

Case Study

FALL 2021/SPRING 2022

Foundations of CFE Exam
EXAM CFE FD

The following T-Table should be used as needed for examination questions:

Degrees of Freedom	Confidence Interval (Two-Tail t-distribution)										
	75.00%	77.50%	80.00%	82.50%	85.00%	87.50%	90.00%	92.50%	95.00%	97.50%	99.00%
1	2.41	2.71	3.08	3.55	4.17	5.03	6.31	8.45	12.71	25.45	63.66
2	1.60	1.73	1.89	2.06	2.28	2.56	2.92	3.44	4.30	6.21	9.92
3	1.42	1.52	1.64	1.77	1.92	2.11	2.35	2.68	3.18	4.18	5.84
4	1.34	1.43	1.53	1.65	1.78	1.94	2.13	2.39	2.78	3.50	4.60
5	1.30	1.38	1.48	1.58	1.70	1.84	2.02	2.24	2.57	3.16	4.03
6	1.27	1.35	1.44	1.54	1.65	1.78	1.94	2.15	2.45	2.97	3.71
7	1.25	1.33	1.41	1.51	1.62	1.74	1.89	2.09	2.36	2.84	3.50
8	1.24	1.31	1.40	1.49	1.59	1.71	1.86	2.05	2.31	2.75	3.36
9	1.23	1.30	1.38	1.47	1.57	1.69	1.83	2.01	2.26	2.69	3.25
10	1.22	1.29	1.37	1.46	1.56	1.67	1.81	1.99	2.23	2.63	3.17
11	1.21	1.29	1.36	1.45	1.55	1.66	1.80	1.97	2.20	2.59	3.11
12	1.21	1.28	1.36	1.44	1.54	1.65	1.78	1.95	2.18	2.56	3.05
13	1.20	1.27	1.35	1.43	1.53	1.64	1.77	1.94	2.16	2.53	3.01
14	1.20	1.27	1.35	1.43	1.52	1.63	1.76	1.92	2.14	2.51	2.98
15	1.20	1.27	1.34	1.42	1.52	1.62	1.75	1.91	2.13	2.49	2.95
16	1.19	1.26	1.34	1.42	1.51	1.62	1.75	1.90	2.12	2.47	2.92
17	1.19	1.26	1.33	1.42	1.51	1.61	1.74	1.90	2.11	2.46	2.90
18	1.19	1.26	1.33	1.41	1.50	1.61	1.73	1.89	2.10	2.45	2.88
19	1.19	1.25	1.33	1.41	1.50	1.60	1.73	1.88	2.09	2.43	2.86
20	1.18	1.25	1.33	1.41	1.50	1.60	1.72	1.88	2.09	2.42	2.85
21	1.18	1.25	1.32	1.40	1.49	1.60	1.72	1.87	2.08	2.41	2.83
22	1.18	1.25	1.32	1.40	1.49	1.59	1.72	1.87	2.07	2.41	2.82
23	1.18	1.25	1.32	1.40	1.49	1.59	1.71	1.86	2.07	2.40	2.81
24	1.18	1.25	1.32	1.40	1.49	1.59	1.71	1.86	2.06	2.39	2.80
25	1.18	1.24	1.32	1.40	1.49	1.59	1.71	1.86	2.06	2.38	2.79
26	1.18	1.24	1.31	1.39	1.48	1.59	1.71	1.85	2.06	2.38	2.78
27	1.18	1.24	1.31	1.39	1.48	1.58	1.70	1.85	2.05	2.37	2.77
28	1.17	1.24	1.31	1.39	1.48	1.58	1.70	1.85	2.05	2.37	2.76
29	1.17	1.24	1.31	1.39	1.48	1.58	1.70	1.85	2.05	2.36	2.76
30	1.17	1.24	1.31	1.39	1.48	1.58	1.70	1.84	2.04	2.36	2.75

The following Standard Normal Table should be used as needed for examination questions:

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986

Disclaimer

The companies and events depicted in this Case Study are fictitious. Any similarity to any event, corporation, organization, or person living or dead is merely coincidental. 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. The case study should be read critically, with the understanding that it depicts hypothetical organizations with some good policies and some flaws; it is not a representation of best practices.

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1 RPPC Dynasty Corporation

1.1 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, Petrov, 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 in its early years expanded to hold a diverse group of businesses. More recently it has divested several holdings to focus on the financial sector.

The business roots began with the coffee shop, owned by the Ruiz family since 1993.

In 2003, Jose Ruiz and Meiyang Chan formed a partnership. The Chan family had owned and operated a small business since 1998. Soon thereafter, two other entrepreneurs were brought in to expand the brand. Over the next year, RPPC developed its vision of future global expansion across diverse businesses.

In 2004, to increase access to capital in support of the company's expansion, RPPC made the decision to incorporate.

In 2005, with the guidance of Sanjay Patel, a Bank group was formed. The expansion required a significant amount of capital, which was made possible by the earlier decision to incorporate.

In 2011, RPPC took a controlling interest in an airline to appeal to the growing global mobility of the group's clientele. The airline had previously taken a majority interest in a tire company in 2007 to create a synergy with its airline business. RPPC put the airline acquisition through a restructuring initiative to better fit into the group's vision.

In 2013, RPPC was presented with an opportunity to obtain a life insurance group, which it hoped would expand the wealth management capabilities of the bank operations.

In 2014, RPPC decided to spin off the coffee company and the airline in order to concentrate on the financial businesses. Those two companies, Frenz and Blue Jay Air, continue to operate as independent organizations.

1.2 RPPC Dynasty Corporation Overview

1.2.1 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!!

1.2.2 Vision

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

1.2.3 Executive Team

CEO –Gilroy Clyde (since inception)

CFO –Lamar Smith (five years)

CRO –Julia Reich (recently appointed)

COO –Jane Mulroney (since incorporation; has served as default CRO)

1.2.4 Governance

RPPC has the following Executive Committees:

1. Operations Committee
2. Audit Committee
3. Finance Committee
4. Risk Committee
5. Governance Committee

1.2.5 Cost of Capital – RPPC and Peer Industries

	RPPC Dynasty	Reliable Insurance	Too Big Bank
Expected Cost of Debt	8%	6%	3%
Expected Cost of Equity	14%	11%	12%
Debt-to-Value Ratio	40%	40%	60%

1.2.6 Tax Rate for Conglomerate

RPPC's current tax rate is 20%.

1.3 RPPC Risk Management Framework

1.3.1 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 the loss inflicted on our competitors is as beneficial as creating new profit streams from new arenas.
- A unified and strong risk culture that is embedded across the enterprise. This leads to a consensus opinion on the value and purpose of risk management.

Challenges

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

Our Priorities

- 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-for-reward trade-off is applied effectively and consistently in all levels of decision-making.

1.3.2 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 in 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

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

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

1.3.3 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. 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. These provide oversight, challenge and independent assessment of risk.
- 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 CEO is responsible for the business operating groups (the first line of defense). The second line is made up risk officers (EROs and SMEs) 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" 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
<i>Risk Management Committee</i>	<i>Operating Groups</i>	<i>ERM & Portfolio Management</i>	<i>EROs and SMEs</i>	<i>Corporate Audit Group</i>
<ul style="list-style-type: none"> • Capital Management • Reputational Risk • Operational Risk 	1st line of defense	2nd line of defense	2nd line of defense	3rd line of defense

1.3.4 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.

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.

1.3.5 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.

1.3.6 Risk Appetite

RPPC’s 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, will:

- 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.

Key Indicators 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 one 1-in-100 year tail event that the capital thereafter would still be able to withstand another 1-in-100 year tail event (essentially twice the 1-in-100 year event's loss). This is referred to as redundant capital and 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, the 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. Scenarios and stress tests are based on transparent deterministic scenarios recommended by the Business and approved by the Risk team.

When communicating KRI impacts, severity is assessed when economic events or business impacts are more than three standard deviations from the average.

1.3.7 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 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, and any 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 is required by the office of the CRO, the product pricing committee, and the operational head of the business unit. This approval is gained through 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 could 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.

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 the role of arbitrator for finding the appropriate forum to resolve areas of dispute between the business and the risk review. 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.

1.3.8 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 undertaken. Economic capital is

determined by the Risk Management Committee and is underpinned by the Redundant Capital philosophy. Capital is determined to withstand one 1-in-100 year event, after which the capital position is still sufficient to meet another 1-in-100 year event (essentially twice the 1-in-100 year event's loss). 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 involves quantifying and communicating the impact of specified scenarios on the financial results of a given business operation.

1.3.9 Risk Management Models

There are several models used by risk management at the conglomerate level due to RPPC's diverse industries. Information from these models is shared with the appropriate businesses:

- Inflation model – The inflation model is a robust model due to its many needs. Not only is general inflation information needed for the financial products, but inflation of specific commodities must be modeled as well. The inflation rates for fuel, general consumer goods, and specific raw materials are modeled across the countries in which the specific businesses are located.
- Interest Rate model – This model is especially important for the financial businesses.
- Foreign Currency model – The foreign exchange rate has a large impact, not only on the bank and insurance operations, but also on the consumer goods sold across international borders, such as coffee.
- Economic model – More general than the interest rate and foreign currency models, this model is used to predict demand for RPPC's diverse consumer goods and services as well as predicting the state of the market for the financial products.
- Liquidity model – All of the diverse industries could experience liquidity crunches of some form or another, although it is not expected that they would all be 100% correlated. This model is intended to give RPPC an idea of liquidity needs under various scenarios, both economy-wide and business-specific.
- Financial Projection model – This model projects the anticipated 5-year plan of the conglomerate and reports out key financial data.
- Economic Capital model – This model calculates the loss due to a 1-in-100 year tail event. Economic capital is determined at the conglomerate level but may not be explicitly calculated at lower levels of the organization.

1.3.10 Model Risk Management Framework

Because of the many diverse models used both at the conglomerate level and within the various companies, RPPC considers it important to have a standard for vetting the models to avoid common model errors.

Before a model is used for decision-making, the model owner should document the following:

- How the model parameters and assumptions were calibrated
- Limitations on the use of the model for the business
- Reasonableness checks that were performed on the model
- Results from stress testing and backtesting the model

It is also required that the risk management team review the model and sign off before model implementation. Future model changes should also be documented.

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.

2.1 Commercial Airline Industry Profile

2.1.1 Operations

The commercial airline industry provides air transportation for passengers and cargo. The United States (U.S.) has an extensive commercial air transportation network. Its passenger air transportation market is a thriving industry, taking individuals around the North American continent and around the globe. All U.S. passenger airline companies are privately owned.

Airports, on the other hand, are usually constructed and operated by local governments. Thus, most government air travel subsidies go to airport operations rather than to the passenger airline industry.

There is currently no government regulation on ticket pricing, although the federal government retains jurisdiction over aircraft safety, pilot training, and accident investigations through the Federal Aviation Administration and the National Transportation Safety Board.

Most airlines operate using a "hub and spoke" model such that passengers go through a centralized location, the hub, to transfer to their downline destination, i.e., the spoke city. This system gives the predominant airline in a given airport a strong competitive position as it maximizes the number of passengers on each flight. The model offers a very efficient means of relating supply to demand through a centralized distribution hub.

Most commercial airlines operate on a scheduled basis, flying regular routes even if the planes are not full. Airlines that operate on a non-scheduled basis usually fly during off peak hours and have more flexibility in the choice of airport, flight times and load factors. Non-scheduled carriers typically offer charter passenger flights, cargo/freight transport, and other flying services such as crop dusting and rescue operations.

Based on February 2019 U.S. Passenger Airline Employment data published by the U.S. Department of Transportation, there are 443,058 full-time equivalent (FTE) employees working for scheduled passenger airlines. This is the highest February employment total since February 2003, which indicates that the airline industry is well on its way to recovery following the recession of 2008 - 2009.

2.1.2 Risk/Success Factors

The airline industry faces the following significant risks:

(1) Economic and Geopolitical Volatility

As most airline companies now operate in a global market, exposures to the political relationship and tensions as well as economic relationship and business cycle changes are increasingly significant. These external factors could have a major impact on the sustainable long-term growth of the airline industry.

Trade dispute and economic slowdown post a major threat to the usage of the commercial airline transportation.

(2) Supply Chain Risk

The number of manufacturers of commercial aircrafts is limited. Thus, timely aircraft deliveries could become a major issue for airline companies wishing to renew their fleets. In addition, as supply is limited, cost increase is very possible.

Continually advancing technology may result in airplanes not being tested thoroughly before delivery by suppliers, leading to possible lower quality control.

As new technology is introduced, older planes are phased out, generally after about ten years. Once a plane is over six years old, availability of replacement parts becomes limited and expensive.

(3) Oil Price Increases

Profit margins for airline companies could be negatively impacted by increases and volatility in oil prices.

(4) Unpredictable and Malicious Acts

Three areas of unpredictable and malicious threats are:

- Cyber incidents and data breaches – concerns over privacy and safety
- Insider threats – workplace violence, exfiltration of information, physical security compromise, sabotage, terrorism, physical property theft
- Supply chain disruption – outsourcing can further increase risk of supply-chain disruption.

(5) Increased Regulation

The airline industry currently must comply with regulations on aircraft design, maintenance, pilot training activities, and safety requirements. These regulations are crucial in setting safety standards but can result in significant costs for the airline industry.

Airline companies own significant amounts of intellectual property (IP), consisting of patents, unpatented know-how data, software, and trademarks. These are valuable assets to companies

but may be complicated to manage as they can be subject to different regulations in different countries.

(6) Accidents/Fatalities

When a plane crash event occurs, the airline industry could suffer severe reputational risks, especially if the event is not properly handled in areas of communication, investigations, and recoveries.

(7) Foreign currency and commodity price fluctuations

As many airline companies operate on an international basis, currency fluctuations could cause undue financial strains when the earned revenue and expenses are in different currencies.

In addition, financial performance of the airline companies could be impacted by price fluctuations in key commodities or raw materials, such as aluminum, titanium and composites that affect the airline industry's supply chain profitability.

(8) Capacity to Innovate

As new technologies are being introduced, it becomes more costly for airlines to keep up with the necessary technological changes that their customers demand.

Key success factors for the airline industry include:

(1) Business Success Factors:

- Company's market position, including its route and hub network
- Business alliances and partnerships
- Company's market share
- Service standard/quality and reputation
- Fleet profiles – quality, age, and capacity
- Company's operating management including human resource management/labor relations

(2) Financial Success Factors:

- Management philosophy, strategy, and financial risk policies
- Hedging and other risk mitigation policies
- Capital structure and liability management
- Shareholder support and commitment

2.1.3 Competitive Environment

The competitive environment for the U.S. airline industry intensified since the Airline Deregulation Act of 1978. New carriers rushed into the market with new routes post deregulation, which resulted in

declining fares as competition and number of customers increased. Some major carriers, such as Pan American and TWA, which had dominated during the middle portion of the 20th century, began to collapse in the wake of competition. Such carriers disappeared completely following the Gulf War and subsequent recession of the early 1990s. Code sharing agreements (described further below) became widespread within the airline industry beginning in the 1990s.

During the early 2000s, the industry suffered setbacks due to economic downturns, fuel cost increases, and the 9/11/2001 attacks in the U.S. Profitability didn't return until 2006. The financial crisis in 2008 resulted in air traffic in the U.S. declining at rates of 10% to 24%, depending on the airport. The drop-in customers prompted rapid consolidation and mergers of all of the nation's largest carriers. The combination of consolidation, mergers and code sharing alliances has dampened competition and caused an upward pressure on airline fares. Profitability has returned to the airline industry since 2009. Over 80% of the U.S. domestic market share is now dominated by the top seven largest domestic airlines as of March 31, 2019.

2.2 Company Profile

Blue Jay Air was originally incorporated in the United States in the mid-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. The company has transformed from a focused high-end regional company to an expanded price-competitive commercial carrier, covering the full geographical region of the United States as well as major cities in Canada.

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 has trended upwards due to lack of qualified manpower and insufficient compensation levels.

Despite all the perils in the industry, Blue Jay Air was resilient in surfing the destructive waves through various reorganization and restructuring efforts. From 2011 through part of 2014, Blue Jay Air was owned by RPPC. In 2014, it was spun off and now operates as an independent organization again. Susan Feather, who has over 20 years of airline experience, is viewed as a "turnaround" CEO.

2.3 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. Susan 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 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. In fact, the expansion to leisure travel over the last 15 years did not initially increase the profit margin as the number of business travelers declined from over 80% to 55% due to reduced services. The rebranding and the change to the business model may be contributing to the improved profitability seen in recent years.

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 a boarding space. 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. Blue Jay requires an effective management team that will foster a cultural change without damaging the relationship with the employees and will 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 benefits reviews, frequent employee networking events, employee suggestion boxes and an employee diversity and inclusion 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 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 highest quality.

2.4 Risk Management

As a highly-leveraged capital-intensive company, Blue Jay Air has significant exposure to interest rate risk. Ability to raise debt and service the debt is crucial to the survival of the company. Therefore, a key risk management objective is to maintain the credit rating of the company within the investment grade categories, i.e., BBB- or higher.

Blue Jay Air has in place a risk management committee headed by a well-known risk manager, Ruth Green. Ruth was formerly the Chief Risk Officer (CRO) of a major Canadian bank. Ruth was a hedge

fund manager before she became the CRO of the bank and has extensive background in implementing risk management strategies. Over the last two years, Ruth has put together a dynamically hedged portfolio that handles the commodity exposures that the company has been facing as well as partially hedging interest rate risks.

Since Blue Jay Air requires a constant supply of oil and gas to run its airline business, it is exposed to fluctuations in fuel prices. The company policy is to eliminate as far as possible any market price variability through hedging. The maximum acceptable unexpected earnings volatility from any related fuel pricing hedging activities has been set at \$5 million.

Blue Jay Air has entered into a staggered series of forward commitments with different suppliers. This has substantially reduced oil and gas supply risks, unless there is a world-wide supply chain disruption.

In addition, Ruth 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 Elmer Saunders who was a former Treasurer of a New York-based investment bank. Elmer has a significant network with venture capitalists, pension fund managers, and private equity fund managers. Elmer has also worked in the investor relations area of a major U.S. 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, he has implemented a liquidity model and a credit model to monitor the company's ongoing liquidity and credit needs.

Ruth has proposed that Blue Jay Air create a more formal Risk Appetite Statement. After reviewing policies already in effect at BJA, her staff produced the following starting draft:

Guiding Principles:

- Cost control is key to the success of BJA. All products and services must be justified through a stringent cost/benefit analysis.
- BJA strives to be the safest airline in the industry. All initiatives must be reviewed with this goal in mind.
- Maintaining an adequate, well-trained labor force is critical to meeting our objectives.
- BJA must be able to access the capital markets. Therefore, the company must maintain its credit rating at BBB- or higher.

Specific Risk Tolerances

- The maximum acceptable unexpected earnings volatility from any related fuel pricing hedging activities is \$5 million.
- Maintain a liquidity ratio of at least 150% under the likely scenario and at least 100% under the stressed scenario, based on quarterly liquidity modeling.
- Maintain average age of aircraft at no more than 3.5 years.

The Risk Management roles and functions are still in the process of refinement and adjustment. The staffing requirement in these areas is highly specialized so 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.

2.5 Operations

2.5.1 Planes

The current fleet of planes is starting to age, with an average age of about five years. Parts needed to maintain these outdated models are becoming scarce and, thus, more expensive. BJA's current plan is to replace or update 15% of its current fleet every year in order to keep the maintenance costs at an acceptable level. These replacement costs are funded by long-term loans. However, since there are limited suppliers of commercial airplanes, there is exposure to price increases for the new planes. Delivery of the planes can also be subject to delays and tariffs.

The existing fleet is not suitable for international flights. In order to implement an international expansion strategy, the company will have to order or lease planes with updated features such as Wi-Fi, expanded business classes, flat beds, bars, and additional safety features, to be delivered over the next few years. These 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 are significant and increasing debt to finance these planes could jeopardize the credit rating of the company.

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

(See Exhibit E for more information.)

2.5.2 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 different mobile phone apps for the major mobile phone systems.

The new system 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.

2.5.3 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 and amenities such as gourmet Frenz

coffee and specialty teas, snacks, massage chairs with music selection and flat beds. The goal is to make business travelers as comfortable as possible while waiting for their flights.

Blue Jay Air is considering two possible upgrades for its lounges. The first is a renovation that will bring Blue Jay Air more in line with competitors, with an initial cost of \$10 million that is expected to produce an after-tax return on invested capital of 12.5%, with annual after-tax profits expected to be realized equally in perpetuity. The second is the acquisition of Luxury Lounges, a public company that has particular expertise in creating the most comfortable lounges for travelers. The current market price of Luxury Lounges stands at \$35 million, and the acquisition is expected to produce \$4 million of after-tax profits a year.

2.5.4 Baggage and Baggage System

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 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.

2.5.5 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, 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.

2.5.6 Financial Statements

Detailed financial statements are shown in Section 2.7, Exhibits A, B, and C, with notes to the financial statements in Exhibit D. (These statements exclude any impact of Blue Jay Tire on Blue Jay Air's overall financial position.)

2.6 Strategic Considerations

2.6.1 Strategic Information: Fleet Upgrade Proposals

Research into leasing vs. buying the new international planes, as well as costs of upgrading the current fleet, is shown in Section 2.7, Exhibit E.

2.6.2 Strategic Models used by Blue Jay Air

Black-Scholes Hedging Model

Ruth Green, as part of Blue Jay Air's risk management, has put together a dynamically hedged portfolio that handles the commodity exposures that the company has been facing as well as partially hedging the interest rate risks. She uses Black-Scholes models in this hedging work.

2.6.3 Strategic Initiative: Loyalty Program

Blue Jay Air would like to change its marketing strategy to target frequent business travelers. It is considering a business travel loyalty program that would eventually entail 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 considering partnering with Big Ben Bank's bank credit and debit cards to introduce a combined loyalty credit card with an "enhanced air points" reward system. This partnership should further increase the value of the loyalty program.

To gain valuable information about the customers for the loyalty program, a modification to the existing application form is required. The current application form is five pages long with 30 different questions related to the customers' personal information and preferences. The current completion rate is much lower than the target rate due to the extensive information requested, and the information gathered is not sufficient to make credible assumptions about customer behaviors.

Loyalty Program Strategic Model

To properly account for the potential costs of the new loyalty program, a basic model for a representative customer has been created. The customer will earn a certain number of points for each paid flight. After accumulating enough points, the customer can choose to redeem for a free flight at any time. The free flight doesn't earn points. For each paid flight the loyalty program gets a percentage of the ticket price as a fee and will pay the cost of the redeemed flight when it occurs. The loyalty program will invest the cash it has in short-term government bonds.

Since business travelers are the targeted clientele, the model uses the following assumptions about a typical business traveler:

- Frequency of flying and points earned per flight are fixed
- Time to redemption after accumulation of sufficient number of points follows a lognormal distribution

The model also makes assumptions for these factors:

- Flight price
- % of the flight price that loyalty program receives as a fee

- Cost of a redemption
- Points needs for a redemption
- Expense of the loyalty program as a % of the fee charged
- Investment rate
- Initial fixed cost for each customer
- Discount rate for cash flow

All factors above are assumed to be fixed. Blue Jay Air also assumes all its existing customers will join the loyalty program.

The projection period for the model is 10 years. The model will calculate the value of future benefits to be paid, future revenue and surplus of the program.

The enhanced business loyalty program will be designed based upon finding a favorable combination of factors that will result in the model producing the desired surplus target. Details of the new program are expected to be released in the next six months.

2.7 Blue Jay Air Exhibits

EXHIBIT A NON-CONSOLIDATED STATEMENT OF OPERATIONS (US Dollars in millions)

Fiscal Year Ended	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
Operating revenues:			
Passenger	1,544	1,235	1,074
Other	298	238	207
Total revenues	1,841	1,473	1,281
Operating expenses:			
Aircraft fuel	576	461	401
Wages, salaries and benefits	361	289	251
Capacity purchase agreements	173	138	120
Airport and navigation fees	158	127	110
Depreciation, amortization & impairment	96	77	67
Aircraft maintenance	111	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	26	23
Other	19	15	13
Total operating expenses	1,691	1,352	1,176
Net Operating income	151	121	105
Non-operating income (expenses)			
Foreign exchange gain(loss) [Note 3]	15	10	(29)
Interest income	5	5	5
Interest expense	(41)	(38)	(37)
Interest capitalized [Note 2]	2	1	(5)
Net financing expense relating to employee benefits [Note 2]	(2)	(2)	(15)
Loss on financial instruments recorded at fair value [Note 1]	(3)	(7)	(33)
Other [Note 2]	(1)	(2)	(19)
Total non-operating Income	(25)	(33)	(133)
Income (loss) before income taxes	126	88	(28)
Income taxes	(9)	(13)	2
Net income (loss) [Note 1]	117	75	(26)
Earnings per share (Basic)	1.00	0.60	(0.22)
Earnings per share (Diluted)	0.95	0.59	(0.22)

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

Fiscal Year Ended	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
ASSETS			
Current:			
Cash and Cash equivalents	180	101	30
Short-term investments	210	182	83
Total cash & Short-term investments	390	283	113
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 [Note 1]	966	701	406
Property and equipment	545	509	474
Intangible assets	21	21	21
Deferred tax assets	17	19	22
Goodwill	31	31	31
Deposit and other assets	34	76	109
Total assets [Note 1]	1,614	1,357	1,063
LIABILITIES			
Current:			
Account payable & accrued liabilities	150	107	70
Advance ticket sales	310	250	181
Current portion of long-term debt & finance leases	98	75	58
Total current liabilities	558	432	309
Long-term debt and finance leases	721	757	673
Pension & other benefit liabilities	205	230	246
Maintenance provisions	60	55	60
Deferred tax liabilities	132	68	20
Other long-term liabilities	49	48	43
Total liabilities [Note 1]	1,725	1,590	1,351
EQUITY			
Shareholders' equity			
Share capital	90	90	90
Contributed surplus	30	25	45
Deficit	(231)	(348)	(423)
Total shareholders' equity	(111)	(233)	(288)
Total liabilities & equity	1,614	1,357	1,063

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

Fiscal Year Ended	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
Cash Flows from (used for)			
Operating			
Net income (loss)	117	75	(26)
Adjustments to reconcile to net cash from operations:			
Adjust for non-cash items:			
Deferred income tax [Note 7]	66	50	(1)
Depreciation, amortization & impairment [Note 4]	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	(25)	(16)	24
Change in maintenance provisions	5	(5)	5
Other	(50)	(30)	(20)
Net cash flow from operating activities	185	151	(9)
Financing			
Proceeds from borrowings	150	100	125
Reduction of long-term debt obligations [Note 6]	(63)	64	(104)
Reduction of finance lease obligations [Note 6]	(35)	(10)	(74)
Contributed Surplus	5	(20)	35
Net cash flows used in financing activities	57	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) [Note 3]	(4)	(3)	7
Other	2	(1)	0
Net cash flows used in investing activities	(162)	(215)	(33)
Increase in cash & cash equivalents	80	70	(60)
Cash & cash equivalents, beginning of year	116	45	105
Cash & cash equivalents, end of year	195	116	45

EXHIBIT D
EXCERPTS OF NOTES TO THE NON-CONSOLIDATED FINANCIAL STATEMENTS

1 Accounting Basis

Classification

Blue Jay Air classifies its financial assets and financial liabilities in the following measurement categories:

- i) those to be measured subsequently at fair value and
- ii) those to be measured at amortized cost.

For assets and liabilities measured at fair value, gains and losses are recorded in profit or loss. Blue Jay Air reclassifies financial assets only when its business model for managing those assets changes. Financial liabilities are not reclassified.

Blue Jay Air has implemented the following classifications:

- Cash and cash equivalents, Short-term investments, and Restricted cash are classified as assets at fair value through profit and loss.
- Accounts receivable and other deposits are classified as assets at amortized cost and are measured using the effective interest rate method.
- Accounts payable, credit facilities, and long-term debt are classified as other financial liabilities and are measured at amortized cost using the effective interest rate method. Interest expense is recorded in the consolidated statement of operations, as applicable.

2 Revenues

Passenger revenues are recognized when the transportation is provided. Airline passenger advance sales are deferred and included in Current liabilities.

Blue Jay Air has formed alliances with other airlines encompassing loyalty program participation, interline agreements and code sharing and coordination of services including reservations, baggage handling and flight schedules. Revenues are allocated based upon formulas specified in the agreements and are recognized as transportation is provided. Passenger revenue also includes certain fees and surcharges and revenues from passenger-related services such as seat selection and excess baggage which are recognized when the transportation is provided.

Blue Jay Air disaggregates air transportation service revenue according to geographic market segments.

A reconciliation of the total amounts reported by geographic region for Passenger revenues on the consolidated statement of operations is as follows:

Passenger Revenue	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
United States	695	494	322
Canada	540	494	483
Atlantic	77	49	32
Pacific	154	124	54
Others	77	74	183
Total	1,544	1,235	1,074

3 Foreign Currency Translation

The functional currency of Blue Jay Air is the U.S. dollar. Monetary assets and liabilities denominated in foreign currencies are translated into U.S. dollars at rates of exchange in effect at the date of the consolidated statement of financial position. Non-monetary assets and liabilities and revenues and expenses arising from transactions denominated in foreign currencies, are translated at the historical exchange rate or the average exchange rate during the period, as applicable. Adjustments to the U.S. dollar equivalent of foreign denominated monetary assets and liabilities due to the impact of exchange rate changes are recognized in Foreign exchange gain (loss).

4 Property and equipment

Property and equipment are valued using the cost model. Blue Jay Air allocates the amount initially recognized in respect of an item of property and equipment to its significant components and depreciates separately each component.

Property and equipment are depreciated to estimated residual values based on the straight-line method over their estimated service lives:

- Aircraft frames and engines are depreciated over periods not exceeding 25 years, with residual values initially estimated at 10% of original cost and updated for changes in estimates over time.
- Spare engines and related parts are depreciated over the average remaining useful life of the fleet to which they relate with residual values initially estimated at 10%.
- Cabin interior equipment and modifications are depreciated over the lesser of eight years or the remaining useful life of the aircraft.
- Major maintenance costs are capitalized and amortized over the average expected life between major maintenance events.

- Buildings are depreciated on a straight-line basis over their useful lives not exceeding 50 years or the term of any related lease, whichever is less.

Residual values and assumed useful lives are reviewed at least annually, and depreciation rates are adjusted accordingly on a prospective basis. Gains and losses on disposals of property and equipment are determined by comparing the proceeds with the carrying amount of the asset and are included as part of non-operating gains and losses in the consolidated statement of operations.

5 Goodwill

Goodwill is tested at least annually for impairment. For the purpose of impairment testing, goodwill is tested for impairment using the fair value less cost to dispose model at the operating segment level.

In assessing the goodwill for impairment, Blue Jay Air compares the aggregate recoverable amount consisting of the sum of its quoted equity market capitalization and the fair value of its debt to the carrying value of its net assets excluding long term debt. An impairment charge is recognized to the extent that the carrying value exceeds the recoverable amount.

6 Long-term Debt and Financial Leases

The following table summarizes types of outstanding long-term debt of BJA.

Long Term Debt and Financial Leases:

	Maturity	Weighted Average Interest Rate (%)	2020	2019
Aircraft Financing				
Floating Rate	2021-2031	4.39	266	225
Fixed Rate	2021-2032	3.84	190	262
Senior Secured Notes	2026	4.75	190	187
Senior Unsecured Notes	2026	7.75	114	75
Long-term Debt		4.85	761	749
Finance Lease obligations	2022-2034	9.27	57	83
Total Debt and Finance Leases		5.16	819	832
Current portion			-98	-75
Long-term debt and issuance cost			721	757

Cash flows from financing activities

Information on the change in liabilities for which cash flows have been classified as financing activities in the statement of cash flows is presented below.

	Cash Flows				Non-Cash Changes			
	1-Jan-20	Borrowing	Repayment	Financing Fees	Foreign Exchange Adjustments	Amortization of Financing Fees	Other Non-Cash Adjustments	31-Dec-20
Long-term Debt	749	150	(63)		(75)	0	0	761
Lease Liabilities	83	0	(35)		9	0	0	57
Total Liabilities from financing activities	832	150	(98)		(66)	0	0	819

7 Income Tax

Income Tax Expense

Income tax recorded in the consolidated statement of operations is presented below.

	31-Dec-20	31-Dec-19	31-Dec-18
Current income tax	57	37	1
Deferred income tax	(66)	(50)	1
Income tax (expense) recovery	(9)	(13)	2

The income tax expense differs from the amount that would have resulted from applying the statutory income tax rate to income before income tax expense as follows:

	31-Dec-20	31-Dec-19	31-Dec-18
Income before income taxes	126	88	(28)
Statutory income tax rate based on combined federal and provincial rates	21.00%	21.00%	21.00%
Income tax expense based on statutory tax rates	(26)	(18)	6
Adjustment to tax basis:			
Non-taxable (non-deductible) portion of capital gains (losses)	(5)	10	4
Unrecognized deferred income tax assets on capital losses	15	(10)	(3)
Non-deductible expenses	(5)	(4)	(6)
Recognition of previously unrecognized deferred income tax assets	13	9	0

Other	0	1	1
Income tax (expense) recovery	(9)	(13)	2
Effective tax rate	-7.04%	-14.41%	-6.86%

Deferred Income Tax

Deferred income tax assets are recognized only to the extent that it is probable that future taxable income will be available to realize them. During 2020, Blue Jay Air determined that it was probable that substantially all of the deferred income tax assets, which include non-capital losses, would be realized.

The significant components of deferred income tax assets and liabilities were as follows:

	31-Dec-20	31-Dec-19	31-Dec-18
Deferred tax asset			
Non-capital losses	39	77	103
Post-employment obligations	100	87	75
Accounting provisions not currently deductible for tax	10	9	8
Investment tax credits and recoverable taxes	20	18	15
Other	5	5	4
Total	175	195	205
Deferred tax liabilities			
Property, equipment and technology-based intangibles	(289)	(241)	(201)
Other	(1)	(2)	(3)
Total	(290)	(243)	(204)
Net recognized deferred income tax assets (liabilities)	(115)	(49)	1
Balance sheet presentation			
Deferred income tax assets	17	19	22
Deferred income tax liabilities	(132)	(68)	(20)
Net recognized deferred income tax assets (liabilities)	(115)	(49)	1

EXHIBIT E
Fleet Upgrade Proposals

Exhibit E.1 Lease Proposal for International Plane Fleet

Lease term:	5 years
Initial Five-year Lease Expenditure:	\$ 500M
Additional Annual Expenses beyond those included in Lease Expenditure:	\$ 60M
Annual Expected Revenue from New Route (First 5 Years):	\$ 270M

Exhibit E.2 Purchase Proposal for International Plane Fleet

Initial Purchase Price:	\$1,750M
Annual Projected Maintenance Costs of New Fleet:	\$ 2M
Additional Annual Expenses beyond those included in Purchase/Maintenance:	\$ 60M
Annual Expected Revenue from New Route (First 5 Years):	\$ 270M
Annual Depreciation for Fleet:	\$ 100M

Exhibit E.3 Upgrade of Current Fleet Proposal

Initial Upgrade Expenditure:	\$100M
Favorable Additional Revenue:	\$18M first year, growing at 2% thereafter
Probability Favorable State:	60%
Unfavorable Additional Revenue:	\$0M all years
Probability Unfavorable State:	40%

3 Blue Jay Tire Co

3.1 Tire Industry Profile

The tire industry supplies tires for new vehicles and replacement tires for existing vehicles. Its market includes passenger vehicles and trucks, in all size ranges. Tire manufacturers need to source materials used in production, particularly natural or synthetic rubber and various types of plastics and metal components. Tire manufacturers sell to wholesalers, automobile manufacturers, and retail dealers.

Risks to the industry include:

- Volatile raw material prices
- Rising competition from low-cost imports

Factors that can lead to success include maintaining strong industry relations (with suppliers and customers), aggressive marketing, and the rising demand in the replacement tires market.

The competitive environment for tire manufacturers has been characterized by several major established tire companies, competing fairly evenly for the business available in North America. However, more recently, new emerging companies from lower-cost regions of the world have been extending their reach into the lucrative North American markets. These new competitors may have more direct access to raw materials and lower labor costs, enabling them to compete effectively.

3.2 Company Profile

3.2.1 Early History

The Durable Tire Corporation has been operating in Canada since 1946. 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 has 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 farm vehicle and small plane tires. These tires were intended for dirt roads or off-road on farms and in small community towns. Durable also manufactured specialty tires sold in niche markets.

When the family patriarch passed away in 2006, the family decided to sell its interest in the company to 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.

3.2.2 Under Blue Jay Air since 2007

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 2007, 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 2012, having successfully met and surpassed the 5-year plan objectives set out in 2007, the BJA Board directed BJT to pursue an even more ambitious growth strategy. With funding, BJT purchased two manufacturing plants in the southern USA and re-fitted the operation with direction from the Canadian operations. An executive team under the banner of Blue Jay Tire USA (BJT-USA) was setup 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 five years from the purchase date of every tire. Since inception, this tire warranty program has been well received.

BJT-USA surpassed sale targets each year from 2012-2017. BJT-USA, despite its size, had achieved a 3rd place market position in tire sales for compact cars and small SUVs in the southern U.S. by 2018.

3.2.3 Tire Recall

Sales in 2019 and 2020 were impacted by a tire recall. The following news item was reported in several major newspapers across the southern U.S.

Associated Press – August 2, 2018: *The Blue Jay Tire Co (BJT) reported in May 2018 that a tire defect that caused a single car accident was an isolated incident. BJT's 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 represent the highest quality on the road".*

The tire involved 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. While the company claimed that the accident was an isolated incident, our reporter uncovered a number of email records alluding to defects in the BJT's manufacturing process for the RU42WD tire.

As a result of the publicity, BJT made the decision in September 2018 to recall and replace all RU42WD tires. This incident resulted in a significant hit to BJT's financials and the company's reputation.

3.2.4 Financials

Detailed 5-year financial statements are shown in Section 3.5, Exhibits A, B, and C.

3.3 Risk Profile and Risk Tolerance

The following risk factor excerpts (Sections 3.3.1 - 3.3.11) are taken from the 2020 Annual Report. The risk tolerance statements are found in Section 3.3.12.

3.3.1 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 \$0.5M increase in manufacturing costs. However, as long as commodity prices rise gradually over time, BJT is typically able to pass on those increased costs to the company's ultimate customers.

BJT has maintained the same supplier for over 30 years. The relationship is very strong and BJT benefits from stable pricing. In the past decade, BJT has achieved the lowest prices on its commodity purchases because its growth strategy has also benefited the supplier. Volume discounts 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.

However, due to contracts with new car manufacturers, BJT will be unable to pass on increased commodity costs, should those costs rise quickly. In order to protect against this risk, Almond Bank, a financial intermediary, has proposed selling BJT a one-year contract for \$5 million that pays \$100 million if the cost of rubber at the end of the year is more than 15% higher than it was at the start of the year. The contract pays nothing if the cost of rubber has increased by less than 15% by the end of the year.

BJT has considered this proposal but deems it to be too big of an outlay at this time. BJT is more concerned about annual rate increases starting at 10%. If raw material costs increase by 15% or more, BJT will pay contractual penalties to the new car manufacturers and pass on the full cost increases.

As an alternative, BJT is considering catastrophe insurance coverage that would pay if supplies are disrupted more than one month due to natural disasters or pandemic. BJT is carrying an inventory of natural rubber sufficient to meet requirements for one month.

3.3.2 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 day/shift or more. The Lost Time Injury Frequency Rate (LTIFR), the number of lost-time injuries per million hours worked, is calculated as:

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

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 competencies 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 at or below industry average. Management focus recently 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.

3.3.3 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, 35% of the employees working in the two U.S. plants are union members. The current union contract expires in 2022. After normalizing for standard of living differentials between geographical locations, the labor cost in the Canadian operation is 20% lower than similar operations in the U.S.

There has not been any disruption in the workforce at any of the 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.

BJT tracks the number of days employees miss work for other than paid sick time or vacation days. These absences can be caused by injuries on the job that do not count against the employee's sick time, but can also be due to union strike days, extended illnesses, or even just an unreliable employee. All teams are monitored and if a particular employee or team shows a significant increase in this number, Executive Management is alerted that there might be a situation needing attention.

3.3.4 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.

3.3.5 Distributor Risk

BJT sells almost all of its tires through independent distributors. BJT has long-standing relationships with several Canadian car dealerships as their sole or primary tire supplier.

3.3.6 Insurance Risk

The key risks in a tire operation are Property & Casualty, Product liability and Product recall. Some companies use a captive insurance company to handle this exposure. Historically BJT has retained its entire Property & Casualty insurance risk. The BJT Board has requested a feasibility report to examine solutions to effectively mitigate this exposure.

3.3.7 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. This plant is able to support only the operations in Canada, due partly to subsidies available from the Canadian government. Efforts in the U.S. for a similar plant are not likely to be economical. Environmental risk is considered to be low due to operation size and overall market share.

3.3.8 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, which have proven to be popular in recent years. BJT has anticipated that increased gasoline prices will continue the trend towards the small vehicles. This strategy has been proven to be effective as a counter-cyclical impact on sales, and BJT experienced market share growth from 5% to 8%. Economic risk for BJT is considered medium. However, with recent volatility in gasoline prices, it is difficult to anticipate whether such trend will continue.

3.3.9 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. This ratio had been showing steady improvement in recent years until 2018, when BJT experienced the tire recall.

At the current time reputational risk is considered to be an area that needs attention and improvement.

3.3.10 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. Some U.S. interest lobby groups have recently demanded stronger nationalist policies. The previous U.S. administration's negative view of NAFTA has led to revisions to trade agreements among the three nations, resulting in the USMCA (United States-Mexico-Canada Agreement) and further uncertainty for the future. BJT is exposed to future changes in this agreement.

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

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

3.3.11 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.

3.3.12 Risk Tolerance

Due to Blue Jay Air's recent focus on developing a formal Risk Appetite Statement, Ruth Green, the head of the BJA risk committee, has directed BJT to also propose risk tolerances for its business. BJT's initial statements are as follows:

- The company has no appetite for any safety risk exposure that could result in injury or loss of life to any of its customers, the public or its workforce. Safety targets should always be met regardless of the circumstances and should only improve from year to year.

- The overall company average of number of days an employee misses work not due to paid sick time or vacation days shall not exceed five days per year.
- The company will avoid any risks to reputation due to defective products or inappropriate marketing practices.
- Raw material costs will be controlled such that annual increases in unit costs will be no greater than 10%.

3.4 Possible Product Expansion

BJT is looking to expand its operations into non-road tires (primarily specialized construction equipment tires and agricultural tires). Because the tires are so specialized, the margins are high but the volumes are dependent upon the state of world-wide construction and agricultural industries. Construction is in turn, highly correlated to the economy.

BJT is looking at two possibilities for entering the market. The first is to develop its own capabilities, building off of its current tire business. The second alternative is to buy a company that is already in the market.

BJT management is evaluating the potential costs of developing their own capabilities to enter the construction equipment and agricultural tires market. Specialized machines are needed to produce construction equipment and agricultural tires, and management would need to decide whether to purchase or lease these specialized machines. If BJT builds the new production facility, it would also need to determine the level of capacity at which to operate.

Alternatively, BJT management has identified True North Tire Company (TNT), a company domiciled in the United States, as an acquisition target to enter the construction equipment and agricultural tires market. TNT entered the specialty tires market ten years ago and has quickly established a strong presence selling tires in the United States and Canada due to its low production costs in Eastern Asia. TNT would be a wholly owned subsidiary of BJT, but BJT would not interfere with TNT's operations given its successful past.

Whitewall Consulting (WC) has been hired to create a stochastic model of future profitability, which will help inform the decision of which alternative, if any, to pursue.

WC estimates that:

- BJT could acquire TNT for \$100M.
- Since BJT would leave the current operations untouched, TNT could produce profits in the first year of BJT's ownership.
- Profitability depends on the state of the world economy.
- Average profits would be \$10M per year.

In contrast, if BJT builds its own specialty tire plant:

- WC estimates a two-year construction timeline with costs of \$85M.

- However, since the design would be newer, WC forecasts that a BJT-built plant would be more efficient to run, generating average profits of \$12M per year.

3.5 Blue Jay Tire Exhibits

EXHIBIT A
Blue Jay Tire Corporation
NON-CONSOLIDATED STATEMENTS OF OPERATIONS
(US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	2020	2019	2018	2017	2016	2015
Total Gross Sales	385	366	458	428	400	380
Cost of Sales (1)						
Cost of Raw Materials	(65)	(81)	(102)	(67)	(55)	(59)
Production Costs (2)	(96)	(92)	(114)	(107)	(100)	(95)
Depreciation & Amortization	(45)	(43)	(43)	(41)	(40)	(38)
Shipping Costs	(6)	(5)	(7)	(6)	(6)	(6)
Other	(4)	(5)	(6)	(7)	(8)	(4)
Total Costs of Sales	(216)	(226)	(272)	(228)	(209)	(201)
Net Revenue	170	140	186	200	191	179
Operating Expenses						
Research Development	12	11	14	13	12	11
Selling General & Administrative (3)	75	75	78	77	76	75
Non-Recurring (4)	12	20	70	8	7	5
Other (5)	15	11	10	40	10	8
Total Operating Expenses	114	117	172	138	105	100
Operating Income or Loss	56	24	14	62	86	79
Income from Other Revenue and Continuing Operations						
Other Revenue – Warranty program	58	55	69	64	60	57
Other Revenue – Book Sales	8	7	9	9	8	8
Tire Replacement Expenses	(39)	(37)	(46)	(43)	(40)	(38)
Foreign Exchange Gain/(Loss)	(10)	6	8	(15)	(20)	(14)
Net Investment Income	5	5	5	5	5	6
Total Other Income/Expenses Net (6)	22	36	45	20	13	19
Earnings Before Interest & Taxes	78	60	59	82	99	98
Interest Expense	41	40	38	38	36	35
Income Before Taxes	36	21	20	44	63	63
Income Taxes	8	4	4	9	13	13
Net Income from Continuing Ops	29	16	16	35	50	50

Notes:

- (1) Includes cost of material & production with overhead
- (2) Includes salaries & overhead 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 guidebooks

EXHIBIT B
Blue Jay Tire Corporation
NON-CONSOLIDATED STATEMENT OF FINANCIAL POSITION
(US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	2020	2019	2018	2017	2016	2015
ASSETS						
Current Assets						
Cash and Cash Equivalents	96	139	157	128	77	100
Short Term Investments	82	74	66	77	75	77
Receivables	113	108	105	103	100	100
Inventory	300	256	196	192	187	187
Total Current Assets	591	577	524	500	439	464
Long Term Investments	85	76	75	62	50	50
Property Plant and Equipment	647	622	643	661	672	562
Intangible Assets	50	50	50	50	50	50
Other Assets	46	45	41	35	35	28
TOTAL ASSETS	1,419	1,370	1,333	1,308	1,246	1,154
LIABILITIES and EQUITY						
Current Liabilities						
Accounts payable	148	149	140	137	126	108
Short/Current Term Debt	70	61	60	55	48	38
Other Current Liabilities	26	26	24	23	21	16
Total Current Liabilities	244	236	224	215	195	162
Long Term Debt	615	600	580	570	550	540
Other Liabilities	179	166	163	158	156	142
TOTAL LIABILITIES	1,038	1,002	967	943	901	844
Equity						
Retained Earnings	156	142	141	140	120	85
Capital	225	225	225	225	225	225
TOTAL EQUITY	381	367	366	365	345	310
TOTAL LIABILITIES and EQUITY	1,419	1,370	1,333	1,308	1,246	1,154

EXHIBIT C
Blue Jay Tire Corporation
NON-CONSOLIDATED STATEMENT OF CASH FLOW
(US Dollars in millions)

FISCAL YEAR ending 12/31/YYYY	2020	2019	2018	2017	2016	2015
Net Income	29	16	16	35	50	50
Operating Activities, Cash Flows Provided By or Used In						
Depreciation	45	43	43	41	40	38
Adjustments To Net Income:						
Changes In Accounts Receivables	(5)	(3)	(2)	(3)	0	(1)
Changes In Liabilities/Account Payables	(1)	11	4	13	23	(4)
Changes In Inventories	(44)	(60)	(4)	(5)	0	3
Changes In Other Operating Activities	0	0	0	0	0	0
Total Cash Flow From Operating Activities	24	7	57	81	113	86
Investing Activities, Cash Flows Provided By or Used In						
Capital Expenditures	(70)	(22)	(25)	(30)	(150)	(10)
Investments	(17)	(9)	(2)	(14)	2	(21)
Foreign Exchange Gain/(Loss)	2	(2)	(1)	3	(3)	2
Other Cash flows from Investing Activities	(3)	(2)	(5)	(3)	(4)	(1)
Total Cash Flow From Investing Activities	(88)	(35)	(33)	(44)	(155)	(30)
Financing Activities, Cash Flows Provided By or Used In						
Dividends Paid	(15)	(15)	(15)	(15)	(15)	(15)
Sale Purchase of Stock	0	0	0	0	0	0
Net Borrowings	24	21	15	27	20	30
Other Cash Flows from Financing Activities	13	3	5	2	14	5
Total Cash Flow From Financing Activities	22	9	5	14	19	20
Cash & cash equivalents, beginning of year	139	157	128	77	100	24
Cash & cash equivalents, end of year	96	139	157	128	77	100
Change In Cash and Cash Equivalents	(42)	(19)	29	51	(23)	76

4 Frenz Corporation

4.1 Coffee Shops Industry Profile

4.1.1 Operations

Companies in the coffee shop industry sell coffee drinks and other food and beverages for consumption on the premises or for takeout. Coffee shops are part of the specialty eatery industry, which also includes outlets specializing in products such as bagels, donuts, and ice cream. Some coffee chains operate worldwide, primarily through licensing agreements. The world's largest coffee consumers include the U.S., Brazil, Germany, and Japan.

4.1.2 Risk/Success Factors

Key drivers of demand for premium coffee and snack products include:

- Disposable income: consumption increases and decreases with disposable income
- Coffee prices: since coffee beans are the primary input in the value chain, the volatile prices of coffee beans determine market costs and profitability margins
- Attitudes toward health: a shift toward healthy eating could be a potential threat to the industry
- Demographics: as an example, millennials drink more espresso, iced, frozen, and branded coffee drinks than older consumers do

4.1.3 Competitive Environment

The profitability of individual companies depends on the ability to secure prime locations, drive store traffic, and deliver high-quality products. Large companies have advantages in purchasing, finance, and marketing. Small companies can compete effectively by offering specialized products, serving a local market, or providing superior customer service.

Coffee shops compete with businesses such as convenience stores, gas stations, quick-service and fast-food restaurants, gourmet food shops, and donut shops.

This industry is in a mature stage with a medium level concentration.

4.2 Frenz Company Profile

Frenz Corporation was originally a subsidiary of RPPC, but since 2014, has been an independent public company. 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 licensed stores, 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. 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.

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 reports its financial results in accordance with the International Financial Reporting Standards (IFRS).

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 the objective to be 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, and the remaining Board members are executive officers of Frenz. More information on committee structure is included in Section 4.5, Exhibit A.

In recent years RPPC, the holding company of Frenz, has adopted a global risk management mandate in order to ensure consistent and unified risk management policies, strategies and processes among the conglomerate’s group of companies. In conjunction with the new mandate, RPPC recently hired a Global Chief Risk Officer to oversee implementation. In response to the new risk management strategy, 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.

The new global risk mandate has caused disagreement about which Board committee should oversee Kaplan's work. Some believe the Audit Committee's role should be expanded to include it. Other Board members argue that the new mandate involves significant strategic changes and belongs under the Executive Committee. A few think the Related Party and Conduct Review Committee would be best since the mandate includes significant related-party transactions. The Board has requested that Robert Kaplan provide a recommendation.

4.3 Risk Profile

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 can erode Frenz's profit margins.

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. Currently, Frenz has not negotiated any trade credit agreements with any of its suppliers.

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 to 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.

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.

Supply-Demand Risk Model

Due to risks on both the supply and demand sides of the operation, Frenz developed a supply-demand economic model to evaluate its business strategy and risk profile. This model is not as detailed as the economic models RPPC had run for conglomerate reporting. It is intended to be a simplified, more intuitive model that can aid Frenz in its ongoing operations and strategy.

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 negatively 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, and regional or global health pandemics 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 differing currencies generated from the revenue and expense sides. Currency volatility has caused significant costs in operation due to timing differences.

Interest Rate Risk

Frenz has significant debt issuances and also has investments in bond markets. Therefore, interest rate volatility has significantly impacted the investment margins of Frenz. The Frenz Board has determined that the maximum impact on operating income given a 100bp parallel shift in rates is 5%.

Capital Risk

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

4.4 Strategic Initiatives

Marketing Strategies

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 religious 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; and
- Explore vertical integration by 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.

Expansion Strategy

Some Board members are unhappy with the geographical market concentration, which they feel has reduced Frenz's net income. The Marketing Vice President, Jade Phan, is being empowered to implement the recent marketing strategic goals set by the Board. Jade's first priority is to expand into the fast-growing Asian market. She currently leads a team of twenty experienced marketing staff whose experience is predominantly 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 company's internal limit.

Jade 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, which 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.

4.5 Frenz Exhibits

EXHIBIT A Frenz Corporation Board of Directors

The Frenz Board consists of eight directors – three Frenz executives, two RPPC directors, and three outside executives. Felix Hermans, an outside director who is a CEO of a Belgian bank, serves as Chairman of the Board. There are no family relationships among any directors or executive officers. The mandate of the Board is to supervise management of the business and affairs of the company on a broad scale rather than to be involved in daily management.

The Board's responsibilities include:

- approving strategic goals and objectives
- reviewing operations, disclosure, and communications policies
- overseeing financial reporting and other internal controls
- corporate governance
- director orientation and education
- senior management compensation and oversight
- 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.

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.

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.

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.

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 regarding the "Code of Business Conduct and Ethics" policies that ensure a culture of integrity throughout the Corporation. This Code is applicable to Directors, officers, and employees of the Corporation.

EXHIBIT B

Overhead Allocation -- Email Correspondence

To: Kitty Dunn, Chief Accounting Officer, Frenz
From: Jeff Bemowski, Division Head of Non-Coffee Product Marketing
Subject: Overhead Allocation
Date: April 14, 2021

We are allocating overhead in a way that punishes our most successful store managers. Total overhead should be allocated equally to each store. Better yet, allocate Corporate overhead to each store based on smoothed, budget amounts. That way store managers know just how much Corporate overhead they have to cover at the start of each year.

The problem with the current method is that most non-coffee products cost more than a cup of coffee. When Frenz runs a commercial, we are advertising the whole brand. We want to get customers to come into our stores to have the whole Frenz experience. Customers come in regularly for coffee. Sometimes they buy another product, like a music CD, in addition to their coffee. That one CD shouldn't be charged more overhead than all those cups of coffee.

Regards,
Jeff

To: Jeff Bemowski, Division Head of Non-Coffee Product Marketing
From: Kitty Dunn, Chief Accounting Officer, Frenz
Subject: Overhead Allocation
Date: April 13, 2021

Our policy for allocating corporate overhead is straightforward and hasn't changed in several years. Overhead costs such as corporate advertising, executive salaries, store operating expenses, and the rent on our home office building, are accumulated. Then that accumulated corporate overhead is spread over all sales on a uniform basis. 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.

We have been successful in keeping our overall corporate overhead under control. Every summer, we review the overhead allocation ratio, and it has gone down every year. I think this is the mark of a successful allocation method.

What is your proposal for how to change it?

Kitty Dunn

To: Kitty Dunn, Chief Accounting Officer, Frenz

From: Jeff Bemowski, Division Head of Non-Coffee Product Marketing

Subject: Overhead Allocation

Date: April 12, 2021

We need to change the way corporate overhead is allocated. The non-coffee products, such as music CDs, greeting cards, coffee mugs, etc., are at a disadvantage. As you know, bonuses for the store managers are dependent on the profits of their stores. However, my bonus is based on the profits from just the non-coffee products. I've been pushing our store managers to sell these non-coffee products, but the allocation method for corporate overhead penalizes these products and disguises the true profitability of this part of the operation.

Regards,
Jeff

EXHIBIT C
Frenz Financial Statements
INCOME STATEMENT

<i>Euros in thousands</i>	2020	2019	2018	2017	2016
Sales	453,044	431,483	411,049	391,681	373,321
Cost of Sales	46,906	56,395	37,700	34,148	30,896
Store Operating Expenses	226,166	216,716	207,662	198,985	190,671
Depreciation	25,822	23,359	20,856	18,290	15,643
General and Administrative Expenses	54,483	53,189	51,963	50,801	49,699
Impairment of Goodwill	0	0	0	10,385	0
Total Operating Expenses	353,376	349,660	318,180	312,610	286,909
Operating Income	99,668	81,823	92,870	79,072	86,412
Interest Expense	4,592	4,933	7,010	5,921	4,919
Income Tax Expense	23,769	19,223	21,465	18,288	20,373
Net Income	71,307	57,668	64,395	54,863	61,119

EXHIBIT C
Frenz Financial Statements
BALANCE SHEET

<i>Euros in thousands</i>	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2016
Current Assets:					
Cash	16,707	12,212	14,677	15,639	23,497
Accounts Receivable	5,000	5,000	5,000	5,000	5,000
Inventory	12,181	10,774	9,082	7,951	6,927
Total Current Assets	33,888	27,986	28,760	28,590	35,424
Long-term Assets:					
Long Term Investments	226,209	205,820	185,169	164,097	142,436
Goodwill	51,706	43,551	35,784	28,385	31,720
TOTAL ASSETS	311,803	277,357	249,712	221,073	209,580
Current Liabilities:					
Accounts Payable	10,000	10,000	10,000	10,000	10,000
Current Borrowing	8,500	8,800	9,100	9,400	9,700
Total Current Liabilities	18,500	18,800	19,100	19,400	19,700
Long-term Debt	134,400	125,520	116,640	107,760	98,880
Total Liabilities	152,900	144,320	135,740	127,160	118,580
Equity					
Paid-in Capital	25,000	25,000	25,000	25,000	25,000
Retained Earnings, accumulated	133,903	108,037	88,972	68,913	66,000
Total Equity	158,903	133,037	113,972	93,913	91,000
TOTAL LIABILITIES AND EQUITY	311,803	277,357	249,712	221,073	209,580

EXHIBIT C
Frenz Financial Statements
STATEMENT OF CASH FLOWS

<i>Euros in thousands</i>	2020	2019	2018	2017	2016
Operating Activities:					
Net Income	71,307	57,668	64,395	54,863	61,119
Adjustments					
Depreciation	25,822	23,359	20,856	18,290	15,643
Accounts Receivable	0	0	0	0	0
Inventory	(1,407)	(1,692)	(1,131)	(1,024)	(927)
Accounts Payable	0	0	0	0	0
Impairment of Goodwill	0	0	0	10,385	0
Net Cash Provided by Operating Activities	95,721	79,336	84,120	82,513	75,835
Investing Activities:					
Purchases of investments	(54,365)	(51,778)	(49,326)	(47,002)	(44,799)
Sales of investments	0	0	0	0	0
Net Cash Used by Investing Activities	(54,365)	(51,778)	(49,326)	(47,002)	(44,799)
Financing Activities:					
Change in Current Borrowing	(300)	(300)	(300)	(300)	(300)
Proceeds from Issuance of Long-Term Debt	13,200	13,200	13,200	13,200	13,200
Repayments of Long-Term Debt	(4,320)	(4,320)	(4,320)	(4,320)	(4,320)
Cash Dividends	(45,441)	(38,603)	(44,335)	(51,950)	(61,119)
Net Increase in Cash from Financing Activities	(36,861)	(30,023)	(35,755)	(43,370)	(52,539)
Net increase in Cash and Cash Equivalents	4,495	(2,466)	(962)	(7,858)	(21,503)
Cash and Cash Equivalents:					
Beginning of Period	12,212	14,677	15,639	23,497	45,000
End of Period	16,707	12,212	14,677	15,639	23,497

5 Big Ben Bank

5.1 Industry Profile

A commercial bank performs several financial functions for consumers and businesses, such as accepting deposits, offering checking accounts, making loans, and offering basic financial products like certificates of deposit (CDs) and savings accounts. Commercial banks make money by providing loans and earning interest income on those loans. The types of loans a commercial bank can issue include mortgages, auto loans, business loans, and personal loans.

Customer deposits, such as checking accounts, savings accounts, and CDs, provide banks with the capital to make loans. Customers who deposit money into these accounts effectively lend money to the bank and are paid interest. However, the interest rate paid by the bank on the money “borrowed” is usually less than the rate charged on money loaned. This interest spread is a source of profit for commercial banks.

Private banking consists of personalized financial services and products offered to high net worth individuals. It includes a wide range of wealth management services including investing and portfolio management, tax services, insurance, trusts, and estate planning. Banks charge fees for managing clients’ assets and the other wealth management services provided.

Risks to the industry include the following:

Strategic/Business Risks

- Significant competition in the rapidly evolving global financial services industry
- Reputational risk

Profitability and Liquidity Risks

- Risks relating to models and assumptions
- Credit risk from failure of customers or counterparties to meet their financial or contractual obligations when due
- Liquidity risk that the bank may be unable to raise funds on a timely basis or at a reasonable cost to fund asset growth or settle liabilities
- Risk of adverse changes in market risk factors such as interest rates, credit spreads, foreign exchange rates, equity prices, mortgage rates and mortgage liquidity

Operational Risk

- Inadequate or failed internal processes and systems
- Compliance
- Regulatory capital risk due to increasing stringency of banking regulations
- Fraud or conduct risk due to detrimental practices
- Technology

- Competition and disruption emerging from new financial technology firms which develop new services and products based on innovative technologies including cloud, big data analytics, internet of things and digital payments processes
- Cyber-security breaches

Factors that can lead to success include:

- Strong positive relationships with clients
- Significant Assets Under Management (AUM)
- Superior investment results, leading to high net investment spread
- Effective risk management function so that risk exposures are within acceptable limits.

Competitive Environment

There has been downward pressure on asset management fees. Some companies have started using robo advisors (i.e., computer programs that provide investment advice) with lower fees compared to human financial advisors. Other companies have made headlines by cutting management fees to zero on some of their ETFs. Lower management fees are good for consumers but have reduced profits for banks.

Regulatory Challenges

In the years since 2010, a number of measures have been taken that impact 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. Critics 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 with respect 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.

5.2 Big Ben Bank Company Profile

5.2.1 Background

The banking group was formed in London, United Kingdom in 2005 under the directorship of Sanjay Patel. 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 Patel’s banking group was finding best-in-class funds for its high-net-worth clients. Patel’s fund management business was formed in 1996 and its success was primarily built within European financial centers.

The key growth differentiator in the initial years was an existing network of relationships in Patel’s fund management business circle. This circle had significant wealth and Assets Under Management (AUM). The banking group grew quickly.

However, following the initial new business surge, the AUM fell dramatically and some of the investors experienced hardships in their own businesses. In some years fund performance was dramatically negative and the subsequent increase in redemptions severely impacted overall AUM and forced a revision in the strategic approach.

Big Ben acquired a small commercial bank in 2008 in an attempt to diversify its services beyond fund management. In 2019, an impairment of goodwill was triggered based on a revised profit outlook from this acquisition.

The executive group, following strong direction from the four RPPC partners, has been asked to re-engineer the business focus away from fund performance towards holistic wealth management and financial planning.

As a result, RPPC decided to acquire an insurance group (Darwin Life Insurance Company) in 2013, with the hope of creating synergies between the bank and the insurer.

5.2.2 Products / Services

Asset Management

Big Ben Bank is a world leader in the exchange-traded fund (ETF) market and has a strong brand and a loyal investor base. Big Ben's asset management products cover a comprehensive list of asset classes including equities, fixed income, real estate, private equity, and sustainable investments. In addition to ETFs, Big Ben offers mutual funds and separately managed accounts.

Advisory teams manage client relationships, provide advice, and enable clients to access Big Ben's asset management products and services. Big Ben also markets its offerings through its Commercial Banking division.

Since inception, the critical profit driver has been the excess of the management expense ratio (MER) charged on the assets under management over the operational costs of fulfilling the fund management mandate. But MERs for ETFs are coming under increased downward pressure as more competitors come into this fund arena.

Commercial Banking

Traditional commercial banking has been a smaller, but significant, component of Big Ben's revenue pie. The Commercial Banking division's clients are individuals (retail banking) and small businesses. Products offered are checking account services; business, personal and mortgage loans; credit and debit cards; and basic financial products such as certificates of deposit (CDs) and savings accounts. The operational model of the commercial banking division is primarily online, rather than through physical branches. This approach was meant to meet the needs of a globally mobile clientele. The physical distribution model is almost non-existent and cannot support broad-based banking.

Big Ben's Private Banking group provides a suite of services to high net worth individuals designed to grow wealth. In addition to the traditional commercial banking services, Big Ben provides custom-designed investment, tax, and estate planning solutions. The Private Banking group makes use of Big Ben's Asset Management products as part of its financial planning services.

Investment Banking

Big Ben has a small investment banking division which provides services related to the creation of capital for companies, governments, and other entities. Big Ben underwrites new debt and equity securities, aids in the sale of securities, facilitates mergers and acquisitions, and provides guidance to issuers regarding the issue and placement of stock.

Big Ben has begun exploring the development of structured pass-through securities. This service will be offered on a limited basis, working with trusted clients to support unique situations.

5.3 Risk Profile

Risk Management Process

Big Ben has from the beginning prided itself on a strong risk culture and has had an active risk management function. During some recessionary periods, 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 Darwin Life, 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 its globally mobile clientele.

Big Ben 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 rate 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 quick estimates

Big Ben 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 keys are still our private club, our brand, and our family!!

Risk Appetite Statement

Risk appetite defines how much risk Big Ben is willing to take. Big Ben is willing to accept risks that align with its strategic goals and provide a high level of risk-adjusted returns.

Risk Appetite Dashboard	
Metric	Risk Tolerance level
ROE	10%–15%
New Loan Growth (per quarter)	3%–5%
New Deposit Growth (per quarter)	4%–6%
Unexpected Earnings Volatility	<10%
Liquidity Ratio	110%-160%
Lending Business Credit Risk	<0.5% current loan balance
% Customer Satisfaction	>85%
# of Significant Legal, Ethical, and Reputational Events	0
# of Significant Compliance Issues	0

Stress Testing

Big Ben has an internal stress testing model to measure the amount that could be lost in a crisis situation. The modeled scenario is similar to the 2008/2009 financial crisis. The model calculates losses over a one-year period and is run annually. Results are shared with senior managers in all departments. A key output from the model is the percentage of mortgage loan defaults in the scenario.

Model backtesting of after-tax profits is performed on a baseline scenario. The model has been deemed to have passed the backtesting because recent tests have shown that after-tax profits are not systematically under- or overestimated.

Capital Management

Currently, Big Ben uses regulatory capital at the corporate level and division level as the capital management metric. The Asset Management and Investment Banking divisions also use economic capital as a second metric.

Capital allocation for each division is decided in the annual budget meeting. The hurdle rate is set at 15% for all divisions.

Investment Limits and triggers

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

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 Contract
- Interest Swap
- Currency Swap
- Put/Call Option

5.4 Strategic Initiatives

As part of re-engineering the business focus, the executive group lowered 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.

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 and wealth management divisions, as well as our crossover products with the Insurance Group. We will also build new global platforms to support this new growth. Our path to differentiation is through delivery of a personalized, unique financial planning experience to our clients, and through building a culture of innovation."

Big Ben has come a long way in a short period of time. The strategy to focus on very high net worth, globally active clients has proven to be a wise choice. However, there is concern that the growth trajectory is about to slow simply because the number of potential clients in this market is small. Therefore, Big Ben is also looking for potential new services that can sustain the growth of its businesses and other markets that can be penetrated by leveraging the existing operational systems and distribution to grow organically. Big Ben also has to be aware of any emerging financial crisis or regulatory changes that might be a hindrance to future plans.

Solar Energy Financing Business Opportunity

A new U.S. government program has been created to:

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

Big Ben 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
- Can purchase energy units at their normal retail sales rate if they do not participate in the program

Big Ben would provide 20-year financing for the purchase of solar panels. 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 Big Ben receives only the amount of the excess energy proceeds in that year. Based on the projected loan payments from homeowners and the government subsidies, Big Ben expects to receive attractive long-term returns on the loans it makes.

Big Ben 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

Based on feedback from consultants about the distribution of the above risk factors, Big Ben produced financial projections for the opportunity. Information about the projections is shown in the Exhibits in Exhibits B, C, and D. The exhibits include analysis of several deterministic scenarios and also a stochastic analysis.

5.5 Big Ben Bank Financial Exhibits

Exhibit A Statement of Income

<i>In millions of pounds sterling</i>	2020	2019	2018
Interest income	693	702	676
Interest expense	295	273	290
Net interest income	397	429	386
Provision for credit losses	37	26	31
Net interest income after provision for credit losses	360	403	355
Commissions and fee income	317	345	335
Net gains (losses) on financial assets/liabilities at fair value through profit or loss	38	104	116
Net gains (losses) on financial assets available for sale	18	5	7
Net income (loss) from equity method investments	12	4	17
Other income (loss)	28	18	3
Total noninterest income	414	477	478
Compensation and benefits	321	359	338
General and administrative expenses	428	510	404
Impairment of goodwill and other intangible assets	34	156	3
Restructuring activities	13	19	4
Total noninterest expenses	796	1,045	749
Income (loss) before income taxes	(22)	(165)	84
Income tax expense	15	18	39
Net income (loss)	(37)	(183)	46

Balance Sheet

<i>in millions of pounds sterling</i>	Dec 31,2020	Dec 31,2019
Assets:		
Cash and central bank balances	4,902	2,620
Interbank balances (w/o central banks)	314	347
Central bank funds sold and securities purchased under resale agreements	440	607
Securities borrowed	543	907
Financial assets at fair value through profit or loss	0	0
Trading assets	4,623	5,298
Positive market values from derivative financial instruments	13,112	13,935
Financial assets designated at fair value through profit or loss	<u>2,367</u>	<u>2,953</u>
Total financial assets at fair value through profit or loss	20,102	22,186
Financial assets available for sale	1,520	1,989
Equity method investments	28	27
Loans	11,052	11,561
Securities held to maturity	87	0
Property and equipment	76	77
Goodwill and other intangible assets	243	272
Other assets	3,407	3,193
Assets for current tax	42	35
Deferred tax assets	234	210
Total assets	42,988	44,031
Liabilities and equity:		
Deposits	14,870	15,324
Central bank funds purchased and securities sold under repurchase agreements	696	265
Securities loaned	97	88
Financial liabilities at fair value through profit or loss		
Trading liabilities	1,541	1,414
Negative market values from derivative financial instruments	12,537	13,353
Financial liabilities designated at fair value through profit or loss	1,635	1,212
Investment contract liabilities	<u>16</u>	<u>230</u>
Total financial liabilities at fair value through profit or loss	15,729	16,210
Other short-term borrowings	467	757
Other liabilities	4,201	4,730
Provisions	297	249
Liabilities for current tax	36	46
Deferred tax liabilities	13	20
Long-term debt	4,657	4,325
Trust preferred securities	172	190
Total liabilities	41,236	42,203
Paid-in capital	1,143	1,136
Retained earnings	513	572
Accumulated other comprehensive income (loss), net of tax	96	119
Total equity	1,752	1,828
Total liabilities and equity	42,988	44,031

Exhibit B
Solar Financing Opportunity – Deterministic Scenarios

Summarized Deterministic Output

Sensitivity Analysis - Deterministic Scenarios

Utilities participation = YES

Base Case -

Scenario description	Normal weather	Bad weather	Good weather
Scenario number	1	2	3
Initial Investment	10,000,000	10,000,000	10,000,000
Government rebate	2,500,000	2,500,000	2,500,000
Energy produced over life of loan (kWh)	110,688,162	88,407,123	125,275,068
Energy consumed by homeowners (kWh)	63,250,378	63,250,378	63,250,378
Excess energy to be sold (kWh)	47,437,784	25,156,745	62,024,690
Average Rate for selling excess energy	0.36	0.36	0.36
Proceeds from selling excess energy	17,077,602	9,056,428	22,328,889
Cumulative loan payments due	16,048,517	16,048,517	16,048,517
Cushion/(shortfall) of energy sale proceeds	1,029,085	(6,992,089)	6,280,371
Cumulative loan payments received	16,048,517	9,056,428	16,048,517
Total cash payments received	18,548,517	11,556,428	18,548,517
After-tax IRR	5.97%	1.23%	5.97%

Utilities participation = NO

Scenario description	Normal weather	Bad weather	Good weather
Scenario number	4	5	6
Initial Investment	10,000,000	10,000,000	10,000,000
Government rebate	2,500,000	2,500,000	2,500,000
Energy produced over life of loan (kWh)	110,688,162	88,407,123	125,275,068
Energy consumed by homeowners (kWh)	63,250,378	63,250,378	63,250,378
Excess energy to be sold (kWh)	47,437,784	25,156,745	62,024,690
Average Rate for selling excess energy	0.12	0.12	0.12
Proceeds from selling excess energy	5,692,534	3,018,809	7,442,963
Cumulative loan payments due	16,048,517	16,048,517	16,048,517
Cushion/(shortfall) of energy sale proceeds	(10,355,983)	(13,029,708)	(8,605,555)
Cumulative loan payments received	5,692,534	3,018,809	7,442,963
Total cash payments received	8,192,534	5,518,809	9,942,963
After-tax IRR	-1.56%	-4.25%	-0.05%

Exhibit C
Solar Financing Opportunity - Stochastic Analysis Returns

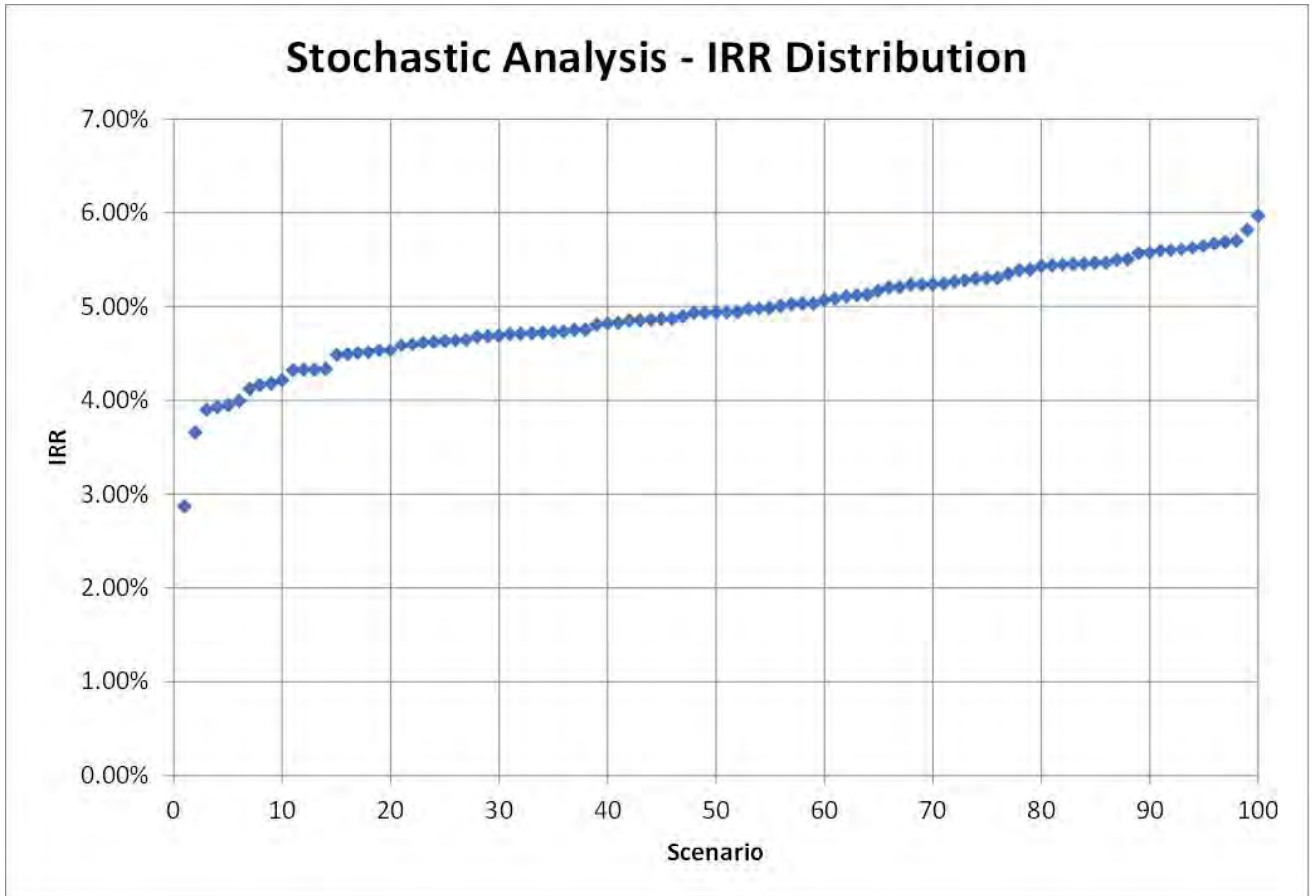


Exhibit D
Solar Financing Opportunity - Key Model Assumptions

Below are some of the key model assumptions that were used by the consultants to analyze the solar financing opportunity:

- Term of loan is 20 years
- Loan interest rate is 5%
- Government rebate to Big Ben Bank is 25% of the initial loan
- Normal retail sales rate for energy is constant for the next 20 years
- Personal consumption of energy is constant for the next 20 years
- For any given year, the probabilities for good weather conditions, normal weather conditions, and bad weather conditions are 10%, 80%, and 10%
- For any given year, the probability that utility companies do not participate in the program is 10%. This impacts that rate at which excess energy can be sold.

6 Darwin Life Insurance Company

6.1 Industry Profile

The life insurance and annuity industry mainly provides three types of financial products to its clients:

- Insurance policies that protect against mortality and morbidity, for example, term or whole life insurance
- Wealth accumulation products that help clients achieve their financial goals, for example, universal life
- Income generating products that provide retirement income for clients, for example, payout annuities

Current trends in the life insurance industry include:

- As baby boomers retire, they have a need for products that provide lifetime income. The shift from life protection and pre-retirement accumulation to post-retirement income protection and retirement asset management will accelerate.
- As the focus of protection moves from pre-mature death to 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. For insurance companies, protection is the normal differentiator versus other financial services (e.g., 85% of all variable annuity sales have living benefit riders).
- As interest rates continue to stay low, insurers need to find higher yielding assets and diversify away from just investment grade corporate bonds. Often, insurance companies are the leading investors in mortgages, private placements, leveraged loans, high yield bonds, and emerging market debt. These investments introduce new forms of risk, such as foreign exchange and liquidity risk.

Success Factors

Successful companies will have well-positioned defensible market positions, pricing power, advanced technology and systems to enhance service and processes, 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 Factors

There are three primary groups of risks associated with the insurance business:

1. Insurance Risk – When underwriting insurance policies, an insurance company undertakes mortality, longevity, morbidity, and lapse risk.
2. Investment Risk – Like many financial institutions, insurance companies are exposed to interest rate, credit, market, liquidity, and foreign exchange risks. Also, since the liability is usually sensitive to interest rate, the asset portfolio needs to have similar interest rate sensitivity. Such asset/liability mismatch could expose insurance companies to large loss and therefore needs to be managed.
3. Operational Risk – Like all businesses, insurers rely on various systems and processes to run their business. There are risks associated with their operations.

Competitive Environment

The insurance industry is highly competitive. Within the industry, there are a large number of companies offering similar products. Differentiation comes from product features, pricing, service, and reputation. Regarding wealth management products, insurers also have to compete with banks and mutual fund companies, who could be advantaged or disadvantaged under different regulatory frameworks.

6.2 Company Profile

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 ten years ago, under the leadership of CEO Gabriela Martinez. The success is tangibly 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, specifically variable annuities, 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 early 2010's caught the eye of RPPC Dynasty. RPPC thought Darwin was an attractive property that could benefit from additional

access to capital. Darwin's focus on wealth management was a great strategic fit with RPPC's financial division – products, distribution, and development.

Darwin has had high costs partly due to misaligned resources. Legacy products and systems drained resources for several years. Most technology resources are devoted to new products and new business with a priority placed on customer service and growth in distributions. As a result, not enough resources have been devoted to infrastructure or in force management. Darwin has also been slow to recognize increasing concerns with privacy of customer data. There is no technology infrastructure around the management of data privacy.

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 risk monitoring and 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 Kelly Ratings.

6.3 Product Lines and Distribution

Core product segments are universal life, high cash value traditional life, and individual 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 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 channel and sales growth. Darwin distributes life products primarily through career agents, banks, and direct marketing channels. The traditional agency channel utilizes a variable cost structure with compensation incentives, which promotes strong persistency. Bank-owned life insurance (BOLI) products are marketed through independent marketing organizations that specialize in the BOLI market. In 2014 Darwin expanded annuity distribution into financial institutions. Darwin's distribution strategy has been 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 live person will answer the phone within four rings 95% of the time. This attention on customer and distribution 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. The company has invested heavily in front end distributing, issuing, and processing of new business. It has built strong relationships with the agency and institutional distribution channels. Darwin utilizes a variable cost distribution structure and has a sales force that has grown in geographic breadth and depth.

Darwin had tremendous top line growth in its Term, UL, and Individual Variable Annuities (IVAs) over the past 5 years. In an industry with flat life sales, Darwin's life sales grew at a 30% rate. Darwin had not been a player in the IVA market before the 2010s, but early that decade, IVAs became attractive and reasonable. Earlier entrants in this market had aggressively priced products with rich benefits by, in the view of many, taking on too much risk. Eventually many of those companies had to exit the market or greatly reduce benefits. Darwin took advantage of the climate by offering modest guarantees for higher fees. However, distribution has now been pushing for incentives that will distinguish Darwin from other IVA writers. Product development has responded over the last few years by greatly extending the guarantee period and offering a great diversity of mutual funds available for all IVA customers (including some unique funds that would be difficult to duplicate if the customers had to invest on their own).

6.4 Financial Performance

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, higher expenses, lower interest coverage, and lower liquidity. It favorably has a higher return on capital. Relative to its peer group, Darwin has had a lower operating income margin and a lower net income margin, a lower investment yield, a higher expense ratio, higher growth in life insurance inforce, and average mortality and persistency.

Darwin's historical financial statements and projections for future years are shown in section 6.8, Exhibits A-D.

6.5 Investment Policy and Strategy

The investment department manages the general account investments. The Chief Investment Officer (CIO), Ken Huang, reports to the CFO, Alexis Marino. Investment policy and strategy is reviewed and approved by an internal management committee consisting of the CEO (Martinez), CFO (Marino), CIO (Huang), 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. The corporate surplus (net equity) is allocated proportionally. Individual variable and group annuity investment accounts are held in a separate account (segregated).

6.6 Risk Management

Darwin formalized its risk management function with the creation of an ERM Committee in 2013 followed by a new CRO position and establishment of a Risk Management department in 2014. The Committee meets quarterly. The current risk management staff consists of the CRO (Aaliyah Jackson), the chief risk management actuary (John Clark), the hedge manager (Tim Jones), and the supporting staff (4 actuaries, 2 CFAs, and 2 CPAs).

The purpose of the ERM Committee 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 exposures 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% loss of Statutory equity in one year is less than 0.5%.
- II. Earnings The probability of negative GAAP earnings in one year is less than 5%.
- 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.

6.6.1 Credit Risk

Darwin only 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.

6.6.2 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 IVA 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, and 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.

6.6.3 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.

6.6.4 Operational Risk

The CRO will be responsible for collecting and disseminating operational risk information. A report will be prepared monthly and distributed to executive management.

6.6.5 Risk 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%

6.7 Strategic Considerations

6.7.1 Indexed Universal Life

Anne Kofsky, VP Life Insurance Division, has made a proposal to expand the offering of 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, whenever 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.

Management would like to manage and report the new IUL product with the Current UL portfolio. Since the risks of both the fixed rate account (IULF) and the indexed account (IULV) are of concern, testing was performed on each account individually and in total as well as with the Current UL portfolio.

In collaboration with the consulting firm working on Darwin's economic capital model (as described in Section 6.7.3), the pricing team estimated the impact of adding the new IUL product to the existing UL portfolio. The results of this testing are shown in the table below.

Statutory Distributable Income (in USD Millions)							
	Current UL	IUL IULF + IULV	IULF	IULV	Current UL + IULF	Current UL + IULV	TOTAL Current UL + IULF + IULV
Average	20.72	20.04	26.83	29.30	21.45	9.90	28.17
Std Dev	5.40	5.05	10.92	13.81	13.53	4.53	9.95
Deviation from Mean (in USD Millions)							
Percentile	Current UL	IUL IULF + IULV	IULF	IULV	Current UL + IULF	Current UL + IULV	TOTAL Current UL + IULF + IULV
Min	(14.07)	(14.98)	(27.62)	(32.20)	(34.42)	(18.17)	(21.57)
0.05	(10.20)	(8.18)	(18.32)	(27.44)	(23.47)	(7.45)	(16.66)
0.10	(6.60)	(5.86)	(12.83)	(18.22)	(18.08)	(5.17)	(11.80)
0.15	(5.68)	(4.45)	(10.41)	(13.88)	(12.93)	(4.58)	(10.11)
0.20	(4.93)	(3.89)	(8.24)	(12.16)	(9.32)	(3.81)	(7.96)
0.25	(3.63)	(3.29)	(7.12)	(8.23)	(8.17)	(2.46)	(6.16)
0.30	(2.57)	(2.50)	(5.60)	(7.20)	(6.22)	(1.99)	(4.49)
0.35	(2.00)	(1.70)	(4.62)	(4.52)	(4.49)	(1.15)	(2.75)
0.40	(1.50)	(1.38)	(2.26)	(2.09)	(3.84)	(0.76)	(1.89)
0.45	(0.63)	(0.49)	(1.27)	(0.18)	(1.77)	(0.09)	(1.00)
0.50	(0.09)	0.05	(0.54)	1.86	(0.68)	0.36	(0.40)
0.55	0.91	0.41	0.16	3.29	0.44	0.69	0.81
0.60	1.70	1.10	1.42	4.70	3.64	1.27	1.93
0.65	2.34	1.40	3.93	6.08	5.56	1.62	2.48
0.70	3.27	2.71	5.66	7.22	7.49	2.14	3.26
0.75	4.17	3.61	8.06	9.37	9.62	2.60	4.82
0.80	5.30	4.26	9.75	11.10	10.79	3.08	6.75
0.85	5.81	5.57	11.49	12.56	14.64	3.79	10.04
0.90	6.91	6.72	13.83	14.70	17.66	5.21	12.34
0.95	8.23	7.43	16.43	22.91	21.76	7.00	15.28
Max	12.05	11.88	28.55	31.80	34.29	11.75	32.45

Below is an e-mail excerpt related to this product.

From: Gabriela Martinez, CEO
Sent: Monday, March 25, 2021 7:36 PM
To: Aaliyah Jackson, 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. Aaliyah, 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 think about Marketing's 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?
- Are we going to be able to manage interest rate risk given the long liability duration?
- 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.

6.7.2 LTC

As the baby boomers in the United States continue to increase the average age of the population, Darwin believes that new opportunities will arise. An aging population increases the demand for skilled care and services to assist the elderly who can no longer perform the minimal level of activities required to take care of themselves. Medicare pays 100% of skilled nursing care only after inpatient hospital confinement for 20-days, provides partial coverage from day 21 through 100, and zero coverage beyond.

Competitors are developing products to address the gap in Long-Term Care (LTC) benefits under Medicare, and potential clients have expressed interest. Therefore, Darwin agents and the marketing department are pressuring the actuarial area to develop products to serve this market.

In response, the pricing department has agreed to develop an optional chronic care rider that can be added to current traditional and universal life products. This rider will allow the death benefit to be accelerated to cover LTC benefits at any time after the policy has been in force for ten years. In addition, to make the product more attractive than competitor products, the maximum LTC benefit will be set at 110% of the death benefit.

However, Darwin does not have expertise in this product. The pricing department has indicated that their models show a large variance in outcomes. Pricing has also noted that the change in timing of cash flows compared to the normal death benefit payout may impact investment strategy. From an operational standpoint, Darwin has no experience with claim adjudication for LTC products. Furthermore, the current administrative and valuation systems handle only traditional death benefits.

6.7.3 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. 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 trade-off between capital productivity and capital adequacy. To set a target or requirement for capital that should be held by Darwin 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 Darwin 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 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.

6.8 Darwin Life Exhibits

EXHIBIT A

Financial Data: Management Accounting Income Statements (in 000s)

Note: Years 2018-2020 are actual results and years 2021-2023 are forecasts.

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
Incr 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	152,390	127,520	124,420	134,910	132,900	141,165

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	0	0	0	0	0	0
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
Incr 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	0	0	0	0	0	0
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						
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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)	0	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	0	0	0	0	0	0
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
Incr in reserves & S/A Transfers	(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	0	0	0	0	0	0
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

Corp	2018	2019	2020	2021	2022	2023
Total Revenues	0	0	0	0	0	0
Total Benefits and Expenses	0	0	0	0	0	0
EBIT	0	0	0	0	0	0
Interest	18,000	18,000	18,000	18,000	18,000	7,375
Tax	(6,200)	(6,400)	(6,300)	(6,400)	(6,300)	(2,600)
Net Income	(11,800)	(11,600)	(11,700)	(11,600)	(11,700)	(4,775)

EXHIBIT B
Financial Data: Statutory Balance Sheets (in 000s) and Debt

Note: Years 2018-2020 are actual results and years 2021-2023 are forecasts.

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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	0	0	0	0	0	0
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	2018	2019	2020	2021	2022	2023
Cash, Invested and Other Assets	250,000	250,000	250,000	250,000	250,000	100,000
Deferred Tax Asset	0	0	0	0	0	0
Total Assets	250,000	250,000	250,000	250,000	250,000	100,000
Debt	225,000	225,000	225,000	225,000	225,000	75,000
Total Liabilities	225,000	225,000	225,000	225,000	225,000	75,000
Statutory Equity	25,000	25,000	25,000	25,000	25,000	25,000

Asset Durations (as of Dec 31, 2020)

	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 2008	1 Mar 2023	8.50%	150,000
Senior notes issue	15 Jun 2016	15 Jun 2036	7.00%	75,000

EXHIBIT C
Sensitivity Tests

Note: Years 2021-2025 are forecasts.

Term Sensitivities (in 000s)

Baseline	2021	2022	2023	2024	2025
Sales	21,400	22,700	24,100	25,600	27,200
Management Earnings	22,600	23,900	23,500	32,500	33,100
Lapse Rates Up 5%					
Sales	21,400	22,700	24,100	25,600	27,200
Management Earnings	21,569	21,863	20,488	28,538	28,204
Lapse Rates Down 5%					
Sales	21,400	22,700	24,100	25,600	27,200
Management Earnings	23,631	26,040	26,816	37,062	38,980
Sales Up 15%					
Sales	24,610	26,105	27,715	29,440	31,280
Management Earnings	23,114	24,881	24,947	34,414	35,484
Sales Down 15%					
Sales	18,190	19,295	20,485	21,760	23,120
Management Earnings	22,086	22,919	22,053	30,586	30,716

Variable Annuity Sensitivities (in 000s)

Baseline	2021	2022	2023	2024	2025
Sales	1,000,000	1,280,000	1,750,000	2,100,000	2,520,000
Management 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
Management Earnings	27,100	36,200	52,800	62,600	74,400
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
Management Earnings	19,300	28,300	44,600	54,200	65,800
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
Management Earnings	23,800	34,300	52,600	64,800	79,500
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
Management Earnings	22,600	30,200	44,800	52,000	60,700
Statutory Capital	193,500	191,820	180,145	187,495	194,875

EXHIBIT D
Financial Data: Inforce Statistics

Note: Years 2018-2020 are actual results and years 2021-2023 are forecasts.

Total	2018	2019	2020	2021	2022	2023
Death Benefit Inforce (in 000's)	140,197,000	150,635,100	161,769,400	171,796,300	187,097,000	201,583,000
Policy Contract Count	303,125	332,459	364,656	400,000	420,400	441,844
Variable Annuity						
Death Benefit Inforce (in 000's)	11,590,800	13,023,400	14,374,600	15,796,300	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)	51,830,200	54,421,700	57,142,800	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)	23,145,000	25,713,000	28,571,000	30,000,000	32,400,000	34,344,000
Policy Contract Count	75,131	82,645	90,909	100,000	105,000	110,250
Term						
Death Benefit Inforce (in 000's)	48,075,000	51,921,000	56,074,000	60,000,000	66,000,000	72,600,000
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	5,584,000	5,607,000	6,000,000	6,300,000	6,600,000
Policy Contract Count	15,026	16,529	18,182	20,000	21,000	22,050

7 Snappy Life Insurance Company

7.1 Company Profile

Snappy Life Insurance Company is not affiliated with or owned by RPPC. It is a company that might be considered an acquisition target or a competitor for one or more of the RPPC companies.

Snappy Life is a small life insurer domiciled in Wilmington, Delaware. It has been in existence since 2014. Snappy was founded by Frank Veltro, a former general sales agent who learned the business at Epoch Life, a large insurance company. Veltro felt stymied by the conservative underwriting and slow processing of applications at Epoch.

Veltro recruited several like-minded agents and amassed enough funding to capitalize Snappy Life at the required regulatory level. Veltro serves as CEO and President of Snappy. His executive team comes primarily from the original founders of the company, all of whom have a sales or marketing background. In addition, a Chief Information Officer (CIO) was hired from a tech start-up company in California in 2017.

The company is owned by its founders and is not publicly traded. It offered securities through a private placement offering in early 2019 after finalizing its 2018 earnings statements, but no shares ended up being sold.

7.1.1 Products and Services

Snappy has a limited product line, consisting of level term and whole life insurance. Its sales are made exclusively through the internet or by call-in from a phone number displayed in television ads or on the website. Strong advertising with a quirky approach attracts customers.

The company's motto is "Make the sale, every time!" While the company founders had originally worked as agents selling face-to-face, they have now embraced the new technologies and the way it allows them to leverage the time of their associates.

The sales staff is divided into separate internet and phone teams. Snappy encourages healthy competition between the two groups, based on total sales, "close" ratios, and percentage of sales in force after one year. Both teams consist of licensed agents who are compensated on a salaried basis, with additional bonuses available based on team results. They aggressively pursue any leads that come in.

Sales have been robust, enabling the firm to grow steadily since inception of the company.

7.1.2 Competitive Advantages

Snappy's processes are extremely automated, allowing it to offer products at low cost. In the three years since the CIO has been on board, the company's systems have been modernized by the tech staff. Underwriting for new sales is based on a simplified medical questionnaire. Artificial intelligence software evaluates all applications for acceptable risks and produces a final "Reject" or "Approve" decision. However, based on the company motto, the software is programmed with a bias toward accepting most risks as long as the precision rate remains over 50%.

7.2 Risk Profile

Pricing

Snappy's priority is to maintain competitive pricing compared to other providers of simplified insurance products. The marketing department has considerable influence with the actuarial and pricing group. Frank Veltro is very much involved with approving final pricing as new product series are rolled out.

The actuarial department produces basic experience studies and profitability analyses. The marketing department produces studies of competitor rates quarterly.

Risk Framework

Snappy does not have a separate corporate risk department, and it does not do any formal risk reporting. Veltro expects his direct reports to inform him of any issues in their departments.

Veltro believes that risk creates opportunities that Snappy can exploit. When risks are identified in a product, his standard response is that "we can sell our way out of this problem". If sales remain strong, he believes that profits will follow.

The company culture instilled by Veltro is to move forward aggressively. The result is that corporate managers are reluctant to point out obstacles.

Capital

Snappy reports earnings on a statutory basis, as required to the state regulators. It measures Risk-Based Capital as required and does not do any further economic capital modeling. The company has maintained its RBC ratio at approximately 250% over the past five years.

As part of the annual planning process, projected earnings and capital figures are developed for the next two years.

7.3 Strategic Issues

Snappy has benefitted from its strong sales and has been fortunate to write business that is profitable overall. However, the CFO has recently identified challenges facing the company:

- Snappy's relatively small capital base is limiting future growth. If sales reach the targets set by Veltro, the RBC ratio is likely to drop significantly.
- New competitors are entering the marketplace, with a business model similar to Snappy's. If Snappy continues to compete solely on price, it is likely to start seeing reduced profitability.
- Models for customer data and servicing are state-of-the-art, but the tech area does not have expertise in producing robust financial projections. Snappy does not have the appropriate workforce in place to move the company forward.
- Data breaches have affected several insurance companies over the past two years, particularly those that are heavily dependent on internet sales. The CFO is not sure whether Snappy is sufficiently protected from cyber-risk.

7.4 Financial Exhibits

Financial Statements for Snappy for the past four years are shown below.

Summary of Operations (in 000s)

	2020	2019	2018	2017
Premiums	11,141	6,267	8,356	4,700
Net investment income	1,765	1,165	769	507
Total Revenues	12,906	7,432	9,125	5,207
Death Benefits	1,847	1,478	1,182	946
Surrender Benefits	567	510	459	413
Increase in Reserves	4,561	3,013	2,158	1,539
Total Benefits	6,975	5,001	3,799	2,898
Sales Expenses	623	555	263	263
General Insurance Expenses	1,110	1,063	681	681
Insurance Taxes, Licenses, and Fees	417	334	267	214
Total Expenses	2,150	1,952	1,211	1,158
Net Gain from Operations before FIT	3,781	479	4,115	1,151
Federal Income Tax	945	120	1,029	288
Net Income	2,836	359	3,086	863

Recent earnings were run through the Beneish model and produced an M-score of -1.57.

Balance Sheet (in 000s)

	2020	2019	2018	2017
Assets				
Bonds	29,187	24,213	20,894	18,489
Cash	1,410	1,692	1,949	2,180
Furniture and Equipment	126	130	117	105
Total Assets	30,723	26,036	22,960	20,774
Liabilities				
Statutory Reserves	28,447	23,886	20,873	18,715
Surplus	2,276	2,150	2,087	2,059

8 Seaplane Expeditions and Aviation Company (SEA)

8.1 Seaplane Industry Profile

A seaplane is an aircraft designed to take off and land on water. Seaplanes are often used for tourism purposes in coastal or island areas. They also fly commuter routes within those same areas or as transportation in more remote areas.

There has been rising demand for the seaplane services, coincident with rising disposable income in both developed and emerging economies. Steady technological innovations have made the aircraft both safer and more comfortable.

There remain significant risks associated with seaplane operations. In spring 2019, three crashes occurred in Alaska within the space of one week, killing nine people and injuring twelve. Scrutiny from the U.S. National Transportation Safety Board has been increased. Risk factors include:

- Lack of uniform safety standards among seaplane operators and manufacturers
- Disruption to operations due to weather conditions
- Pressure from company management to operate under marginal weather conditions
- Logistical problems with handling passengers and cargo on water

The market for seaplane operators has been improving internationally as more countries become aware of their capabilities and can afford to establish operations. In the U.S. and Canadian markets there is increased demand for seaplane trips but also an increasing amount of competition.

Operators can successfully distinguish themselves in the marketplace based on the following factors:

- Impeccable safety record
- Convenience to passengers, evidenced by frequency of flights and diversity of routes
- High-quality customer service

8.2 SEA Company Profile

Seaplane Expeditions and Aviation (SEA) is a private company, not affiliated with or owned by RPPC. It is a company that might be considered an acquisition target or a strategic partner for one or more of the RPPC companies.

SEA started out as a one-man seaplane operation flying charters in Victoria, British Columbia, Canada in the 1950s. Bob Otterwein soon grew his business enough that he needed more pilots and more planes. By the 1970s, SEA had added a scheduled service flying customers between Victoria and Seattle. Since then, SEA has expanded its operations to include destinations in Alaska, Vancouver, and the many islands of the Pacific Northwest. In the 1980s, SEA acquired Gully Air to add more seaplanes to its fleet. Bob's experience with seaplane maintenance also led to a highly-

respected seaplane repair and restoration operation. Bob Otterwein died in 1995, passing the ownership of SEA to his son Bill who now oversees operations, but does not personally pilot planes as his father had continued to do throughout most of his life.

SEA offers both regularly scheduled service to various destinations as well as charter flights and sightseeing trips. In addition to this tourist and commuter service, SEA offers cargo service to the many small islands of the Pacific Northwest. SEA has a highly skilled seaplane maintenance operation which specializes in restoring and rebuilding seaplanes. SEA also runs a seaplane pilot school to train the next generation of seaplane pilots.

SEA has 25 seaplanes in its fleet and 50 seaplane pilots on staff. It employs an additional 125 at the peak of seaplane tourist season.

SEA's goal is to provide memorable seaplane experiences to its travelers at reasonable prices. SEA also prides itself on its seaplane repair and restoration operation, which is the highest quality operation around. SEA has had no fatal accidents in its six-decade history and is committed to having an impeccable safety record.

8.3 Risk Profile

Reputation Risk

A poor customer reputation could severely impact SEA's competitiveness. A significant portion of SEA's business is tourist flights, either chartered or via scheduled flights to tourist destinations. Positive customer reviews, word-of-mouth referrals, and frequent flyers are important factors in staying ahead of the competition. SEA offers discounts to flyers who purchase multiple fares at once that can then be used as needed throughout the year or transferred to friends or associates to give them the SEA experience. SEA also offers considerable flexibility in its reservation process to keep customers from being forced to use another service in case of last-minute changes to plans.

Regulation Risk

Seaplanes have to abide by both aviation and maritime regulations. Recently, as residential areas have expanded near the waterways that seaplanes operate in, noise complaints regarding seaplane takeoff and landing have resulted in some cities looking to restrict seaplane operations. Currently, no such restriction has impacted SEA's major operating locations. SEA regularly advocates on behalf of other seaplane owners when potential noise ordinances are being considered and continually gives back in the communities it operates in to foster goodwill with residents.

Operational Risk

Seaplanes require far more maintenance than regular aircraft because of the corrosive nature of seawater. SEA has a large maintenance operation which prides itself in its ability to maintain and restore aircraft. The skill of the maintenance team and the capacity in SEA's maintenance hangars allows SEA to efficiently conduct inspections and perform preventative maintenance to keep its fleet in the air. If SEA were to lose many of its skilled maintenance employees and be unable to replace them with new employees of like caliber, maintenance problems could become more frequent. This could, in turn, lead to aircraft being out of service for longer periods of time, leading to flight cancellations and unhappy customers.

SEA gets many of its new pilots from its own seaplane pilot training school. Commercial seaplane pilots often make flying seaplanes a career, rather than using seaplanes as a stepping stone to flying bigger planes. Many other countries get their seaplane pilots from Canada and the U.S. so there is competition to retain the best seaplane pilots.

Seaplane crashes can be especially damaging to the seaplane business. SEA's fleet consists of mainly two types of seaplanes: the DHC-3 de Havilland Otter and the DHC-2 de Havilland Beaver. Any crash that isn't initially ruled as caused by weather conditions will draw scrutiny to the type of aircraft and whether there is any defect in the plane itself. A 2017 New Year's Eve fatal crash of a DHC-2 Beaver in Australia led to the grounding of Sydney Seaplane's entire fleet for two weeks until pilot error (and eventually pilot incapacitation) was ruled as the likely cause of the crash. The same model seaplane had been involved in crashes in Canada due to aerodynamic stalling. SEA has installed warning devices in its DHC-2 planes to detect impending stalls and prevent crashes. However, there is still potential that the U.S. National Transportation Safety Board or the Transportation Safety Board of Canada could ground all seaplanes of the same model should that model be involved in a crash where a plane defect is the suspected cause. Should either the DHC-2 Beaver or DHC-3 Otter be subject to grounding for an extended period of time, the lost revenue from cancelled flights could impact SEA's viability.

Political Risk

Operating in the Pacific Northwest, SEA constantly flies customers and cargo across the U.S.-Canadian border. If the relationship between the U.S. and Canada were to become strained, it could lead to cancellation of certain services or more cumbersome processes for those customers flying across the border.

8.4 Operations – Competitive Advantages and Limitations

Maintenance Process

All SEA planes are subject to frequent inspection and preventative maintenance in accordance with the schedule designed by the maintenance crew. This schedule has led to minimal aircraft

downtime and few surprise maintenance problems. Maintenance also has an electronic log that tracks each aircraft and allows the maintenance staff to note trends in maintenance issues among the same model as well as any aircraft that are experiencing more problems than others of the same model. Aircraft identified to have continued difficulties receive special scrutiny during the slower winter season and are given more extensive repairs or rebuilds. This proactive step allows SEA to have the aircraft it needs to meet demand during the busy summer season.

Scheduled Service Process

When it comes to scheduled service, not only is SEA competing with other seaplanes to retain customers, it is also competing with ferries and traditional land aircraft. The scenic experience of flying by seaplane combined with the added advantage of better direct transport between certain locations makes flying by seaplane desirable as long as fares aren't considerably higher than the lowest cost alternative and the reservation process isn't too burdensome. Therefore, SEA has continually worked to streamline the customer experience for its scheduled service customers. From online booking, to flexible fares that allow for last minute changes, to last minute reservations at affordable prices, SEA wants to ensure flexibility and ease of use in its reservation process. The booking system has been praised as easy to use by SEA's customers. The employees at check-in understand that many of the customers flying SEA may have never flown on a seaplane before and are experts at guiding first-time flyers through the process. SEA monitors its frequent flyer and multi-fare purchasers' flight bookings to identify any downward trends and reach out with discounts or customer service surveys so as to try to identify service-related issues early and not lose frequent customers.

Charter Process

While the scheduled service customer experience has become more streamlined, chartered service still requires contacting the charter department to reserve a flight. Charters require 30-days' notice of cancellation to receive a full refund. SEA therefore recommends purchasing travel insurance for its more expensive charter flights. However, SEA doesn't have a preferred travel insurer that it can recommend to its customers. SEA has only limited information regarding charters on its website and at its seaplane terminals. Check-in employees are often not as knowledgeable about charter destinations/scenic stops as they are about the scheduled service destinations and will refer itinerary questions back to the charter department. Interest in SEA's charters has been declining of late.

Weather/Safety Management Process

SEA must monitor the weather constantly to ensure appropriate and safe flying conditions for its aircraft. Due to low-altitude flying and take-offs and landings in water, weather conditions must be constantly monitored. SEA tracks weather data from weather stations throughout the Pacific Northwest and along all its flight paths to relay important weather information to its pilots. In addition, pilots are trained to report adverse weather conditions in a consistent and timely manner so that information is shared among all pilots and SEA safety management personnel. SEA

is then able to quickly react to changing conditions and delay/cancel flights if needed for the safety of SEA customers and crew. Additionally, pilots, dock crew, and maintenance employees attend regular safety training and are committed to checking that equipment and personnel are all working properly to ensure the safety of SEA's customers and cargo.

Aircraft Restoration Process

In addition to maintaining its own fleet, SEA repairs and rebuilds seaplanes for customers from all over the world. Its renowned service attracts customers who are willing to wait for quality. This provides a steady pipeline of work while allowing the maintenance personnel to take the time needed to rebuild and restore planes to their best condition. The dual work of rebuilding customer planes and maintaining its own fleet keeps the maintenance personnel's skill level high so that they are able to both provide high quality service to repairing customer planes and prevent maintenance problems from occurring in SEA's own fleet.

8.5 Strategic Initiatives

The Pacific Northwest's seaplane industry is highly competitive with many companies offering charters, scheduled flights, and/or cargo service. SEA believes the biggest growth potential for seaplane services will occur in international markets. Asian countries, especially China, have shown great interest in seaplane services recently. China has a large number of waterways in areas without the needed infrastructure for traditional land-based plane service. India and the European Union have conducted seaplane service viability studies. However, SEA would need a large infusion of capital and a partner or consultant with Asian or European business expertise to launch new services internationally.

SEA is focused on setting up partnerships with larger airline companies to provide regional service in the Pacific Northwest. Larger carriers find it expensive to offer consistent service to many of the local destinations SEA services. Their customers from across the U.S. and Canada who need to travel to these smaller destinations will be able to book much more flexible schedules if the larger carriers can transfer them to SEA in Vancouver or Seattle. SEA has set up some agreements with carriers but is looking to solidify a stronger partnership with a larger carrier or carriers in the near future.

8.6 SEA Financials

Net Operating Statement (in CAD 000s)

	2020	2019	2018
Passenger revenues	7,235	7,024	6,820
Freight, charters, aircraft sales, and other	3,685	3,722	3,760
Total operating revenues	10,920	10,746	10,580
Operating expenses:			
Salaries, wages and benefits	3,058	3,009	2,962
Aircraft fuel	2,457	2,128	2,021
Aircraft maintenance, material, repairs, and other	3,362	3,336	3,312
Depreciation and amortization	393	387	381
Other operating expense	1,194	1,159	1,125
Total operating expenses	10,463	10,019	9,801
Operating income	457	728	778
Interest expense, net	(123)	(126)	(129)
Income (loss) before income taxes	334	602	649
Income tax benefit (expense)	(117)	(211)	(227)
Net income (loss)	217	391	422

Balance Sheet (in CAD 000s)

	2020	2019	2018
Cash and Short-Term Investments	1,179	1,161	1,143
Accounts Receivable	890	876	862
Fuel, Parts, and Other Inventory	1,600	1,574	1,550
Total Current Assets	3,669	3,611	3,555
Property, Equipment, and Other Assets	2,883	2,837	2,793
Total Assets	6,552	6,448	6,348
Current Liabilities	2,532	2,458	2,387
Long Term Debt	1,365	1,400	1,436
Total Liabilities	3,897	3,858	3,823
Capital	1,000	976	951
Retained Earnings	1,654	1,614	1,574
Owner Equity	2,655	2,589	2,525