CASE SIXTEEN

Forecasting for the Love Boat: Royal Caribbean Cruises in 1998[1]

Much like Kate Winslet leaning over the bow of the *Titanic,* the North American cruise industry seems poised to either take flight or suffer a precipitous fall. The number of cruise passengers has grown from 500,000 in 1970 to 5,400,000 in 1998, a compounded average of 8.9 percent per year. Further, as the baby boomers mature, an increasing proportion of the population will fit the profile of a typical cruise customer—someone between 40 and 59 years old earning about $60,000. But all the news isn't bright. Based on the number of new ships that have already been ordered by major operators, the number of available berths in the North American market is expected to increase by over 40 percent in the next five years. Will the increase in demand for cruise vacations be sufficient to fill all the cabins on these new ships? Given the large fixed costs of operating a cruise vessel and the debt necessary to fund this capacity expansion, the cruise industry risks an encounter with an iceberg as it steams into the new millennium.

This case focuses on Royal Caribbean Cruises in 1998. The first part of the case asks you to conduct a detailed analysis of Royal Caribbean's past financial statements and to compare them with their rival, Carnival Cruises. The second part of the case asks you to forecast the financial performance of Royal Caribbean for the next three years. Note that the chilling effect of September 11, 2001, on the travel and vacation business occurs mostly after the three years that you will be forecasting, so you don't have to pretend that you don't know about this major event.

The case material that follows will provide you with a comprehensive picture of the North American cruise industry as it stood in 1998 along with specific financial and operating details of Royal Caribbean Cruises and Carnival Cruises. There is a wealth of information available and no single correct way to put it all together in your financial analysis and forecasts. Please limit your analysis to the information available in the case. The data supporting the graphs in this case are given in the appendix and are included with the case's Excel files, along with files containing input data for *eVal*. (Please note that Global Access did not code Royal Caribbean's preferred dividend. You will need to modify the financial statements in *eVal* to correct for this.)

The North American Cruise Industry in 1998

Cruise ships travel the world. Royal Caribbean Cruises, for instance, offers 175 destinations on six different continents. What defines the North American market is not the destination but the point of sale. Hence, North Americans purchase their trips in North America, but may fly to any part of the world to embark on a "North American" cruise. While all major cruise lines offer "Air and Sea" options, this is really just a convenience for their customers. The air portion is priced at cost, and this portion of the trip is handled completely by the airline. Virtually all cruise purchases take place through a local travel agent.

Demand for cruise vacations has growth rapidly over the past two decades as the Figure 1 illustrates, with the only decrease in demand occurring in 1994-1995. Further, the average length of a cruise trip has

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[1] Professor Russell Lundholm prepared this case at the University of Michigan Business School in 2002 as the basis for class discussion. Sources for this case include the Cruise Line International Association Market Overview, Cruise Industry News, the Tourism Industry Association of America, Royal Caribbean Cruises' 1998 10-K filing, and Carnival Cruises' 1998 10-K filing. I thank Cheryl Fenske at the Cruise Line International Association for her help in obtaining 1998 data.

grown to approximately 6.6 days, reaching levels not experienced since the early 1980s. Because of the fixed/variable cost structure in the cruise industry, longer trips are typically more profitable than short trips, so the industry has welcomed this trend.

Figure 1: North American Cruise Statistics

The North American cruise industry is composed of two very large companies and many small ones, as seen in Figure 2. Carnival Cruise Lines is the largest firm with 33 ships carrying 2,045,000 passengers in 1998, 38% of the North American cruise market. Royal Caribbean Cruises is the second largest company with 16 ships carrying 1,841,000 passengers in 1998, a total of 34% of the North American market. A host of smaller cruise lines make up the rest of the industry, dividing 1,542,000 passengers between 96 vessels. The relative market shares are illustrated in the figure below.

Figure 2: Market Shares

The Cruise Experience

The cruise industry offers a wide variety of ship sizes, luxury levels and itineraries. From small, quasi-research vessels that probe Artic passages to massive "mega-ships" that resemble floating Malls of America, the cruise industry offers something for everyone. The Caribbean is the most common destination for cruises sold in North America, with approximately 39% of all passenger-days devoted to this destination. However, the table also shows that there has been a significant increase in demand for trips to locations such as the Mediterranean, Alaska and Europe. The latest trend is for huge ships that carry as many as 3000 guests, and offer a wide variety of entertainment alternatives. Such vessels feature rock-climbing, ice-skating, miniature golf, cinemas, discos, spa facilities, libraries, casinos, extensive live entertainment, and entire shopping malls, all onboard the ship. The focus of these cruise alternatives is on the vessel, rather than the destination. Bob Dickinson, the president of Carnival Cruises, remarked "Now, the cruise itself is the destination – magnificent floating resorts. To me, the itinerary is a little Green Stamp, a little extra thing."

Who's Onboard

Obviously different types of cruises attract different types of customers. Nonetheless, certain demographic profiles are most likely to take a cruise. Figure 3 below compares the demographic profile of those who have taken a cruise with the entire U.S. population over the age of 24. Generally, the population of past cruisers is older, wealthier and better educated than the entire population.

Demographic Profile		Ever Cruised	Past 5 Year Cruisers	Population over Age 24
Gender:	Male Female	49% 51%	51% 48%	50% 49%
Age:	25-under 40 years 40-59 years 60 years or older	27% 42% 32%	28% 42% 30%	43% 44% 13%
	Average Median	51 yrs. 51 yrs.	50 yrs. 51 yrs.	43 yrs. 42 yrs.
Marital Status:	Married Not Married	76% 24%	78% 22%	69% 31%
Household Composition:	Have children under 18 Adults only	37% 63%	35% 65%	54% 46%
	Occupants	3	3	3
Education:	Some College or less College Graduate or more	42% 58%	36% 64%	54% 46%
Household Income:	$20,000-$29,999 $30,000-$39,999 $40,000-$59,999 $60,000-$99,999 $100,000 or more	8% 12% 32% 28% 20%	5% 10% 31% 30% 25%	13% 17% 31% 29% 9%
	Average Median	$72,600 $58,500	$79,100 $64,500	$60,400 $51,800

Figure 3: Demographics of Cruise Market

Examining those who have cruised most recently reveals a few different types of customers, as figure 4

illustrates, but most seek the relaxation and pampering that a cruise can provide. Indeed, when the recent cruiser population was asked what cruising offered that was superior to other types of vacations, the top three responses were "being pamper," "fine dining" and "hassle free."

Figure 4: Types of People Taking Cruises

Restless Baby Boomers are newest to cruising. They are at a point in time when they may be trying different vacation experiences.
Enthusiastic Baby Boomers are already convinced about cruising and its many activities. They live intense, stressful lives and look to vacations generally, and cruises in particular, for the escape and relaxation they offer.
Luxury Seekers can afford, and are willing to spend money for deluxe accommodations and pampering.
Consummate Shoppers are looking for the best value in a vacation and in a cruise.
Explorers are well-educated, well-traveled individuals with an intellectual interest and curiosity about different destinations.
Ship Buffs are the most senior segment: they have cruised extensively and expect to continue because they find the on-board experience of cruising so pleasurable and comfortable.

Supply of Available Berths

The supply of available berths as of 1998 was shown in the market share figure given earlier. Further, because the lead-time necessary to design and build a cruise ship is approximately three years, a reasonably accurate forecast of future supply is available for the next three years, as seen in figure 5 below (more detailed information about Royal Caribbean's new ships is available later in the case). It is more difficult to estimate the amount of capacity that will be retired in the future. Over the past five years, 48 ships with a total of 28,900 berths have been retired or moved out of the North American market. However, many of these retirements occurred because of a 1997 deadline to meet the heightened safety requirements imposed by the International Maritime Organization. From 1994 through 1996, retirements exceeded 7000 berths per year but have slowed considerably since then.

NEW Capacity	1999	1999	2000	2000	2001	2001	total new	total new
	ships	berths	ships	berths	ships	berths	ships	berths
Carnival Cruises (includes Holland brand)	3	5480	2	6180	2	3900	7	15560
Royal Caribbean Cruises (includes Celebrity brand)	1	3100	2	5100	3	6100	6	14300
All Other Cruise Lines	7	7794	2	2800	4	6296	13	16890
Total New Ships/Berths	11	16374	6	14080	9	16296	26	46750

Figure 5: Increases in Supply of Berths

Demand for a Cruise Vacation

To date only 11% of the U.S. population has ever taken a cruise. However, a recent cruise industry survey of people over the age of 24 found that 56% are interesting in cruising sometime in the future and 31% responded that they will definitely take a cruise in the next five years. Demographic trends also favor the cruise industry. As the demographic profile showed, 42% of recent cruise passengers are between the ages of 40 and 59. As the baby boomers age, this segment of the U.S. population is estimated to grow at more than three times the national population growth rate over the next three years, as seen in figure 6 below.

Figure 6: US Population Growth

Along with growth in the US population, it is possible that the amount of vacation time per individual will increase over time. Numerous studies have shown that the baby boomer generation values recreation more highly than previous generations. This is illustrated in the next figure that plots grow rates in the U.S. gross domestic product (GDP), personal consumption and recreation expenditures. As figure shows, growth in personal consumption maps closely to growth in the gross domestic product (GDP). By comparison, recreation spending has grown faster than personal consumption in every year since 1980, with the gap between the two increasing dramatically after the 1991 recession. This increase is widely attributed to the consumption tastes of the baby boomer generation. Figure 7 also shows the 1998 Congressional Budget Office's forecasts for future GDP growth.

Figure 7: Relation between GDP, Personal Consumption, and Recreation Expenditures

Finally, U.S. residents vacation far less than the citizens of all other developed countries, averaging just 13 days per year. As figure 8 illustrates, even the hard-working Japanese and Koreans vacation almost twice as much as Americans. Italians, living the good life, vacation more than three times as much. It is certainly possible that Americans will increase their vacation expenditures even more in the future.

Figure 8: Average Vacation Days by Country

PART A. COMPREHENSIVE FINANCIAL ANALYSIS

Your task for this part of the case is to conduct a comprehensive financial analysis of Royal Caribbean Cruises and to compare their performance with Carnival Cruises. Excerpts from Royal Caribbean's 20-F filing and Carnival's 10-K filing are included as online exhibits at http://www.lundholmandsloan.com.

You will need to import the case data into *eVal*. (Note: case data can be imported by going to the Case Data sheet in *eVal* and selecting the yellow block of data for the company, and then pasting this block of data into the yellow cells at the bottom of the Financial Statements sheet using Paste Special - Values from the Edit menu.) You should compare the financial statements in *eVal* with the ones in the 20-F and 10-K filings so that you can see exactly what data are used to compute each ratio and make any necessary adjustments. The definitions of each ratio are given in this textbook. Note that Royal Caribbean paid a preferred stock dividend of $12.5 million in 1998 but that this amount is not in the *eVal* data. You will have to correct the financial statements once they are loaded into *eVal*.

1. Compare the growth rates of Royal Caribbean and Carnival Cruises. What are the advantages to being large in this industry?
2. Compute the 1998 net operating income, net financing expense, average net operating assets, and average net financial obligations from the financial statements in Royal Caribbean's 20-F filing.
3. Using your answers to the previous question, compute return on equity (ROE) and then decompose ROE using the advanced Dupont decomposition:
   ROE = RNOA + Leverage × Spread
   How does your decomposition compare to the one provided by *eVal*?
4. Using the financial ratios provided by *eVal*, evaluate any trends in Royal Caribbean's return on equity, compare it with Carnival Cruise's return on equity, and discuss the main causes of any differences.
5. Now consider each of the main drivers of return on equity: margins, turnovers, and leverage. Using *eVal*'s output as a starting point, evaluate any trends and compare Royal Caribbean with Carnival Cruises in each of these areas. Only note what is exceptional—do not discuss every possible ratio.
6. Does a dollar of revenue increase bring about a constant increase in expenses for Royal Caribbean, or do they enjoy economies of scale? Estimate any economies of scale that might be present.
7. Approximately 35 percent of Carnival Cruise's passengers also book their air travel through the cruise company (as an "air and sea" package) while only 25 percent of Royal Caribbean's passengers include the air portion in their booking. Conceptually, how will this affect your ratio comparison of the two companies and discuss how you might adjust the data to remove this distortion?

PART B. FINANCIAL FORECASTS

This part of the case asks you to forecast the financial performance of Royal Caribbean for the next three years. This is where you should bring together the industry facts given in the beginning of the case, the results of your financial analysis, and your understanding of Royal Caribbean's unique attributes gleaned from a careful reading of their SEC filings. Note that, while the events of September 11, 2001, had a dramatic effect on subsequent travel and tourism, this is largely after the periods you are forecasting. In their 2001 annual report, Royal Caribbean estimates a net cost of $47.7 million due to passenger's inability to fly to their departure locations, subsequent cancellations, and other costs incurred as a direct result of this event. Make your forecasts without regard to this event, but then subtract an extraordinary loss of $47.7 million from your final income estimate to control for this effect.

Your answers will not be graded on their accuracy but, rather, on the logic you give to support them. Use *eVal* to derive the forecasted financial data. Although your answers should be in the format given in *eVal*, your analysis should be *far more detailed* than a simple extrapolation from Royal Caribbean's past performance (as the *eVal* defaults will do). Note that Royal Caribbean paid a preferred stock dividend of $12.5 million in 1998 but that this amount is not in the Global Access data. You will have to correct the financial statements once they are loaded into *eVal*. (Note: case data can be imported by going to the Case Data sheet in *eVal* and selecting the yellow block of data for the company, and then pasting this block of data into the yellow cells at the bottom of the Financial Statements sheet using Paste Special - Values from

the Edit menu.) Excerpts from Royal Caribbean's 20-F filing and Carnival's 10-K filing are included as online exhibits at www.lundholmandsloan.com.

1. Based on all the information provided in the case, forecast Royal Caribbean's gross revenue for 1999, 2000, and 2001. Please explain your reasoning.
2. Forecast the remaining portions of the income statement for 1999, 2000, and 2001. Comment only on the forecast components that differ significantly from past trends or ratios—do not discuss each line item if you don't have anything substantive to say.
3. Forecast complete balance sheets for the end of 1999, 2000, and 2001. Comment only on the forecast components that differ significantly from past trends or ratios—do not discuss each line item if you don't have anything substantive to say.
4. Can Royal Caribbean afford to purchase the ships that it has on order in the next three years? How do you anticipate that these acquisitions will be financed?
5. For this question, do not use *eVal* (because it is easier not to). Suppose your analysis indicated that Royal Caribbean will spend $810,261 thousand on additions to property and equipment in 1999. Given this, estimate the ending balance of property and equipment for 1999.
6. For this question, do not use *eVal* (because it is easier not to). Suppose your analysis indicated that Royal Caribbean's 1999 ending balance of customer deposits was $515,308 thousand. Estimate the amount of cash collected from customers in 1999.