated the earnings of the Blue Jay Air group. In early 2017, BJT accounted for 20% of the revenue and an astounding 43% of the profit of the Airline group. BJT management was heralded by the executive team, the board and its shareholders as the "star" of the Airline group.

Although BJT had received increased focus and scrutiny from BJA since acquisition, BJA has more recently found that disconnects continue to exist between the two companies. Consequently, BJA has prioritized additional oversight and communication toward BJT management and operations. Additionally, BJT is expected to adopt and act in accordance with BJA's corporate vision and risk culture. BJA fully supports all BJT teams and has affected a new cultural directive to promote teamwork within the combined organization.

Financials

Detailed 4 year financial statements are shown in Section 3A Exhibits 1 to 3.

3.2 Risk Factors

The following risk factor excerpts are taken from the 2018 Annual Report.

Commodity Risk

Although there is a large amount of synthetic rubber used in the manufacturing process, the company still depends a great deal on natural rubber that is sourced in countries somewhat less stable than the developed world. Natural rubber production is also subject to weather related risks. In the Tire Industry, rubber represents 52% of total manufacturing purchases. A $0.10 per kilogram increase in natural rubber prices would lead to an estimated $0.5 million increase in manufacturing costs.

BJT has maintained the same supplier for over 30 years. The relationship is very strong and the two companies have integrated their systems to provide an automated ordering and payment system. BJT benefits from stable pricing. In the past decade, BJT has achieved the lowest prices on its commodity purchases because its growth strategy and operational excellence have also benefited the supplier. Volume discounts and IT system integration savings have been passed on to BJT in the form of better pricing. For BJT, rubber now represents only 48% of company purchases, down from 60% at the start of the millennium. Commodity risk is considered to be lower for BJT than its competitors.

Manufacturing Risk

The process of making tires involves chemicals and flammable ingredients. This process poses concerns for the workers and the risk of fire is large. In addition, the size of the finished product increases the risk of worker disabilities.

A lost-time injury is defined as an occurrence that results in a fatality, permanent disability or time lost from work of one shift or more. The Lost Time Injury Frequency Rate (LTIFR), the number of lost-time injuries per million hours worked, is calculated as:

$$LTIFR = \frac{\text{Number of lost} - \text{time injuries x } 1{,}000{,}000}{\text{Total hours worked in accounting period}}$$

Overall, the BJT manufacturing plants have reported a LTIFR of between 2.16 and 2.69 in recent years. This compares reasonably well to the industry average of 2.38. In particular, the LTIFR for the Canadian BJT plant has had best in class safety records at less than 2.0 since inter-company surveys began. In comparison, the U.S. plants have been between 2.56 and 2.99 since being acquired by BJT.

The manufacturing process had been established by the company founders and has had proven success over many decades. The same process and standards are used in both Canadian and U.S. plants. The core competences for quality assurance have been developed in the people who manage the process, and the culture of quality management is passed on within the operations team from experienced staff to new associates. Quality management is considered by Executive Management to be a grass-roots competency of the company.

Manufacturing risk is currently considered to be medium for BJT. Management’s recent focus has been to return to the historical Canadian operational level of 1.92. A program recently implemented invites retired Canadian and former BJT plant operators to conduct quality management training for existing staff.

Labor Risk

Tire manufacturing plants typically have unionized labor forces, which can lead to contentious labor issues.

Historically, the Canadian operation has not had unionized labor. However, 50% of the employees working in the two U.S. plants are union members. The current union contract expires in 2019. After normalizing for standard of living differentials and exchange rates between geographical locations, the labor cost in the Canadian operation is 35% lower than similar operations in the U.S.

There has not been any disruption in the workforce at any plants. Labor risk is currently considered by Executive Management to be low. However, the number of staff that elect for union representation has been increasing.

Legal Risk

The possibility of class-action lawsuits exists, particularly in the U.S. A large risk stems from the chance of paying out large claims or having wide-spread product recalls. BJT has not experienced any litigation action in its history.

Distributor Risk

BJT sells almost all its tires through independent distributors. BJT has long standing relationships with several Canadian car dealerships as their sole or primary tire supplier. The largest customer represents only 5% of BJT’s total annual sales.

Insurance Risk

The key risks in a tire operation are product liability and product recall. Some companies use a captive insurance company to handle this exposure. Historically, BJT has retained its entire product liability and recall risks. A review of the company’s tolerance to this risk is pending.

Environmental Risk

Tires are an easy target for environmental groups. Billions of tires are produced each year and billions are discarded. The materials to produce tires and the manufacturing process can be the subject of environmental concerns. BJT maintains a recycling plant for the rubber in its discarded tires and has established a program that reuses the rubber as equestrian mulch. Environmental risk is considered to be low due to operation size and overall market share.

Economic Risk

The number of miles driven has a large impact on the demand for tires. The state of the world economy has a direct impact on the company's ability to grow and expand. BJT has chosen to target compact cars and small SUVs. It was anticipated that increasing gasoline prices would continue the trend towards the small vehicles. However, regulations and technology have made vehicles more fuel efficient. As a result, a trend is emerging as consumers are moving away from sedans to larger vehicles.

Overall, economic risk for BJT is considered medium.

Reputational Risk

One of the company's primary strengths is its brand name. BJT must constantly assure that its products are of the highest quality and must invest in research and development to continually improve its products. BJT has growing brand awareness within the U.S. market. BJT uses social media monitoring tools to assess its brand awareness. Brand awareness is considered to be a critical determinant of BJT's growing presence in its chosen target market. BJT monitors five media channels for their positive/negative ratio.

Media channel	Positive/negative ratio
Blog	1.5
Internet Forum	2.7
Newspaper	1.9
Online newspaper	1.7
Associated Press (AP) Newswire	3.2
All media combined	2.2

If the outlier of 3.2 corresponding to the AP Newswire is omitted, then the average positive/negative ratio is 2.0 with a standard deviation of 0.4. Pro-BJT information is generally about twice as persuasive as con-BJT messages. The ratio has grown from 1.8 to 2.2 since BJT began monitoring its brand. This is held to be a sign of BJT's growing reputation in its chosen market. Reputational risk is considered to be low.

Political Risk

The company is exposed to political risk through import/export quotas and price controls. The North American Free Trade Agreement (NAFTA) between U.S.A., Canada and Mexico gave birth to the U.S. operations of BJT. BJT is exposed to future changes in this agreement. During the financial crisis and again in the most recent presidential election, U.S. interest lobby groups demanded stronger nationalist policies.

The supply chain is also exposed to political risk due to the geographical location of the suppliers, which are primarily in Malaysia.

In addition, BJT faces the risk that states within the U.S. may repeal right-to-work laws (see section 3.5.) As of 2018, right-to-work laws exist in Alabama and Georgia, but not in the state of New York.

Political risk is considered a medium risk for BJT as a small Canadian firm operating in the U.S.

Currency Risk
Manufacturing costs and the revenue generated are in different currencies, resulting in a possible loss. BJT Canadian operations and sales are in Canadian dollars and the U.S. operations and sales are in U.S. dollars. 85% of the raw materials are sourced from Malaysia.

3.3 Recall

Recent Tire Recall Issue
Below are the headline news and a series of emails uncovered by the investigative journalist that led to the recent tire recall.

Blue Jay Tire quality or quantity, you decide
by Jennifer Truth

Smallville, Arizona (Associated Press – August 2nd 2018): The Blue Jay Tire Co (BJT) reported in May 2018 that a tire defect which caused a single car accident was an isolated incident. Pierre Beaudry, CEO, issued a statement saying "Blue Jay Tire has a long history of manufacturing excellence but on behalf of our employees we extend our condolences to the Franklin family for their loss. We regret that a BJT tire was responsible for this accident. On behalf of our engineers, line managers and production team, I can assure the Franklins and any family in the USA that we do everything in our power to ensure our tires are the highest quality on the road".

The tire involved on that day in May was the RU42WD model. Over 40 million of these tires have been sold in the USA. The official report on the accident disclosed that the defective tire exploded causing a sudden loss of driver control.

In July, this reporter uncovered a number of email records related to RU42WD tires in BJT's manufacturing process.

In an email dated Aug 8th 2016, the BJT (Canada) head engineer, Paul Gosling, indicated reservations with the speed of the production line resulting in uneven rubber density to a BJT (USA) executive, Jack Tavares. The follow up responses indicate that some corrective action was taken to redress the situation. When contacted, the BJT (USA) head engineer, Chris Carpenter, at the time reported to this paper: "The production process always ran within its design limits. But we did notice tire density variations. We never did test the possible impact of low density tires on automobiles travelling at speed. Instead we relied on the fact that the tire thread wear tests were always within the tolerances commonly used by all tire companies at the time". Chris Carpenter now works for a rival firm.

BJT (USA) refused to comment when contacted about these internal memos and the comments of Mr. Carpenter.

Below are series of emails that were uncovered by AP journalists:
From: Paul Gosling
To: Jack Tavares
Date: August 8, 2016
Subject: Sticky valves and rubber density on tires

Jack –
After visiting BJT-USA plant, I do not feel that enough Quality Assurance is in place. In general, I think production is too fast to match demand and not enough checks are being made. Specifically, I have noticed two items: sticky valves on model RU42WR and uneven rubber density on RU42WD. I recommend that the line managers monitor these issues more closely and tighten the allowed defects – even though this may slow production – so as to correct these issues. Although the valve is mostly a nuisance, the density is more of a safety issue. However, to be clear, the low density areas are still within prescribed density limits – there are just some noticeable variations within the tires.

I will keep you posted.

Paul Gosling
Head Engineer
Blue Jay Tire (Canada)

From: Jack Tavares
To: Paul Gosling
Date: August 12, 2016
Subject: RE: Sticky valves and rubber density on tires

Paul
Good catch – I will follow up with Chris regarding both RU42WR and RU42WD.
Hope you enjoyed your visit!

Jack Tavares
Chief Risk Officer
Blue Jay Tire (USA)

From: Chris Carpenter
To: Jack Tavares
Date: September 9, 2016

Subject: Tire production

Jack
This is to summarize our calls over the past month.

I think we have both issues solved: as I mentioned on the phone, the sticky values on RU42WR were easily fixed by increasing the lubricant on the silicon machine. RU42WD required more effort and took longer. We discovered a small inconsistency on the centrifuge console. My staff recalibrated it and we have eliminated the density issue. We also increased our spec inspections from 1 in 200 to 1 in 20 until we were confident the fix took.

We are back up to regular production levels again. We are actually considering increasing the product speed.

Thanks again,

Chris Carpenter
Head Engineer
Blue Jay Tire (USA)

3.4 Production Expansion Committee

The Production Expansion Committee was formed in 2009 by BJA as a part of BJT's ambitious growth strategy. The team has consisted of the same five members since inception, all of whom are employees of BJT-USA. Oversight of the committee became the responsibility of the president of BJT, since the division was most affected by the committee's decisions. The reporting structure has also not changed since inception, and there remains no direct tie between the committee and BJA.

The committee experienced quick success as it was able to select and purchase the two manufacturing plants, and initiate and transfer the re-fitting process to the Canadian operations. During the selection period, Jack Tavares immediately became its natural leader, and the other four team members found it comfortable to get behind his direction in order to expand BJT's production capabilities. Moreover, after the acquisition of the first plant in Montgomery, Alabama, the committee members found themselves engaging in a very cohesive manner. The purchase of the second plant in Macon, Georgia occurred within a few months of the first.

Since the early successes, the committee has had more of a monitoring type of role, meeting only occasionally. It has been responsible for observing, from a high level, whether the two plants have met the needs of BJT-USA as anticipated. More importantly, the committee is responsible for monitoring potential plants available for purchase or lease that would be a good fit for BJT, should the need arise.

Overall, the plants have operated without major incident and have yet to reach capacity. In general, the amount of work contributed by the committee has been limited, thus the need for less frequent meetings. Over time, these meetings have begun to be dominated by Jack Tavares. For the past three years, Jack has set the committee's agenda, has individually interpreted the information supplied by the other team members, and has essentially dictated the leading potential plants to the rest of the team. The other team members have shown no real resistance to this, due to their sincere respect for Jack; they credit him with making the two early plant purchases successful. Senior Management of BJT has shown no concern with these developments.

In October of 2018, the Production Expansion Committee received word that a third plant was to be purchased and re-fitted by the first quarter of 2020. This plant would be used by BJT as well as other divisions within BJT, but production out of this plant was expected to be very limited in the first year or two. The committee quickly expanded the due diligence work on their top two prospective plants, one in Mobile, Alabama and one in Buffalo, New York.

3.5 Right-To-Work Law

Right-to-work laws exist in many U.S. states and are intended to provide employees the right to work without an obligation to join a union and without the obligation to pay for any portion of the cost of union representation. Although such laws have not been listed under U.S. labor and employment laws, they have been operational with local employment hearing judges for many years. Moreover, these laws are allowed under the 1947 federal Taft-Hartley Act. A distinction may exist within these laws between those persons employed by state and municipal governments and those employed in the private sector, and whether or not the law shall apply to both groups.

Right-to-work laws or constitutional provisions currently exist in 26 U.S. states, mostly in Southern, Western, and certain Midwestern states. These include Georgia and Alabama in the South, Nevada and Arizona in the West, and Indiana and Iowa in the Midwest. Business interests represented by the United States Chamber of Commerce have lobbied considerably to bring about right-to-work legislation.

3.6 CCC Tire Stores

In order to improve name recognition in southwest USA, BJT acquired CCC Tire Stores, a small chain of tire stores located in Arizona, USA. Although still held by BJT, CCC is managed as a separate line of business. In addition to selling tires to its core customers, BJT-USA sells its products internally to CCC. Since the acquisition, transfer pricing has been a divisive issue between BJT-USA and CCC.

3A Blue Jay Tire Exhibits

EXHIBIT 1

Blue Jay Tire Corporation

NON-CONSOLIDATED STATEMENTS OF OPERATIONS (US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	**2018**	**2017**	**2016**	**2015**
Total Gross Sales	**277**	**259**	**242**	**230**
Cost of Sales (1)				
Cost of Raw Materials	(14)	(13)	(12)	(12)
Production Costs (2)	(28)	(26)	(24)	(23)
Depreciation & Amortization	(20)	(20)	(20)	(5)
Shipping Costs	(5)	(4)	(3)	(3)
Other	(6)	(7)	(8)	(4)
Total Costs of Sales	(73)	(70)	(67)	(47)
Net Revenue	**204**	**189**	**175**	**183**
Operating Expenses				
Research Development	22	23	24	25
Selling General & Administrative (3)	43	40	37	35
Non-Recurring (4)	66	23	27	17
Foreign Exchange Gain(Loss)	(8)	(10)	20	14
Other (5)	50	80	27	10
Total Operating Expenses	**173**	**156**	**135**	**101**
Operating Income or Loss	**31**	**33**	**40**	**82**
Income from Other Revenue and Continuing Operations				
Other Revenue – Warranty program	69	65	61	58
Other Revenue – Book Sales	9	8	7	5
Tire Replacement Expenses	(35)	(32)	(30)	(29)
Total Other Income/Expenses Net (6)	43	41	38	34
Earnings Before Interest & Taxes	74	74	78	116
Interest Expenses	28	28	24	18
Income Before Taxes	46	46	54	98
Income Taxes	9	9	11	20
Net Income from Continuing Ops	**37**	**37**	**43**	**78**

Notes:

(1) Includes cost of material & production with overhead
(2) Includes salaries & overheads directly related to production
(3) Includes salaries other than production related
(4) Includes operational process upgrades
(5) Predominantly injury claims
(6) Performance of the tire warranty program and Sales from travel & restaurant guide books

EXHIBIT 2

Blue Jay Tire Corporation

NON-CONSOLIDATED STATEMENT OF FINANCIAL POSITION (US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	**2018**	**2017**	**2016**	**2015**
ASSETS				
Current Assets				
Cash and Cash Equivalents	50	57	52	49
Short Term Investments	80	84	89	111
Receivables	23	11	9	4
Inventory	53	58	48	37
Total Current Assets	**206**	**210**	**198**	**201**
Long Term Investments	1,100	1,109	1,004	940
Property Plant and Equipment	140	160	180	50
Accumulated Amortization	40	-	-	-
Intangible Assets	25	25	25	5
Other Assets	68	42	33	53
TOTAL ASSETS	**1,579**	**1,546**	**1,440**	**1,249**
LIABILITIES and EQUITY				
Current Liabilities				
Accounts payable	4	4	2	2
Short/Current Term Debt	5	5	5	-
Other Current Liabilities	4	3	3	2
Total Current Liabilities	**13**	**12**	**10**	**4**
Long Term Debt	457	465	380	250
Other Liabilities	35	32	30	18
TOTAL LIABILITIES	**505**	**509**	**420**	**272**
Equity				
Retained Earnings	1,044	1007	970	927
Capital	50	50	50	50
TOTAL EQUITY	**1,094**	**1,057**	**1,020**	**977**
TOTAL LIABILITIES and EQUITY	**1,579**	**1,546**	**1,440**	**1,249**

EXHIBIT 3

Blue Jay Tire Corporation

NON-CONSOLIDATED STATEMENT OF CASH FLOW (US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	**2018**	**2017**	**2016**	**2015**
Net Income	**37**	**37**	**43**	**78**
Operating Activities, Cash Flows Provided By or Used In				
Depreciation	20	20	20	5
Amortization of deferred expenses	20	0	0	0
Adjustments To Net Income:				
Changes In Accounts Receivables	(12)	(2)	(5)	(1)
Changes In Liabilities/Account Payables	1	1	1	(4)
Changes In Inventories	4	(9)	(11)	3
Changes In Other Operating Activities	(60)	0	0	0
Total Cash Flow From Operating Activities	**10**	**47**	**48**	**81**
Investing Activities, Cash Flows Provided By or Used In				
Capital Expenditures	0	0	(170)	(10)
Investments	3	6	22	(91)
Foreign exchange gain(loss)	0	0	0	(2)
Other Cash flows from Investing Activities	(17)	(114)	(44)	0
Total Cash Flow From Investing Activities	**(14)**	**(108)**	**(192)**	**(103)**
Financing Activities, Cash Flows Provided By or Used In				
Dividends Paid	0	0	0	0
Sale Purchase of Stock	0	0	0	0
Net Borrowings	(8)	85	135	22
Other Cash Flows from Financing Activities	5	2	14	5
Total Cash Flow From Financing Activities	**(3)**	**87**	**149**	**27**
Cash & cash equivalents, beginning of year	57	52	49	42
Cash & cash equivalents, end of year	50	57	52	49
Change In Cash and Cash Equivalents	**-7**	**5**	**3**	**7**

EXHIBIT 4

Blue Jay Tire Corporation

SELECT FINANCIAL INFORMATION BY COUNTRY (US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	**2018**	**2017**	**2016**	**2015**
BJT - Canada	34	40	40	48
BJT-USA	170	149	135	135
Net Revenue	**204**	**189**	**175**	**183**
BJT - Canada	28	33	31	26
BJT-USA	145	123	104	75
Total Operating Expenses	**173**	**156**	**135**	**101**
BJT – Canada	450	441	412	359
BJT-USA	1,129	1,105	1,028	890
Total Assets	**1,579**	**1,546**	**1,440**	**1,249**
Cost of Capital				
BJT – Canada	**12%**	**12%**	**12%**	**12%**
BJT-USA	**10%**	**10%**	**10%**	**10%**
Tax Rates				
Canada	**15%**			
USA	**21%**			

ADDITIONAL INFORMATION BY COUNTRY

CALENDAR YEARS	**2017-2018**
BJT - Canada	25,000
BJT-USA	75,000
Employees	100,000
BJT - Canada	1
BJT-USA	2
Manufacturing Plants	**3**

4 Frenz Corporation

David Gillet, CEO, was looking forward to seeing the traveling show *Miss Saigon* in a few weeks. He associated the musical and its worldwide success with the success of Frenz and his own career. He had first seen the musical in 1990, a few months after it opened on the West End, shortly after joining Frenz. David recalled, “In our early days what we were doing was new - specialty coffee for the worker on the move. We’ve always been in front of the curve – we were early pioneers of in-store Wi-Fi. Our customers were on the move via the internet. With each passing year competition gets fiercer. Each success is copied. We are expanding globally and expanding product lines but our competition is moving into our markets.”

David wanted to accelerate Frenz’s expansion. His perspective on future growth was global. How well did Frenz’s advantages travel globally? What was the best way to grow especially in the emerging markets? Frenz had an opportunity to secure its supply of coffee beans to fuel its growth. He wanted to increase the rate of new store openings and enter new countries. He was concerned about which geographic regions to expand, whether stores should be franchisee-developed or company-owned. He wanted to expand product offerings. Frenz had a number of products in trial markets and cities. Which products should be expanded within a country, a region, or globally? How many variations? Should they be the same globally or customized for local tastes? He wanted to increase brand recognition and increase customer traffic especially in recently entered countries. What was the most effective means of marketing and how should marketing costs be allocated? How should Frenz leverage its relationship with other sister companies in promoting its brand through other channels?

Existing stores generated cash. Opening new stores was capital intensive. How would Frenz fund growth? What were the risks associated with franchising? How would Frenz manage the licensees? Could Frenz continue to be choosey about site selection and new managers? Would corporate support and quality or service suffer with rapid expansion and new locales? New products had lower profit margins. Should they have promotional sales discounts upon introduction? Would new products sabotage sales of higher margin products? High unemployment and high gas prices had hindered sales and growth. Was this the new norm? The competitors were offering products at lower price points. How should Frenz respond? With expansion of the digital world, how would Frenz tackle this new market? Should Frenz expand and invest in digital technology which would take away resources and capital from its core business? The parent company, RPPC Dynasty, wanted a global risk management framework for all its subsidiaries. How did Frenz fit in this framework? Was the current global funding allocation from RPPC Dynasty adequate for the future growth of Frenz? Should Frenz continue to rely on debt to fund its growth or request more equity investment from RPPC? Would capital be an issue with Frenz’s expansion plan?

4.1 Background

Frenz Corporation (referred to as “Frenz”) is a wholly owned subsidiary of RPPC Dynasty. Frenz is a global premier roaster, marketer and retailer of specialty coffee in the European and American countries, incorporated in Belgium. It has operations in most major cities of Europe and the Americas, including all developed countries and some developing countries. In addition to company-operated stores, Frenz also sells a variety of coffee and tea products and licenses its trademarks through many other channels such as franchises, groceries, private clubs, hotels, cruise ships and national foodservice accounts.

Frenz is one of the most recognized and respected brands in the “premier” coffee houses as well as a household brand in the developed world. Its main competitors in the coffee houses market include Starbucks, McDonald’s, Douwe Egberts, Delta Cafés, Genovese Coffee, and Markus Coffee. Its household brand’s main competitors include Nescafé, Folgers, Maxwell House, Jacobs, Douwe Egberts, and Starbucks. Two of its main objectives are to maintain its competitive standing and to continue its disciplined expansion of the store base, primarily focused on growth in developing countries.

Mission Statement

Frenz’s mission statement is:

One person, one cup, one community, one world. We care about our family.

This mission statement focuses on our objective of being the most recognizable coffee brand in the world.

Board of Directors

Frenz’s Board consists of eight members. Three board members are Chief Executive Officers or Board Chairmen in leading public companies in Belgium, two are Board members of RPPC Dynasty, and the remaining Board members are executive officers of Frenz.

In recent years RPPC has adopted a global company risk management mandate in order to ensure consistent and unified risk management policies, strategies and processes among the conglomerate’s group of companies. In response, Frenz’s Board hired an experienced Chief Risk Officer, Robert Kaplan, to develop the risk management strategies for Frenz and to ensure that these strategies fit in RPPC’s global risk management mandate. Robert Kaplan’s responsibilities include proper integration of risk management strategies and policies with the global strategies and policies, smooth and controlled implementation of these strategies and cultivation of an acceptable risk management culture for Frenz, facilitating its ultimate goal of becoming the top coffee company in the world.

The new global risk mandate has resulted in disagreement as to which Board Committee should oversee Kaplan’s work. Some Board members believe that the Audit Committee’s role should be expanded to include it. Other Board members believe that this new mandate involves significant strategic changes and belongs under the Executive Committee. Some believe that it should be under the Related Party and Conduct Review Committee as the strategies will involve significant related party transactions. The Board of Directors has requested that Robert Kaplan consult with Ms. Julia Reich, RPPC Dynasty CRO, and provide a recommendation.

Marketing Strategies

Frenz is dominant in the high-end specialty coffee market especially through its premier coffee house outlets which have over a 40% market share in Europe. However, its market shares in North America, Latin America, developing countries and household coffee constitute only about 18%, 11%, 5% and 16% respectively. There is significant growth potential in those countries where the customer base is still expanding and there is a chance to increase market share without the pressure to take customers from competitors. Frenz's current marketing strategies are as follows:

- Continue its dominant market position in the coffee houses by organic expansion of its company-operated coffee houses in the developed countries through building more of these company-operated coffee houses in financial districts and high socio-economic areas;
- Further nurture relationships with and loyalty from other distributors such as high-end hotels, private clubs, universities, cruise-lines and upscale grocery and retail outlets such as bookstores and department stores;
- Expand into more developing countries through acquisition of local coffee house chains, franchising, and organic growth into more cities and financial districts of the developing countries, especially the fast-growing Asian market;
- Target local advertising in certain countries to expand its household brand recognition and add more endorsements in conjunction with certain significant events such as the World Cup, the Olympics, the World Exhibition, and events of regional significance;
- Maintain a significant budget devoted to Frenz's renowned marketing capability, which, due to investments over many years, has achieved significant economies of scale;
- Further enhance the company's ability to quickly develop and roll out new and innovative products, which helps defend against potential coffee substitutes and serves to further differentiate Frenz from its competitors;
- Expand and build the brand's digital presence and develop enhanced analytics to better understand customer preferences and profiles.
- Maintain a high Customer Taste Index (CTI) score. The CTI is based on customers' feedback and reflects their satisfaction with various coffee beans.

Frenz is also exploring vertical integration through owning and controlling its sources of key ingredients, such as coffee bean and tea plantations. This would provide enhanced quality control and allow for development of its own niche products.

Risk Profiles

Frenz faces significant supply-chain risks, such as commodity price risks and shipping costs, and demand risks, such as significant competitive pressures and change in consumer markets. It also faces operational risks, litigation and reputational risks, and other market risks, including foreign currency exchange risk, equity risk, and interest rate risk. Each of these risks is described in detail in Exhibit 2 of Section 4A.

Financial Statements
Detailed financial statements are shown in Exhibits 3 and 4.

4.2 Growth

Growth is never easy as the following examples of external and internal growth pains illustrated.

External Challenges
During the financial crisis in 2008 Frenz suffered significant losses due to reduced market demand and significant investment losses. Some Board members were unhappy with the geographical market concentration, which exacerbated Frenz's losses.

Today, the Marketing Vice President, Anthony Pirot, is being empowered to implement the recent marketing strategic goals set by the Board. Anthony's first priority is to expand into the fast-growing Asian market. He currently leads a team of twenty experienced marketing staff whose experience is predominantly in targeting the higher socio-economic clientele in the developed countries in Europe and the United States.

This expansion strategy will require significant capital. The new Chief Risk Officer, Robert Kaplan, is uneasy with the expansion strategy as cash flow in Frenz will be greatly strained without additional debt financing. This, in turn, could increase Frenz's leverage ratio above the conglomerate mandated threshold.

In addition, Anthony is expanding certain of Frenz's product lines, such as the super-premium coffee market, bubble teas, specialty fruit drinks, and mixed coffee and tea drinks, that have given Frenz a reputation as a product innovator in the market. To this end, Frenz is exploring offering coffee made from exotic coffee beans and special tea leaves.

There are very few areas that can produce such high–quality premium coffee beans. The best coffee beans are from Costa Rica, the *Finca Palmilera*, but they are very expensive. However, through market research, Frenz has determined that its customers often cannot distinguish between the premier super-premium coffee bean, *Costa Rica Finca Palmilera,* and its cousin the *Vietombia Finca Palmilera*, whose popularity is not as great, but whose flavor is considered comparable to *Costa Rica Finca Palmilera*.

The Asian country of Vietombia is the largest producer of *Vietombia Finca Palmilera*. The historical statistics on Vietombia are summarized in Exhibit 5a. Although Vietombia is a major producer of coffee, its domestic consumption is very small. Vietombia has a growing, export-driven economy. Until recently, the Vietombian economy was unstable due to a corrupt government and weak laws. Two years ago, the political party in power was overthrown and a new party, focused on growth and economic stability, came into power. Unfortunately, it will take many more years to implement stronger laws, remove corrupt officials, and build a financially stable country.

Despite Vietombia's increased participation in international trade, 10 years ago, Vietombia put in place a policy to peg its currency to that of its neighboring countries. (This practice has continued under the new political party in power.) The effect of the currency peg has been to effectively deflate the value of Vietombia's currency, the *Rubiaceae*, and as a consequence, bolster Vietombia's export-driven economy. Independent economic analysis has suggested the deflation of Vietombia's currency has been instrumental to the growth of the Vietombia economy. However, the banking system in Vietombia has been slow in modernizing, and all domestic banks primarily engage in domestic thrift activity, and as a consequence, their risk management and hedging programs are in their early stages. Further, the central banking system performs largely a symbolic role.

As a result of the Vietombia government's eagerness to stabilize its economy, the government is willing to give an exclusive dealership of the premium coffee beans produced there to Frenz, provided Frenz sets up an exclusive production facility for these super-premium coffee beans in Vietombia. This presents a significant opportunity for Frenz to gain favorable access to its key ingredient not easily duplicated by competitors, to reduce its reliance on other coffee suppliers, and to control costs as well as influence and control the quality of future coffee bean production.

However, this vertical integration strategy presents significant upfront cost requirements which may substantially increase the company's leverage ratio and lower the overall credit rating for Frenz. Details of the deal are given in Exhibit 5b.

Other significant companies in the market include King Coffee and Luna Beans.

King Coffee is a chain of premium coffee shops founded five years ago in Equabodia. Equabodia is an Asian country that neighbors Vietombia and is focused on growing its export-driven economy. However, it is also fraught with political corruption and legal challenges. In the short number of years since King Coffee was founded, it has opened nine more locations in Equabodia and now closely rivals Starbucks as the most popular chain in the country. King Coffee's success is largely owed to its CEO and founder, Khan Ong, a native Equabodian who was able to successfully adapt themes of international premium coffee shop chains to the local market.

Luna Beans is the largest coffee bean producer in South America. It is currently headquartered in Brazil, but has production facilities that source and process beans in multiple other South American countries. The company was founded in 1970 and has expertise in producing a wide variety of both common and rare coffee beans. In addition to being Frenz's largest supplier of coffee beans by volume, Luna Beans also serves other multi-national chains, including many of Frenz's competitors.

Digital Strategy

Frenz is dedicated to maintaining its renowned marketing capabilities and reputation as an innovator in the industry. Given the increasing prevalence of technology as a preferred medium for communication and commerce, Frenz has launched a Digital Strategy Group (DSG) with the goals of:

- Building the brand’s digital presence
- Using analytics to understand customer preferences
- Enhancing customer experience with technology
- Reaffirming Frenz’s origins as the “specialty coffee for the worker on the move”

A Frenz smartphone app is under development, with the following features under consideration:

- GPS-enabled search to find the closest Frenz Coffee House. The DSG is contemplating a partnership with an existing GPS location provider (e.g., Google Maps) and would overlay a Frenz-branded interface. Users can check-in to a particular location and share through various social media platforms.
- Full menu browsing complete with pricing and nutritional information.
- Payment capabilities both through prepaid digital gift cards and charging a stored credit card directly. With respect to charging a credit card, the DSG is contemplating leveraging existing digital payment options (e.g., Apple Pay) or storing credit card information directly within the app.
- Purchase history automatically recorded when in-app payment is used. Users can share recent purchases through various social media platforms.
- Loyalty program to reward frequent customers with exclusive promotions (e.g., every 10th coffee is free). Additional loyalty reward points would be credited for other activities (e.g., signing up a friend to the app).

An app of this scope is not currently being offered by any of Frenz’s competitors; however, various features described above have been rolled out by other market participants.

The DSG is particularly interested in the customer data that will be collected through this app. The data architecture and information security is being developed and Frenz recently hired Bill Arima, an acclaimed data scientist from Silicon Valley, to get the company’s predictive modeling capabilities up and running as soon as possible. Bill’s team has already demonstrated promising results using data collected from beta versions of the app. Frenz is currently seeking a Chief Data Officer to ensure proper data governance.

This strategy is a costly undertaking for Frenz and will be diverting capital away from its core business.

Overhead Allocation

Jeff Bemowski, Frenz Division head of Non-Coffee Product Marketing, slunk down in the guest chair in the office of Kitty Dunn, Frenz's Chief Accounting Officer. "You are killing me with your overhead," Bemowski begins.

"I'm not sure what you mean," replies Dunn. "Our policy for allocating corporate overhead is pretty straightforward and hasn't changed in several years. Overhead costs such as corporate advertising, executive salaries, the rent on this home office building, and so on are accumulated. Then that bucket of corporate overhead is spread over all sales on a uniform basis."

"That's exactly the problem!" retorts Bemowski. "I think we need to change the policy and we need to change it now before....."

"Wait a minute," says Dunn. "We have worked very hard to keep our overall corporate overhead under control. In fact, corporate overhead has increased at only a 5% rate per year over the last five years. That's at a time when the company has grown by over 250% in those same five years. Every summer, we review the overhead allocation ratio and, well, with all our growth, it has gone down every year."

"I know that," responds Bemowski. "What I'm talking about is HOW corporate overhead is allocated. Look, a big part of my bonus is dependent on the profitability of Frenz' non-coffee products. You know, the music CDs, greeting cards, coffee cups, etc. that we sell. I've been pushing our store managers to move these products but your allocation method for corporate overhead disguises the true profitability of my part of the operation."

"Well, it is a zero sum game. The overhead is the overhead and it all has to be allocated somewhere." replied Dunn.

"Yeah, but a CD costs more than a cup of coffee," argued Bemowski. "When Frenz does something like run a commercial, we are advertising the whole brand. We want to get customers to come into our stores to have the whole Frenz experience. We get them to come in to our store regularly for coffee. Eventually, they may buy our other products in addition to their coffee. Why should the one CD be saddled with more overhead than all those cups of coffee? It just feels wrong to me!"

"Again," began Dunn, "each product gets an allocation of corporate overhead based on its standard price. That keeps it the same from market to market, where prices might be different and it negates the impact of sales and discounts on items. That seems like a fair system to me but if you don't want to do it that way, what would you suggest?"

"Well I believe our model is that each store is a profit center," says Bemowski. "We tell our store managers that corporate supports them but once they are part of the Frenz family, they can make their shop as profitable as they want it to be. The upside is unlimited; their hard work will pay off."

“Wait,” interjects Dunn. “There are rules for how the stores must be set up and how the product is displayed. Not to mention quality…”

“I know all that,” Bemowski cut in. “But we are allocating overhead in a way that punishes our most successful store managers. Take that corporate overhead and allocate it as $X per store. Corporate supports the store; the store manager is the one who determines how much business the store does. Better yet, allocate Corporate overhead to each store based on smoothed, budget amounts. That way each store manager knows just how much Corporate overhead he has to cover in his store at the start of the year.”

“I suppose we could look at it,” concedes Dunn. “We have most of the data and we could collect some…….”

“You financial types always want more data. You are afraid to make a decision! It is obvious; change and you are going to get a better look at which stores are on top and which are on the bottom.” sputtered Bemowski. “And you will see how important my non-coffee products are to making those top stores, the top stores. I can feel it in my bones; you need to get on board or get out of the way.”

“We are most certainly not going to change anything without studying it first,” responded Dunn calmly, “and there are channels to go through for making any expense allocation change. We need to weigh the pros and cons.”

“You can’t save your way to greatness,” said Bemowski getting up and heading toward the door. “Call me when this company is serious about making real money.”

And with that, Bemowski was gone. Dunn rubbed her temples. “Marketing,” she murmured under her breath.

4.3 Market Trend

Specialty brews boost coffee sales in Canada

Coffee, Canada’s go-to drink, has become a multi-billion-dollar industry spurred on by increasingly adventurous consumers looking for new taste challenges. Innovation is driving the growth of Canada’s $6.2-billion coffee industry with specialty coffees, new preparation methods, and technology helping to lift sales to new heights, according to Lesya Balych-Cooper, president of the Coffee Association of Canada (CAC).

The most popular beverage among adult Canadians, who drink an average 3.2 cups of coffee a day, the sector is a favorite with that most desirable demographic, the millennials.

Ms. Balych-Cooper says the 2018 CAC Coffee Trends survey shows the number of 18- to 24-year-olds who said they drank coffee ‘yesterday’ is up from 38 per cent in 2010 to 58 per cent in 2018. “That’s 20 points: it’s huge,” she adds.

While traditional or brewed coffee is most likely to be consumed by people between 65 and 79 years old, sales of specialty coffee have grown from 13 per cent in 2015 to 19 per cent in 2018.

“Those six points are a very relevant growth indicator,” says Ms. Balych-Cooper. “It’s attributable mainly to millennials. According to our surveys, we know that more 18- to 34-year-olds drink espresso, iced, frozen, and branded coffee drinks than those people who are 35 and older.”

The numbers also show a 3 per cent increase, from 2017 to 2018, of cold specialty coffee compared to hot specialty coffee. Nitro brewing, an innovative preparation method that infuses cold brewed coffee with tasteless, odorless nitrogen gas to produce a smooth beverage with a creamy texture, is a trendsetter in this category.

While Canada recorded the fastest sustained growth of the traditional importing markets for coffee (North America, Europe and Japan) over the past decade, sustaining and boosting the industry requires that companies understand their consumers.

“Many millennials will make choices about where they buy in terms of how they can experience their coffee, and even when they choose a traditional way of experiencing coffee, they may want to have a coffee that is grown in a fair trade environment.

“Today’s consumers are engaged in a conversation about ethics, technology and sustainability. It’s a much more intellectual conversation about a cup of coffee that overlays the drinking of the coffee,” says Ms. Balych-Cooper.

Historically the industry has understood the journey from the farm gate to the consumers’ lips.
“That aperture has been widened now. People want to know more than just the farm gate. They want to know what’s happening on the farm. What is it doing to the people that work there? What is it doing to the environment? They don’t just want to know what it tastes like,” she adds.

Ms. Balych-Cooper says almost a quarter of the people surveyed say that they want to know that the coffee beans are grown on farms that treat their workers well. They also want to know if the companies buying the beans support the communities where the coffee is grown.

“These are all things that might make millennials, or anybody for that matter, choose a particular coffee experience. Some might buy just to support growers in certain countries. It’s a much deeper conversation.”

Meanwhile, innovation is also increasing sales of coffee in grocery stores, says Robert Carter, executive director, foodservice at market research firm NPD Group.

While the CAC Coffee Trends survey showed that seven out of 10 cups of coffee are consumed at home, Mr. Carter says the once ubiquitous drip coffee maker is being challenged by the single-cup pod system coffee machines. He says this trend is fueling the purchase of pods, a more expensive option than traditional packaged coffee.

Mr. Carter says convenience is the major reason Canadians are embracing the system. "It's more convenient to brew a single cup than to brew a whole pot of coffee. The easier you make a process, the more consumers will respond," he adds. The selection and variety of coffee available in pods is also boosting sales.

"But the millennial cohort is very concerned about their food and beverages, and the pods are not recyclable. The industry will have to deal with this barrier to growth, and I anticipate that in the next 24 months they will have resolved it," he says.

And while the pods, with their higher price point than traditional packaged coffee, are also good news for grocery stores, they face a challenge from that great disruptor, the Internet. "The pods are easy to deliver, so buying them online is an attractive and less expensive option," Mr. Carter points out.

The CAC notes that coffee in the food service industry (any place where coffee outside the home is served) is worth $4.8 billion a year. Restaurants may have been ahead of the trend in the specialty coffee category with their decades-old menu offerings of post-dinner drinks like Irish Coffee and Café Amaretto. Ian Tostenson, president and CEO of the BC Restaurant and Food Services Association, says fine dining restaurants in particular have the opportunity to benefit from the growing appetite for specialty coffee.

"It is a good profit center for restaurants; it absolutely ups the average check," he adds.

Ms. Balych-Cooper says a break to enjoy a cup of coffee is one of the simpler pleasures in a busy day.

"Whether you want to call it an indulgence or just a rest, it gives that little moment of pleasure. It's wonderful to have that pause to enjoy it."

Smart coffee

Canadians drink a lot of coffee – two thirds of adults consume at least one cup a day – but despite the proliferation of coffee shops across the country, seven out of 10 cups are enjoyed at home, according to the Coffee Association of Canada. And now coffee just got a whole lot smarter: you can create and brew your favorite drink via a Bluetooth connected app on your tablet or smartphone.

More than 30 years ago, Italy-based Saeco introduced the first fully automatic coffee machine, and now the company has rolled out another industry leader with the first consumer Bluetooth espresso machine.

“The GranBaristo Avanti and its app offer an easy way for consumers to customize every detail of their drink,” says Nadège Vergura, senior marketing manager, Saeco, Philips Canada. She says Saeco continually invests in research and development to improve its technology and designs, and the Saeco GranBaristo Avanti is the company’s most high-tech coffee machine.

“It gives you the ability to make espresso-based drinks and long American coffee by automatically lowering the pressure from 15 bars to two bars depending on the drink you choose. Every drink can be fully customized through the user interface or through its app. We are putting the power in the hands of the consumer,” she says.

There are many variables to making that perfect cup of coffee. Exceptional beans and pure water are essential. Fair trade, organic or other certifications from growers often impact the choice of coffee beans.

“The Saeco Adapting System ensures that any Saeco machine will continuously learn and adapt to the bean the consumer chooses, ensuring the perfect espresso and the perfect crema every time,” says Ms. Vergura.

Coffee connoisseurs also consider the coarseness of the grind, the temperature of the coffee and the froth of the milk when making latte macchiato and other specialty espresso-based drinks like a cappuccino. The GranBaristo Avanti enables all these choices and can store preferences for six different drinks, memorizing length, strength and temperature for each. The Latte Perfetto technology adds that extra luxury touch: the milk carafe froths the milk twice, then pours a creamy layer into the cup.

“The app is fun when you’re entertaining. You can see the drink you are making and adjust the amount of milk and coffee. Your guests can choose from 18 drinks and place an ‘order’ right in the app, allowing each guest to customize their own coffee. The app will queue them for you. It’s very visual and fun to play with the coffee and milk levels and see your coffee right on your screen,” adds Ms. Vergura.

The GranBaristo Avanti has been completely redesigned to present a much smaller footprint than traditional Saeco coffee machines, and the new brew group is easier to clean.

“It has a stainless steel finish and a contemporary design that looks beautiful in any kitchen, and we test every single machine before it is packaged and shipped, to ensure top quality,” says Ms. Vergura.

Innovation, quality and customer experience

When it comes to serving coffee, Starbucks keeps human connection at the forefront when making business decisions. With 1,400 stores across the country, Starbucks is one of Canada’s most familiar brands, but its success is driven by far more than its size, says Peter Furnish, vice president of marketing and category, Starbucks Canada.

In a rapidly evolving market, maintaining a competitive edge takes more than simply expanding the market.

“Our ability to deliver leading coffee and digital innovation, utmost quality and a remarkable customer experience is unmatched,” he says. “We strive to create a space of warmth for our customers as they’re welcomed by an engaging barista skilled in making handcrafted customized beverages, which creates a really special experience.”

For example, Starbucks’ latest offering, Blonde Espresso Roast launched this week, provides Canadian customers with two distinct choices of espresso for the first time. Blonde Espresso is a lighter roasted blend with a smooth and sweet flavor profile that is truly differentiated from Espresso Roast, explains Mr. Furnish.

“Blonde Espresso Roast, with its complexity and depth of flavor, will provide a new option to our current espresso customers and bring along a new generation of coffee drinkers as they adopt less sweet, more coffee forward beverages,” he says. “It also unlocks endless possibilities for customers to experience their favorite beverages in a new way.”

Blonde Espresso Roast especially shines in iced espresso beverages, creating smooth, balanced beverage creations that will continue to support the rapid growth of iced coffee and espresso at Starbucks, he adds.

“In our eyes, unmatched innovation inspired by customer and partner feedback, our ability to constantly explore new ideas around the world and our capacity to be coffee and tea forward make our approach special,” says Mr. Furnish. “We’ve always believed in buying and serving the best coffee possible. And it’s our goal for all our coffee to be grown under the highest standards of quality, using ethical sourcing and responsible growing practices. We think it’s a better cup of coffee that also helps create a better future for farmers and a more stable climate for the planet.”

Innovation was also behind the opening last November in Ottawa of Starbucks’ first experiential Starbucks Reserve coffee bar in Canada.

“When Starbucks opened its first Reserve Roastery in Seattle in 2014, it created an immersive coffee destination unlike any other, where the theatre of coffee takes center stage,” says Mr. Furnish. “Experiential Starbucks Reserve coffee bars offer a similar immersive coffee experience. We know our customers are more curious about coffee than ever before, and this new experience places coffee craft at the center of the conversation.”

Starbucks Reserve small-lot coffees are featured, and the beverages are crafted with a variety of brewing methods, including Siphon, Clover, Pour Over and Nitro Cold Brew taps. The company plans to open more Reserve coffee bars across Canada.

4A Frenz Corporation Exhibits

EXHIBIT 1
Board of Directors

Felix Hermans is the Chief Executive Officer of Genie Bank of Belgium. He holds a Master of Science in Business Econometrics/Operations Research degree from Tilburg University and has completed professional programs at the Netherlands Institute for Banking, Amsterdam Institute of Finance, Oxford University and INSEAD. He is currently the Chairman of the Frenz Board and has been a director since 2008.

Fred Coppens is the Chief Executive Officer of Vedegu Chocolate, which is a chocolate manufacturer in Belgium. He holds a Master of Science degree in automation engineering and has been a director since 2012.

Abram Lemaire is a Vice Chairman, Chief Executive Officer, Managing Director and a Member of Management Board at VESET Group SA, an affiliate of Ora Construction Industries Company. He has been a director since 2003.

Gilroy Clyde is the Chief Executive Officer of RPPC, the holding Company of Frenz. He has been a director since 2003.

Olivier Collignon is the Deputy Chairman of the Board of RPPC. He has been director since 2003.

Julien Jacobs joined Frenz in April 2003 and has served as Chief Executive Officer since October 2008. He was the CEO of Frenz US, a subsidiary of Frenz, from April 2006 to October 2008. He has been a director since 2006.

David Gillet has been the Chief Executive Officer of Frenz US since 2008. Prior to that role, he served as president of Frenz China and Asia Pacific, a subsidiary of Frenz, from November 2006 until October 2008. He has been a director since 2008.

Vincent Jansen is the Chief Financial Officer of Frenz Corporation and has been a director since 2008.

There are no family relationships among any directors or executive officers. The mandate of the Board was established at the time of incorporation to supervise management of the business and affairs of the Corporation on a broad scale rather than to be involved in daily management. Its responsibilities include:

- approving strategic goals and objectives,
- reviewing of operations, disclosure and communication policies,
- overseeing financial reporting and other internal controls,

- corporate governance,
- Director orientation and education,
- senior management compensation and oversight, and
- Director nomination, compensation and assessment.

In order to ensure that these responsibilities are carried out in a cohesive manner, the Board has established the following sub-committees:

Executive Committee

The Executive Committee has and may exercise all or any of the powers vested in and exercisable by the Board, including approval of the annual strategic plan. Currently, the Executive Board comprises five board members with the Chairman of the Board, Felix Hermans, also acting as Chairman of this Committee. It has the following additional Board members:

- Fred Coppens
- Olivier Collignon
- Abram Lemaire
- Julien Jacobs

Audit Committee

The primary mandate of the Audit Committee is to review the financial statements of the Corporation and public disclosure documents containing financial information and to report on such review to the Board; to be satisfied that adequate procedures are in place for the review of the Corporation's public disclosure documents that contain financial information; to oversee the work and review the independence of the external auditors; and to review any evaluation of the Corporation's internal control over financial reporting.

The Audit Committee comprises four Board members with Vincent Jansen, the CFO of Frenz, acting as the Chair of this Committee. It has the following additional Board members:

- Gilroy Clyde
- Abram Lemaire
- David Gillet

Compensation Committee

The primary mandate of the Compensation Committee is to approve compensation policies and guidelines for employees of the Corporation; to approve compensation arrangements for executives of the Corporation; to recommend to the Board compensation arrangements for the Directors; to oversee the management of incentive compensation plans; and to review succession plans for senior management. The current Chair of this Committee is Gilroy Clyde, with the following three additional Board members:

- Felix Hermans
- Abram Lemaire
- Olivier Collignon

Related Party and Conduct Review Committee

The primary mandate of the Related Party and Conduct Review Committee is to recommend to the Board procedures for the consideration and approval of transactions with related parties of the Corporation and to review and, if deemed appropriate, to approve such transactions. Fred Coppens is the Chair of this Committee, with the following three additional Board members:

- Olivier Collignon
- David Gillet
- Vincent Jansen

Governance and Nominating Committee

The primary mandate of the Governance and Nominating Committee is to oversee the Corporation's approach to governance issues; to recommend to the Board corporate governance practices consistent with the Corporation's commitment to high standards of corporate governance; to assess the effectiveness of the Board of Directors, of Committees of the Board and of the Directors; and to recommend to the Board candidates for election as Directors and for appointment to Board Committees. This Committee is also responsible for making recommendations to the Board on the "Code of Business Conduct and Ethics" policies to ensure a culture of integrity throughout the Corporation. This Code is applicable to Directors, officers and employees of the Corporation.

Julien Jacobs, the current CEO of Frenz, is the Chair of this Committee and the Committee is composed of the following additional Board members.

- Olivier Collignon
- Gilroy Clyde
- David Gillet

EXHIBIT 2
Risk Profiles

Supply-Chain Risks
Commodity price risk is the primary supply-chain risk for Frenz. Price volatility of key ingredients such as green coffee, tea leaves and dairy products presents a substantial exposure to the stability of the product prices as well as profit margins. This is mitigated somewhat by the ability to keep coffee and tea for long periods of time, thus reducing storage costs.

In addition, oil prices have a direct impact on shipping costs. Frenz incurs substantial shipping costs in transporting the key ingredients to its worldwide retail outlets. Therefore, oil price increases over recent years has eroded Frenz's profit margin.

Supply and price can be affected by multiple factors in the producing countries, including weather and political and economic conditions. The price for coffee is also impacted by trading activities in the Arabica coffee futures market, including hedge funds and commodity index funds.

Furthermore, green coffee prices may be affected by actions of certain organizations and associations that have historically attempted to influence prices through agreements establishing export quotas, increased tariffs, embargoes, and customs restrictions or by restricting coffee supplies. Similar influences also exist for prices of tea leaves.

Relationships with the producers (coffee, tea, and dairy), outside trading companies, suppliers and exporters are also pertinent in assessing the risk of non-delivery on purchase commitments and the quality of ingredients delivered.

Demand Risks
Competition can be fierce as the capital required to enter the industry is low. The company is facing competition not only from the specialty beverage shops such as Starbucks, Timothy's, and Second Cup, but also from quick-service restaurants such as McDonald's, donut shops such as Tim Hortons, dessert shops, high-end restaurants and other specialty retailers. Thus, the need for the company to keep expanding and differentiating its product lines and venture into unfamiliar territories is becoming inevitable.

Customer loyalty is pertinent in this business. As a result, the company will continue to expand its popular loyalty card program, which has been effective in preventing other companies from stealing away Frenz's customers, to include products from other sister companies in the conglomerate group.

Adverse economic conditions may cause declines in general consumer demands for these high-end products, driving the increase in costs and pressure for reduced quality of products, which in turn, may increase impacts from negative publicity.

Negative publicity regarding business practices or health effects of consuming products may lead to reduction in demand and profitability and an increase in litigation.

Operational Risks

Risks are associated with each of the expansion plans that Frenz is exploring. Implementation of these plans can be very challenging and risky as these plans are disruptions to the ongoing business.

Delays in store openings, exposure to increased construction costs associated with new store openings, and lack of availability of desirable real estate locations would also negativity impact the net revenues and profit margins.

The degree to which Frenz is able to negotiate appropriate terms and conditions as it enters into, maintains, and develops commercial and other agreements could have significant impact on company financing and operation.

Loss of key personnel, difficulties in recruiting and retaining qualified personnel, labor discord, political instability and natural disasters could cause significant business interruption which, in turn, adversely impacts the business and financial results.

Adverse public or medical opinions about health effects, food tampering, food contamination, regional or global health pandemic could severely and adversely impact the company's business.

Due to Frenz's heavy reliance on information technology, any material inadequacy, interruption or security failure of the technology could harm the ability to effectively operate the business.

Litigation and Reputation Risks

Success depends substantially on the value of the brands, especially in the specialty business. Thus, the company has to maintain product quality and be able to consistently deliver a positive consumer experience. It must engage in corporate social responsibility programs to enhance the company reputation. Brand value is based, in part, on consumer perceptions on a variety of subjective qualities. Even isolated business incidents that erode consumer trust, such as contaminated food or privacy breaches, can significantly reduce brand value, particularly if the incidents receive considerable publicity or result in litigation.

Reputation may be harmed by actions taken by third parties that are outside of the company's control. Third parties may include business partners, licensees, suppliers, vendors and any business associates with whom the company engages.

Proper handling of customers' complaints is very important in protecting the company's reputation and preventing potential litigation.

Foreign Currency Risk
Because Frenz has operations in many different countries, currency exchange risk exists due to having different currencies generated from the revenue and expense sides. Currency volatility has caused significant costs in operation due to timing differences.

Real Estate Risk
Frenz has significant exposure in real estate markets due to investments in commercial properties and operation plants.

Interest Rate Risk
Frenz has debt issuances, and fluctuation in interest rates could result in significant impacts on refinancing costs.

Capital Risk
In order to maintain the company's growth rate, Frenz is facing increasing capital risks.

EXHIBIT 3

Financial Statements and Supplementary Data

Frenz Corporation Ltd.

CONSOLIDATED STATEMENTS OF EARNINGS (In millions, except per share data)

Fiscal Year Ended	**Dec 31, 2018**	**Dec 31, 2017**	**Dec 31, 2016**	**Dec 31, 2015**	**Dec 31, 2014**	**Dec 31, 2013**
Net revenues:						
Company-operated stores	$1,214	$1,056	$ 960	$ 890	$ 650	$ 400
Licensed stores	127	110	100	85	50	45
CPG, foodservice and other	134	117	106	88	60	100
Total net revenues	**1,475**	**1,283**	**1,166**	**1,063**	**760**	**545**
Cost of sales including occupancy costs	583	535	495	445	375	255
Store operating expenses	423	393	366	355	320	300
Other operating expenses	49	45	40	29	25	20
Depreciation/ amortization expenses	58	55	52	51	50	50
General & administrative expenses	75	70	65	56	30	28
Restructuring charges	0	0	0	53	100	200
Total operating expenses	**1,188**	**1,098**	**1,018**	**989**	**900**	**853**
Gain on sale of properties	112	55	30	0	0	0
Income from equity investments	33	22	18	15	10	(175)
Operating income	**320**	**207**	**196**	**89**	**(130)**	**(483)**
Interest income and other, net	15	14	11	5	5	4
Interest expense	(5)	(3)	(3)	(3)	(3)	(3)
Earnings before income taxes	**330**	**218**	**204**	**91**	**(128)**	**(482)**
Income taxes	(73)	(54)	(63)	(28)	14	144
Net earnings (loss)	**$258**	**$163**	**$141**	**$63**	**$(114)**	**$(338)**
Earnings per share—basic	$0.52	$0.33	$0.28	$0.13	$(0.07)	$(0.68)
Cash dividends declared per share	$0.005	$0.005	$0.005	$0.000	$0.000	$0.000
Cash Dividends Paid	**$2.50**	**$2.50**	**$2.52**	**$0.00**	**$0.00**	**$0.00**

EXHIBIT 4
Frenz Corporation Ltd.
CONSOLIDATED BALANCE SHEETS
(In millions, except per share data)

Fiscal Year Ended Dec 31, YYYY	2018	2017	2016	2015	2014	2013
ASSETS						
Current assets:						
Cash and cash equivalents	$187	$159	$138	$116	$90	$20
Short-term investments —available-for-sale securities	115	98	85	24	15	5
Short-term investments —trading securities	35	22	25	15	5	5
Accounts receivable, net	53	40	84	30	35	60
Inventories	102	98	45	44	67	143
Prepaid expenses & current assets	35	28	45	16	20	16
Deferred income taxes, net	20	21	25	30	35	23
Total current assets	**548**	**465**	**447**	**275**	**267**	**272**
Long-term investments —available-for-sale securities	95	66	10	19	10	5
Equity and cost investments	138	88	37	34	15	8
Property, plant and equipment, net	450	300	235	245	205	200
Goodwill	25	25	25	25	25	25
Other intangible assets	10	10	5	5	5	5
Other assets	56	48	20	23	5	25
Total Assets	**$1,322**	**$1,003**	**$779**	**$626**	**$532**	**$540**
LIABILITIES AND EQUITY						
Current liabilities:						
Accounts payable	$45	$33	$24	$28	$35	$40
Accrued compensation & related cost	42	39	36	40	35	10
Accrued occupancy costs	17	13	15	17	20	15
Accrued taxes	10	10	10	10	5	2
Insurance reserves	15	15	15	15	15	15
Other accrued liabilities	28	30	32	26	22	15
Deferred revenue	42	49	43	41	40	25
Total current liabilities	**199**	**189**	**175**	**177**	**172**	**122**
Long-term debt	177	140	120	110	95	55
Other long-term liabilities	71	62	52	45	38	22
Total liabilities	**$447**	**$391**	**$347**	**$332**	**$305**	**$199**
Shareholders' equity:						
Common stock ($0.001 par value) —authorized, 500 shares; issued & o/s	$0.5	$0.5	$0.5	$0.5	$0.5	$0.5
Additional paid-in capital	44.8	44.8	44.8	44.8	44.8	44.8
Other additional paid-in-capital	55	50	34	34	34	34
Retained earnings	763	508	347	209	146	260
Accum. other comprehensive income	11	8	5	6	2	2
Total shareholders' equity	**$875**	**$612**	**$432**	**$294**	**$227**	**$341**
TOTAL LIABILITIES AND EQUITY	**$1,322**	**$1,003**	**$779**	**$626**	**$532**	**$540**

EXHIBIT 5a

Vietombia Statistics

INFRASTRUCTURE	
Economy	
GDP (2018)	USD 70.1 billion
% exports (2018)	USD 62.9 billion FOB 89.73%
Population and employment	
Total population	86 million
Total employment in the coffee industry	600,000 coffee growers
% adult literacy	30%
Average school level for workers in the coffee industry (farms)	Grade 6
% of workers who are landowners	n/a
Number of workers associated to a cooperative	20,000
% workers with permanent contract	5%
Forms of workers representation	
Association of coffee providers	None
% of employees who are part of a trade union	None
Geographical aspects	
Total area of production (hectares)	Cultivated area: 506,000 ha
Number of farms	300,000
History of the coffee industry	
Date of creation	First coffee plantation in 1857 in French colony
Management system/style	n/a
Number of owned farms	n/a
Number of owned thresher	n/a
Economic indicators of coffee industry (net profit, sales, etc.)	Total production: 57.6 million bags (2018) Total exports: 53.8 million bags (2018)
Exports (total exports, % exports against total production)	Total production 961 million tons (2018) Total export 897 million tons (2018) % participation of exports in total production: 93.34%

EXHIBIT 5b

Vietombia Proposal

- Exclusive production agreement with government of Vietombia
- Gives Frenz rights to purchase all coffee grown in Vietombia
- Frenz must build production facility in Vietombia, but would own and run the facility
- Potential competitive advantage due to exclusive supply of high quality coffee beans

Initial Cost	100M
Additional expected annual net earnings from exclusive beans	10M
Current Cost of Debt for Frenz (net of tax)	7%
Cost of Capital for Project	20%*

Risk of Losses from Coffee Price Fluctuation		
Percentile	Current Loss	Loss with Vietombia Deal
99	100	60
98	85	50
95	50	30
90	25	15

*The 20% is higher than RPPC's or Frenz's normal cost of capital rate.

5 Blue Ocean P&C Company

Ruth Green, Chief Actuary, was watching the year in review shows frequently broadcast as the year came to a close. She watched the replays of the national hero at the Games. Mo Farah took gold in both the 5,000 and 10,000 meters. Mo was fast, Usain Bolt was faster but Blue Ocean moved with greater speed. Blue Ocean had been built on innovation and speed to opportunity and speed to market. The company viewed product development as a long-term strategy. Blue Ocean saw a niche and filled it. Everyone looked at the same information. Not everyone saw the same things. Others saw only dots. Blue Ocean made connections. This was the benefit of having cross-functional teams across the organization, all with a common understanding of the company's mission, strategy, goals, marketing, sales, and logistics.

There are always questions. Other companies choke from paralysis. Blue Ocean underwriters don't just sit on ideas ignored by a management too busy to be persuaded. Instead, Blue Ocean management asks what action to take. Management supports the new product development process.

Ruth keeps an open channel of communication for new product development ideas, which recently resulted in several new proposals coming across her desk. How could she make them happen? How would the company underwrite and manage the risks? Which segments should be targeted? Would these most recent niche offerings add value? Why might Blue Ocean fail? What should she do to remove or mitigate those risks? How would she balance the number of projects with available resources?

5.1 Background

Mission and Strategic Plan
Our mission is to strengthen the brand identity as a dominant innovator in the UK market and maximize sustainable long-term growth in shareholder value. Our strategic plan is to capitalize on arenas with new opportunities.

History
RPPC acquired Blue Ocean, the 5th largest property and casualty insurance company in the United Kingdom (UK), in 2008. This acquisition gave RPPC access to Blue Ocean's lucrative insurance market in the UK and continental Europe. Products included marine, property catastrophe and retrocession. Since then, Blue Ocean has continued to expand and develop its insurance businesses worldwide. In September 2014, Blue Ocean began writing Pet and Travel insurance business in North America. As of the beginning of 2018, the capital base stood at $3 billion.

Rating
Guided by experienced management and backed by an impressive team of underwriters, actuaries and catastrophe risk modelers, Blue Ocean earned an A.M. Best rating of A (Excellent) and quickly established itself as a market leader.

Management Team				
		CEO Edward Blue		
		CFO Michael Tan		
Chief Actuary Ruth Green	CLO Jerome Black	CRO Geoff Olive	Business Ops Andrew Grey	CAO Michelle Rouge

Strategy

The traditional business arena for Blue Ocean has been the marine insurance market. This focus has been very successful in the company's traditional geographical market, the United Kingdom. With the post-acquisition expansion into a new region, company management decided to expand its focus into Pet and Travel Insurance. In keeping with its mission to be an innovative leader, the executive team is considering an offering within the emerging Renewable Energy sector.

Blue Ocean has an ongoing initiative to identify new opportunities and can redirect the strategic plan in real-time to respond to market forces and new technologies, for example, conducting a feasibility study on whether to offer Personal Solar Energy Insurance to homeowners who have purchased solar panels to produce their own power.

Within the Pet and Travel insurance lines, the goal is to establish a dominant market share in this relatively young insurance field. The financial goals are to generate as much profit and premium from this new risk arena as Blue Ocean currently earns in the core Marine business.

Other innovative ideas have also come through the Chief Actuary's e-mail related to insurance opportunities in the Online Peer-to-Peer Commerce space, also known as the "Sharing Economy".

Travel Insurance

Travel insurers faced steep revenue declines during the recession. The recession from 2008 to 2009 caused consumer discretionary spending and, therefore, consumer spending on travel to plummet. However, since 2010 industry revenues have grown. The recession and associated turmoil in the international airline industry boosted demand for travel insurance: consumers were more sensitive to protecting their investments in travel expenditures due to higher risk of flight cancellations and delays. The industry is expected to continue growing over the next five years and expand into niche markets catering to students and business travelers. The Travel Insurance industry has a low level of market share concentration.

In order for Blue Ocean to compete in this industry, it offers a comprehensive travel insurance program to its customers. The insurance program includes life and accidental death and dismemberment insurance, trip cancellation and trip interruption insurance, baggage loss insurance, and medical and hospitalization insurance. It even offers ambulance and air transportation coverage in case of medical emergencies that occur within the first 60 days of travel. The insurance can be purchased on a per trip basis or on an annual basis for frequent flyers. Unbundling of some benefits is also available.

To facilitate this wide range of services, Blue Ocean has established partnerships with travel agencies to recover the salvage value of all cancelled trips by offering deep discounts in the last-minute travel markets. In addition, it has established partnerships with some hotel chains and with air ambulance service companies to accommodate its customers in case of emergencies or airline delays. These partnerships are a means of reducing the overall costs of the program. Despite its short history in this industry, Blue Ocean has already made significant progress in establishing business relationships with its business partners. These relationships have become its competitive advantage in the travel industry.

Pet Insurance

While pet insurance remains a relatively underdeveloped product in North America, with less than 1% of all pets being insured, European levels of insured pets range from 12% to 50%. In many European countries, insuring your pet is just as common as insuring your home or car. The UK pet insurance industry is a mature industry. 50% of dogs and 30% of cats are insured, with a population estimated at 8.3 million dogs and 11.9 million cats.

Pet Insurance is coverage for Veterinary Medical Expenses – so the underlying inherent risk is a health risk similar to medical expenses in humans. Although pet insurance is primarily a health risk, in the US, it is regulated as a P&C product, since in most states pets are considered property under the law. Typically, it is regulated under the Inland-Marine line of business.

The industry is diverse and provides consumers with a multitude of choice in terms of products and types of coverage available. Three clear strategies have appeared. The first is the 'menu-based' proposition, where customers are provided with the standard 'vet fees only' product and allowed to choose various coverage options to produce a product that meets their needs. The second option, which the majority of providers offer, is a 'multiple cover' offering, whereby customers are able to choose products based on set coverage limits. These types of products are often displayed as 'bronze, silver, or gold', reflecting the levels of cover offered. The third option is a 'one size fits all' product that offers a static veterinary fees limit and does not allow for flexibility to increase or decrease this limit.

In continental Europe there are 120 million dogs and cats. The percent insured varies by country. For example, in Sweden, 55% and 35% of dogs and cats are insured respectively. The U.S. pet insurance industry is in its infancy. Approximately 1% of a population of 155 million cats and dogs is insured. The U.S. industry has grown 15% compounded annually on a premium basis since 2006.

Pet Insurance is characterized by traits associated with really low risk.

- Low Severity ($230/claim)
- High Frequency (1.3 claims per policy/year)
- Ultra-Short-Tail
    - 95% of claims are paid out within 3 months of the loss

- 99.9% are paid out in 12 months

Because of the ultra-short tail properties there is very little opportunity to earn investment on reserves.

	2018 Premium Income*	2018 Reported profit*
Marine	1,600	120
Pet	400	25
Travel	300	30

* (millions)

5.2 Opportunity

Renewable Energy Financing Business Opportunity
A new US government program has been created to:

- Provide subsidies for solar panel purchases
- Provide incentives to electric utilities

Blue Ocean is exploring the opportunity to provide financing arranged by solar panel service providers who participate in the program. Other participants in the program are homeowners and electric utilities.

Solar Panel Service Providers

- Responsible for solar panel installation, maintenance and repair
- Arrange financing for homeowners

Homeowners

- Purchase solar panels that provide 50% - 100% more capacity than needed to provide energy for the home using funds from financing arranged by solar panel service providers
- Sell excess energy to participating electric utilities and use proceeds to repay debt

Electric Utilities

- Participate in the program via one-year contracts which they are not obligated to renew
- Receive incentives to source 10% of their energy from solar energy from this program
- Must purchase energy units at 3x their normal retail sales rate in order to receive the incentives

Blue Ocean would provide 20-year financing for the purchase of solar panels. Blue Ocean expects to receive attractive long-term returns on the loans it makes. Homeowners are expected to repay the loans in equal payments over 20 years with the proceeds from their sales of excess energy to utility companies. However, if in any year, the proceeds from the sale of the excess energy are not sufficient to make the full loan repayment, then Blue Ocean receives only the amount of the excess energy proceeds in that year.

Blue Ocean has identified the following risk factors:

Weather (number of sunny days)
Solar panel installation issues
Solar panel equipment failure
Solar panel performance (energy conversion rate)
Utility participation
Demand for electricity

Solar Energy Market Research

China's advancement in solar-technology production has reduced prices to a point that allows a worldwide scale-up of green energy. While the first patent for solar electricity from silicon is more than six decades old, it is only recently that high-tech factories in China have led to a revolution: they have made solar power cheap.

Contributing to the revolution:

- Every year, the efficiency of solar cells improves by roughly half a percentage point, meaning each new generation of panels squeezes out more electrons from the same surface area.
- Factories are using better-quality silicon that is easier to handle.
- Cheaper materials – prices for polysilicon, the main ingredient in solar cells, have fallen.

Over the past few years, the cost of solar installations has decreased dramatically, enough to tip some countries into a situation where solar projects are winning open-bid electricity contracts over other forms of power. Certain markets have reached quasi grid parity, where solar has outbid other energy competitors.

In the next five years, the U.S. Energy Information Administration has calculated, new solar installations in the United States will become nearly 40% cheaper per megawatt-hour than the cost of a new coal plant built to modern requirements, including carbon capture and storage.

Solar energy is also becoming attractive for manufacturing plants and residential consumers in the U.S. and Canada who would like to reduce their own energy costs.

Because these technologies are now more cost-effective, the market is playing a much larger role in their rollout, whereas in the past, there was much reliance on pollution reduction efforts, subsidies and government programs. Some market experts expect solar power to go from 0.5% of world electricity today to more than 10% by 2030.

However, subsidies still play a large role. It is estimated that of all the solar installed in 2016, just 2% were unsubsidized. China plays a big role in the growth of solar energy installations. Its 30 gigawatts of expected solar construction this year is related more to subsidies than to market economics. Relying on Chinese subsidies makes the entire industry vulnerable. China is reducing its subsidies this year, which could slow the pace of future installations.

Solar power still has a number of disadvantages:

- Unless there is a revolution in electrical storage, solar's inability to generate power in the dark will keep it from ever dominating entire electrical systems the way coal, natural gas, nuclear and even hydro do to supply base-load power.
- Solar is expensive to install, a distinct disadvantage in countries where labor is pricey. The actual cost of solar panels might make up 23 - 24% of a project; the remaining costs are for transmission towers, land acquisition and installation, interest costs, and legal fees.

5A Blue Ocean P&C Company Exhibits

SOLAR ENERGY MARKET STATISTICS (SOUTHERN USA)	Year 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Weather Related											
Number of Rainy days	71	84	79	67	76	97	84	83	79	81	77
Number of severe weather (storms)	19	27	9	29	31	67	39	14	37	40	35
Political Support											
States with energy rebate programs	1	1	1	2	2	3	3	6	6	7	7
% of voters considered candidates record on environmental issue	1%	1%	2%	3%	5%	10%	12%	13%	15%	17%	20%
Manufacturing Base											
Number of panel provider companies	0	1	4	8	10	15	20	22	23	25	27
Number of panel manufacturers	1	1	2	3	3	4	5	5	5	6	7
Cost of solar cells (key component)	113	103	90	70	66	63	62	50	49	47	45
Energy production capacity 10sq.ft.panel (kWh)	426	679	893	951	1235	1678	1931	2391	2538	2897	3256
Components reported defective as rate per active units	10%	10%	9%	8%	10%	7%	6%	8%	6%	5%	4%
Consumer Reports											
Cost of 10kWh panel system (USD 000's)	125	110	105	95	90	85	80	75	70	65	60
Number of homes with more than 1000 sq. ft. roof	45,129	55,891	67,901	75,462	105,087	129,971	145,923	170,798	189,321	190,908	195,133
Electric Company Solar energy usage											
Average purchase rate for solar energy per kWh	$0.770	$0.85	$0.57	$0.87	$0.80	$1.05	$0.88	$0.65	$0.81	$0.85	$0.77
% of Total grid energy that is Solar powered	1%	2%	1%	3%	3%	5%	5%	5%	6%	6%	7%

6 Big Ben Bank

Maggie Crawley, Chief Risk Officer, looked across the table. She wondered when to bring the intense ongoing debate to a close. Such forthcoming dialogue was a sought after dimension in the risk management process. However, unless the management team came up with successful ideas and effective market positions, opportunities would fade away like the morning dew. Sophisticated products and services need considerable time for development and securing commitment from partners.

Was Big Ben identifying the right risk metrics? How should the risk profile behave and evolve over time? Were difficult-to-quantify Black Swan tail risk events considered thoughtfully? Were they simply monitoring business intelligence or was risk information forming their decisions? How could they leverage the expertise of their insurance group, Darwin? How could they cross sell to RPPC's high-end clientele? New regulations and scrutiny seemed never-ending.

6.1 Overview

The banking group was formed in 2004 under the directorship of Mr. Saleen Patel. Mr. Patel gained his wealth as a self-directed fund manager using fundamental asset selection and key insights into the business models of his investments. The initial focus of Mr. Patel's banking group was finding best in class funds for its high net worth (HNW) clients. Mr. Patel's fund management business was formed in 1993 and its success was primarily built within European financial centers.

A key growth differentiator in the initial years was Big Ben's Private Banking division, which offered exclusive concierge services to its HNW clients. Another competitive advantage that Big Ben enjoyed was Mr. Patel's network of connections, which included many members of NYC, London, and Zurich high society. Mr. Patel's reputed fund management, and tax management, prowess also contributed to the success of Big Ben.

However, the financial crisis presented some unexpected challenges. The AUM fell dramatically and some of the investors experienced hardships in their own businesses. The fund performance was dramatically negative and the subsequent increase in redemptions severely impacted overall AUM and forced a revision in the strategic approach.

Products / Services

Since inception the critical profit driver has been the excess of the MER (management expense ratio) charged on the AUM over the operational costs of fulfilling the fund management mandate. Big Ben Bank is a world leader in the exchange-traded fund (ETF) market and has a strong brand and a loyal investor base. But MERs for ETF's are coming under increased downward pressure as more competitors come into this fund arena.

Traditional personal and commercial banking has been a smaller, but significant, component of the revenue pie. The operational model of the personal banking division is primarily online, rather than physical branches. This approach was meant to meet the needs of a globally mobile clientele. Fund transfer and foreign exchange transactions were once the majority of transactions but the travelers' check business is slowing. Transfers and transactions are now dominated by an ultra-high limit VISA credit card program. Foreign exchange transactions and "best rates" are an attractive feature of the VISA program.

The physical distribution model is almost non-existent and cannot support broad-based banking, but expertise exists on emerging technologies and connectivity with a time-critical customer base.

Revised Strategy

The executive group, following strong direction from the four partners, has been asked to re-engineer the business focus, by lowering the minimum investable assets requirement for participation in the services that had been traditionally offered exclusively to the Bank's high net worth customers. The bank will also offer more holistic wealth management and financial planning services. As a result, RPPC decided to acquire Darwin Life insurance group in 2012.

Mr. Patel articulated Big Ben's revised strategy in the following excerpt from a recent speech:
"Our vision is to be the wealth management solutions provider of choice, and to expand the Bank's client base by expanding our retail banking, wealth management, and insurance divisions. We will also build new global platforms to support this new growth. Our path to differentiation is to deliver a personalized and unique financial planning experience to our clients, and by building a culture of innovation."

New Product - Long Term Principal Preservation Fund (LTPPF)

As a result of the company's vision to appeal to a wider customer base, Big Ben Bank has introduced a new product called the Long Term Principal Preservation Fund (LTPPF). Clients buying this product deposit their assets into a fund, which is expected to appreciate over time.

Clients are pooled together based on issue year. This provides economies of scale by allowing smaller clients to enjoy benefits that a typical HNW client of Big Ben Bank would enjoy. This also allows Big Ben Bank to appeal to more clients outside of its HNW customer base.

Crediting rates for LTPPF are reset quarterly and are subject to a minimum rate, which is never below 0%. In this way LTPPF guarantees the preservation of book value for the client. Crediting rates are first determined for the pool based on pooled asset performance and then adjusted for each client individually based on a contractual management fee. This type of product has been successfully offered by other banks for at least the last five years. The consensus is that clients enjoy the protection offered by the principal preservation and that crediting rates are very competitive due to the pooling structure.

Furthermore, clients can withdraw their assets at any time at market value or book value, whichever is higher. The assets backing LTPPF liabilities will be managed by Big Ben Bank, leveraging its core competencies from the bank's wealth management and personal banking lines.

New Product – Cryptocurrency

A cryptocurrency is a digital currency used as a medium exchange. Cryptocurrencies use cryptography to secure transactions, control the money supply and verify the transfer of funds.

Under the revised strategy outlined by Mr. Patel, BBB is considering offering two new innovative, cryptocurrency related products:

I. Cryptocurrency Savings Account
   - Personal banking customers will have the option to open a secondary savings account that hold cryptocurrencies
   - Customers can purchase, sell or transfer cryptocurrencies within their account online or in the mobile app
   - Customers will pay a monthly fee to maintain the account and a transaction fee when purchasing or selling cryptocurrencies
   - BBB will guarantee the storage of the cryptocurrencies

II. Cryptocurrency Exchange Traded Fund (ETF)
   - The ETF will allow investors to diversify within the cryptocurrency industry
   - The ETF will be passively managed to ensure a consistent mix of the largest cryptocurrencies

Cryptocurrency banking products are not currently being offered by any of BBB's competitors.

Risk Management

Big Ben Bank has from the beginning prided itself on a strong risk culture and has had an active risk management function. During the 2008 Financial crises, the bank capital was somewhat strained, but Big Ben has regained a good capital position in recent years.

With a greater focus on innovation-based solutions and wealth management solutions intertwined with the Insurance group, the risk management function will need to evolve and adapt its strengths to a more agile environment.

The Executive mindset has been to increase focus on the financial planning sales approach, to leverage the wealth management capabilities within insurance contracts, and to formulate a one-stop shopping interface to our globally mobile clientele.

Big Ben Bank uses various models to manage market risks and to provide insight into decision making. The three most important ones are as follows:

i) A model to capture the correlation between mortgage prepayment rates and interest rates using statistical best fit techniques
ii) Black-Scholes option pricing model based on the underlying asset price, the strike price and assumptions on asset price distributions in the hedging program
iii) Short-cut bond price model based on assumptions about yield movements to provide some quick estimates

Big Ben Bank uses frequency tests to validate VaR risk models based on the number of losses exceeding VaR and a significance level.

Big Ben conforms with the documentation standards of RPPC's model risk management framework.

The key is still our private club; our brand; our family!!

Regulatory Challenges

In response to the 2008 financial crisis, a number of measures were taken to improve the banking system. In the U.S., in July 2010, President Obama signed the Dodd–Frank Act. Dodd-Frank aimed to improve the regulation of financial markets, better evaluate measures of systemic risk, and improve consumer protection. Part of Dodd-Frank is the Volcker Rule which put limits on how much banks could invest in risky assets (i.e., private equity and hedge funds).

In the 10 years after the 2008 financial crisis, the U.S. economy performed well and equity markets reached record levels. Proponents of Dodd-Frank say that it has helped prevent the economy from a crisis like that in 2008. Detractors of Dodd-Frank say that the burden of complying with the law has made U.S. banks less competitive compared to their foreign counterparts. In May 2018, President Trump signed a law that eased the Dodd-Frank regulations except for a few of the largest banks.

In December 2010, the Basel Committee issued the Basel III rules text, which presents the details of global regulatory standards on bank capital adequacy and liquidity agreed by the Governors and Heads of Supervision, and endorsed by the G20 Leaders at their November 2010 Seoul summit.

The rules text presents the details of the Basel III Framework, which covers both micro-prudential and macro-prudential elements. The Framework sets out higher and better-quality capital, better risk coverage, the introduction of a leverage ratio as a backstop to the risk-based requirement, measures to promote the build-up of capital that can be drawn down in periods of stress, and the introduction of two global liquidity standards.

In December 2017, the Basel Committee finalized additional standards which are often referred to as Basel IV. A key component of Basel IV is the revised credit risk calculation used to determine capital requirements. Banks will need to calculate capital requirements using a standard approach and can also calculate capital requirements using internal models. If the internal models approach produces a lower capital requirement, the lower figure will be the capital requirement, subject to a "capital floor". The "capital floor" will be a percentage of the standardized capital calculation.

For most banks, it is expected that the internal models approach will produce lower capital requirements than the standardized approach. Therefore, most banks will want to build robust models to calculate capital requirements using internal models, but will also need to calculate capital requirements using the standardized approach to determine the "capital floor". This may create challenges for banks in regards to data and IT architecture.

Basel IV is targeted to be phased in from 2022 through 2027, with the "capital floor" increasing over that time period. Basel IV will likely lead to banks having to hold higher amounts of capital. With higher capital requirements, banks will likely review business strategies and investment portfolios. Investments that may have been attractive in the past may no longer be attractive with the new capital requirements.

Capital Management

Big Ben Bank is committed to maintaining a strong capital base to support the risks associated with its businesses. Strength in capital management contributes to safety for Big Ben's customers, fosters investor confidence and supports high credit ratings, while allowing the bank to take advantage of growth opportunities as they arise and to enhance shareholder returns through increased dividends and share repurchases.

Big Ben's capital management framework includes a comprehensive Internal Capital Adequacy Assessment Process (ICAAP), aimed at ensuring that the bank's capital is adequate to meet current and future risks and achieve its strategic objectives. Key components of the bank's ICAAP include sound corporate governance; creating a comprehensive risk appetite of the Bank; managing and monitoring capital, both currently and prospectively; and utilizing appropriate financial metrics which relate risk to capital, including economic and regulatory capital measures.

The following are the core principles that govern the Capital Management of the bank:

- Manage capital within the framework set by the regulators, monitor capital based on planned changes in the Bank's strategy, and identify changes in its operating environment or changes in its risk profile.
- Ensure appropriate governance and oversight, including clear delineation of roles and responsibilities.
- Establish a capital management framework that focuses on the interrelationship of risk appetite, risk profile, and capital capacity.
- Implement a sound risk management process that ensures management identifies and stress tests all material risks, understands the nature and level of risk taken by the Bank and how this risk relates to capital adequacy.
- Ensure a robust capital adequacy assessment process that is supported by appropriate governance, oversight and internal control review.

• Ensure adequate systems, resources, processes and controls are in place to support the planning, forecasting, monitoring and reporting of capital both internally to Executive Management and the Board of Directors and externally to the regulators.

Risk Appetite

a. Common Equity Tier 1 (CET1) Ratio – Internal Target of 9.5%
b. Tier 1 and Total Capital Ratios – Internal Target of 11.5% and 13.5%
c. Economic Capital – For economic capital, the internal target within the Bank's 2019 Risk Appetite Statement is based on the Bank's long term definition of available capital, which is mainly common shareholders' equity. For the Bank's medium term internal target, common shareholder's equity should be at least 100% of required economic capital; however, in the short term, it may be as low as 95% of required economic capital and supported by preferred shares
d. Leverage Ratio – include an operating buffer of 1% over minimum leverage ratio requirement of 3.0%.

6A Big Ben Bank Exhibits

EXHIBIT 1
Big Ben Bank Financial Data

I. Year End Balance Sheet

	2018 $million	2017 $million	Increase/ (Decrease) $million	Increase/ (Decrease) %
Assets				
Advances and investments				
Cash and balances at central banks	4,736	3,272	1,464	45%
Loans and advances to banks	6,598	5,206	1,392	27%
Loans and advances to customers	2,638	2,436	202	8%
Investment securities held at amortized cost	549	483	66	14%
	14,521	11,397	3,125	27%
Assets held at fair value				
Investment securities held available-for-sale	7,979	7,097	882	12%
Financial assets held at fair value through profit or loss	2,483	2,702	(219)	(8)%
Derivative financial instruments	6,793	4,786	2,007	42%
	17,255	14,585	2,670	18%
Other assets	4,392	4,074	317	8%
Total assets	36,168	30,056	6,112	20%
Liabilities				
Deposits and debt securities in issue				
Deposits by banks	6,548	5,037	1,511	30%
Customer accounts	3,758	3,699	58	2%
Debt securities in issue	6,128	4,085	2,043	50%
	16,434	12,822	3,612	28%
Liabilities held at fair value				
Financial liabilities held at fair value through profit or loss	2,160	2,268	(108)	(5)%
Derivative financial instruments	6,893	4,713	2,179	46%
	9,053	6,981	2,071	30%
Subordinated liabilities and other borrowed funds	3,272	3,116	156	5%
Other liabilities	5,152	4,938	214	4%
Total liabilities	33,910	27,857	6,053	22%
Equity	2,258	2,199	59	3%
Total liabilities and shareholders' funds	36,168	30,056	6,112	20%

II. Liquidity Risk Policy

The following data are the three liquidity measures the bank has used to monitor their liquidity exposures for the past five years (mm denotes millions).

Measure	2014	2015	2016	2017	2018
Liquidity Index (%)	82%	88%	89%	90%	90%
Financing Gap ($mm)	$1,050mm	$813mm	$1,392mm	$750mm	-$850mm
Net Liquidity ($mm)	-$750mm	$1,187mm	$608mm	$1,250mm	-$800mm

Liquidity Index is defined by calculating a ratio of fire-sale price to fair-market for each asset in a portfolio and then calculating a weighted average of these ratios, where the weight is a percentage of each asset in the portfolio.

Financing Gap is defined as the difference between average loans and average deposits.

Net Liquidity is defined as the difference between sources of liquidity and uses of liquidity.

The bank also has a liquidity crisis plan that outlines the roles and responsibilities of each executive during a liquidity crisis. Furthermore, the plan also defines a mandatory decision-making process and communications that need to take place during the crisis. The plan also defines the criteria to trigger the liquidity crisis plan. These are the only measures or tools the bank has used to manage and monitor liquidity risk up to this point.

The bank came out from the 2008 financial crisis unscratched. The bank stayed solvent and did not have severe liquidity problems. The executives of the bank are very happy with the performance of the bank after looking at these historical measures and are comfortable with the current liquidity risk mitigation policy.

III. Investment Limits and triggers

Criteria	Instructions	Limit per issuer
Fixed Income	Permitted	20% of portfolio Market Value
Real Estates	Permitted	10% of portfolio Market Value
Equities	Permitted	20% of portfolio Market Value
Derivatives *	Permitted	15% of portfolio Market Value

FI Category	Limit (% of portfolio Market Value)
Treasury / Agency	100%
Sovereign Treasury	100%
Corporate / Credit <= B+	10%
Corporate / Credit > B+	50%

***Derivative Financial Instruments written:**

- Forward Contracts
- Interest swaps
- Currency Swaps
- Put/Call options

EXHIBIT 2
Big Ben Bank Internal Capital Adequacy Assessment

The adequacy of the capital is assessed against the current risk profile of the consolidated Bank, as well as its future expected (or possible) profile based on strategic initiatives and objectives, including the results of the bank's enterprise stress testing program. Capital adequacy is also assessed against current and prospective regulatory requirements and internal capital adequacy targets.

Principles

- Maintain a sound ICAAP to periodically evaluate the adequacy of both economic and regulatory capital in relation to the Bank's risk profile and risk appetite.
- Ensure Executive Management assesses the adequacy of capital in the context of its current position, as well as under various potential stress scenarios. A forward looking capital adequacy assessment includes consideration of the results of appropriate stress testing.
- Report the outcome of the capital adequacy assessment to the Board and ensure it is appropriately incorporated in the Bank's capital planning.
- Ensure periodic review of differences between regulatory and economic capital.

Methods

- Documented ICAAP procedures and methodologies have been formalized and are reviewed on a periodic basis.
- Executive Management continuously monitors its regulatory and economic capital in relation to its risk profile and risk appetite and internal capital adequacy targets.
- A comprehensive capital adequacy assessment is completed at least annually and monitored on an ongoing basis.
- The comprehensive capital adequacy assessment is closely integrated with the Bank's annual capital planning process.
- The capital adequacy assessment includes forecasts of various scenarios of capital generation and growth in risk-weighted assets, both through organic growth and acquisitions for current and future periods.
- The results of the Enterprise Wide Stress Testing Program are incorporated in the overall assessment of the adequacy of capital.
- The results of the capital adequacy assessment are reported to the Board and incorporated, as relevant, in the Bank's capital planning.
- Executive Management regularly reviews and documents the differences between regulatory and economic capital computations to determine the impact on the adequacy of capital. Where differences cannot be justified, consideration is given to changing either the economic or the regulatory capital models to align treatment of risk and capital measurements.
- An annual self-assessment of the effectiveness of the ICAAP is performed.

Assessment of Risk

The Assessment of Risks is owned by Enterprise Risk, Global Risk Management (GRM) and is updated annually in consultation with relevant management for each risk type. It is an integral part of the Bank's Internal Capital Adequacy Assessment Process (ICAAP) conducted by Capital Management, E.O. Finance. The Assessment of Risks is reviewed and approved by the ICAAP Oversight Committee (IOC), which reviews, objectively challenges, and approves the inclusion and exclusion of risks per this document.

1. Outcomes

The outcome of the assessment for a given risk may be any of the following:

- included in economic capital;
- excluded from economic capital;
- excluded from economic capital, but included as part of internal capital considerations.

2. Criteria for Inclusion

This section describes the definition for the Materiality of Risk and the criteria for inclusion in Economic Capital or Internal Capital.

2.1 Materiality of Risk

Criteria used for evaluating whether a risk is considered material to the Bank include any one or a combination of:

- pervasiveness of the risk across multiple business lines of the Bank;
- significance of the risk to a specific business line;
- likelihood and potential impact of the risk, i.e., whether the risk may cause unexpected losses in income or value of portfolios up to a given confidence level over a specified time horizon;
- evolving and emerging risks;
- other qualitative considerations such as strategic, economic, or environmental factors.

2.2 Relevance to Economic Capital

Criteria for evaluating whether a material risk is considered relevant for economic capital include any one or a combination of:

- whether holding economic capital would mitigate the risk;
- qualitative considerations such as strategic, economic, or environmental factors.

2.3 Inclusion in Economic Capital Model

Criteria used to assess whether a material and relevant risk should be included in the economic capital model include any one or a combination of:

- is the risk reliably quantifiable, either through a model or scenario-based process? Risks that are not quantifiable should not be included in the economic capital model;
- has the risk been captured as part of another risk that is quantified for economic capital? A risk should not be included in the economic capital model if the risk is already captured by another risk already quantified in the model;

- the amount of economic capital to include should be based on the remaining risk after consideration of existing mitigants and controls;
- risks that are estimated to have a maximum loss level which is not material in relation to the financial statements may be excluded; and
- other qualitative considerations such as strategic, economic, or environmental factors.

2.4 Inclusion in Internal Capital Adequacy Assessment

Definition

Internal Capital / Economic Capital

o The Bank measures and reports its Internal Capital (IC) measures and capital adequacy to Basel's Pillar II requirements.

o The Bank's IC measures are based on its economic capital (EC) framework and methodologies, adjusted for certain regulatory requirements. EC is a single metric used to measure multiple risks. All material risks to which the Bank is exposed are quantified and aggregated to determine the EC of the Bank.

o EC measures the risk of unexpected losses in income or value of portfolios up to a given confidence level (99.95%) over a one year time horizon. It assumes that expected losses are a cost of doing business and are already reflected in loan loss provisions and product pricing.

7 Darwin Life Insurance Company

Darwin Life had tremendous top line growth in its Term, Universal Life (UL) and Variable Annuities (VA) over the past 5 years. Life sales had grown at a 30% rate in an industry with flat life sales. VA sales for the industry had rebounded since the financial crisis. Darwin had not been a player pre-crisis. But, since the crisis, VAs became attractive and reasonable. Pre-crisis, insurance companies had aggressively priced products with rich benefits by, in the view of many, taking on too much risk. The crisis had resulted in many companies exiting or greatly reducing the benefits.

Since 2014 the executive team has been in overdrive working on a few large initiatives. 2018 seemed to pose even more challenges. The external environment created headwinds, from low interest rates to new regulations and accounting requirements to less consumer disposable income to fierce competition. Since the crisis, companies have been continuing to exit product lines and markets and shedding distribution capacity.

Brandon Kaladin, the CEO was pondering: Was Darwin doing enough? Did the front line have enough authority and resources to handle the little things? How could Darwin continue its extraordinary growth? What would be the limits of that growth? How could the company take advantage of its position to extend its reach?

Or, was Darwin doing too much? Every time you turned around the Wall Street Journal's front page seemed to cover yet another high-risk meltdown. No industry, especially the financial sector, was immune. Darwin had aggressive plans. Did management have a handle on the risks they were taking? One thing Brandon did know, standing still was a risk he wasn't going to take. He needed the front-line business managers to see and grab opportunities, opportunities that weren't planned for as one of their objectives at the beginning of the year.

Background

Darwin Life is a mid-size life insurer headquartered in Albuquerque, New Mexico with an increasing presence in the domestic U.S. market. Life sales are distributed primarily through an agency system, and annuity sales are distributed primarily through financial institutional channels (e.g., banks and broker-dealers). Darwin has experienced an era of success since embarking on a new strategic direction under new leadership ten years ago, measured by growth in earnings, revenue and distribution capacity. Recent growth has been fueled by core competencies - distribution relationships and product/service development.

Prior to the strategic change, Darwin lacked focus, with little to no differentiation, high costs and stagnant sales. Prior management's view was that the customer was the agent rather than the policy holders. There was no focus on profitability or growth. Operations lacked discipline, with frequent exceptions to administrative and underwriting standards. Products included traditional whole life, level term and current assumption Universal Life (UL). Although Darwin offered fixed and variable annuities there was no focus on asset accumulation products or distribution capacity within the financial institutional markets.

Ten years ago, new management shifted strategy to be focused on wealth management and a customer focus targeting middle to upper income individuals, professionals and small business owners with estate planning, tax-deferred accumulation, traditional income preservation and retirement income protection needs.

This strategic focus and management's solid execution through the mid 2000's caught the eye of RPPC Dynasty. RPPC thought Darwin was an attractive property, and it became affordable when the market and financial industry stocks in particular, nose-dived. In hindsight, the acquisition was a bargain. At the time there had been much heated debate. Darwin's focus on wealth management was a great strategic fit with RPPC's financial division – products and distribution.

Core product segments are universal life, high cash value traditional life, and variable annuities. Non-core segments include group annuities, individual fixed annuities, and term life. Darwin enhanced its universal life products to better suit the consumers' insurance, estate and business planning needs and also introduced UL with secondary guarantees.

Darwin has pursued an aggressive organic growth strategy focusing on individual life and individual variable annuities through expanding and enhancing distribution channels. Today Darwin distributes life insurance primarily through career agents, banks, and direct marketing channels. The traditional agency channel utilizes a variable cost structure with compensation incentives that promote persistency. Bank-owned life insurance (BOLI) products are marketed through independent marketing organizations that specialize in the BOLI market. In 2012 the company expanded annuity distribution into financial institutions. It aims to add major new outlets, penetrate existing outlets, and expand the agency distribution by 2 - 3 regional offices per year. Both the agent and institutional distribution expansions required a significant investment.

Agent service remains important. Customer focus creates a change in perspective that is critical in administrative and underwriting practices, which then translates into consumer value and expected higher profits. A disciplined operation strategy was split into separate operational strategies for pricing, underwriting, investments, financial reporting, claims, reinsurance, technology, corporate governance and risk management.

Over the past decade Darwin has become an innovator in service - providing wealth management solutions to individuals - including expertise in design and distribution of tax-sheltered or tax-minimizing strategies such as estate planning and small business owner succession planning. Darwin has invested in technology and staff to service both the customer and distribution channels (such as new administrative and reporting platforms), implemented an imaging and automated workflow system, and established a team so that a client service representative answers the phone within four rings 95% of the time. This attention on customer focus and attention to service sets the company apart from its peer group and supports an aggressive organic growth strategy.

Darwin offers a broad array of competitive products with customization for specific distribution channels. Darwin has not pursued a first to market strategy but has developed competency to be a fast follower and replicate new product designs in the market. Darwin sometimes lacks the expertise to replicate processes and infrastructure. It has invested heavily in front end distributing, issuing and processing of new business. The company has built strong relationships with the agency and institutional distribution channels.

Darwin has had high costs partly due to misaligned resources. Legacy products and systems have drained resources. As a result, not enough resources have been devoted to infrastructure or in force management. Resources are devoted to new products and new business and priority placed on customer service and growth in distributions. Dedicated resources to manage in force business have been insufficient. Darwin was slow relative to its peer group in actively managing the spread compression resulting from low interest rates. Time constraints and lack of expertise in some cutting-edge product areas resulted in less than effective back end operations, including risk mitigation and management, operational monitoring, and reporting. Greater speed is needed to respond to business problems, including more timely risk monitoring and quicker escalation. Operational areas are silo-based, resulting in less effective collaboration and cross-functional continuous improvement processes. Darwin is moving towards a disciplined operational focus in underwriting, investments and diversified competitive products.

Darwin has solid ratings from every major rating agency – A.M. Best, Standard and Poor's, Moody's, Fitch, and Insight Ratings.

Financial Analysis

Darwin has outperformed the industry over the past 10 years in terms of growth in life sales, annuity sales, equity, assets, and distribution capacity. Relative to the industry and similarly rated companies, Darwin unfavorably has higher leverage, lower interest coverage, and lower liquidity. It favorably has higher return on capital and lower expenses. Relative to its peer group, Darwin has had a lower operating income margin and a lower net income margin, a higher investment yield, a higher expense ratio, higher growth in life insurance in force, higher growth in equity, and average mortality and persistency.

The Industry

The U.S. population is living longer and aging. The number of people age 65+ grew from 35 million in 2000 to over 50 million in 2016. That number is expected to exceed 70 million by 2030. For a couple aged 65, there is a 50% chance that at least one of them will survive to age 94.

The number of companies offering defined benefit pension plans continues to decrease. Among Fortune 500 companies, only 16% offered a defined benefit plan in 2017 compared to 59% in 1998.

The net worth of U.S. households exceeded $100 trillion in 2018 with about half of this belonging to baby boomers (those born between 1946 and 1964). As the baby boomers continue to age and retire, they will have a need for products that provide lifetime income. The shift from life protection to preretirement accumulation to post-retirement income protection and retirement asset management will accelerate.

As the focus of protection moves from pre-mature death to protection from longevity, there are opportunities for companies with product, distribution, and service (trust, process, and advice). Variable deferred annuities have transformed from tax-deferred mutual fund investments to guaranteed retirement income vehicles. Protection is the differentiator versus other financial services (e.g., 85% of all variable annuity sales have living benefit riders).

Successful companies will have well-positioned defensible market positions, pricing power, advanced technology and systems to enhance service and process and lower costs. They will exhibit operational efficiencies, experienced management, high-quality financial reporting and corporate governance, strong asset-liability management, investment and risk management, a focused and balanced growth strategy, the ability to innovate products and distribution by partnering with other services (financial planners, estate attorneys, tax experts, and healthcare advisors), and the ability to build customer relationships.

Risk Management

Darwin formalized its risk management function with the creation of an ERM Committee in 2010, followed by a new CRO position and establishment of a Risk Management department in 2011. The Committee meets quarterly. Its purpose is to build sustainable competitive advantages by fully integrating risk management into daily business activities and strategic planning. Excerpts from its Charter charge the Committee to:

- Increase the enterprise's value through promotion of a robust risk management framework and processes.
- Align risk preferences, appetite and tolerances with strategy.
- Monitor Darwin's overall risk exposure and ensure risks are measured and well-managed.
- Anticipate risk exposure and recommend action where exposures are deemed excessive or where opportunities exist for competitive advantages.

The Charter also specifies the Committee's Composition, Authority, Meetings and Responsibilities.

Darwin's risk appetite statement is:

I. Capital — The probability of a 15 percent loss of Statutory equity in one year is less than 0.5 percent.

II. Earnings — The probability of negative GAAP earnings in one year is less than 5 percent.

III. Ratings — Maintain an AA financial strength rating. Maintain capital 10% above minimum AA capital requirements. Maintain an A rating on senior unsecured debt.

Risk tolerances are based on the estimated impact of quantified risks on statutory capital since the core mission is policyholder protection. Market risk, credit risk, underwriting risk, operational risk, strategic and liquidity risks are quantified using a variety of metrics to capture multiple perspectives.

Investment Policy and Strategy

The investment department manages the general account investments. The Chief Investment Officer (CIO) reports to the CFO. Investment policy and strategy is reviewed and approved by an internal management committee consisting of the CEO, CFO, CIO, and SVPs (or VPs) of the major business lines. Internal management committee decisions are subject to review by the board's investment committee. The internal management committee meets quarterly and is responsible for reviewing investment results and approving the use of new investment instruments. Day-to-day decision-making authority is delegated to the CIO, up to specified limits. The CIO may delegate approval authority to his or her subordinates. Transactions in excess of the CIO's approval limit require approval by the CEO and CFO.

The company's general account is invested primarily in fixed-income assets. Within the general account there are separate investment portfolios for each of the main product lines. Variable annuity investment accounts are held in a separate (segregated) account and are managed by a third-party investment advisor.

New Ways to Reach Customers

Brandon Kaladin, CEO, was up late thinking about potential strategies to present at an upcoming quarterly Board meeting. He knew there were opportunities to win market share from competitors as well as to sell to markets no other companies were reaching. He knew the Board was looking for bold ideas that would ensure the company could grow for years to come.

Digital Distribution

One idea that kept coming back to him was a direct marketing digital distribution channel. Many of Darwin's competitors have created their own platforms already. In order to compete, Darwin's app would offer a distinct experience compared to its rivals. It would have unique features like the ability to compare prices and features of Darwin's products against those of its competitors. This would allow Darwin to reach millions of new costumers, potentially reduce commission expenses, and allow for a sales process that could appeal to a large section of the population, especially amongst millennials whom Brandon found were particularly disengaged in traditional channels.

Brandon's direct reports warned him that Darwin doesn't have the technical expertise to develop a seamless direct marketing sales process. They also worried that the current agents could view a website as a threat to their jobs. Conflict could ruin the digital initiative if losses on the agency side outweighed the gains from online distribution. Brandon understood their apprehension, but he still felt it was time to start investigating direct marketing. He knew that the insurance industry had been around for hundreds of years and sooner or later every industry gets disrupted.

Brandon decided to go ahead and engage an external start-up company to discuss the development of a digital distribution platform for Darwin. In the initial discussions, the start-up showed Brandon that they will be able to help Darwin connect to potential customers through data analytics, which will allow for more direct and frequent customer connection. This model is more tangible than traditional distribution channels, and the retention value from this effort can then be used to do cross-selling and target marketing in a way that will allow Darwin to sell more products over time. Brandon thought, "Wow, this initiative could help to increase both top line and bottom line for Darwin."

Innovation Program

A second idea presented to Brandon by one of his trusted advisors in senior management is an innovation program to spur organic growth for the company. The focus of this innovation program is to explore ways of reducing Darwin's costs. Any savings generated would be used to reduce prices. This senior manager believes that Darwin could reduce its prices enough to become a leader in the industry. The goal would be to increase Darwin's new sales and improve retention of the existing block. Distribution would continue through the existing broker network.

Risks

Credit Risk

Darwin invests in investment grade quality bonds (S&P BBB- or above). Fixed income securities in the general account have exposure limits at individual obligor (issuer) and sector levels. Obligor-level limits vary according to asset type and credit quality, as determined by external rating agencies. The investment department monitors compliance of the exposure limits.

For each portfolio, there are weighted average credit quality targets. Portfolio credit quality is measured by converting each asset's external credit rating into a numerical score. Scores are a linear function of credit ratings (AAA = 1, AA = 2, etc.). Sub-category ratings (i.e., + or -) are ignored in the scale. The company prefers to maintain a score below 3.5 for each line of business.

Market Risk

Semi-annually within each block of business, Darwin measures the effective duration of the assets and liabilities. If the asset and liability durations are further apart than 0.5, the asset portfolio is rebalanced such that its new effective duration equals that of the liabilities.

The VA hedging program uses a semi-static hedge updated for market factors weekly and for in force changes monthly. The key risk measures are the market greeks. Darwin currently hedges delta and rho. The program purchases derivatives so that at least 90% of liability delta and 50% rho are hedged. Existing hedges are not sold if the hedge ratio exceeds these thresholds. Gamma, vega and cross greeks are self-insured due to system complexity, the cost of hedges, and the tendency of equity volatility to mean revert. U.S. GAAP and Statutory reserves, in and of themselves, are not hedged. There is risk that this may result in insufficient protection on GAAP and Statutory bases.

The hedge program has not yet been integrated into the main legacy system as there is a backlog in getting back-end risk reporting on the system. Currently it is run separately by Tim Ballmer and his risk management team who develop the necessary assumptions for the hedging models. There has been an effort to integrate the assumption-setting process across product development, financial reporting and risk management, but it is only in the planning stages, as the company culture of silo-based operations has been hard to overcome. The only assumption currently shared across functions is the static policyholder behavior assumption. While hedges are updated weekly, hedge effectiveness, liability attribution, and risk factor calculation are only tested quarterly.

Market risk on group annuities with separate accounts and interest rate risk on general account products is currently unhedged. A small portion of the group annuity block has guaranteed minimum death benefits (GMDB) and guaranteed minimum income benefits (GMIB), exposing Darwin to a small amount of unhedged equity risk. However, the risk management team has determined that the capital at risk is within acceptable risk tolerances.

Liquidity Risk
The liquidity policy requires Darwin to hold sufficient liquid assets to meet demands for cash in a liquidity crisis. One scenario considers a reputational liquidity crisis where markets continue to operate normally and the liquidity crunch affects only the company. The liquidity stress test anticipates situations where the company's ability to sell assets to meet cash needs from its liability products is hindered by the market taking advantage of the company during the crisis. Another scenario considers a crisis in which the entire market is not able to sell assets at a reasonable value.

Operational Risk
The CRO is responsible for collecting and disseminating operational risk information. A report is prepared monthly and distributed to executive management.

Stress Testing
Stochastic testing is supplemented with deterministic scenario-based stress tests, performed annually. Each test is applied as shocks to the model assumptions (for example, mortality, lapse and market assumptions). Interest rates have a floor of 0.10%

Additional risk factors are described in Section 7A Exhibit 3.

Liquidity and capital

Vin Atium's PC beeped as a new e-mail arrived. It was the agenda for tomorrow's 10 a.m. - 12 p.m. meeting. Vin was a new member of the Liquidity and Capital Committee and it would be her first meeting. A recently adopted ERM policy charged the committee with an annual review of Darwin's Liquidity Plan and Capital Plan. The 2008 financial crisis taught the importance of liquidity and capital - managing in normal conditions is one thing, managing in a crisis is another!

Like many companies during the crisis, Darwin responded by building large cash balances far exceeding the pre-crisis maximum cash limits specified by Darwin's Investment Policy. At its peak, cash represented 10% of general account assets. Management and the Board wanted to demonstrate financial strength to policyholders, rating agencies, and analysts, that under no conditions would they need to sell assets at the sale prices.

Darwin had historically used standard accounting liquidity ratios to measure liquidity and a maturity ladder to analyze the ability to fund cash outflows over time. RBC was the primary capital measure. Various stress scenarios were tested, although until the financial crisis the focus was on the liability side and some events such as a downgrade resulting in high surrender rates. The business and financial forecasts provided by the Actuarial Reporting and Accounting departments were key tools in managing appropriate levels.

In 2008-09, Vin had always wondered what was the right cash level. Darwin had stopped buying new investments until its cash levels were extraordinarily high (she felt too high). However, it was better that no analyst could question whether it was enough. No company wanted to be downgraded. Protecting the policyholders and Darwin's ratings was worth the cost. But, if resources had been marshaled and the models had produced better information, could Darwin have demonstrated that a lower cash level was sufficient? Holding cash was a costly drag on earnings due to the foregone investment income. Earnings represented future capital. Today's capital problems were created by yesterday's solution to liquidity.

In reviewing the Liquidity Plan and Capital Plan and how they were put into practice, Vin asked,

Were the timeframe dimensions being appropriately addressed?
Were all sources and uses of liquidity identified?
Were they using the right metrics to measure liquidity position?
In a liquidity crisis, were responsibilities, possible actions, and action criteria clearly defined?
Were capital allocations and returns on capital appropriately risk-adjusted? RBC was a constraint but what was the right capital measure? Economic capital?
Were they considering the appropriate stress and what-if scenarios?

She thought Darwin's liquidity and capital management was good but could be better. However she was hesitant to ask any questions during the meeting. Being a team player meant not asking questions. Her role would be to carry out any marching orders. The Committee was evaluating a number of initiatives to improve Darwin's liquidity and capital position.

The agenda items included:

- Securitizing redundant term reserves
- Reinsuring 20 and 30 year level term
- Modifying and expanding lines of credit and other credit facilities
- Becoming a member of the Federal Loan System which provided an alternative to banks
- Changing product designs to improve liquidity
- Revisiting capital intensive products including 15/20/30 year term, fixed annuities and VAs - reduce Guarantees and increase Rates.
- Hedging un-hedged liabilities
- Implementing renewal/replacement product strategies

As she looked over the Agenda, she reflected:

This is a good list …

- Securitizations are complicated and expensive. She had to find a Memo and White Paper on this topic – it had a high level view of redundant reserves, securitization flows, costs, risks.
- With no firsthand experience Darwin lacked expertise. Management would have to put together the right team, a team that could identify and work through the issues … and it must be timely. What would the curve be? It would take resources from many departments to pull that off.
- Reinsurance was a good way to manage capital but what would the earnings trade-off be?
- How do we determine the right levels for credit facilities – stress tests? Stochastic tests – what CTE?
- Capital intensive products? That pretty much covers everything we sell except whole life – did they leave anything out - marketing will be super receptive …
- I wonder what liabilities and hedging they have in mind?
- I wonder what product strategies they are considering?

The committee wouldn't be able to push everything through the initiative and budget process. She wondered if they would only discuss what needed to be done or if they would also discuss how to make things happen.

A New Product

Anne Kofsky, VP Life Insurance Division has made a proposal to expand the offering of whole life insurance products into Indexed Universal Life to appeal to the middle to upper income clientele. For this product, the client would have two investment account choices: a fixed rate account and an indexed account.

For the fixed rate account, the return would fluctuate with market rates but never drop below the minimum floor rate (proposed to be 1%, but marketing prefers 2%).

For the indexed account, when funds are moved into the indexed account, a new "investment segment" would be created. The return of the investment segment for the next year would be equal to the return of the S&P index over the year, subject to a floor of zero and a cap (proposed to be 10%, but marketing prefers 12%). This would allow customers to participate in the market upside when the S&P does well (subject to the cap) while having the comfort of knowing that their investment accounts would not lose money when the S&P does poorly. To reduce hedging and operational issues, funds would move into the indexed account only once per month. This would limit the number of investment segments to 12.

Since death claims for the product could be paid out many years into the future, the product is expected to have a long liability duration.

Initial product development efforts indicated that the product will produce a Statutory internal rate of return (IRR) of 15% which is above the hurdle rate set by the holding company. The new product design reflects a general account investment portfolio of investment grade corporate bonds, equities, S&P derivatives, interest derivatives, and credit default swaps (CDS).

There have also been discussions about replacing some of the investment grade corporate bonds with high yield bonds, private placement loans, and commercial mortgages. If these changes were made to the investment portfolio, the expected return of the investment portfolio would be higher and it would increase the IRR of the product. However, there would be additional credit risk and less liquidity in the investment portfolio.

Below is an e-mail excerpt from the CEO.

From: Brandon Kaladin, CEO
Sent: Monday, March 25, 2019 7:36 PM
To: Josie Brennan, CRO
cc: Anne Kofsky, VP
Subject: Re: Indexed Universal Life Product

Anne's report on the proposed Indexed UL product looks very promising in terms of both revenue and profit. I see the actuaries used new stochastic models with multiple interest and equity scenarios and dynamic consumer behavior. Josie, I know your team has been involved and is still reviewing. As aggressive as our 3-year UL sales growth targets are, I don't want to have a misfire on launching a UL product like ABC Life and XYZ did. They withdrew products from the market within a year after introduction. Their agents were not happy.

Below are some questions about this product:

- Could you perform a more comprehensive review than usual to evaluate if the models are adequate to capture all the major risk categories and if the additional risk-taking is aligned with our risk appetite?
- Could you also think about the marketing preferences to increase the interest rate floor for the fixed account and to increase the cap for the indexed account?
- Do you have concerns about the investment proposal to allocate some of the portfolio to high yield bonds, private placement loans, and commercial mortgages?
- For the indexed accounts, we will have 12 "investment segments". Although the hedging theory is the same as with one investment segment, I am wondering if we will have operational issues because of the multiple investment segments. Do you have concerns about this?
- Do you have concerns about the long liability duration and our ability to manage interest rate risk?
- Have you settled on new risk metrics and what will be on the risk dashboard?

Also, please note that the target launch is still June 17.

Rating agency preparation

Senior VP and Chief Corporate Actuary Roger Heilman conducted the weekly meeting for the Corporate Department. Towards the end of the meeting Roger said, “Today I received the agenda and discussion points from Insight Ratings. They always ask for a lot. You never know what will end up being discussed so we need to be over prepared. They might not cover everything on the list but you never know. What they do discuss, they grill you on. Our preparation for Insight last year was of tremendous value when RPPC folks visited us last fall. This will be similar to last year – we need to anticipate and be able to answer 99% of what they could ask. In addition to the discussion points we will use the list I developed of additional or follow-up questions they could ask. Any questions? Good, I’d like to see everything in two weeks.”

On the way back to their desks Becky and Stanley groaned. “Becky, last year's list had over 100 extremely detailed analysis items, for which none of the data was readily available.” “Yeah, Stanley, nor do we have decent analytical tools to analyze the data. It’s all manually intensive. The data is not standardized, it has inconsistent formatting and is scattered across the four corners of the building. Last year Roger said he was going to make quality data for analysis and decision making a priority for management.” He said, “Well, garbage in and garbage – but we need to get something useful out.” She said “We could take the resources and time spent on developing a footnote to a footnote that is buried in a file cabinet or running from crisis to crisis and devote them to material issues that would make an impact.”

Excerpts from Insight Ratings email and Discussion Points are in Section 7A Exhibit 1.

Capital Management

Darwin does not currently calculate economic capital. Darwin has been working with the consulting firm Consultants R Us (CRS) on capital measurement and management strategies. Under current consideration is a “risk and capital” model that would aid management in gauging the adequacy of overall capitalization of the company and in allocating resultant capital to target lines of business or niche business segments. Darwin wishes to gauge the risk adjusted return on capital (RAROC) by segment to aid in its business planning. Darwin’s goal is to improve its ability to better manage capital and return. Underlying this goal, CRS advises on three underlying themes:

- Capital Productivity
- Capital Protection
- Capital Adequacy

Thought leadership focuses on the notion that there is a trade-off between having enough capital to minimize insurance company failures and having the minimum amount of capital so capital can be deployed. As such, CRS recommended using a risk adjusted return on required capital (RAROC) approach. In essence, this approach considers both how much Darwin is earning on the capital that is committed to the business and how much capital is needed to ensure that policyholders are paid in the event of a stress scenario. CRS argues that RAROC addresses the aforementioned trade-off between capital productivity and capital adequacy. To set a target or requirement for the amount of capital that should be held by an insurance company or group requires a clear vision of the purposes for which capital is held. Effectively defined capital requirements serve several purposes, including, but not limited to:

• Providing funds so Darwin is able to honor its obligations during adverse contingent events.
• Motivating a company to avoid undesirable levels of risk
• Promoting a risk management culture to the extent that capital requirements are a function of actual economic risk

Economic capital will be what Darwin requires for ongoing operations and what it must hold in order to gain the necessary confidence of the marketplace, its policyholders, its investors, and its regulatory supervisors. At the same time, the operations of Darwin, after the net effect of all the inherent risks, must yield a rate of return deemed reasonable by the providers of the insurer's capital.

7A Darwin Life Insurance Company Exhibits

EXHIBIT 1
Rating Agency

Insight Ratings
1 Insight Drive, Capital City phone 123/555-6500 www.InsightRatings.com

March 7, 2019

Roger Heilman
Senior VP and Chief Corporate Actuary
Darwin Life Insurance Co
123 Main Street
Albuquerque, NM

Dear Roger:

The following are a list of items that we would like to discuss for our upcoming 9 am – 4 pm April 12th**,** 2019 meeting. An item of particular concern that we will spend time on will be your investment portfolio and your capital levels. With the current low interest rate environment, our rating committee is examining closely investment portfolios and the effect investment performance has and will have on earnings and capital.

As part of our year round rating process, we will look to determine the rating for the company shortly after the completion of the rating meeting and the management discussions that will follow. As a result, we would appreciate a comprehensive response to the items noted in the attachment.

If you have any questions regarding our request, please call me. Please supplement this request with any additional information that you feel would be helpful to our review. In order for us to fully review your information, submit two copies of this information at least one week prior to the meeting date to allow time to review the material.

I look forward to meeting with you and the management team.

Regards,

Morgan Hubbard
Financial Analyst
Life/Health Division

Below are excerpts from the Insight Ratings Discussion Points attachment.

Meeting Agenda
- Strategy Overview
- Corporate Governance and Audit Committee Update
- Business Line Review
- Individual Life
- Individual Annuities
- Distribution
- Financial Projections (split by product and by distribution)
- Investments
- Asset/Liability Management and Liquidity Investments
- Capital Management
- Enterprise Risk Management

Information Requests
- Audited (if available) 2018 Statutory and GAAP Financial Statements
- 3-year Plan: Statutory and GAAP statements
- Updated bank facility agreements
- Cash flow testing summary
- Product brochure and illustration for top selling life products, VA and fixed annuity
- LIMRA sales information on your products; also show persistency
- Holding company only IS and BS that show asset details
- Business with Big Ben Bank: life insurance in-force and life and annuity sales
- Profitability measures
- Retail fixed annuity and variable annuity flow information including net sales and spreads

Questions
Overview
- Review Darwin's Corporate Strategy and capital allocation in the organization.
- Review the most recent Board of Directors presentation materials.
- Discuss the synergies of Darwin's current business segments.
- Provide updates on any recent/potential acquisitions, sales or strategic affiliations.
- Discuss ventures with Big Ben Bank.
- Discuss plans for maintaining long-term top line growth (i.e., revenue) as well as plans to improve operating performance (specifically, statutory earnings performance) and your capital and surplus position.
- How will Darwin maintain its competitive advantage in the market place?

Corporate Governance and Audit Committee Update
- Discuss audit report issued by Harmon & Strauss, LLP (see details in Exhibit 8)
- Discuss any issues raised in the Corporate Governance and Audit Committee

Business line review

- Review marketing/business plan for the company including changes in product, market, or geographic focus.
- Discuss current business plans by line of business including current product development plans and how trends in product design and technology are incorporated.
- Discuss the impact of the current interest rate environment on your core business lines.
- Review your claims experience versus pricing assumptions.
- Discuss the company's use of mortality reinsurance.
- Discuss the pricing on fixed annuity and life products. Quantify target pricing spreads; quantify annuity gross and net spreads – historical and projected.

Distribution

- Discuss agent retention statistics
- Discuss sales promotions - quantify costs and impact on sales
- Discuss competition in the UL and VA markets
- Review your distribution channel strategy and growth plans.

Financial Projections

- Discuss any material variances including margins, direct and net premiums, expenses, benefits and commission levels.
- Provide a by-line analysis of performance/profitability including the sources of earnings.
- Discuss the company's different products including profit targets, anticipated emergence of statutory earnings, acquisition costs and sensitivities to different risk factors such as expense, interest rate, equity markets, mortality and lapse.

Investments

- Provide impairments in 2018 and 2019 YTD.
- Provide current portfolio yields and new money rates in aggregate and for different classes.
- Discuss any changes to the investment strategy.
- Review alternative assets and sub-prime mortgage / alt-A and CMBS exposures.
- Discuss developments in portfolio credit quality and expected investment related realized and unrealized losses.
- Provide your investment policies and a narrative on investment strategies. Discuss your investment strategy and any expected changes in the near term.

ALM

- Review of asset/liability management, cash flow testing/sensitivity analysis. Were there any changes to pricing assumptions because of investment performance?
- Describe the VA hedging strategy and the risks being hedged. Which risks are not hedged?

Capital Management

- Quantify the impact of redundant reserves in term (XXX) and UL (AXXX). How does the company intend to deal with the reserve strain?

- Discuss securitization plans.
- Discuss the company’s use of reinsurance. Any changes in reinsurance program/retention?
- Discuss capital adequacy as measured by the company and future access to capital.

Enterprise Risk Management
… several bullet points

Miscellaneous
- Update and summary of outstanding litigation, market conduct and compliance issues.
- Discuss any expense control initiatives.

… several additional bullet points

EXHIBIT 2
Business Intelligence

Product Comparisons
Darwin tracks market position within each business segment. Considerations include premiums paid, benefits, features, credited rates and guarantee period, other guarantees, fees, surrender charges, service, and policy cash values over time (under current assumptions and under guarantees). Competitors tracked vary by segment and product.

Distribution Capacity
Darwin tracks Agency distribution growth by number of agents, by geographic penetration, total sales by agents, year over year sales by agents banded by years of service, retention rates and training costs. Darwin tracks Institutional distribution growth by distributor count, number of wholesalers, number of appointed representatives, ranking within each partner, change in percentage share and dollar volume within each partner and number of appointed reps.

Financial Growth
Darwin measures financial growth using the following KPIs: GAAP earnings, Statutory equity, total assets under management, life insurance sales (first year premium), variable annuity sales and fixed annuity sales, RBC ratio and debt ratio.

Darwin vs. Industry vs. Peer Group
Darwin uses the following to benchmark itself:

1. NAIC Risk Based Capital (RBC) Ratio
2. Capital Growth Sharpe Ratio
3. Financial Leverage
4. Earning Interest Coverage
5. Cash Flow Interest Coverage
6. Return on Capital
7. Expense Ratio
8. Liquidity Ratio
9. Individual Life Premium as a % of Total

EXHIBIT 3
Risk Factors

In addition to the risks outlined in the Background material in Section 7 numerous other risks include:

Risk Factors

Economic conditions may materially adversely affect our business and results of operations. The Company's strategies for mitigating risks arising from its day-to-day operations may prove ineffective, resulting in a material adverse effect on its operational results and financial condition.

The development and maintenance of our various distribution systems are critical to growth in product sales and profits.

A ratings downgrade or other negative action by a rating agency could materially and negatively affect our business, financial condition and results of operations.

The Company's results and financial condition may be negatively affected should actual experience differ from management's assumptions and estimates.

The Company could be forced to sell investments at a loss to cover policyholder withdrawals.

Interest rate fluctuations or significant and sustained periods of low interest rates could negatively affect the Company's interest earnings and spread income or otherwise impact its business.

Equity market volatility could negatively impact the Company's business.

The Company's use of derivative financial instruments within its risk management strategy may not be effective or sufficient.

The use of reinsurance introduces variability in the Company's statements of income.

The Company is highly regulated and subject to numerous legal restrictions and regulations. Changes in regulation may reduce our profitability and growth.

New accounting rules, changes to existing accounting rules, or the grant of permitted accounting practices to competitors could negatively impact the Company.

Financial services companies are frequently the targets of legal proceedings, including class action litigation, which could result in substantial judgments.

Changes to tax law or interpretations of existing tax law could increase our tax costs.

Companies in the financial services industry are sometimes the target of law enforcement investigations and the focus of increased regulatory scrutiny.

Litigation could result in substantial judgments against us or our affiliates.

The Company's ability to maintain competitive unit costs is dependent upon the level of new sales and persistency of existing business.

The Company's investments are subject to market and credit risks. These risks could be heightened during periods of extreme volatility or disruption in financial and credit markets.

The Company's reinsurers could fail to meet assumed obligations, increase rates, or be subject to adverse developments that could affect the Company.

Adverse capital and credit market conditions may significantly affect our ability to meet liquidity and financing needs or access capital, as well as affect our cost of capital.

The Company could be adversely affected by an inability to access its credit facility.

The amount of statutory capital that the Company has and the amount of statutory capital that it must hold to maintain its ratings and meet other requirements can vary significantly from time to time and is sensitive to a number of factors outside of the Company's control.

The Company's ability to grow depends in large part upon the continued availability of capital.

The occurrence of computer viruses, network security breaches, disasters, or other unanticipated events could affect the data processing systems of Darwin or its affiliates and could damage our business and adversely affect our financial condition and results of operations.

EXHIBIT 4
Financial Data: GAAP Income Statements (in 000s)

Total	2018	2019	2020	2021	2022	2023
REVENUES						
Premium - First Year	784,780	911,720	1,077,880	1,289,710	1,594,260	2,090,450
Premium - Renewal	222,890	255,630	293,230	329,160	365,520	401,560
Total Premiums	**1,007,670**	**1,167,350**	**1,371,110**	**1,618,870**	**1,959,780**	**2,492,010**
Net Investment Income	597,270	595,330	606,450	624,430	647,770	685,240
Other income	42,050	51,360	61,150	73,190	85,850	103,940
Total Revenues	**1,646,990**	**1,814,040**	**2,038,710**	**2,316,490**	**2,693,400**	**3,281,190**
BENEFITS AND EXPENSES						
Claims	100,500	129,890	143,730	168,890	198,370	235,170
Surrender and other benefits	601,710	659,910	722,420	726,080	791,210	863,940
Inc. in reserves & S/A Transfers	588,460	695,250	835,020	1,052,600	1,320,810	1,776,940
Total Benefits	**1,290,670**	**1,485,050**	**1,701,170**	**1,947,570**	**2,310,390**	**2,876,050**
Field Compensation	83,650	100,920	119,100	138,800	161,100	193,200
Change in DAC	(49,100)	(63,270)	(75,070)	(87,090)	(100,330)	(120,350)
Total Acquisition Costs	**34,550**	**37,650**	**44,030**	**51,710**	**60,770**	**72,850**
Total Administrative Expenses	**69,280**	**77,220**	**84,090**	**91,700**	**99,740**	**107,750**
Total Benefits and Expenses	**1,394,500**	**1,599,920**	**1,829,290**	**2,090,980**	**2,470,900**	**3,056,650**
EBIT	**252,490**	**214,120**	**209,420**	**225,510**	**222,500**	**224,540**
Interest	**18,000**	**18,000**	**18,000**	**18,000**	**18,000**	**7,375**
Tax	**82,100**	**68,600**	**67,000**	**72,600**	**71,600**	**76,000**
Net Income	**170,390**	**145,520**	**142,420**	**152,910**	**150,900**	**148,540**

Variable Annuities	2018	2019	2020	2021	2022	2023
REVENUES						
Premium - First Year	561,000	669,800	812,600	1,000,000	1,280,000	1,750,000
Premium - Renewal	-	-	-	-	-	-
Total Premiums	**561,000**	**669,800**	**812,600**	**1,000,000**	**1,280,000**	**1,750,000**
Net Investment Income	73,700	85,000	98,000	119,000	142,000	175,000
Other income	25,800	33,400	40,600	50,500	61,600	76,500
Total Revenues	**660,500**	**788,200**	**951,200**	**1,169,500**	**1,483,600**	**2,001,500**
BENEFITS AND EXPENSES						
Claims	16,200	28,800	36,000	46,600	59,200	75,100
Surrender and other benefits	114,650	161,100	193,650	228,100	276,450	315,700
Inc. in reserves & S/A Transfers	474,250	536,300	649,250	807,400	1,038,000	1,464,500

Total Benefits	**605,100**	**726,200**	**878,900**	**1,082,100**	**1,373,650**	**1,855,300**
Field Compensation	30,200	38,300	46,400	56,100	69,000	90,800
Change in DAC	(13,400)	(20,900)	(24,300)	(28,500)	(36,900)	(52,300)
Total Acquisition Costs	**16,800**	**17,400**	**22,100**	**27,600**	**32,100**	**38,500**
Total Administrative Expenses	14,300	17,400	20,200	24,100	28,200	32,800
Total Benefits and Expenses	**636,200**	**761,000**	**921,200**	**1,133,800**	**1,433,950**	**1,926,600**
EBIT	24,300	27,200	30,000	35,700	49,650	74,900
Interest						
Tax	**8,500**	**9,500**	**10,500**	**12,500**	**17,400**	**26,200**
Net Income	**15,800**	**17,700**	**19,500**	**23,200**	**32,250**	**48,700**

Universal Life	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
REVENUES						
Premium - First Year	58,780	72,420	89,480	106,810	125,360	145,650
Premium - Renewal	47,590	64,730	82,030	96,460	111,020	125,060
Total Premiums	**106,370**	**137,150**	**171,510**	**203,270**	**236,380**	**270,710**
Net Investment Income	110,770	106,530	105,850	109,730	114,170	121,040
Other income	5,850	6,760	8,450	9,490	9,750	11,440
Total Revenues	**222,990**	**250,440**	**285,810**	**322,490**	**360,300**	**403,190**
BENEFITS AND EXPENSES	0.36	0.35	0.36	0.36	0.36	0.36
Claims	27,300	35,290	33,930	38,090	42,770	47,970
Surrender and other benefits	32,760	32,110	36,270	41,080	45,760	51,740
Increase in reserves	92,310	120,250	152,270	182,600	214,410	246,440
Total Benefits	**152,370**	**187,650**	**222,470**	**261,770**	**302,940**	**346,150**
Field Compensation	21,450	25,220	32,200	38,500	45,100	52,400
Change in DAC	(13,000)	(16,770)	(24,670)	(31,790)	(36,830)	(41,350)
Total Acquisition Costs	**8,450**	**8,450**	**7,530**	**6,710**	**8,270**	**11,050**
Total Administrative Expenses	13,780	14,820	15,990	16,900	17,940	18,850
Total Benefits and Expenses	**174,600**	**210,920**	**245,990**	**285,380**	**329,150**	**376,050**
EBIT	**48,390**	**39,520**	**39,820**	**37,110**	**31,150**	**27,140**
Interest	**-**	**-**	**-**	**-**	**-**	**-**
Tax	**16,900**	**13,800**	**13,900**	**13,000**	**10,900**	**9,500**
Net Income	**31,490**	**25,720**	**25,920**	**24,110**	**20,250**	**17,640**

Traditional Life

	2018	2019	2020	2021	2022	2023
REVENUES						
Premium - First Year	34,000	34,000	36,400	38,500	40,200	41,700
Premium - Renewal	54,900	63,100	71,200	80,000	89,300	98,600
Total Premiums	**88,900**	**97,100**	**107,600**	**118,500**	**129,500**	**140,300**
Net Investment Income	51,200	50,500	51,700	53,000	54,500	56,700
Other income		-	-	-	-	-
Total Revenues	**140,100**	**147,600**	**159,300**	**171,500**	**184,000**	**197,000**
BENEFITS AND EXPENSES						
Claims	15,800	15,800	17,200	18,800	20,500	22,300
Surrender and other benefits	31,900	29,800	31,200	33,000	34,900	36,800
Increase in reserves	34,400	45,400	51,300	58,300	64,800	71,300
Total Benefits	**82,100**	**91,000**	**99,700**	**110,100**	**120,200**	**130,400**
Field Compensation	18,100	20,500	22,500	25,100	27,500	30,000
Change in DAC	(9,300)	(11,200)	(11,700)	(12,600)	(13,200)	(13,800)
Total Acquisition Costs	**8,800**	**9,300**	**10,800**	**12,500**	**14,300**	**16,200**
Total Administrative Expenses	9,200	10,300	10,900	11,500	12,200	12,700
Total Benefits and Expenses	**100,100**	**110,600**	**121,400**	**134,100**	**146,700**	**159,300**
EBIT	**40,000**	**37,000**	**37,900**	**37,400**	**37,300**	**37,700**
Interest	**-**	**-**	**-**	**-**	**-**	**-**
Tax	**14,000**	**13,000**	**13,300**	**13,100**	**13,100**	**13,200**
Net Income	**26,000**	**24,000**	**24,600**	**24,300**	**24,200**	**24,500**

Term

	2018	2019	2020	2021	2022	2023
REVENUES						
Premium - First Year	14,300	17,500	19,400	21,400	22,700	24,100
Premium - Renewal	44,700	52,800	63,000	73,700	84,200	93,900
Total Premiums	**59,000**	**70,300**	**82,400**	**95,100**	**106,900**	**118,000**
Net Investment Income	20,400	20,500	22,000	24,100	26,800	30,100
Other income	-	-	-	-	-	-
Total Revenues	**79,400**	**90,800**	**104,400**	**119,200**	**133,700**	**148,100**
BENEFITS AND EXPENSES						
Claims	22,900	28,600	35,900	44,200	53,000	65,200
Surrender and other benefits	400	500	500	500	500	500
Increase in reserves	10,800	11,100	12,000	13,200	14,600	15,100
Total Benefits	**34,100**	**40,200**	**48,400**	**57,900**	**68,100**	**80,800**
Field Compensation	8,200	10,800	11,700	12,600	12,900	13,100
Change in DAC	(11,200)	(12,300)	(12,600)	(12,600)	(12,000)	(11,500)

Total Acquisition Costs	**(3,000)**	**(1,500)**	**(900)**	**-**	**900**	**1,600**
Total Administrative Expenses	21,200	23,100	24,800	26,500	28,000	29,500
Total Benefits and Expenses	**52,300**	**61,800**	**72,300**	**84,400**	**97,000**	**111,900**
EBIT	**27,100**	**29,000**	**32,100**	**34,800**	**36,700**	**36,200**
Interest	**-**	**-**	**-**	**-**	**-**	**-**
Tax	**9,500**	**10,200**	**11,200**	**12,200**	**12,800**	**12,700**
Net Income	**17,600**	**18,800**	**20,900**	**22,600**	**23,900**	**23,500**

Other	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
REVENUES						
Premium - First Year	116,700	118,000	120,000	123,000	126,000	129,000
Premium - Renewal	75,700	75,000	77,000	79,000	81,000	84,000
Total Premiums	**192,400**	**193,000**	**197,000**	**202,000**	**207,000**	**213,000**
Net Investment Income	341,200	332,800	328,900	318,600	310,300	302,400
Other income	10,400	11,200	12,100	13,200	14,500	16,000
Total Revenues	**544,000**	**537,000**	**538,000**	**533,800**	**531,800**	**531,400**
BENEFITS AND EXPENSES						
Claims	18,300	21,400	20,700	21,200	22,900	24,600
Surrender and other benefits	422,000	436,400	460,800	423,400	433,600	459,200
Increase in reserves	(23,300)	(17,800)	(29,800)	(8,900)	(11,000)	(20,400)
Total Benefits	**417,000**	**440,000**	**451,700**	**435,700**	**445,500**	**463,400**
Field Compensation	5,700	6,100	6,300	6,500	6,600	6,900
Change in DAC	(2,200)	(2,100)	(1,800)	(1,600)	(1,400)	(1,400)
Total Acquisition Costs	**3,500**	**4,000**	**4,500**	**4,900**	**5,200**	**5,500**
Total Administrative Expenses	10,800	11,600	12,200	12,700	13,400	13,900
Total Benefits and Expenses	**431,300**	**455,600**	**468,400**	**453,300**	**464,100**	**482,800**
EBIT	**112,700**	**81,400**	**69,600**	**80,500**	**67,700**	**48,600**
Interest	**-**	**-**	**-**	**-**	**-**	**-**
Tax	**39,400**	**28,500**	**24,400**	**28,200**	**23,700**	**17,000**
Net Income	**73,300**	**52,900**	**45,200**	**52,300**	**44,000**	**31,600**

EXHIBIT 5
Financial Data: Statutory Balance Sheets (in 000s) and Debt

Total	2018	2019	2020	2021	2022	2023
Cash	1,022,230	1,046,640	1,067,190	1,100,600	1,140,470	1,172,530
Bonds	6,133,380	6,279,840	6,403,140	6,603,600	6,842,820	7,035,180
Mortgages	3,066,690	3,139,920	3,201,570	3,301,800	3,421,410	3,517,590
Subtotal: Cash & Invested Assets	10,222,300	10,466,400	10,671,900	11,006,000	11,404,700	11,725,300
Separate Account Assets	1,878,100	2,128,200	2,515,900	3,057,800	3,777,900	4,872,200
Deferred Tax Asset	-	-	-	-	-	-
Total Assets	**12,100,400**	**12,594,600**	**13,187,800**	**14,063,800**	**15,182,600**	**16,597,500**
Statutory Reserves	11,231,200	11,716,000	12,299,000	13,160,200	14,280,300	15,856,500
Debt	225,000	225,000	225,000	225,000	225,000	75,000
Total Liabilities	**11,456,200**	**11,941,000**	**12,524,000**	**13,385,200**	**14,505,300**	**15,931,500**
Statutory Equity	**644,200**	**653,600**	**663,800**	**678,600**	**677,300**	**666,000**
RBC	338%	333%	324%	312%	306%	287%
Debt Ratio	35%	34%	34%	33%	33%	11%

Variable Annuity	2018	2019	2020	2021	2022	2023
Cash, Invested and Other Assets	365,100	457,300	459,700	532,900	608,800	687,600
Separate Account Assets	1,878,100	2,128,200	2,515,900	3,057,800	3,777,900	4,872,200
Deferred Tax Asset						
Total Assets	2,243,200	2,585,500	2,975,600	3,590,700	4,386,700	5,559,800
Statutory Reserves	2,086,200	2,417,400	2,797,100	3,398,700	4,198,300	5,385,700
Total Liabilities	2,086,200	2,417,400	2,797,100	3,398,700	4,198,300	5,385,700
Statutory Equity	157,000	168,100	178,500	192,000	188,400	174,100

Universal Life	2018	2019	2020	2021	2022	2023
Cash, Invested and Other Assets	1,929,200	2,001,900	2,102,300	2,237,100	2,406,800	2,617,100
Deferred Tax Asset	-	-	-	-	-	-
Total Assets	1,929,200	2,001,900	2,102,300	2,237,100	2,406,800	2,617,100
Statutory Reserves	1,820,000	1,897,500	2,002,200	2,140,700	2,314,200	2,528,600

Total Liabilities	1,820,000	1,897,500	2,002,200	2,140,700	2,314,200	2,528,600
Statutory Equity	109,200	104,400	100,100	96,400	92,600	88,500

Traditional Life	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Cash, Invested and Other Assets	936,000	966,100	1,005,700	1,050,500	1,101,500	1,158,100
Deferred Tax Asset	-	-	-	-	-	-
Total Assets	936,000	966,100	1,005,700	1,050,500	1,101,500	1,158,100
Statutory Reserves	900,000	928,900	967,000	1,010,100	1,059,100	1,113,500
Total Liabilities	900,000	928,900	967,000	1,010,100	1,059,100	1,113,500
Statutory Equity	36,000	37,200	38,700	40,400	42,400	44,600

Term	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Cash, Invested and Other Assets	442,000	478,800	530,000	598,600	687,600	798,700
Deferred Tax Asset						
Total Assets	442,000	478,800	530,000	598,600	687,600	798,700
Statutory Reserves	425,000	460,400	509,600	575,500	661,100	768,000
Total Liabilities	425,000	460,400	509,600	575,500	661,100	768,000
Statutory Equity	17,000	18,400	20,400	23,100	26,500	30,700

Other	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Cash, Invested and Other Assets	6,300,000	6,312,300	6,324,200	6,336,900	6,350,000	6,363,800
Deferred Tax Asset						
Total Assets	6,300,000	6,312,300	6,324,200	6,336,900	6,350,000	6,363,800
Statutory Reserves	6,000,000	6,011,800	6,023,100	6,035,200	6,047,600	6,060,700
Total Liabilities	6,000,000	6,011,800	6,023,100	6,035,200	6,047,600	6,060,700
Statutory Equity	300,000	300,500	301,100	301,700	302,400	303,100
Corp	250,000	250,000	250,000	250,000	250,000	100,000

Asset Durations (as of Dec 31, 2018)

	Cash	Bonds	Mortgages
Duration	0	10	6

Market to Book Ratio	1	1.08	1.04

Debt Issuance

Issue	Issue Date	Maturity Date	Rate	Face Amount
Senior notes issue	1 Mar 2004	1 Mar 2019	8.50%	150,000
Senior notes issue	15 Jun 2013	15 Jun 2033	7.00%	75,000

EXHIBIT 6
Sensitivity Tests

Term Sensitivities (in 000s)

Baseline	**2019**	**2020**	**2021**	**2022**	**2023**
Sales	21,400	22,700	24,100	25,600	27,200
GAAP Earnings: In force	7,100	6,900	7,100	6,300	5,100
GAAP Earnings: New Business	15,500	17,000	16,400	26,200	28,000
GAAP Total Earnings	22,600	23,900	23,500	32,500	33,100
Statutory Capital	23,100	26,500	30,700	33,765	34,294
Lapse Up 15%					
Sales	21,400	22,700	24,100	25,600	27,200
GAAP Earnings: In force	7,455	7,935	8,875	8,505	7,395
GAAP Earnings: New Business	15,190	15,470	13,776	20,174	19,600
GAAP Total Earnings	22,645	23,405	22,651	28,679	26,995
Statutory Capital	22,638	25,175	27,630	28,363	26,749
Lapse Down 15%					
Sales	21,400	22,700	24,100	25,600	27,200
GAAP Earnings: In force	7,455	5,865	4,615	2,835	1,275
GAAP Earnings: New Business	15,190	16,830	16,400	26,462	28,560
GAAP Total Earnings	22,645	22,695	21,015	29,297	29,835
Statutory Capital	23,793	28,090	33,463	38,154	40,124
Sales Up 15%					
Sales	24,610	26,105	27,715	29,440	31,280
GAAP Earnings: In force	7,100	6,900	7,100	6,300	5,100
GAAP Earnings: New Business	17,825	19,550	18,860	30,130	32,200
GAAP Total Earnings	24,925	26,450	25,960	36,430	37,300
Statutory Capital	23,562	28,090	33,770	38,830	40,810
Sales Down 15%					
Sales	18,190	19,295	20,485	21,760	23,120
GAAP Earnings: In force	7,100	6,900	7,100	6,300	5,100
GAAP Earnings: New Business	13,175	14,450	13,940	22,270	23,800
GAAP Total Earnings	20,275	21,350	21,040	28,570	28,900
Statutory Capital	22,638	25,175	27,630	28,363	26,749

Variable Annuity Sensitivities (in 000s)

Baseline	**2019**	**2020**	**2021**	**2022**	**2023**
Sales	1,000,000	1,280,000	1,750,000	2,100,000	2,520,000
GAAP Earnings: In force	17,400	17,900	18,200	18,900	19,200
GAAP Earnings: New Business	5,800	14,350	30,500	39,500	50,900
GAAP Total Earnings	23,200	32,250	48,700	58,400	70,100
Statutory Capital	192,000	188,400	174,100	178,300	181,900
Market Immediate Shock Up 15%					
Sales	1,000,000	1,280,000	1,750,000	2,100,000	2,520,000
GAAP Earnings: In force	24,000	25,000	25,900	27,200	28,200
GAAP Earnings: New Business	5,800	14,350	30,500	39,500	50,900
GAAP Total Earnings	29,800	39,350	56,400	66,700	79,100
Statutory Capital	232,000	230,400	218,200	224,600	230,500
Market Immediate Shock Down 15%					
Sales	1,000,000	1,280,000	1,750,000	2,100,000	2,520,000
GAAP Earnings: In force	10,800	10,800	10,500	10,600	10,200
GAAP Earnings: New Business	5,800	14,350	30,500	39,500	50,900
GAAP Total Earnings	16,600	25,150	41,000	50,100	61,100
Statutory Capital	112,000	104,400	85,900	85,700	84,700
Sales Up 15%					
Sales	1,150,000	1,472,000	2,012,500	2,415,000	2,898,000
GAAP Earnings: In force	17,400	17,900	18,200	18,900	19,200
GAAP Earnings: New Business	26,700	37,100	56,000	67,200	80,600
GAAP Total Earnings	44,100	55,000	74,200	86,100	99,800
Statutory Capital	190,500	184,980	168,055	169,105	168,925
Sales Down 15%					
Sales	850,000	1,088,000	1,487,500	1,785,000	2,142,000
GAAP Earnings: In force	17,400	17,900	18,200	18,900	19,200
GAAP Earnings: New Business	19,720	27,413	41,395	49,640	59,585
GAAP Total Earnings	37,120	45,313	59,595	68,540	78,785
Statutory Capital	193,500	191,820	180,145	187,495	194,875

EXHIBIT 7
Financial Data: Inforce Statistics

Total	2018	2019	2020	2021	2022	2023
Death Benefit Inforce (in 000's)	103,119,763	105,583,877	108,447,334	120,000,000	127,697,000	134,299,000
Policy Contract Count	303,125	332,458	364,656	400,000	420,400	441,844

Variable Annuity						
Death Benefit Inforce (in 000's)	12,355,000	11,843,000	11,519,000	18,000,000	17,297,000	18,055,000
Policy Contract Count	30,053	33,058	36,364	40,000	42,000	44,100

Universal Life						
Death Benefit Inforce (in 000's)	51,830,256	54,421,769	57,142,857	60,000,000	64,800,000	69,984,000
Policy Contract Count	32,652	34,938	37,383	40,000	42,400	44,944

Traditional Life						
Death Benefit Inforce (in 000's)	28,571,000	28,571,000	28,571,000	30,000,000	32,400,000	32,400,000
Policy Contract Count	75,131	82,645	90,909	100,000	105,000	110,250

Term						
Death Benefit Inforce (in 000's)	4,807,507	5,192,108	5,607,477	6,000,000	6,600,000	7,260,000
Policy Contract Count	150,263	165,289	181,818	200,000	210,000	220,500

Other						
Death Benefit Inforce (in 000's)	5,556,000	5,556,000	5,607,000	6,000,000	6,600,000	6,600,000
Policy Contract Count	15,026	16,529	18,182	20,000	21,000	22,050

EXHIBIT 8
Audit Report Issued by Harmon & Strauss, LLP

Background on Auditing Firm

Harmon & Strauss, LLP is a highly respected audit firm that has been auditing VA and Life companies for 10 years. The firm has built up a reputation as an expert in auditing these types of companies. A superior review from Harmon & Strauss, LLP will greatly please Darwin's stockholders and make them comfortable that proper controls are in place.

Scope

The scope of the audit performed on Darwin by Harmon & Strauss, LLP was the following:

- Ensure proper checks in place to verify policy count and account value matches between modeling inforce files and the administration system.
- Model and assumption changes reviewed and approved by an independent model committee.
- Adequate analysis and trending is performed to get comfortable with results.
- At least five controls are documented and performed on a quarterly basis.

Methodology of Audit

Harmon & Strauss, LLP asked for a copy of Darwin's quarterly control binder for the previous quarter. This binder includes the controls and trending performed during the valuation process that feeds into the Statutory and GAAP financial statements. After reviewing the binder, members of the audit team met with Darwin employees to gather additional feedback and dig into the processes. From there, Harmon & Strauss, LLP was able to summarize and put together flowcharts of the necessary controls. Once all data was gathered, the audit team scored Darwin on each of the items noted as part of the scope of the audit. A score was determined for each block of business and item in scope, and then averaged to get an overall score. A score of 1 indicates severe operational risks and lack of controls, a score of 5 indicates excellent controls and low operational risks. The overall score was provided to senior management for their consideration.

Data Gathering

Prior to the end of the quarter, Darwin's modeling team provides documentation for any intended model changes or assumption updates. The model oversight team reviews this documentation to ensure the changes make sense. They also ask the modeling team to place a copy of their models into a test folder for their review. A comparison is done between the current quarter's model and the previous quarter to ensure all updates were communicated. The model integrity team then provides signoff. This signoff is printed and included in the documentation binder.

Darwin's administration system stores all of the policy level detail for its products. Separate systems are used for the life products and the annuity products. For both products, an extract is created with policy level information, which is then used in putting together the inforce file. The code in the extract calculates the various fields needed, such as account value, surrender value, etc. As part of the extract process, a summary report is also generated that shows total policy count and account value. The summary report is then compared to the policy level extract to ensure nothing was missed during the load process. The comparison is completed for policy count and account value in total for all but two VA products (for which only the AV is being compared).

The inforce files are then loaded to the models. For both VA and Life, the results are highly dependent on demographics of the policyholder – i.e., gender, age -- that are input via the inforce file process. Since total policy count and account value are tied out between the admin system and the inforce file, the modelers feel comfortable that the inforce file is complete and accurate – without the need for separate checks of the remaining inforce file fields. The results from the models are imported into several spreadsheets and later imported into a database in order to calculate final reserves. Once the database has been run, results are copied into a workbook. This workbook gathers data from the model results, as well as any manual adjustments, and summarizes it to send to accounting in order to book to the ledger.

Once reserves have been booked to the ledger, some trending is performed. Policy counts, account value, and reserves are compared to the past few quarters to verify reasonability at the total Life and Annuity levels. The comparison is done as a visual check by a product expert. No formal thresholds are set to determine if something looks incorrect, as it would just be obvious to the product owner.

Model changes and assumptions updates, inforce file tie-outs, and trending files are all included within the quarterly control binder.

Audit Findings/Risk Scoring

Control	Score	Rationale
Inforce file matches administration system	3	Two policies were found to be missing in the inforce file compared to the summary report, along with $1m in AV.
Model changes and assumption updates approved by independent committee	5	Proper approvals are being obtained from an independent committee.
Analysis and Trending performed	3	Formal thresholds should be set, comparison should be done in the file, better documentation is needed in case the product expert is not available to perform the analysis
Number of Controls Documented	3	Only three controls are included in the documentation binder.
Overall Average Score	3.5	

EXHIBIT 9
2018 Asset Portfolio for the Universal Life Segment (in 000s)

USD $	Statutory BV	Allocation	Credit Rating	Expected Book Yield	Post Tax Capital Charge (% of BV)	Statutory Capital Category
Cash/Treasuries	96,460	10%	AAA	0.50%	0.000%	C1o
Corporate Bonds	1,061,060	50%	AA	2.50%	1.027%	C1o
High Yield Bonds	0	0%	BB	7.00%	3.634%	C1o
Commercial Mortgages	0	0%	A	5.00%	2.054%	C1o
Equities	154,336	8%			7.900%	C1cs
S&P Derivatives	115,752	6%			0.316%	C1o
Interest Derivatives	231,504	12%			0.316%	C1o
Credit Default Swaps	270,088	14%			3.634%	C1o
Total	**1,929,200**	**100%**				
Statutory Equity	109,200					