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Cruisers: What They Do When They Get Off the Ship

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ABSTRACT

This paper looks at the cruise ship industry in Bar Harbor, Maine, with an emphasis on the economic impact of passenger spending and the likelihood of return visitation. The analysis is based on 1,080 passenger surveys conducted in 2002. Study findings show that cruise ship passengers have higher household incomes, and are older and more likely to be female than the typical Maine visitor. Survey respondents stayed an average of five hours and twenty minutes in port, and a large number of passengers took a tour of Acadia National Park. The typical respondent spent an estimated \$105.82 in Bar Harbor, including cruise-line sponsored tours. Collectively, cruise ship passengers had a \$12.1 million impact on local sales revenue, including multiplier effects, and supported 275 full and part-time jobs in Bar Harbor in 2002. The cruise ship industry is especially important to the Bar Harbor economy in October, when passengers accounted for an estimated 64 percent of retail sales and 26 percent of restaurant and bar sales. About one-third of the survey respondents indicated that they were planning to return to Bar Harbor within a two-year time frame. Econometric analysis shows that the distance between a person's place of residence and Bar Harbor has a negative effect on the likelihood of return, while the number of past visits a passenger has made to Bar Harbor and the amount of time spent in town during the one-day cruise ship visit both increase the prospects of a return trip.

BACKGROUND

The North American Cruise Industry has experienced substantial growth in recent years. Within the United States, direct spending by cruise lines and passengers increased from \$9.4 billion to \$16.2 billion (72 percent) between 2000 and 2005 (Business Research & Economic

Advisors 2001, 2006). Including multiplier effects, the North American cruise industry supported 330,346 U.S. jobs and provided \$13.5 billion in wages and salaries in 2005.

Spending by cruise ship passengers and crew provide a stimulus to the economies of U.S. ports of embarkation (i.e., where cruises originate) and ports-of-call (i.e., where ships visit). Although its share of worldwide embarkations has declined in recent years, Florida – in particular, Miami (1.8 million embarkations), Port Everglades (1.3 million embarkations) and Port Canaveral (1.2 million embarkations) – accounted for 4.8 million embarkations in 2005 (Business Research & Economic Advisors 2006). Other key U.S. ports of embarkation include Los Angeles (615,000 embarkations), Galveston (531,000 embarkations), New York (370,000 embarkations), Long Beach (363,000 embarkations), Seattle (337,000) and New Orleans (308,000). According to surveys conducted by Business Research & Economic Advisors, cruise ship passengers spent an average of \$101.89 per visit at the port of embarkation. Those who stayed one or more nights before or after the cruise spent an average of \$248.14, while passengers in town only for the day spent an average of \$30.13.

Although many of the cruises that originate from the United States have itineraries that focus largely on ports outside the country (e.g., Puerto Rico, Mexico), some U.S. areas have become popular ports-of-call. These include ports in Alaska, Hawaii, Key West, and other places along the coast. Surveys conducted by Business Research & Economic Advisors show that passengers spent an average of \$108.01 per port-of-call visit, while crew members spent an average of \$23.90.

INTRODUCTION

In recent years, the cruise industry has seen remarkable growth in the ports of Bar Harbor and Portland, Maine. Bar Harbor hosted 76 cruise ship visits in 2005, a 36 percent increase above the 56 ships that came to town in 2001 (Chapman 2002). According to Portland's Seaport Statistics, Maine's largest city hosted over 40,000 cruise ship passengers in 2001 and 2002, up from about 14,000 passengers in 1999. Portland welcomed 45,225 cruise ship passengers in 2005.

This paper looks at the economic impact of cruise ship passengers in Bar Harbor, Maine. The analysis is based on 1,080 passenger surveys conducted between August and October of 2002. The surveys asked the amount of money passengers spent in Bar Harbor, the activities they pursued while in port, the areas of town passengers explored, time constraints they may have faced, plans for return travel to Bar Harbor, and several personal characteristics.

The economic impact analysis focuses primarily on the expenditures that cruise ship passengers made while in port. Although crew members make local purchases (as evidenced by their average expenditures reported above) and cruise lines pay anchorage fees to the town of Bar Harbor, these expenditures are beyond the scope of our analysis. Further, it should be noted upfront that the economic impact figures are based on a total of 97,190 passengers, which is the capacity of the 64 cruise ships that visited Bar Harbor in 2002. Since some of the ships may have come to Bar Harbor at less than full capacity, the impact figures presented in the report can be interpreted as an upper-bound estimate of the passenger impact. Spending by ship personnel, however, may offset the diminished realized impact caused by ship vacancies and/or passengers that chose not to disembark in Bar Harbor.

DATA COLLECTION

Over seven days between August and October of 2002, surveys were distributed to 2,332 passengers as they returned to the ship after spending the day in Bar Harbor. Passengers were surveyed from the Norwegian Sea and Norwegian Dream, which are a part of the Norwegian Cruise Lines fleet, the Princess Cruise Lines' Golden Princess and Royal Princess, and the Rotterdam, which is operated by Holland America Cruise Line. We received 1,080 returned surveys, which translates into an overall response rate of 46 percent.

As shown in Table 1, Bar Harbor's cruise ship season begins in May and continues until the end of October. While only two ships, carrying a total of 4,396 passengers and crew, docked in Bar Harbor in May, visitor numbers steadily increased through October, when over 50,000 passengers and crew came to town on 20 vessels. The ships that were included in this study carried, on average, a larger number of passengers (close to 2,000 passengers) than the typical cruise ship that docked in Bar Harbor during 2002 (about 1,500 passengers).

Table 1. Cruise Ships Visiting Bar Harbor in 2002.

Month	Number of Ships	Passengers	Crew	Total Passengers and Crew
May	2	3,496	900	4,396
June	7	10,102	1,264	11,366
July	9	11,984	1,885	13,869
August	10	8,173	2,623	10,796
September	16	23,742	6,495	30,237
October	20	39,693	10,953	50,646
Total	64	97,190	24,120	121,310

SUMMARY OF SURVEY RESULTS

On average, cruise ship passengers appear to have higher household incomes than the typical Maine tourist. The average respondent has an annual income of roughly \$75,000. About 25 percent of the respondents have an annual household income of between \$50,000 and \$75,000. Close to 37 percent of the passengers surveyed have an annual household income of over \$100,000, whereas only about 25 percent have an annual household income of less than \$50,000. According to a 2002 study on tourism in Maine, 40 percent of the visitors on "overnight marketable trips" to the state have an annual household income of \$75,000 or higher, while 36 percent have an income of less than \$50,000 (Longwoods International 2002).

Cruise ship passengers are considerably older and more likely to be female than the typical Maine tourist. The average respondent is about 60 years of age, with the youngest being 20 years old and the oldest reporting an age of 90 years. A large majority of respondents, slightly less than 69 percent, are female. According to the Maine tourism study conducted in 2002, the average Maine tourist is close to 48 years old, and about 54 percent of Maine visitors are male (Longwoods International 2002).

Bar Harbor's cruise ship industry appears to expand the market for tourism in Maine. The Maine tourism study suggests that roughly 79 percent of the overnight trips to Maine had origins within a regional market of the New England states, New York, New Jersey,

Pennsylvania, Maryland, Delaware and Washington D.C. (Longwoods International 2002). By comparison, less than 35 percent of cruise ship respondents are from the same regional market. Approximately 27 percent of the cruise ship respondents are from the Mid-Atlantic Region of New York, New Jersey and Pennsylvania. The Pacific West Region - which includes Oregon, Washington, California, Hawaii and Alaska - accounted for close to 20 percent of the survey respondents. Only 3 percent of the survey respondents are from a New England state, and less than 4 percent of respondents are from outside the United States.

TIME IN PORT AND TOUR INFORMATION

As shown in Table 2, the cruise ships included in the study arrived in Bar Harbor between 7am and noon, and left port between 3pm and 7pm. The eight ships spent an average of just under nine hours in port, with the Golden Princess spending twelve hours in Bar Harbor on September 18 and the ships of the Norwegian Cruise Line spending as few as seven hours in port.

Table 2. Ship Time in Port.

Ship Name and Date	Scheduled Arrival Time	Scheduled Departure Time	Total Time in Port
Norwegian Sea 8/28	12:00pm	7:00pm	7 hours
Golden Princess 9/18	7:00am	7:00pm	12 hours
Rotterdam 9/29	8:00am	6:00pm	10 hours
Norwegian Dream 10/4	12:00pm	7:00pm	7 hours
Royal Princess 10/4	8:00am	6:00pm	10 hours
Rotterdam 10/19	8:00am	6:00pm	10 hours
Golden Princess 10/22	7:00am	3:00pm	8 hours
Norwegian Sea 10/25	12:00pm	7:00pm	7 hours
All Ships	9:25am	6:12pm	8 hours 47 minutes

The average respondent spent 5 hours and 20 minutes in Bar Harbor and about two hours of this time was spent on a cruise-line sponsored tour. Respondents occupied the rest of their time in port - about three-and-a-half hours - eating, shopping and exploring the downtown. They generally de-boarded the ship between 9:30am and 12:00pm and re-boarded the ship between 2:30pm and 4:30pm.

Slightly over one-half of the survey respondents indicated that they needed additional time to see all they wanted in Bar Harbor. The only cruise in which 40 percent or more of the passengers did not need more time was a Rotterdam cruise that docked in Bar Harbor on October 19. Although any number of factors could explain the relatively small percentage of passengers who needed more time in Bar Harbor, it is noteworthy that October 19 had the worst weather (e.g., cold, overcast and rain) of any of the days that surveys were conducted. About 56 percent of the respondents took a tour sponsored by the cruise line while in port. Of these passengers, 78 percent took a cruise-line sponsored tour visited Acadia National Park, which was – by far – the most popular tour destination.

As shown in Table 3, a respondents' likelihood of visiting Acadia National Park on a cruise-line sponsored tour appears to be highly dependent upon the number of past visits to Bar Harbor. The day spent in port was the first visit to Bar Harbor for about three-fourths of the survey respondents. Of these first-time visitors, 69 percent saw Acadia on a cruise-line sponsored tour. Respondents who had been to Bar Harbor one or more times previously were highly likely to have already visited Acadia National Park. Substantially lower percentages of these return visitors took a tour of Acadia while in port. For instance, only one-third of the respondents who had been to Bar Harbor four or more times previously took a cruise-line sponsored tour of Acadia.

Table 3. Past Visits to Bar Harbor and Acadia National Park

Number of Times in Bar Harbor *	Percentage of Respondents	Visited Acadia Previously	Visited Acadia While in Port
1	74.63%	0	69.05%
2	17.38%	75.40%	55.08%
3	4.55%	89.80%	48.98%
4	1.21%	92.31%	23.08%
More than 4	2.23%	95.83%	33.33%

* Including date of ship visit

PASSENGER EXPENDITURE PROFILE

The survey asked passengers about their expenditures in nine categories: food and beverages, drug and beauty items, apparel items, household goods, fine art and jewelry, transportation, tours (not sponsored by the cruise line), rental equipment, and other expenditures. The average respondent spent a total of \$85.26 while in port, with a large amount of this money spent on food and beverages (\$20.51) and apparel items (\$22.96). On the other hand, the average respondent spent very little on transportation (\$1.61), drug and beauty items (\$1.39) and rental equipment (\$0.35).

As indicated above, over half of the survey respondents took a cruise-line sponsored tour in Bar Harbor. Since the survey focused on expenditures made directly by passengers while in port, we did not collect information on the amounts paid to cruise lines for their tours. However, these tours provide revenue to some local businesses and attractions. In order to include the cruise-line sponsored tours in the overall passenger impact, we assumed that these tours cost \$39.69, which is the average amount that someone who took a non-cruise line sponsored tour spent. After making this adjustment, we found that the average respondent spent a total of \$105.82 in Bar Harbor.

On the basis of the expenditures made by the survey respondents, it appears that cruise ship passengers spend substantially more per day than the typical Maine tourist. Cruise passengers spent over \$100 per day in Bar Harbor, including cruise-line sponsored tours, while the average Maine tourist spent less than \$40.00 per day (Longwoods International 2002). According to the Longwoods tourism study, 43 million tourist trips to Maine resulted in \$5.6 billion in direct expenditures in 2001. The retail sector accounted for 34 percent of tourism spending (\$1.9 billion) and food expenditures totaled 30 percent of the spending by Maine

tourists (\$1.7 billion). With each trip made up of 3.4 people, the average tourist in Maine spent approximately \$38.30 per day, including \$13.00 on retail goods and \$11.50 on food (Longwoods International 2002).

ECONOMIC IMPACT OF CRUISE SHIP PASSENGERS

Cruise ship passengers impact the Bar Harbor economy both through their direct expenditures made while in port and the “multiplier effects” that this spending has on local businesses and workers. Estimates for the total amount of money spent directly by cruise ship passengers are based on the average expenditures made by the survey respondents and the number of passengers that visited Bar Harbor. As discussed in the introduction, the analysis uses a passenger total of 97,190 people, which is the full capacity of the 64 cruise ships that were scheduled to visit Bar Harbor in 2002.

The associated multiplier effects are estimated using an input-output model for the Bar Harbor economy. The Bar Harbor IMPLAN (input-output) model traces the circular flows of expenditures and income through the economy with a complex system of accounts that are uniquely tailored to the area. Underlying these accounts is detailed information regarding transactions occurring between businesses located in the town, the purchasing patterns of local households, and transactions occurring between Bar Harbor and the rest of the world.

Table 4 shows the estimated expenditures made by cruise ship passengers in Bar Harbor during the 2002 season. Cruise ship passengers directly spent an estimated \$10.3 million in Bar Harbor, including \$2.0 million in restaurants and bars, and \$4.7 million in retail stores. Over \$4.2 million of the total estimated expenditures were made in October, when 20 ships and close to 40,000 passengers were scheduled to visit Bar Harbor. To put these figures into perspective, Bar Harbor’s restaurants, bars and retail stores had a combined \$66.7 million in taxable sales during 2002 (Maine Revenue Services 2003).

Table 4. Estimated Direct Expenditures Made by Cruise Ship Passengers, 2002.

Month	Restaurants & Bars	Retail Stores	Other Businesses	Total
May	\$71,703	\$168,682	\$129,562	\$369,947
June	\$207,192	\$487,422	\$374,380	\$1,068,994
July	\$245,792	\$578,228	\$444,127	\$1,268,147
August	\$167,628	\$394,347	\$302,891	\$864,867
September	\$486,948	\$1,145,552	\$879,879	\$2,512,378
October	\$814,103	\$1,915,187	\$1,471,023	\$4,200,313
Total	\$1,993,367	\$4,689,418	\$3,601,861	\$10,284,646

A comparison of the direct expenditures made by cruise ship passengers in 2002 to the total taxable sales in 2002 suggests that cruise ship passengers were responsible for about 10 percent of the revenue earned by Bar Harbor’s restaurants, bars and retail stores. It appears that the cruise ship industry was especially important to Bar Harbor’s retail economy during September and October of 2002. As shown in table 5, cruise ship passengers made 9 percent of the purchases in restaurants and bars in September, and passengers accounted for close to 26 percent of restaurant and bar sales in October. Likewise, cruise ship passengers provided an

estimated 29 percent of the sales revenue to retail stores in September, and almost 64 percent of retail sales in October.

Table 5. Estimated Bar Harbor Taxable Retail Sales, 2002.

Month	Taxable Sales, Retail Stores	% Sales Made to Passengers	Taxable Sales, Restaurants and Bars	% of Sales Made to Passengers
January	\$437,809	0	\$705,858	0
February	\$318,787	0	\$457,319	0
March	\$384,004	0	\$743,123	0
April	\$656,349	0	\$835,086	0
May	\$1,604,473	10.51%	\$2,096,914	3.42%
June	\$3,750,278	13.00%	\$5,419,700	3.82%
July	\$6,061,358	9.54%	\$8,768,419	2.80%
August	\$6,334,890	6.23%	\$8,853,715	1.89%
September	\$3,982,252	28.77%	\$5,337,766	9.12%
October	\$2,996,962	63.90%	\$3,163,489	25.73%
November	\$1,187,339	0	\$419,225	0
December	\$1,623,399	0	\$602,186	0
Total	\$29,337,900		\$37,402,800	

Table 6 summarizes the economic impact, including multiplier effects, of cruise ship passengers in Bar Harbor. The direct impact of passenger spending is \$10.3 million in sales output, of which an estimated \$2.9 million is paid in wages and salaries to support 244 full and part-time jobs. The total impact of passenger spending is \$12.1 million in output, \$3.6 million in wages and salaries, and 275 full and part-time jobs.

Table 6. Economic Impact of Cruise Ship Passengers in Bar Harbor, 2002.

	Sales Output	Full and Part-time Employment	Income
Direct Impact	\$10,284,646	244	\$2,904,294
Multiplier Effect	\$1,841,723	31	\$686,408
Total Impact	\$12,126,369	275	\$3,590,702

RETURN VISITATION

Along with the expenditures made by cruise ship passengers while they are in port, Bar Harbor's cruise industry provides a less tangible benefit of showcasing the town and state to thousands of potential repeat visitors. As indicated above, the day spent in port was the first trip to Bar Harbor for about three-fourths of the survey respondents. About 33 percent of the total respondents indicated that they were planning to return to Bar Harbor, and 31 percent plan to travel elsewhere in Maine during the next two years.

Building from the literature on repeat tourism (Gitelson and Crompton 1984, Gyte and Phelps 1989, Mazursky 1989, Oppermann 1998), we examined the factors that affect a

respondent's intention of returning to Bar Harbor. We found that the distance between a person's place of residence and Bar Harbor has a negative effect on the likelihood of return, while the number of past visits a passenger has made to Bar Harbor and the amount of time spent in town during the one-day cruise ship visit increase the prospects of a return visit (Gabe, Lynch and McConnon 2006).

A potential limitation of our "return visit analysis" is that we do not know if a passenger's stated intention, expressed during or shortly after the cruise ship visit, translated into a future trip. Past research has looked at the link between purchase intentions and actual behavior (Juster 1966, Theil and Kosobud 1968, Chandrashekar et al. 2000), and some find a disconnection between the two. However, a 2006 survey conducted by the Maine Center for Tourism Research and Outreach (CentTRO) provides some additional insights related to the topic of cruise ship passenger return visitation. The survey found that about two percent (7 out of 342) of the surveyed overnight visitors in Maine had previously visited the state on a cruise ship. Applied to the 9.7 million overnight trips taken to Maine in 2005 (Longwoods International 2006), we estimate that about 200,000 overnight visits may have been associated with cruise ship passengers who visited the state in the past.

SUMMARY AND IMPLICATIONS

The results and analysis presented in this report suggest that cruise ship passengers have a sizable impact on the Bar Harbor economy. Although the number of passengers is fairly low compared to all overnight tourists in Bar Harbor, cruise ship visitors provided about 5 percent of the total revenue earned by restaurants and bars, and 16 percent of total retail sales in 2002. The cruise industry is an especially important source of local business activity in October, when passengers accounted for about 26 percent of sales in restaurants and bars, and 64 percent of sales in retail stores.

Findings from our research on the cruise ship industry in Bar Harbor have been widely disseminated to state and local officials, and other interested stakeholders. The original study released in 2003 generated a flurry of local newspaper articles and even a short blurb in *USA Today*. Since then, tourism officials and, especially, local residents and business owners have used the study to learn more about the cruise ship industry. Several local entrepreneurs have worked with University of Maine Extension Faculty in utilizing results from the study in their business plans for starting companies around Bar Harbor.

Cruise Maine, an association of Maine ports and industry business partners, has used our return visit analysis as background research for its "FreeStayMaine" (www.FreeStayMaine.com) program. This initiative, patterned after a similar program in the Caribbean (www.freestaycaribbean.com), provides lodging discounts to passengers who return to the state for a land-based vacation. Along with the CentTRO surveys of overnight Maine visitors, the FreeStayMaine program will provide additional information on the number of cruise ship passengers who return to the state.

As noted in the introduction, the Bar Harbor cruise industry has seen substantial growth in recent years. This trend is continuing into 2007, when the town is expected to host a record 91 ships – including the Queen Mary 2 and the Explorer of the Seas (Trotter 2007). Town residents and business officials have recently embarked on a "Cruise Tourism Destination Management Plan," commissioned by the state, which will balance economic, environmental, passenger-flow and visitor satisfaction issues.

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