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COMPARATIVE ANALYSIS OF CASINO OPERATIONS ON THE LAS VEGAS STRIP AND IN ATLANTIC CTY

by

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Bachelor of Science
Kyung Hee University, Seoul, Korea
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ABSTRACT

Comparative Analysis of Casino Operations on the Las Vegas Strip and in Atlantic City

by

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The main purpose of this study is to assess the state of the casino industry within the respective markets of Atlantic City and the Las Vegas Strip, based on recent changes in their financial performances. It attempts to identify trends in revenue, cost, and profit margin of the Las Vegas Strip and Atlantic City casinos since 1995, when the gaming market saturation was not a problem. Casino performances within these two markets are compared. To achieve this objective, aggregate data of 37 casinos on the Las Vegas Strip and 12 casinos in Atlantic City are used.

Despite fast rising revenues on the Las Vegas Strip, total operating costs and expenses have increased more quickly than has total revenue. This has caused a decline in net income before income taxes and extraordinary items since 1996 (Nevada Gaming Abstract, 1995 – 2000). Primary contributors to declining profit margins on the Las Vegas Strip are significant increases in other general and administrative expenses: management fees; corporation fees; internal maintenance fees, interest expenses, and

depreciation and amortization, especially in 1999 and 2000, during which several new hotel-casinos opened.

In Atlantic City, a fierce marketing war took place consisting of bus and coin giveaway packages in 1996 (Rutherford, 1999), which significantly affected the increase of total operating costs and expenses, as well as a decline in the bottom-line profit margin for the year. Since then, Atlantic City casinos have generated declining ratios in total cost and expense and correspondingly increased profit margins as a percentage of total revenue.

In comparing financial performances of large casinos with those of small casinos on the Las Vegas Strip and in Atlantic City, it appears large casinos enjoyed an obvious cost advantage with significantly lower costs and expenses in both markets, due to economies of scale. Because of this obvious cost advantage, large casinos had much higher net incomes before income taxes and extraordinary items than did small casinos.

An examination of trends and stability of win revenues of slots versus table games in Atlantic City and on the Las Vegas Strip respectively showed that two major slots, quarter slots in particular, on the Las Vegas Strip had a higher revenue growth trend and more stabilized win revenues than did two major table games. In Atlantic City, aggregate slot win revenues also had a significantly higher growth trend and more stabilized win revenues than did aggregate table win revenues.

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CHAPTER 1

INTRODUCTION

Background of the Study

The gaming industry has been among the strongest growth industries in America. Over the last three decades, the United States has gone from having one state with legalized commercial casinos and a few states with pari-mutuel wagering or charitable bingo to being a country with legalized gambling in 48 out of its 50 states. The National Gambling Impact Study Commission reports that gross revenues from all U.S. gambling sources, wagers minus payouts, exceeded $50 billion in 1997 (Demaree, 2000).

Among the different gambling enterprises, casinos have experienced the fastest growth rate in terms of revenues. For many years, Nevada has had a monopoly on legal commercial casino gambling in the United States. New Jersey permitted casino gambling beginning in 1978, Iowa and South Dakota in 1990; and six other states have authorized commercial casinos since (Christiansen & Cummings, 1997). Commercial casinos won about $22.2 billion from players in 1999; $19.1 billion in 1996; and $8.9 billion in 1991. One report shows that 30 percent of U.S. households visited a casino in 1999, making an average of 5.4 trips in the year (Davis, 2001).

Casino and other types of gambling on Indian reservations have also spread quickly across the country as a result of the Indian Gaming Regulatory Act of 1988. As

of February 1997, 142 contracts had been negotiated for Indian gaming, with estimated revenues of as much as $5.4 billion in 1996. The rapid expansion of riverboat gaming and gaming on Indian lands changed the industry dramatically, especially in view of the rapid proliferation of gaming destinations and opportunities (Christiansen & Cummings, 1997).

During the past 20 years, Las Vegas has experienced an unprecedented period of growth, primarily as a result of gaming's increased popularity. Virtually all published statistics on gaming's role in the Las Vegas economy demonstrate a solid upward trend from the late 1970s to today, including gaming revenue, number of hotel rooms, visitor arrivals, and slot machine wins (McGhie Consulting, 1996). According to Gu (1998), during the mid-1990s, while most gaming markets in the United States felt the pain caused by overcapacity and competition, Las Vegas, an oasis in the desert and haven for casino operators, was luckily immune from such market hardships.

In 1999, Nevada casinos generated revenue of $8.5 billion, a 7.9% gain from 1998, and the strongest growth in five years. According to the Nevada State Gaming Control Board, the opening of the Bellagio in October 1998; the Mandalay Bay in March 1999; the Venetian in May 1999; and the Paris in September 1999, gave casinos their best fiscal year since 1994.

Today, however, with the ongoing construction of more new mega-resorts along Las Vegas Boulevard, nicknamed "The Strip", such good fortune may no longer continue uninterrupted. According to the Las Vegas Review Journal (Vogel, 2001), the Nevada Resort Association released a report showing that gaming profits have fallen dramatically since 1997. The report further states that, in Nevada, gaming profits fell from about $1.4 billion in 1997 to $500 million in 2000. Profits of Nevada gaming in 2000 were about

$280 million below Nevada's 1999 figures. Profits for the Strip properties dropped from $1 billion in 1997 to $200 million in 2000. Coupled with the reality of this decline is the fact that the gaming industry now also faces increased competition from Indian casinos in Arizona, California, and else where.

Table 1 shows that Las Vegas Strip gaming revenue, as a percentage of total revenue, has been declining since 1995, even though recent gaming revenues on the Las Vegas Strip have been significantly increasing. Ratios of EBITDA to total revenue have also gradually decreased since 1996. Ratios of net income to total revenue have decreased as well since then, including a significant decline in 2000, from 6.3 percent of total revenue in 1999 to 1.8 percent of total revenue in 2000, although total gaming revenue increased by 13.3 percent in 2000.

Table 1

Las Vegas Strip Gaming Revenues and Primary Ratios to Total Revenue

	Gaming Revenue ($ in billion)	Gaming Revenue to Total Revenue (%)	EBITDA to Total Revenue (%)	Net Income to Total Revenue (%)
1995	3.52	53.8	21.1	11.7
1996	3.63	52.9	22.6	14.2
1997	3.65	51.5	21.0	12.8
1998	3.72	50.3	20.3	10.9
1999	4.13	48.1	18.7	6.3
2000	4.68	45.9	17.1	1.8

Note. From "Nevada Gaming Abstract," by Nevada State Gaming Control Board (1995-2000).

According to Nevada Gaming Abstract (1995 – 2000), Las Vegas Strip casinos with annual gaming revenue of $1 million to $72 millions have seen each year net loss in operating their casinos since 1995, slightly offsetting the net income of overall Las Vegas Strip casinos. In 2000, on the Las Vegas Strip, the aggregate 15 casinos with annual gaming revenues of $1 million to $72 million generated a net loss of $129 million, while the aggregate 22 casinos with annual gaming revenues of $72 million and over generated a net income of $315 million.

Gu (1999) noted that large casinos (22 casinos with annual gaming revenue of $72 million and over) on the Las Vegas Strip are generally more efficient than small casinos (15 casinos with annual gaming revenue of $1 million to $72 millions) in using human resources and assets to generate revenue. The large casinos also enjoy an obvious cost advantage, with overall lower cost of sales and lower labor cost.

According to the Christiansen & Cummings Association Report (1991), the spread of casino gaming across North America will, over time, tend to impose ceiling pressures on Atlantic City's market demand. In the more competitive gaming marketplace of the future Atlantic City, casinos will need to make ongoing capital improvements to keep facilities competitive with increased consumer expectations of the overall experiences casino/hotel resorts are expected to provide.

Table 2 shows that the gaming revenue of Atlantic City has continuously increased since 1995, and that gaming revenues as a percentage of total revenue have consistently been at 80 – 82 percent of total revenue. This table also illustrates that, after experiencing a significant drop of EBITDA and net income in 1996, 12 casinos in Atlantic City have generated an increased EBITDA and net income as a percentage of

total revenue since then (except for a significant decline in those items in 1999). In 2000, EBITDA and net income of Atlantic City casinos were, respectively, 17.2 percent of total revenue and 2.8 percent of total revenue.

Table 2

Atlantic City Gaming Revenues and Primary Ratios to Total Revenue

	Gaming Revenue ($ in billion)	Gaming Revenue to Total Revenue (%)	EBITDA to Total Revenue (%)	Net Income to Total Revenue (%)
1995	3.74	82.1	18.7	4.5
1996	3.80	81.3	14.6	0.4
1997	3.86	81.0	15.7	1.9
1998	3.98	80.9	16.5	2.3
1999	4.10	81.2	13.1	(1.8)
2000	4.22	81.6	17.2	2.8

Note. From "Annual Report," by State of New Jersey Casino Control Commission (1995-2000).

During the first four months of 2001, the gaming revenue of Atlantic City casinos was $1.4 billion, 1.1 percent behind the previous year's pace, raising the possibility that the industry could finish 2001 with negative growth for the first time in its 23-year history. Slot machine revenue, which accounts for nearly three-fourths of casino business, is, however, presently 1.1 percent ahead of last year's pace. It is table games revenue, which has declined 6.7 percent, that currently hurts most (Weinert, 2001).

Purposes of the Study

The purpose of the study is to assess the state of the casino industry in two major markets: the Las Vegas Strip and Atlantic City. It attempts to identify trends in revenue, cost, and profit margin on the Las Vegas Strip and in Atlantic City casinos since 1995, when gaming market saturation was not a problem. Casino performances within the two gaming markets will be compared. Furthermore, this study will investigate operations of large casinos versus small casinos in the two markets. Finally, win revenues of four major games on the Las Vegas Strip and slots and table games in Atlantic City will be examined in terms of trends and stability.

The Sub-Problems

The First Sub-Problem

The first sub-problem is to identify trends in revenue, cost, and profit margin among Las Vegas Strip casinos overall in terms of vertical and horizontal analysis of aggregate income statements. By analyzing trends in revenue, cost, profit, and revenue per unit of slot and table games on the Las Vegas Strip, this study attempts to ascertain reasons why profit margins have steadily declined on the Las Vegas Strip since 1995.

The Second Sub-Problem

The second sub-problem is to examine trends in revenue, cost, and profit margin of Atlantic City casinos overall using vertical and horizontal analysis of aggregate income statements. By analyzing trends in revenue, cost, profit margin, and revenue per unit of slot and table games in Atlantic City, this study attempts to find reasons for the dramatic decline and recovery of Atlantic City casinos' profitability.

The Third Sub-Problem

The third sub-problem is to compare trends in casino operations within Atlantic City and on the Las Vegas Strip in terms of revenue, cost, profit margin, and revenue per unit of slot and table games. Through this analysis, this study investigates differences in financial performance between Atlantic City and Las Vegas Strip casinos, and the reasons for those differences.

The Fourth Sub-Problem

The fourth sub-problem is to compare financial performances between small and large casinos on the Las Vegas Strip and in Atlantic City, in terms of comparative analysis of vertical income statements, ratios, and revenue per unit of slot and table games. The study also investigates whether there are economies of scale within the casino industry.

The Fifth Sub-Problem

Finally, the fifth sub-problem of this study is to examine win revenues of some major games on the Las Vegas Strip, and of slot and table games in Atlantic City, in terms of trends and stability. Through this examination, the study will investigate how to both increase and stabilize within the casino industry.

Contributions of the Study

The results of this study can help investors, creditors, and gaming managers to understand the current status and future of the gaming industry in the two major U.S. casino markets: Atlantic City and the Las Vegas Strip. The analysis may also lead to

some suggestions for casinos for reducing total costs and expenses, as well as for improving profit margins.

Delimitations of the Study

For its comparison of two major gaming markets, this study selected Las Vegas Strip and Atlantic City casinos only. In deciding on a specific market to compare with Atlantic City, this study selected the Las Vegas Strip casinos. There are specific reasons why the researcher selected these two markets in particular.

Most importantly, the Las Vegas Strip and Atlantic City casinos are the oldest and largest casino destinations within the U.S. gaming industry. Nevada had in fact been the only state with legalized casino gaming before New Jersey began allowing it in 1978. Atlantic City, the world's second largest casino gaming destination after Las Vegas, experienced tremendous growth in terms of revenues and visitor popularity throughout the late 1970's and 1980's.

The tremendous growth of Atlantic City casinos has lead Atlantic City to compare itself with the Las Vegas Strip in terms of gaming revenue and visitor popularity. Also, both gaming markets are highly concentrated in one spot, and their primary targets are tourists. Finally, the reason the researcher selected Atlantic City and the Las Vegas Strip is that these two casino jurisdictions have more available data than do any others.

Limitations of the Study

Secondary data are the only sources used within this study. One limitation of the study has to do with the consistency of required financial data used in the vertical

analysis of aggregate income statements of the Las Vegas Strip and Atlantic City casinos. Since each market's aggregate income statement has different categories and items, the researcher has adjusted some items on the Las Vegas Strip's aggregate income statements to facilitate a comparative vertical analysis of Las Vegas Strip and Atlantic City casinos. Another limitation of the study has to do with changes in accounting methods of Nevada casinos during 2000, which affected the decline in net income before income taxes and extraordinary items of Las Vegas Strip casinos during 2000.

Definition of Terms

1. Las Vegas Strip casinos. Hotel-casinos along Las Vegas Boulevard, Las Vegas, Nevada. These represent 37 hotel-casinos with annual gaming revenues of $1 million and over in 2000.
2. Atlantic City casinos. Hotel-casinos in Atlantic City, New Jersey. These represent 12 hotel-casinos in Atlantic City in 2000.
3. Small casinos in Atlantic City. Hotel-casinos with annual gaming revenues of less than $400 million in Atlantic City in 2000. Seven (7) hotel-casinos fit this category.
4. Large casinos in Atlantic City. Hotel-casinos with annual gaming revenues of $400 million and over in Atlantic City in 2000. Five (5) hotel-casinos fit this category.
5. Small casinos on the Las Vegas Strip. Hotel-casinos with annual gaming revenues of $1 million to $72 million on the Las Vegas Strip in 2000. Fifteen (15) hotel-casinos fit this category.

6. Large casinos on the Las Vegas Strip. Hotel-casinos with annual gaming revenues of $72 million and over on the Las Vegas Strip in 2000. Twenty-two (22) hotel-casinos fit this category.
7. Economies of Scale. Economies of scale exist if a firm achieves unit-cost savings as it increases its production of a given good or service. In other words, firms achieve economies of scale when operating costs increase at a lower rate than output.
8. Vertical Analysis. Vertical analysis focuses on financial relationships in a single period's financial statements rather than on dollar and percentage changes in financial statement items over time (as does horizontal analysis). Each item on an income statement is expressed as a percentage of total revenue.
9. Horizontal Analysis. Horizontal analysis, also called index-number trend analysis, focuses on changes in accounting information from period to period. This type of analysis indicates whether a company's sales, gross profit, expenses, and net income are increasing or decreasing over time, as well as the amount of change in each of these items from the previous year.
10. Trend Analysis. Trend analysis is a form of horizontal analysis using comparative financial statements for more than two successive periods. In this study, trend analysis examines trends in particular ratios to determine whether that ratio is falling, rising, or remaining relatively constant.
11. Table Win/Unit/Day. Daily win per table, table win/unit/day, is analyzed to see the efficiency of operating table games. It is calculated for both Atlantic City casinos and Las Vegas Strip casinos by dividing total table wins by number of table units, then dividing this number by 365.

12. Slot Win/Unit/Day. Daily win per slot, slot win/unit/day, is analyzed to determine efficiency of operating slots. It is calculated for both Atlantic City casinos and Las Vegas Strip casinos by dividing total slot wins by number of slot units, then dividing this number by 365.
13. Ratio Analysis. This is the comparison of related facts and figures. Ratio analysis is used to evaluate favorableness or unfavorableness of various financial conditions. In this study, ratio analysis is used only to identify financial differences between large and small casinos on the Las Vegas Strip.

Organization of the Study

The main purpose of this study is to assess the state of the casino industry in two major U.S. markets: the Las Vegas Strip and Atlantic City. Casino performance in these two gaming markets will be compared. Chapter 1 provides a background of the study, including the purpose of the study, sub-problems, contribution, delimitations, limitations of the study, and definitions of terms. Chapter 2 reviews the literature on overall U.S. gaming markets, the current gaming industry, and previous studies on the gaming industry. Chapter 3 discusses data collection and research methodology used in this study. Chapter 4 reports the study's results and findings, in terms of the descriptive analysis and empirical examination. Finally, Chapter 5 concludes the study, discussing implications of its results and findings, as well as offering suggestions for further research.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

The previous chapter provided the background, the purpose of study, and briefly discussed casino operations in Atlantic City and on the Las Vegas Strip. Since the main purpose of this study is to assess and compare the state of the casino industry in two major markets, Atlantic City and the Las Vegas Strip, in terms of revenue, cost, profit margin, and revenue per unit of slot and table games, this chapter covers related literature on casino operations, focusing on casino financial performance in particular. In its overview of previous studies, this study reviews overall U.S. gaming markets, focusing on the major gaming destinations of Atlantic City and the Las Vegas Strip, as well as the current U.S. gaming industry overall. This chapter also reviews literature on income statement analysis; ratio analysis; and economies of scale. The chapter is organized in the following order:

1. Overview of previous studies
2. Income Statement analysis
3. Ratio analysis
4. Economies of Scale.

Overview of Previous Studies

U.S. Gaming Markets

Casino gaming, long relegated to a prohibited status, has become one of the most rapidly growing and changing industries in the world. Over the past two decades, legalization and expansion of casinos has occurred in countries on almost every continent. Furthermore, nearly every jurisdiction has approached the casino issue in a different way, leading to a wide spectrum of regulatory and market structures, ranging from highly competitive industries to legislated monopolies, from government ownership to private enterprise, and from heavily regulated and taxed industries to laissez faire operations (Eadington, 1994).

Until the mid-1970s, Nevada was the only state in U.S. that allowed casino operations. In 1976, New Jersey voters authorized the development of a casino in Atlantic City, which began operations in 1978. Atlantic City has since grown to be the second largest casino destination in U.S., which was measured in grow gaming revenues, behind only Las Vegas (Dombrink & Thompson, 1989).

Atlantic City, New Jersey, the world's second largest casino gaming destination, experienced tremendous growth in terms of revenues and visitor popularity throughout the late 1970's and 1980's with peak visitation of 33 million in 1988. However, from the late 1980s onward, the growth in Atlantic City revenues declined from the previous stellar performances and slowed to a crawl. The decline in casino revenue growth can be attributed to a number of reasons; however, the foremost cause of this recent slowdown was the expansion and legalization of casino gaming across America. Prior to 1991, Atlantic City had an absolute monopoly of legal casino gaming on the East Coast with

the only domestic competition coming from the gaming capital of the world, Las Vegas, Nevada (Lowenhar, Repsher & Taylor, 1999).

Until 1989, legal operating casinos in the U.S. could only be found in Nevada and in Atlantic City, New Jersey. However, between 1989 and 1995, legal casinos came into existence in more than 20 additional states, appealing in a variety of forms and hybrids. These new jurisdictions included small-stakes casinos, casinos in mining towns, riverboat casinos, Indian casinos and urban casinos (Eadington, 1998).

According to the American Gaming Association's first annual survey of casino industry facts and public perceptions (1999), the commercial gaming industry had gross revenues in 1998 of approximately $20 billion through about 450 properties in the U.S. The commercial casino industry paid more than $2.5 billion in direct gaming tax revenues and employed more than 325,000 people with total wages of $8.7 billion in 1998, playing a key role in the economies of the ten states with casinos.

The Current Gaming Industry

According to Bear Stearns & Co (2000), land-based, riverboat, and Native American casinos in the U.S. generated approximately $29.9 billion in revenues in 1999. This represents an increase of approximately 10.9 percent from revenues of $26.6 billion in 1998. This $3.3 billion increase in revenues resulted from strong growth in the traditional markets, as well as regulatory relief in several of the riverboat markets.

Table 7 shows the total gaming revenues of the U.S. by jurisdiction since 1997. The Nevada casino industry in 2000 lost its position as the top revenue producing gaming market in the country when its $9.6 billion in winnings were surpassed by the $9.9 billion won by tribal casinos. Riverboat gaming revenue is projected to grow by 6 percent in

2001, reaching $9.9 billion, while Nevada winnings are expected to increase 2 percent to $9.8 billion. According to the Las Vegas Review Journal (Simpson, 2001), Merrill Lynch estimates that tribal casino revenue will grow by 29 percent in 2001 to 12.2 billion. If the tribal and riverboat figures are divided into geographic markets scattered throughout the U.S., Nevada's total far outdistances those of other jurisdictions. Las Vegas Strip casinos won $4.9 billion and Atlantic City casinos earned $4.3 billion in 2000, while Mississippi, with $2.7 billion in casino winnings, generated the largest revenues of all riverboat states.

Table 3

Total Gaming Revenues of the U.S. by Jurisdiction

	Nevada	Las Vegas Strip	Atlantic City	Riverboat	Tribal Casinos[2]	Total U.S.[3]
1997	$7.8	$3.8	$3.9	$6.4	$5.8	$24.7
1998	8.1	3.8	4.0	7.3	7.9	28.1
1999	9.0	4.5	4.2	8.3	8.4	31.1
2000	9.6	4.9	4.3	9.3	9.9	35.1
2001E[1]	9.8	4.9	4.4	9.9	12.2	38.4

Note. From "Merrill Lynch." Revenues are in billions of dollars.
1. 2001 numbers are Merrill Lynch estimates. 2. Tribal casino figures are Merrill Lynch estimates. Most tribes do not release revenue numbers. 3. Total U.S. figures include all listed locations, plus Colorado, Delaware, Detroit and South Dakota.

Growth of gaming revenue has been achieved through the industry's rapid expansion into traditional markets and recent penetration into new markets. In the past several years, the industry has experienced a remarkable increase in new gaming facilities, such as mega resorts, riverboat, and/or dockside casinos, and (especially) Indian reservation casinos, the industry's fastest growing sector. However, the nationwide gaming boom has not warranted high profits for all gaming operations (Gu, 1997).

According to Gu (1997), despite the expansion of new facilities and the opening of new mega-casinos, riverboats, and Indian casinos, it appears that growth in gaming has slowed, and competition has become more intense in an industry that has likely reached saturation. In 1995, many riverboats along the Mississippi River had a difficult year. While market saturation in emerging markets was a main factor that contributed to lower-than-expected profitability among many casino operators, other factors, such as environmental concerns and high local gaming taxes, also had negative effects on profits.

Chang (1995) developed a regression model to predict the maturity point in gaming revenues of casinos located in Harrison County, Mississippi. Once a gaming reaches maturity, further growth is still possible and even probable, but at greater cost. It appears that the casino industry on the Gulf Coast of Mississippi reached maturity in 1994. Since then, it has experienced pains of competition, caused by local casinos and new riverboat casinos in Louisiana.

Destinations offering the same kinds of gaming activity compete with each other. Schonkwiler (1993) showed that Atlantic City casinos had a negative effect on the Nevada casino industry. First, Schonkwiler noted that while numbers of visitors to Las Vegas increased dramatically between the mid-1970s and the mid-1980s, numbers of visitors to Las Vegas from the eastern United States declined 44 percent during this period. Second, Schonkwiler developed a dynamic unobserved-components model to estimate impact of Atlantic City casinos on Nevada taxable gaming revenue. By 1985, the competition offered by Atlantic City appeared to result in an annual reduction in Nevada taxable gaming revenue of between 10 and 12 percent. Atlantic City casinos were

most competitive with Nevada casinos during the third quarter and least competitive during the first quarter.

The current gaming industry, as it pertains to the four major casino jurisdictions in the U.S., will be discussed in this chapter as follows: riverboat gaming; Indian reservation gaming; Las Vegas Strip gaming; and Atlantic City gaming.

Riverboat Gaming

Riverboat casinos were begun in Iowa in 1989, to help overcome a serious economic depression in that area, and have spread throughout the Mississippi River drainage basin ever since. Illinois and Mississippi soon legalized riverboat gaming, and Louisiana, Indiana, and Missouri were not far behind (Hsu, 2000). According to Fockler (1999), in 1997, a disparate fleet of some 70 riverboat casinos had combined gaming wins of $6.2 billion, much on par with overall gaming wins in Las Vegas. Mississippi has 21 casinos, split between Gulf Coast anchorages and Tunica County on the Mississippi River. Louisiana has 13 boats; Missouri has ten; and Indiana and Iowa each have nine.

Casinos in Illinois, Indiana, Missouri, and Iowa generated combined revenues of approximately $4.7 billion in 1999, a 15.4 percent increase over 1998. Also, casinos in Louisiana and Mississippi, where there are gaming jurisdictions in the Southeast, generated combined revenues of $3.9 billion in 1999, an approximate 12.9 percent increase since 1998, with Mississippi generating $2.5 billion, 64 percent of the total Southern region revenues, while Louisiana generated $1.4 billion in revenues (Bears, Stearns & Co, 2000).

Indian Reservation Gaming

In 1999, tribal operations earned an estimated $8 billion in annual revenues. Federal officials estimate that 157 tribes are involved in casino gaming, with 197 gaming contracts in 1999. From 1988 to 1997, gaming revenues to tribes increased from $212 million to $6.7 billion, a more than thirty fold increase. By comparison, non-Indian casino gaming roughly doubled over the same period. The number of tribal casinos or bingo halls operating on Indian reservations increased from 70 in 1988 to 298 in 1998 in 31 states. In 1998, of the 554 federally recognized Indian tribes, 146 ran gaming facilities (Miller & Association, Inc., 2000).

The 20 largest Indian casinos and bingo halls accounted for 50.5 percent of total tribal gambling revenues in 1998, with the next 85 accounting for 41.2 percent. A few Indian casinos are enormously lucrative, including the $1 billion per year Foxwoods run by the Mashantucket Pequot tribe in Connecticut. Foxwoods paid Connecticut more than $150 million in 1999; the state receives 25 percent of the slot machine revenue. Indian casinos are sovereign nations, and as such are not required to pay federal or state taxes. In general, they face less stringent regulations than non-Indian gaming facilities. Taxes are determined by the contract negotiated with the state (Miller & Association, Inc., 2000).

Excluding gaming on Indian lands, casinos were in operation in 10 states at the end of 1996. Nevada and Atlantic City, the traditional centers of gravity, still accounted for close to two-thirds of nationwide gaming revenue in 1996. Nevertheless, their combined market share had declined by 28 percent points from 1992 levels, due to the rapid growth of riverboat gaming. Firm size by scale of casino operations provides a full

spectrum of dimensions, ranging from mega-resorts in Atlantic City and the Las Vegas Strip to mini-casinos in much of Nevada and in riverboat jurisdictions (Marfels, 1999).

Las Vegas Strip Gaming

There were over 400 unrestricted gaming licenses in Nevada in 1998, of which about 230 generated annual revenues of $1 million or more. However, economies of scale in Nevada's casino industry have led to a high concentration of revenues, and an even higher concentration of profits, in the hands of the largest gaming companies and operations (Eadington, 1999).

According to the Nevada State Gaming Control Board, casinos on the Las Vegas Strip have generated approximately half of all Nevada gaming revenue. Table 4 shows ratios of slot wins and table wins to total gaming revenue on the Las Vegas Strip since 1995. In 2000, slot wins accounted for 49.9 percent of total gaming revenue on the Las Vegas Strip, while table win accounted for 50.1 percent of total gaming revenue. The table also shows that slot and table wins on the Las Vegas Strip increased significantly in 1999, and again in 2000 due to openings of several hotel-casinos in those years.

Table 4

Ratios of Slot Wins and Table Wins to Gaming Revenue on the Las Vegas Strip

	Slot Wins ($ in millions)	Slot Wins to Total win (%)	Table Wins ($ in millions)	Table Wins to Total win (%)
1995	$1,729	48.1	$1,863	51.9
1996	1,760	49.7	1,783	50.3
1997	1,822	48.2	1,957	51.8
1998	1,939	51.3	1,843	48.7
1999	2,205	49.5	2,249	50.5
2000	2,380	49.9	2,390	50.1

Note. From "Gaming Revenue Report," by the Nevada Gaming Control Board (1995 – 2000).

Meanwhile, the continued growth of gaming on the Las Vegas Strip over the last thirty years has created skeptics. Berns (1998) suggests that the gaming market is becoming overbuilt and saturated. Still, casino developers continue to build, believing growth will continue to draw larger and more diverse group of people. Oversupply has already created problems, however, for many casino operations.

Several gaming analysts, and even some operators, predicted "doom and gloom" for the Las Vegas Strip in the early 1999, only to find that what they had called "overbuilding" actually helped build the Strip's visitor base. The double-digit increases in gaming revenue that the Strip experienced in 2000 are not expected to be matched in 2001, though even if operators are still optimistic growth will occur (Holtmann, 2001).

If Las Vegas has indeed entered a new period characterized by more moderate growth, this has major implications for how casinos will compete for customers. Competitive conditions could be especially severe for older, more traditional casino brand names. As average hotel occupancies declined during 1997, tourists continued to patronize major Las Vegas Strip resorts, such as the Mirage, the MGM Grand, etc., while smaller and older hotels were hardest hit (Steinhauer, 1997)

According to the Las Vegas Sun (Strow, 2001), Nevada casino operators are now telling two stories about their financial situations. One says that business is booming and expansion needed. The other says business is stagnant and competition tough. Some casino operators say investor demand fuels continued bottom-line growth, and the gaming industry itself has presented indicators that show the Nevada casino business has been booming over the past several years. For example, Cash Flow (EBITDA), a commonly used measure of gaming property profitability, rose 22 percent from 1999 to

$2.2 billion for 20 of the Strip's largest properties in 2000. Nevada casinos took in $9.6 billion in gaming revenues in 2000, up 6.4 percent from 1999. The picture for the Las Vegas Strip is similar: $4.8 billion in gaming revenues, up 26 percent from 1998. Operators say that the decline in casino profitability is primarily due to changes in the accounting system in 2000.

Atlantic City Gaming

Atlantic City's first casino opened in 1978. It is a very competitive market of 12 large casinos, supported primarily by day-trippers with a high frequency of repeat visits. The primary feeder markets are the New York metropolitan area and Philadelphia. The intensely competitive market often results in periodic marketing wars that consist of bus/coin giveaway packages, which generally result in lower EBITDA margins. (Miller & Association, Inc., 2000). In 1996, Atlantic City casinos were engaged in a fierce marketing war to compete for players. For the first half of 1996, Atlantic City saw an increase in marketing and promotion expenses of $91.3 million, whereas gaming revenue increased only $466.6 million (Gu, 1998).

In 1998, hotel guests accounted for an estimated 21.6% of overall visits to Atlantic City, up from approximately 19.7% in 1997. Atlantic City recorded 34.3 million visits in 1998, almost four million more than did Las Vegas. Approximately 30% of the city's visitors come from Pennsylvania (Miller & Association, Inc., 2000).

The immediate surrounding population base and the growth of Atlantic City's casino industry supply of table and slot units have allowed Atlantic City to flourish. Atlantic City casino revenues climbed from a mere $325 million in 1979 to $1 billion in 1981 to over $3.9 billion in 1997. At the end of 1997, Atlantic City's gross gaming

revenue of $3.9 billion was divided into approximately 70% slot revenues and 30% table revenues (Lowenhar, Repsher, & Taylor, 1999). Table 5 shows that the ratio of slot revenue to total gaming revenue has increased each year since 1995, while the ratio of table revenue to total gaming revenue of Atlantic City casinos has declined each year since then.

Table 5

Ratios of Slot Wins and Table Wins to Gaming Revenue in Atlantic City

	Slot Wins ($ in millions)	Slot Wins to Total win (%)	Table Wins ($ in millions)	Table Wins to Total win (%)
1995	$2,573	68.7	$1,175	31.3
1996	2,626	68.9	1,187	31.1
1997	2,702	69.6	1,186	30.4
1998	2,825	70.1	1,208	29.9
1999	2,996	71.0	1,208	29.0
2000	3,088	71.8	1,213	28.2

Note. From "Annual Report," by the New Jersey State Casino Control Commission (1995 – 2000).

Growth in slot revenues is a function of an increase in the number of units, and in new slot product offerings, such as better pay-outs, video poker devices, etc. Slot revenue growth caters to the aging marketplace of Atlantic City's day-trippers. With an average age of 55 and over during the midweek, and with almost three-quarters of females playing slot machines as their favorite game, it is not surprising that this shift in behavior has occurred (Lowenhar, Repsher, & Taylor, 1999).

According to the Press Plus (Saharko, 2001), the future success of Atlantic City depends on increasing the number of non-gaming entertainment options: on adding to the

percentage of travelers who come by air (to increase the average length of stay); and on attracting visitors who spend more money, while the number of visitors has not changed.

Income Statement Analysis

Financial statement analysis is a judgmental process. One of its primary objectives is identification of major changes (turning points) in trends, amounts, and relationships, and investigation of the reasons underlying those changes (Gibson, 1999). Analysis of income statements enhances a user's knowledge of a hospitality property's operations. This can be accomplished by horizontal analysis, vertical analysis, base-year comparisons, and ratio analysis (Schmidgall, 1997).

A comparison of financial statements over several years can be undertaken by computing the year-to-year change in absolute amounts and in terms of percentage changes. Horizontal analysis compares income statements for several accounting periods in terms of both absolute and relative variances for each line item. The researcher should investigate any significant differences. Another common comparative analysis approach is to compare the most recent period's operating results with the budget by determining absolute and relative variances (Schmidgall, 1997).

Horizontal analysis focuses on changes in accounting information from period to period. This type of analysis can determine whether a company's sales, gross profit, expenses, and net income are increasing or decreasing over time, as well as what the change was in each of these items from the previous year (Plewa & Friedlob, 1995).

Trend analysis is a form of horizontal analysis that uses comparative financial statements for more than two successive periods. Trends are important, because although

comparing just one year with another highlights unusual differences, these differences might not indicate a pattern (Plewa & Friedlob, 1995). Trend analysis informs the financial history of a firm for comparison. By looking at the trend of a particular ratio, one sees whether that ratio is falling, rising, or remaining relatively constant. This helps to either detect problems or observe good management (Gibson, 1999). When a comparison of financial statements covering more than three years is undertaken, the year-to-year method of comparison may become too cumbersome. The best way to do such long-term trend comparisons is by means of index numbers. Computation of a series of index numbers requires the choice of a base year that will, for all items, have an index amount of 100.0. Since such a base year represents a frame of reference for all comparisons, it is best to choose a year that, in a business conditions sense, is as typical or normal as possible (Bernstein, 1978).

Vertical analysis focuses on financial relationships in a single period's financial statements, rather than on dollar and percentage changes in financial statement items over time, as with horizontal analysis. A type of vertical analysis presents financial statements that contain only percentages. Each component of a financial statement is shown as a percentage. The method presents every item in the statement as a percentage of the largest item in the statement. (Plewa & Friedlob, 1995)

In the analysis of financial statements, it is often instructive to determine the proportion a single item represents of a total group or subgroup. The product of vertical analysis is also referred to as common-size statements. Common-size financial statements differ from statements prepared under vertical analysis in that they present only percentages, not dollar amounts. These statements result from reducing all amounts to

percentages, using total sales as a common denominator. Vertical analysis allows for more reasonable comparisons of two or more periods when activity for the two periods was at different levels (Schmidgall, 1997).

Ratio Analysis

Ratios are generally classified according to the type of information they provide. Five common ratios groupings are follows: liquidity; solvency; activity; profitability; and operating ratios. Liquidity ratios reveal the ability of a hospitality establishment to meet short-term obligations. Solvency ratios, on the other hand, measure the extent to which an enterprise has been financed by debt and is able to meet its long-term obligations. Activity ratios reflect management's ability to use the property's assets to generate revenue, while several profitability ratios show management's overall effectiveness as measured by returns on sales and investments. Finally, operating ratios assist in the analysis of hospitality establishment operations (Schmidgall, 1997).

It should be recognized that many ratios have important variables in common with other ratios, thus tending to make them vary and be influenced by the same factors. Consequently, there is no need to use all available ratios in order to diagnose a given condition. Ratios, like most other relationships in financial analysis, are not significant in themselves, and can thus be interpreted only by comparison with (1) past ratios of the same enterprise, (2) some predetermined standard, or (3) ratios of other companies in the industry (Bernstein, 1978).

In a study related to this ratio analysis, Gu (1999) used ratio analysis for comparison in the analysis of financial conditions and performance of small and large casinos on the Las Vegas Strip using the 1997 Nevada Gaming Abstract. Ratio analysis revealed large casinos had better liquidity and relied less on debt financing. Large casinos also had higher returns on invested capital, and better returns on average asset ratios than did small casinos. Small casinos were less efficient in generating revenues, incurring higher cost of sales, labor costs, and higher debt leverage.

Upneja, Kim & Singh (2000) examined differences in financial characteristics between small and large firms in the casino industry. Firms were classified into small and large groups based on the median value of total asset size for 50 sample firms. Results showed that smaller firms have higher liquidity and higher short-term debt ratios. Larger firms had a higher proportion of long term and total debt and did not enjoy economies of scale, as they had lower efficiency ratios.

Economies of Scale

In the 1960s and 1970s, concepts of competitive advantage often were predicted upon steep scale economics, and many tool of strategic analysis were built upon those economics. It had shown as a form of growth-share matrices, experience curves and industry-supply curve (Christensen, 2001). Steep economies of scale exist when there are high fixed vs. variable costs in the predominant business model. Large organizations can amortize the fixed costs over greater volumes, condemning small competitors to playing the game on an adversely sloped playing field (Christensen, 2001).

Economies of scale are present whenever large-scale production, distribution, or retail processes have a cost advantage over smaller processes. According to Chandler (1990), it was the ability of giant firms, such as Dupont and General Motors, to exploit economies of scale that allowed them to succeed when their smaller rivals failed. However, economies of scale are not always available. Many activities, such as farming, tailoring, and management consulting, do not appear to enjoy substantial scale economies. These activities are typically performed by individuals or relatively small firms (Besanko, Dranove & Shanley, 2000).

Economies of scale exist if the firm achieves unit-cost savings as it increases production of a given good or service. In other words, firms achieve economies of scale when their operating costs increase at a lower rate than their output (Katrishen & Scordis, 1998). Economies of scale are usually defined in terms of declining average cost functions (Besanko, Dranove & Shanley, 2000). In manufacturing operations, plant volumes must reach a certain minimum level for a firm to achieve economies of scale. In industries, such as aircraft, automobile, chemical production, and petroleum mining, plan volumes needed to achieve economies of scale are so high that only a few firms can attain them without foreign sales (Chandler, 1990).

Economies of scale are also defined as arising in a multiregion economy when it is possible to increase the total amount produced in at least one region area for at least one market so that average production costs are reduced, even when increased economies of scale are not available (Ryan, 2000). Campbell and Verbeke (1994) proposed that service firms could achieve global economies of scale in marketing, or image building.

According to Cullen (1997), economies of scale can occur at different stages of a production process in the hospitality industry. Cullen (1997) also suggests that the traditional five sources of economies of scale are: purchasing and production; management and personnel; marketing; finance; and risk.

1) Purchasing and production: Large scale production can lead to lower average costs because any individualities usually occur at lower levels of production, and there may be increasing returns to scale in production. Large purchases reduce processing costs per unit for suppliers, and enable them to reduce prices. Standardization of production processes across establishments increases standardization of production equipment and materials required.

2) Management and personnel: Large organizations with standardized operating procedures can produce more cheaply, since training costs are reduced and managers more easily transferred between different units in an organization. This reduces disruption costs when managers either leave or do not meet requirements.

3) Marketing: Large firms can advertise and promote products more cheaply per unit produced since expenditures increase more slowly than the number of separate units. These can be establishment economies, particularly in respect to local promotion or enterprise economies.

4) Finance: Some finance economies are closely linked with the size of the establishment, but most are enterprise economies. Raising large sums of money is usually cheaper due to relatively lower processing costs.

5) Risk: Any venture or undertaking has risks attached to it. Risk means the variability of possible outcomes, that is to say, different events may result from a given

action. The more variable the outcome the greater the risk. Risk is a bigger problem for smaller firms than for larger ones, since they are less likely to get and keep the required share of the market to keep costs down, or to have accumulated sufficient financial reserves to tide them over in bad years, particularly the early years of operation.

Gu (1999) analyzed financial conditions and performances of small and large casinos on the Las Vegas Strip by studying vertical income statements and ratios, which were presented in the 1997 Nevada Gaming Abstract. Casinos with annual gaming revenues of $72 million or more (21 casinos) were categorized in the Abstract as large casinos, while those with revenues below $72 million (15 casinos) were categorized as small casinos. He concluded that under-performance by small casinos was due largely to their overhead expenses, including rent and interest expenses. Small casinos' higher overhead expenses, rent, and interest expenses must result from economies of scale.

CHAPTER 3

METHODOLOGY

Introduction

Chapter 3 will present methodology used in this study. This chapter consists of three parts: (1) research objectives, (2) data collection and samples, and (3) research methods.

Research Objectives

The primary research objective of this study is to assess the state of the casino industry in two major markets: the Las Vegas Strip and Atlantic City. Casino performances in the two markets are compared. Furthermore, this study investigates financial performances of large casinos versus small casinos in the two markets. The first objective of the study is to identify trends in revenue, cost, and profit margins of Las Vegas Strip casinos overall. The second objective of the study is to examine trends in revenue, cost, and profit margins of Atlantic City casinos overall. The third objective of the study is to compare trends in casino operations (financial performance in particular) of Atlantic City and Las Vegas Strip casinos. The fourth objective is to compare the operations of small and large casinos in Atlantic City and on the Las Vegas Strip. Finally,

the fifth objective is to examine trends and stability of win revenues of slots and table games within these two markets.

These objectives will be achieved by collecting financial data on Atlantic City and Las Vegas Strip casinos, interpreting the collected data, and comparatively analyzing derived findings using the research method that will be described later in this chapter. The results and findings of the study will be presented in Chapter 4.

Data Collection and Samples

As the data being examined in this study was secondary in nature, the collection of financial information of Las Vegas Strip casinos was done primarily in the University of Nevada, Las Vegas library. The government collections section of the library owns copies of the Nevada Gaming Abstracts and Gaming Revenue Reports. Financial data of Las Vegas Strip casinos used in this study was taken from the Nevada Gaming Abstract (1995 – 2000) and the Gaming Revenue Report (1991 - 2000), which were published by the Nevada State Gaming Control Board.

In analyzing Las Vegas Strip casinos, this study focuses on two main aspects: first an investigation of aggregate income statements of overall Las Vegas Strip casinos; second is a comparison of the aggregate financial performances of large and small Las Vegas Strip casinos. Nevada Gaming Abstract (1995 – 2000) was used for analysis of aggregate income statements and ratios of Las Vegas Strip casinos. The Abstract reports operation results of aggregate income statements, balance sheets, and ratios of Las Vegas Strip casinos. The Abstract also separates casinos on the Las Vegas Strip into two groups: 15 small operations with annual gaming revenues of $1 million to $72 million,

categorized as "small casinos" in this study, and 22 large operations with annual gaming revenues of $72 million and over, categorized as "large casinos" in this study.

To analyze revenue per unit of slot and table games within Las Vegas Strip casinos, this study used Gaming Revenue Report (1995 – 2000). The Report provides the aggregate monthly numbers of slot and table games, and total monthly gaming revenues of slot and table games for the Las Vegas Strip casinos with annual gaming revenue of $1 million and over. It also separates casinos on the Las Vegas Strip into two groups, as does the Nevada Gaming Abstract. For the data used for capacity analysis of the Las Vegas Strip, this study used Marketing Bulletin (1995 – 2000), published by Las Vegas Convention & Visitors Authority, to ascertain numbers of visitors and the average number of stayed nights. The number of available rooms is taken from Nevada Gaming Abstract (1995 – 2000).

The data used in this study for Atlantic City casinos were based on the Annual Report (1995 – 2000) and on the Atlantic City Gaming Industry Economic Impact Report (2000), both published by the New Jersey Casino Control Commission. The researcher was provided the data by mail from Mr. Daniel Heneghan, Director of Communications at the New Jersey Casino Control Commission.

In analyzing Atlantic City casinos, this study also examines two aspects, based on the Annual Report (1995 – 2000): first, it investigates Atlantic City casinos overall, and, second, it compares financial performances of small casinos with those of large casinos by analyzing the aggregate income statements of casinos within each category. The Report provides individual income statements from all twelve casinos in Atlantic City. For comparison large and small casinos in Atlantic City, this study categorized 7 casinos

with annual gaming revenues of under $400 million as "small" and 5 casinos with annual gaming revenues of $400 million and over as "large", based on the 2000 Annual Report.

Since balance sheets of Atlantic City casinos were unavailable within the Annual Reports, this study does not deal with ratios involving balance sheet information in its comparison of large and small casinos in Atlantic City. Also, in its comparison of revenues per unit of slot and table games of small casinos with those of large casinos, the number of units of slot and table games and revenues of slot and table games are not separated into two categories, since data was aggregated from all 12 Atlantic City casinos. This study analyzes only vertical income statements in comparing large and small Atlantic City casinos.

Table 3 presents the 37 samples used in this study for Las Vegas Strip casinos, with each property's casino square feet and EBITDA. Table 4 presents the 12 samples of Atlantic City casinos with each property's casino square feet and total revenue.

Table 6

Lists of Las Vegas Strip Casinos in Sample

	Properties	Casino S.F.	EBITDA
1	Bally's – Las Vegas/Paris Las Vegas	68,278	$ 130.0 M
2	Barbary Coast Hotel and Casino	31,000	NA
3	Bellagio	156,257	260.2 M
4	Boardwalk Casino – Holiday Inn	23,000	NA
5	Bourbon Street Hotel & Casino	NA	NA
6	Caesars Palace	125,000	105.0 M
7	Casino Royale and Hotel	15,000	NA
8	Circus Circus Hotel Casino	110,979	61.0 M
9	Desert Inn Resort	29,500	12.0 M

Table 6 *(continued)*

10	Excalibur Hotel and Casino	121,544	82.1 M
11	Flamingo Hilton Las Vegas	81,309	$ 112.0 M
12	Gold Coast Hotel and Casino	71,000	NA
13	Hard Rock Hotel and Casino	28,000	NA
14	Harrah's Las Vegas Casino Hotel	86,664	74.6 M
15	Hotel San Remo Casino & Resort	27,000	NA
16	Imperial Palace hotel & Casino	47,625	38.9 M
17	Key Largo Casino & Hotel	8,572	NA
18	Las Vegas Hilton	84,335	59.0 M
19	Luxor Hotel and Casino	100,000	106.4 M
20	Mandalay Bay	137,540	93.5 M
21	MGM Grand Hotel/Casino	175,000	193.8 M
22	Michael Gaughan Airport Slots	11,835	NA
23	Mirage	94,000	136.0 M
24	Monte Carlo Resort & Casino	102,197	88.0 M
25	New Frontier Hotel and Casino	41,325	6.4 M
26	New York-New York Hotel & Casino	87,254	86.3 M
27	Palace Station Hotel and Casino	84,000	NA
28	Rio Suite Casino Resort	99,500	98.7 M
29	Riviera Hotel and Casino	109,800	25.7 M
30	Royal Hotel Casino	6,100	NA
31	Sahara Hotel Casino	25,600	14.7 M
32	Slots-A-Fun	16,733	NA
33	Stardust Resort and Casino	65,538	14.4 M
34	Treasure Island at the Mirage	69,629	91.0 M
35	Tropicana Resort and Casino	62,327	15.1 M
36	Venetian Resort Hotel	105,344	50.4 M
37	Westward-Ho Casino	34,457	NA

Note. From "2000 Statistics and Key Ratios, Nevada Gaming Almanac," 2000 Bear, Stearns & Co, Inc.

Table 7

Lists of Atlantic City Casinos in Sample

	Property	Casino S.F.	Total Revenue
1	AC Hilton	59,832	$ 393 M
2	Bally's Park Place	128,220	641 M
3	Ceasars	110,540	593 M
4	Claridge	59,071	197 M
5	Harrah's Marina	94,622	481 M
6	Resorts	61,930	283 M
7	Sands	55,278	272 M
8	Showboat	86,180	407 M
9	Tropicana	118,917	531 M
10	Trump Marina	79,997	329 M
11	Trump Plaza	85,253	395 M
12	Trump Taj Mahal	113,481	651 M

Notes. From "Annual Report," by the State of New Jersey Casino Control Commission (2000). "Atlantic City Gaming Industry Economic Impact Report," by the State of New Jersey Casino Control Commission (2000).

Research Method

The research method of this study is to use descriptive statistics in most areas. According to Frank & Altheon (1994), a descriptive statistic is a numerical index that describes or summarizes some characteristics of a frequency or relative frequency distribution. Descriptive statistics are used to describe or summarize data: usually they describe a group of people or things in terms of numbers, tables, and charts (Clark, Riley, Wilkie & Wood, 1998). In the portion of this study examining trends and stability of gaming wins of slots versus table games in Atlantic City and on the Las Vegas Strip, the study predicts gaming revenues by using the simple linear regression model.

Las Vegas Strip Casinos

In its analysis of overall Las Vegas Strip casinos, this study investigates trends in revenue, cost, and profit margin in terms of vertical and horizontal analysis, based on the aggregate income statements of Las Vegas Strip casinos. Unit analysis is also used in this study to evaluate efficiency of casino operations on the Las Vegas Strip.

In vertical analysis of Las Vegas Strip casinos, every item of the aggregate income statements will be represented as a percentage of total revenue. The aggregate income statements will be presented from 1995 to 2000 to analyze trends in revenue, cost, and profit margin as a percentage of total revenue on the Las Vegas Strip.

For horizontal analysis of Las Vegas Strip casinos, this study uses Las Vegas Strip casinos' aggregate income statements, expressed as a form of horizontal analysis, which compares each amount with a base amount for a selected base year, 1995. From this analysis, relative changes of income statement items over time can be traced, and their significance assessed (Bernstein, 1978). The objective of doing horizontal analysis of aggregate income statements is to determine whether there are any distinguishing trends or growth relating to operations of Las Vegas Strip casinos.

For unit analysis of Las Vegas Strip casinos, daily win per table game, table win/unit/day, is calculated by dividing the total table win amount by the number of table games, then dividing this sum by 365. Daily win per slot, slot win/ unit/day, is also calculated by dividing the total slot win amount by the number of slot machines, then dividing this number by 365. Revenue per unit of slot and table game from 1999 to 2000 will be presented in this study.

Atlantic City Casinos

In its overall analysis of Atlantic City casinos, this study investigates trends in revenue, cost, and profit margin in terms of both vertical and horizontal analysis, based on aggregate income statements of Atlantic City casinos. Unit analysis will also be used to evaluate efficiency of casino operations in Atlantic City.

In vertical analysis of Atlantic City casinos, each item of the aggregate income statements will be expressed as a percentage of total revenue. Aggregate income statements of Atlantic City casinos from 1995 to 2000 will be presented in order to analyze trends in revenue, cost, and profit margin as a percentage of total revenue. For horizontal analysis of Atlantic City casinos, this study uses aggregate income statements of Atlantic City casinos expressed as a form of horizontal analysis, which compares each amount with a base amount for a selected base year, 1995. The objective of this horizontal analysis of aggregate income statements is to determine any distinguishing trends or growth relating to operations of Atlantic City casinos.

For unit analysis of Atlantic City casinos, daily win per table, table win/unit/day, is calculated by dividing the total table win by the number of table games, then dividing this number by 365. Daily win per slot, slot win/unit/day, is also calculated by dividing the total slot win by the number of slot machines, then dividing this number by 365. The revenue per unit of slot and table games from 1995 to 2000 will be presented in this study.

Comparison Between the Las Vegas Strip and Atlantic City

In its comparative analysis of casino operations in Atlantic City and on the Las Vegas Strip, this study compares 2000 aggregate income statements of the two markets in terms of vertical analysis. Trends in total costs and expenses, EBITDA, and profit margin

of the two markets from 1995 to 2000 will be compared to identify differences in financial performance in Atlantic City and Las Vegas Strip casinos.

Unit analysis will be used to compare efficiency of operating table and slot games in Atlantic City and on the Las Vegas Strip. Daily win per table, table win/unit/day, of the two markets will be compared from 1995 to 2000, and daily win per slot, slot win/unit/day, of the two markets will be also compared to evaluate efficiency of operating slot machines from 1995 to 2000.

Capacity analysis will be used to compare capacities of room, slot, and table games of Atlantic City and Las Vegas Strip casinos, based on numbers of visitors and average numbers of stayed nights. Table 8 shows the number of visitors, available rooms, slot, and table games of Atlantic City casinos from 1995 to 2000, while Table 9 shows the number of visitors, available rooms, slot, and table of Las Vegas Strip casinos, which will provide the basic information for the capacity analysis.

Table 8

Data Used for Capacity Analysis of Atlantic City Casinos

	Visitors[1]	#/stayed	#/Available Rooms[2]	#/Slot	#/Table
1995	33.27	N/A	3,345,932	28,324	1,368
1996	34.04	N/A	3,698,230	31,183	1,410
1997	34.07	N/A	3,932,925	33,606	1,488
1998	34.30	N/A	4,289,869	35,404	1,460
1999	33.65	N/A	4,258,216	37,044	1,398
2000	33.18	N/A	4,132,042	36,237	1,298

Note. 1 Number of visitors represented in millions. 2 Available rooms represents total number of available rooms per year in Atlantic City.

Table 9

Data Used for Capacity Analysis of Las Vegas Strip Casinos

	Visitors[1]	#/stayed	#/Available Rooms[2]	#/Slot	#/Table
1995	29.02	3.5	19,737,570	50,772	2,024
1996	29.64	3.7	19,897,860	52,231	2,126
1997	30.46	3.5	21,394,189	53,460	2,196
1998	30.61	3.3	22,529,899	55,246	2,301
1999	33.81	3.7	23,760,997	59,999	2,545
2000	35.85	3.7	26,405,279	61,307	2,668

Note. 1 Number of visitors represented in millions. 2 Available rooms represents total number of available rooms per year on the Las Vegas Strip.

Capacities of rooms, slot, and table games in Atlantic City and on the Las Vegas Strip are calculated based on the numbers in Table 8 and Table 9 as follows:

1) Room Capacity = (Total number of available rooms per year)/
(Number of visitors x Average number of stayed nights)

2) Slot Capacity = (Total number of slots x 365)/
(Number of visitors x Average number of stayed nights)

3) Table Capacity = (Total number of tables x 365) /
(Number of visitors x Average number of stayed nights)

While the visitors' average number of stayed nights on the Las Vegas Strip was obtained from the Las Vegas Convention & Visitors Authority, the average number of stayed nights of visitors to Atlantic City has not been available. In this study, the average number of stayed nights of visitors to Atlantic City will be supposed as 1.0, since hotel guests accounted for an estimated 21.6 percent of overall visits to Atlantic City in 1998 (Miller & Association, Inc, 2000).

Finally, to compare employee efficiency in Atlantic City with that of the Las Vegas Strip, this study analyzes revenue per employee of the Atlantic City and Las Vegas Strip casinos. Revenue per employee is calculated by dividing total revenue by total number of employees. It will be presented from 1995 to 2000, comparing revenue per employee of Atlantic City casinos with that of Las Vegas Strip casinos.

Comparison between Large and Small Casinos

on the Las Vegas Strip and in Atlantic City

In its comparison of large and small casinos on the Las Vegas Strip, this study compares 2000 aggregate income statements, ratios, and revenues per unit of table and slot games of small casinos with those of large casinos. This study will analyze 2000 aggregate income statements in its comparison of large and small casinos in Atlantic City, since ratios involving balance sheet information of Atlantic City casinos are unavailable.

Examination of Trends and Stability of Gaming Revenues

This study examines trends and stability of the win revenue of slots versus table games in Atlantic City and on the Las Vegas Strip by running simple linear regression based on monthly data for the two markets from January 1991 to December 2000. The simple linear regression for slot and table win revenues in Atlantic City will be performed separately to examine stability and growth trends in aggregate slot and table win revenues. For Las Vegas Strip casinos, blackjack; baccarat; quarter slots; and dollar slots (the four major gaming revenue generators on the Las Vegas Strip in 2000) will be examined for stability and growth trends by using the same regression method.

On the Las Vegas Strip, quarter and dollar slots are the two major gaming revenue generators for slot machines, while blackjack and baccarat are the two major gaming revenue generators for table games since 1991. In 2000, quarter and dollar slots contributed approximately 70 percent of slot revenues and 35 percent of total gaming revenues on the Las Vegas Strip. Blackjack and baccarat contributed approximately 54 percent of table revenues and 27 percent of total gaming revenues on the Las Vegas Strip. Data used for the regression was recorded from the Gaming Revenue Report (January 1991 - December 2000), published by the Nevada Gaming Control Board, for the Las Vegas Strip; and Monthly Casino Revenue Reports (January 1991 – December 2000), published by the New Jersey Casino Control Commission, was used for Atlantic City.

The observed sample win data demonstrated clear seasonal variation. For the two types of slot and table games on the Las Vegas Strip, low wins were observed from November to February, while wins in October were typically high. In Atlantic City, slot and table game wins were relatively low from November to February, while wins during the third quarter were typically high. To control the seasonality, all of the win data were deseasonalized by using the centered moving average method suggested by Anderson, Sweeney & Sweeney (1998).

Win data demonstrated strong upward linear trends when plotted against the months. Trends represent results of a series of long-term factors, such as changes in population, demographic characteristics of a population, technology, and consumer preferences (Anderson, Sweeney & Sweeney, 1998). Many long-term factors also contribute to the upward trends in gaming revenues on the Las Vegas Strip.

According to Gu (1997), long-term factors for the upward trends in gaming revenues include: the nation's increasingly positive attitude toward casino gaming, an increase in disposable income, a growing number of international visitors to Las Vegas, and expansion of gaming facilities and attractions. There may also be long-term factors counteracting this upward trend, such as competition from emerging markets and an actual or perceived increase in numbers of crimes committed in Las Vegas. A trend represents the net result of the interactions of those forces. To take away the trend's impact is to control for these factors collectively.

This study will examine the stability of the win revenues of major slots versus major table games and the growth trend of win revenues for slot and table games by examining each game's R^2 and slope *b*. High R^2 means not only good fit for the sample regression, but also the high stability of the game's win revenues. Slope *b* indicates the revenue growth trend of the game as months go by.

The dependent variables of the regression model for the Las Vegas Strip are the deseasonalized monthly revenues of blackjack, baccarat, quarter slots, and dollar slots, from January 1991 to December 2000, and the deseasonalized monthly win revenues of slots and table games for Atlantic City, based on the same period. The independent variables are time represented by each month from January 1991 to December 2000; January 1991 will be assigned to 1 and consequently December 2000 will be 120. The simple linear regression will be run separately with the each game's deseasonalized gaming revenues as the dependent variable and time as the independent variable. The regression results will be discussed at the end of Chapter 4, Results and Findings.

CHAPTER 4

RESULTS AND FINDINGS

Introduction

In chapter 3, the research methodology and the collection of data were discussed. Chapter 4 will present the results and findings of this study. In the first part of this chapter, the result of analyzing trends in revenue, cost, profit margin, and revenue per unit of slot and table games on the Las Vegas Strip overall will be presented. In the second part, the financial performance of Atlantic City casinos overall will be presented by analyzing trends in revenue, cost, profit margin, and revenue per unit of slot and table games. In the third part, financial performances of small and large casinos will be compared for the Las Vegas Strip and Atlantic City, respectively. The fourth part of this chapter will be a comparative analysis of casino operations, and financial performance in particular, in Atlantic City and on the Las Vegas Strip. Finally, the regression results for examining trends and stability of game wins in the two markets will be presented in the fifth part of this chapter.

Las Vegas Strip Casinos

The 1990's showed tremendous casino growth on the Las Vegas Strip, both in operation size and number of properties. A new era of "Mega" resorts was begun in late

1989, with the opening of the Mirage, followed by the 1990 opening of the Excalibur. This trend of "Mega" resorts continued in 1993 with the opening of Treasure Island, the Luxor, and the MGM Grand. These attractive themed casinos opening in 1993 contributed to a record 19.9% increase in visitor volume in 1994. In 1996, the Monte Carlo and the Stratosphere both opened, and the Sands and the Hacienda were also imploded to make way for newer casinos. In 1997, New York New York opened, and room expansions took place at The Rio, Harrah's and Caesar's. The old Aladdin was imploded in 1998, and The Bellagio opened in the fourth quarter of that year. In addition, McCarran Airport expansion was completed, making Las Vegas's airport capable of handling 45 million visitors annually. In 1999, three more large "Mega" resorts, Mandalay Bay, Venetian, and Paris, were opened. Finally, the Aladdin opened in 2000. Currently, Las Vegas has a 115,000-room inventory, with the consecutive openings of these mega resorts.

To evaluate the financial performance of the overall Las Vegas Strip casinos, this part of the chapter presents the results of vertical income statement analysis, horizontal income statement analysis, and revenue per unit analysis.

Vertical Analysis

According to Bear & Stearns, Inc. (2000), non-gaming revenue sources of the Las Vegas Strip have increased in importance to drive customer visits and increased length of stay. Gaming as a percentage of total revenue has declined each year since 1995. In particular, food and beverage consumption has become a meaningful revenue contributor, as more and more Las Vegas Strip casino operators have turned to upscale restaurants to attract patrons to their properties.

Table 10 represents aggregate income statements of Las Vegas Strip casinos from 1995 to 2000 with annual gaming revenues of $1 million and over. This revenue distribution suggests that the gaming department constitutes the largest revenue center of the Las Vegas Strip. However, since 1995, gaming revenue as a percentage of total revenue has declined each year, from 53.8 percent in 1995 to 45.9 percent in 2000. On the other hand, non-gaming revenue centers have seen fast increases, especially in rooms and other revenue centers. The room department's revenue as a percentage of total revenue has significantly increased since 1995, from 19.6 percent in 1995 to 23.3 percent in 2000. Other department's revenues' which constitutes, for example, leases of malls and restaurants, entertainment shows, clubs, and spas, have also significantly increased from 10.6 percent of total revenue in 1995 to 13.5 percent of total revenue in 2000. The food department's revenue has increased from 11.2 percent of total revenue in 1995 to 12.3 percent of total revenue in 2000. The beverage department's revenue as a percentage of total revenue has slightly increased since 1996.

Combined costs of sales at Las Vegas Strip casinos have accounted for 6.9 percent of total revenue since 1997, leading to 93.1 percent of gross margin as a percentage of total revenue since then, due to their increased power of purchasing economies of scale. Complimentary expenses as a percentage of total revenue have increased on the Las Vegas Strip since 1995, from 8.5 percent in 1995 to 9.1 percent in 2000. In competitive destination hotel-casino markets such as the Las Vegas Strip, Atlantic City, and Mississippi casinos, use of complimentaries, or "comps" to attract customers to their properties. The presence of increased complimentary expenses on the

Las Vegas Strip explains why the market became more competitive, primarily due to several hotel-casinos' openings.

Payroll and related expenses of revenue centers have consistently accounted for 26 to 27 percent of total revenue since 1995. Other operating departmental expenses have accounted for 16 to 17 percent of total revenue since 1995, with no significant changes. Departmental income, gross margin minus all departmental expenses, as a percentage of total revenue has increased gradually since 1998.

Total general and administrative expenses as a percentage of total revenue have significantly increased by 4.3 percent of total revenue in 2000 from 1995. Primary contributors to this increase were other general and administrative expenses: management fees, corporation fees, and internal maintenance fees, such as internal information systems. Other general and administrative expenses, as a percentage of total revenue, have significantly increased since 1995, from 6.0 percent in 1995 to 9.4 percent in 2000. Advertising and promotion expenses have accounted for 1.9 percent of total revenue for the most recent three years, which increased from 1.6 percent of total revenue in 1995 due to a more competitive environment. Bad debt expenses have also accounted for 2.1 to 2.6 percent of total revenue since 1995, but have declined to 2.3 percent of total revenue in 2000. Music and entertainment expenses have significantly increased since 1995, from 1.0 percent of total revenue in 1995 to 1.7 percent of total revenue in 2000, for non-gaming tourists. Payroll and related expenses of non-revenue centers increased to 7.0 percent of total revenue in 2000, from 6.7 percent of total revenue in 1995. Other expenses, such as energy; equipment rental or lease; and rent of premises, have seen no significant changes since 1995. However, energy expenses will significantly increase in

2001, due to the rising energy prices, so other expenses should be lowered to make up for this increase.

Due to a significant increase in total general and administrative expenses as a percentage of total revenue, EBITDA of the Las Vegas Strip has declined each year since 1996, from 22.6 percent of total revenue in 1996 to 17.1 percent of total revenue in 2000. Moreover, depreciation and amortization as a percentage of total revenue has increased by 2.0 percent, from 6.2 percent in 1996 to 8.2 percent in 2000, due to several hotel-casinos' openings in 1999 and 2000. Interest expense as a percentage of total revenue have also significantly increased, especially from 2.0 percent in 1998 to 4.9 percent in 1999, and to 7.1 percent in 2000, primarily due to changes in accounting methods in 2000.

The primary reason for the declining profit margin of Las Vegas Strip casinos was caused by their significantly increased total general and administrative expenses, other general and administrative items in particular. In 2000, depreciation and amortization of Las Vegas Strip casinos increased by 2.0 percent of total revenue from 1996, due to several hotel-casinos' openings during the period, while interest expenses have significantly risen by 5.5 percent of total revenue since 1997, caused by increased debt financing and the change in casino accounting methods in 2000 (Strow, 2001). Those two expenses have accelerated Las Vegas Strip casinos' tendencies to generate declining net income before taxes and extraordinary items, from 14.2 percent of total revenue in 1996 to 1.8 percent of total revenue in 2000, while EBITDA as a percentage of total revenue has declined moderately.

Table 10

Vertical Analysis of Aggregate Income Statements of Las Vegas Strip Casinos

	1995	1996	1997	1998	1999	2000
Revenue						
Gaming	53.8	52.9	51.5	50.3	48.1	45.9
Rooms	19.6	20.3	21.7	21.9	22.1	23.3
Food	11.2	11.0	10.9	11.5	12.0	12.3
Beverage	4.9	4.7	4.7	4.8	4.8	4.9
Other	10.6	11.2	11.2	11.6	13.0	13.5
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0
Cost of Sales	7.4	7.1	6.9	6.9	6.9	6.9
Gross Margin	92.6	92.9	93.1	93.1	93.1	93.1
Complimentary expenses	8.5	8.6	7.8	9.0	9.1	9.1
Payroll and related expenses (revenue centers)	27.0	26.3	26.8	26.6	26.7	26.3
Other departmental expenses	15.8	15.9	16.9	17.2	16.5	16.2
Departmental-Income	41.3	42.2	41.7	40.3	40.8	41.6
General & Administrative Expenses						
Advertising & Promotion	1.6	1.6	1.8	1.9	1.9	1.9
Bad Debt Expense	2.5	2.1	2.2	2.5	2.6	2.3
Energy Expense (electricity, gas, etc)	1.3	1.2	1.2	1.1	1.1	1.3
Equipment Rental or Lease	0.13	0.06	0.06	0.05	0.04	0.08
Music & Entertainment	1.0	1.0	1.0	0.7	1.3	1.7
Payroll and related expenses (non-revenue centers)	6.7	6.7	6.9	6.9	6.9	7.0
Rent of Premises	0.8	0.8	0.8	0.6	0.7	0.9
Other General & Administrative Expenses	6.0	5.9	6.7	6.1	7.6	9.4
Total General & Administrative Expenses	20.3	19.6	20.7	20.1	22.2	24.6
EBITDA	21.1	22.6	21.0	20.3	18.7	17.1
Depreciation and Amortization	6.2	6.2	6.6	7.4	7.6	8.2
Interest Expense	3.1	2.3	1.6	2.0	4.9	7.1
Net Income Before Income Taxes & Extraordinary Items	11.7	14.2	12.8	10.9	6.3	1.8

Notes. From "Nevada Gaming Abstract," by the Nevada State Gaming Control Board (1995 – 2000). All items are expressed as a percentage of the aggregate hotel-casinos' total revenue.

Figure 1 shows that total operating costs and expenses as a percentage of total revenue on the Las Vegas Strip have increased each year since 1996, from 68.8 percent in 1996 to 73.8 percent in 2000. Correspondingly, EBITDA and profit margins as a percentage of total revenue have declined each year since then.

Gaps between EBITDA and profit margins as a percentage of total revenue have been getting wider since 1997. This means that interest expenses, and depreciation and amortization as percentages of total revenue have increased even faster than the increase in total costs and expenses as a percentage of total revenue, and significantly caused the sudden decline in net income before income taxes and extraordinary items of Las Vegas Strip casinos, especially in 1999 and 2000.

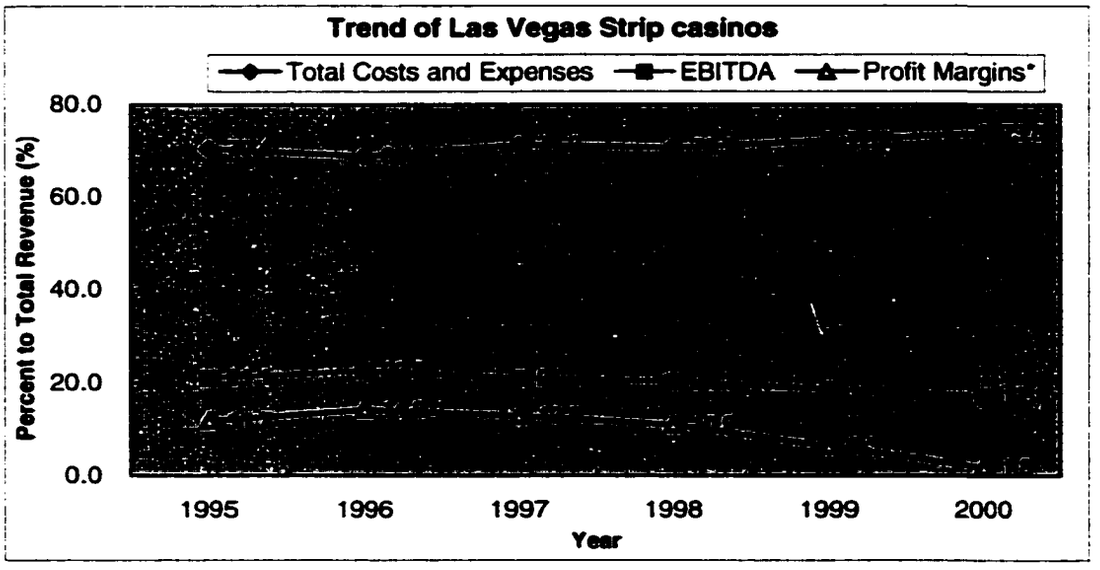

Figure 1. Total Costs and Expenses, EBITDA, and Profit Margins of Las Vegas Strip Casinos *Net Income Before Income Taxes and Extraordinary Items.

Horizontal Analysis

Table 11 shows aggregate income statements of Las Vegas Strip casinos from 1995 to 2000 with annual gaming revenues of $1 million and over. The aggregate income statement is expressed as a form of horizontal analysis, which compares each amount with a base amount for a selected base year of 1995. Revenue distribution of Las Vegas Strip casinos suggests that each revenue center grew significantly in 1999 and 2000, when several hotel-casinos on the Las Vegas Strip opened.

Other department, which constitutes leases of malls and restaurants; entertainment shows; clubs; and spas, has grown into promising revenue centers in terms of revenue, having increased by 199.0 percent in 2000 over the base year. Room department revenues have also increased rapidly, by 185.5 percent over the base period. Food department revenues have grown by 172.5 percent in 2000, while beverage revenue grew by 157.7 percent in 2000 over the base period. Gaming revenue has grown by 133.2 percent in 2000 over the base period, showing the least growth among the revenue centers. As a result, total revenue of Las Vegas Strip casinos grew by 154.9 percent in 2000 over the base period, showing significant increases in both 1999 and 2000.

Combined cost of sales of the Las Vegas Strip has increased by only 144.2 percent in 2000 over the base period, slower than growth of total revenue, due to increased power of purchasing economies of scale. Complimentary expenses have increased by 167.3 percent in 2000, while other operating departmental expenses have increased by 159.7 percent over the base period. Both of these increased rapidly in 1999 and 2000, faster than did growth of total revenue. Payroll and related expenses of these various revenue centers increased by 151.7 percent in 2000 over the base period,

offsetting fast increase of complimentary and other operating departmental expenses. Altogether, departmental income, gross margin minus total departmental expenses, has increased in 2000 by 157.1 percent, faster than has growth of total revenue, 154.9 percent.

Total general and administrative expenses, however, have increased by 189.0 percent in 2000 over the base period, much faster than has the growth of total revenue. In 2000, the fastest growing item among total general and administrative expenses was music and entertainment, which increased by 254.4 percent over the base period. With openings of several hotel-casinos in 1999 and 2000, Las Vegas Strip casinos spent more on music and entertainment for non-gaming tourists than ever before. Other general and administrative expenses including management fees, corporation fees, and internal maintenance fees have increased rapidly by 244.0 percent in 2000 since 1995, significantly contributing to overall increases in total general and administrative expenses.

In 2000, advertising and promotional expenses increased by 177.7 percent, while bad debt expenses increased by 143.4 percent over the base period. Payroll and related expenses of non-revenue centers increased by 161.9 percent in 2000 over the base period. These three items, along with energy expenses; equipment rental or lease; and rent of premises offset fast increases in music and entertainment and other general and administrative expenses.

Due to a faster increase in total general and administrative expenses than in total revenue, EBITDA, departmental income minus total general and administrative expenses, increased by only 126.4 percent in 2000 over the base period. Moreover, depreciation and amortization have seen a fast increase of 203.8 percent in 2000, faster than the growth of total revenue. Interest expense has declined for three years since 1995; however, it

jumped to 204.4 percent in 1999 and then to 352.4 percent in 2000, due to increased debt financing and changes in the casinos' accounting methods in 2000. Significant increases in interest expenses, and depreciation and amortization (faster than the growth of total revenue) have significantly affected the sudden decline of profit margin in 1999 and 2000.

Net income before income taxes and extraordinary items increased, in 1996, to 127.4 percent over the base period since Las Vegas Strip casinos controlled total operating costs and expenses in 1996. However, total operating costs and expenses of Las Vegas Strip casinos in 1999 and 2000 grew much faster than did total revenue, significantly contributing to the decline of EBITDA and net income before income taxes and extraordinary items. Primary contributors to the decline of net income before income taxes and extraordinary items were a much faster increase in total general and administrative expenses, other general and administrative items in particular, than in total revenue in 1999 and 2000. Las Vegas Strip casino operators would have done well to pay more attention to control total general and administrative expenses during those years. Moreover, the fast increase of interest expenses, and of depreciation and amortization in 1999 and 2000, contributed to a significant decline in net income before income taxes and extraordinary items on the Las Vegas Strip.

Table 11

Horizontal Analysis of Aggregate Income Statements of Las Vegas Strip Casinos

	1995	1996	1997	1998	1999	2000
Revenue						
Gaming	100.0	103.2	103.8	105.7	117.4	133.2
Rooms	100.0	108.4	119.7	126.2	148.1	185.5
Food	100.0	103.3	106.2	116.3	140.9	172.5
Beverage	100.0	102.2	104.6	112.0	130.2	157.7
Other	100.0	111.1	114.9	124.0	161.3	199.0
Total Revenue	100.0	104.9	109.2	112.5	130.5	154.9
Cost of Sales	100.0	100.7	100.2	104.6	122.2	144.2
Gross Margin	100.0	105.4	109.1	113.8	132.1	156.9
Complimentary expenses	100.0	106.1	99.4	120.2	140.5	167.3
Payroll and related expenses (revenue centers)	100.0	102.3	107.5	111.7	129.9	151.7
Other departmental expenses	100.0	105.5	116.1	123.4	137.1	159.7
Departmental-Income	100.0	107.2	109.4	110.3	129.8	157.1
General & Administrative Expenses						
Advertising & Promotion	100.0	105.7	121.2	132.2	150.2	177.7
Bad Debt Expense	100.0	86.7	91.8	112.2	136.9	143.4
Energy Expense (electricity, gas, etc)	100.0	95.6	100.6	96.7	109.1	150.2
Equipment Rental or Lease	100.0	46.3	51.8	47.5	47.7	100.9
Music & Entertainment	100.0	106.1	105.4	78.2	160.1	254.4
Payroll and related expenses (non-revenue centers)	100.0	106.3	110.0	116.0	134.5	161.9
Rent of Premises	100.0	99.1	105.1	90.0	109.6	167.7
Other General & Administrative Expenses	100.0	103.8	121.4	115.5	166.6	244.0
Total General & Administrative Expenses	100.0	101.7	110.6	112.0	143.7	189.0
EBITDA	100.0	112.6	108.2	108.6	116.4	126.4
Depreciation and Amortization	100.0	103.3	115.0	132.8	158.3	203.8
Interest Expense	100.0	75.9	56.5	74.3	204.4	352.4
Net Income Before Income Taxes & Extraordinary Items	100.0	127.4	118.6	105.0	70.4	24.3

Notes. From "Nevada Gaming Abstract," by the Nevada State Gaming Control Board (1995 – 2000). All items are expressed as a percentage, based on every item of 1995.

Unit Analysis

Unit analysis is used in this study to evaluate efficiency of slot and table operations on the Las Vegas Strip. For the unit analysis, daily win per table and daily win per slot were calculated each year since 1995. Each of these was calculated by dividing total table/slot revenue for the year by total number of table/slots for the year, then dividing it by 365. Table win/unit/day explains the daily win per table of Las Vegas Strip casinos, and slot win/unit/day explains the daily win per slot on the Las Vegas Strip.

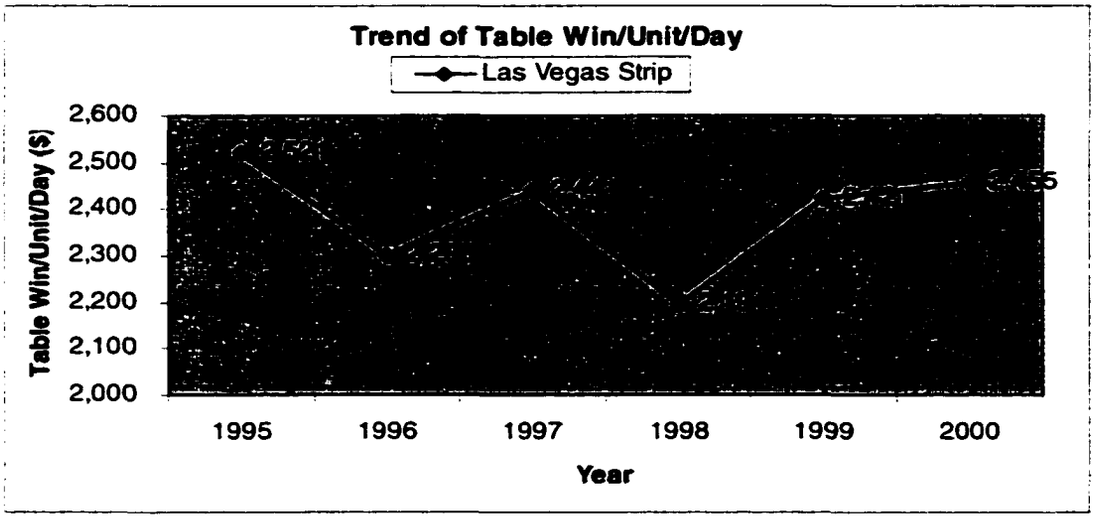

Figure 2. Daily Win Per Table of Las Vegas Strip Casinos

As shown in Figure 2, daily win per table of Las Vegas Strip casinos has been up and down each year since 1995, showing an increase in the most recent three years. Every table game on the Las Vegas Strip had an average daily win of $2,521 in 1995, but this decreased to an average daily win of $2,298 in 1996, and then increased to average daily win of $2,441 in 1997. In 1998, the daily win per table was $2,194, the lowest on the Las Vegas Strip since 1995, due to an oversupply of table games for that year. Since

then, daily win per table averages have risen. Every table game won a daily average $2,455 in 2000, $66 lower than in 1995, while the number of table games on the Las Vegas Strip significantly increased from 2,024 in 1995 to 2,668 in 2000, due to openings of several hotel-casinos in 1999 and 2000.

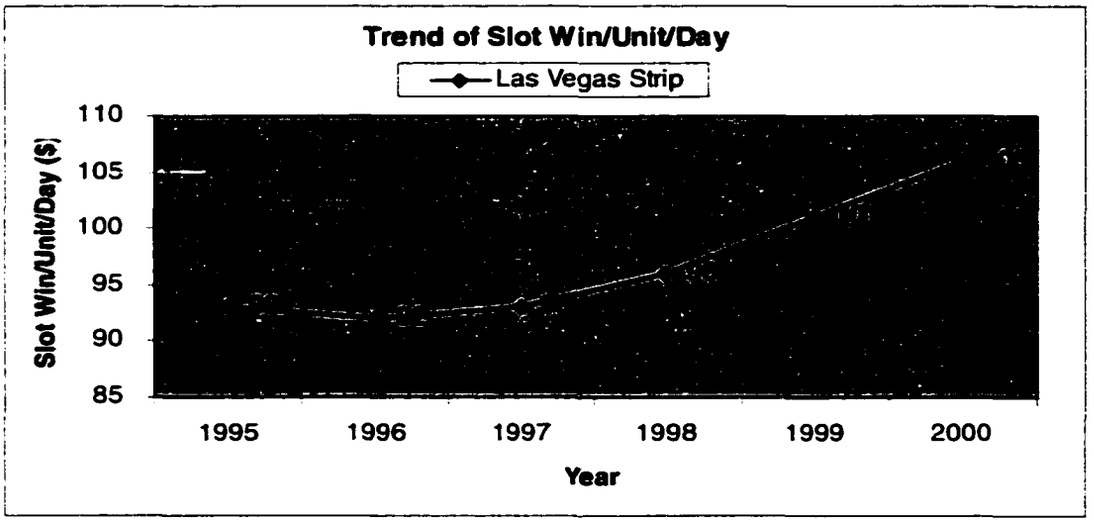

Figure 3. Daily Win Per Slot of Las Vegas Strip Casinos

Figure 3 shows that daily win per slot of the Las Vegas Strip has consistently increased since 1996. On the Las Vegas Strip, every slot machine won an average of $92 in 1996. The daily win per slot on the Las Vegas Strip was $106 in 2000, while the number of slot machines significantly increased from 50,772 in 1995 to 61,307 in 2000, due to openings of several hotel-casinos in 1999 and 2000. Slot win revenues on the Las Vegas Strip accounted for 50.8 percent of total gaming revenue in 2000.

Summary

Las Vegas Strip casinos have grown rapidly since 1995 in terms of both revenues and numbers of visitors. Non-gaming revenue sources have increased in importance to

drive revenues higher, while gaming revenue as a percentage of total revenue has declined by 7.9 percent in 2000 from 1995. This overall trend means that the Las Vegas Strip has been making efforts to reposition itself as a multi-entertainment destination, rather than remaining a mere gaming capital. The declining share of gaming revenue reflects revenue diversification resulting from the changing nature of the Las Vegas Strip (Gu, 1999).

Meanwhile, net income before income taxes and extraordinary items of aggregate Las Vegas Strip casinos has declined dramatically since 1996, especially in 1999 and 2000. Primary contributors to the declining profit margin were rapid increases in other general and administrative expenses: management fees; corporate fees; and internal maintenance fees, interest expenses, and depreciation and amortization. The Las Vegas Strip should have paid more attention to controlling its costs and expenses. In addition, the change in the casino accounting methods in Nevada in 2000 accelerated the decline of the profit margin, significantly contributing to the high interest expenses of the years (Strow, 2001).

Daily win per slot and daily win per table have both gradually increased since 1998, although there have been significant increases in the number of slots and table games on the Las Vegas Strip due to openings of several hotel-casinos in 1999 and 2000. Despite fast rising gaming revenues due to increased daily win per table and daily win per slot, total costs and expenses, including interest expenses and depreciation and amortization, have increased even faster since 1998, resulting in a decreased net income before income taxes and extraordinary items on the Las Vegas Strip.

Atlantic City Casinos

To evaluate the overall financial performance of Atlantic City casinos, this part of the chapter analyzes Atlantic City casinos' vertical income statements, horizontal income statements, and revenue per unit of table and slot games.

Vertical Analysis

According to Bear & Stearns, Inc. (2000), Atlantic City casinos' gaming as a percentage of total revenue has consistently been in the 81 – 82 percent range, indicating that Atlantic City remains primarily a day-trip market. Room revenue as a percentage of total revenue remains low at approximately 6.0 percent of total revenue. In particular, food and beverage is a meaningful revenue contributor, as Las Vegas Strip casino operators have turned to upscale restaurants to attract patrons to their properties.

Table 12 illustrates aggregate income statements of Atlantic City casinos from 1995 to 2000, with every item shown as a percentage of total revenue. Revenue distribution suggests that Atlantic City casinos depend heavily on gaming revenue centers, which have been responsible for approximately 81 – 82 percent of total revenue since 1995. Accordingly, non-gaming revenues have shown less than 20 percent of total revenue since then. Non-gaming revenue distribution shows that there have been no significant changes: each department's revenue as a percentage of total revenue has remained nearly constant since 1995. In 2000, gaming as a percentage of total revenue increased by 0.4 percent of total revenue, while each of the non-gaming revenues decreased slightly over 1999.

Promotional allowances as a percentage of total revenue in Atlantic City accounted for 10.4 percent of total revenue in 1995. However, these have increased to

11.2 percent of total revenue since 1996. In other words, Atlantic City casinos became more competitive markets, so that they needed to spend 11.2 percent of total revenue to attract people to their properties since 1996. Promotional allowances as a percentage of total revenue declined to 10.9 percent in 2000; this led to 0.3 percent increased net revenue for Atlantic City casinos, 89.1 percent of total revenue.

Total operating costs and expenses increased significantly to 71.5 percent of total revenue in 1996 from 67.7 percent of total revenue in 1995. This intensely competitive market often resulted in periodic marketing wars that consisted of bus/coin giveaway packages, which generally resulted in lower EBITDA. Throughout 1996 and into 1997, there was much discount marketing and effusive coin giveaways, which incurred high costs in Atlantic City (Rutherford, 1999). The extensive marketing war in Atlantic City in 1996 led Atlantic City to incur significantly high expenses.

Total operating costs and expenses as a percentage of total revenue have declined each year since 1996, giving proof of casino operators' cost-control efforts. In 2000, combined costs of goods and services (which constitute mainly employee payroll) decreased by 0.9 percent of total revenue; and selling, general and administrative expenses as a percentage of total revenue decreased by 2.7 percent since 1996. Bad debt expenses and provisions for doubtful accounts as a percentage of total revenue have gradually increased each year since 1995; however, they have amounted to less than 1.0 percent of total revenue for Atlantic City casinos, and declined to 0.6 percent of total revenue in 2000. Due to decline in those three items, total operating costs and expenses have decreased by 3.5 percent of total revenue since 1996, from 71.5 percent in 1996 to 68.0 percent in 2000.

As a result, gross operating profit (net revenue minus total operating costs and expenses) has increased each year, since 1996, from 17.3 percent of total revenue in 1996 to 21.0 percent in 2000. However, other expenses (which constitute corporation fees and internal maintenance fees such as internal information systems) have increased each year since 1995, from 2.0 percent of total revenue in 1995 to 3.3 percent of total revenue in 2000. In addition, there was a huge increase in non-operating expenses for the Claridge and Trump Plaza, 3.3 percent of total revenue in 1999, seriously affecting the declines of EBITDA and profit margin for the year. Due to increasing gross operating profits, EBITDA as a percentage of total revenue has increased since 1996, except a significant drop in 1999, caused by high non-operating expenses for that year.

Depreciation and amortization decreased to 5.1 percent of total revenue in 2000 from 6.0 percent of total revenue in 1998. Interest expenses as a percentage of total revenue declined from 1995 to 1998; however, this begun to increase against in 1998, from 8.1 percent of total revenue in 1998 to 9.3 percent of total revenue in 2000.

In 1996, net income before income taxes and extraordinary items as a percentage of total revenue of Atlantic City casinos dropped to 0.4 percent of total revenue, from 4.5 percent of total revenue in 1995, due to a significant increase in total operating costs and expenses, an evidence of the huge marketing war. However, the profit margin as a percentage of total revenue has gradually increased since 1996. In 1999, due to high costs of non-operating expenses, profit margin and EBITDA as a percentage of total revenue seriously declined during the year. In 2000, however, Atlantic City casinos showed moderate growth in terms of EBITDA and profit margin percentage, continuing to decrease their total operating costs and expenses.

Table 12

Vertical Analysis of Aggregate Income Statements of Atlantic City Casinos

	1995	1996	1997	1998	1999	2000
Revenues						
Gaming	82.1	81.3	81.0	80.9	81.2	81.6
Rooms	5.6	6.0	6.1	6.2	6.2	6.0
Food and Beverage	9.9	10.2	10.2	10.1	10.0	9.9
Other	2.4	2.5	2.7	2.8	2.6	2.5
Total Revenue	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less: Promotional Allowances	10.4	11.2	11.2	11.2	11.2	10.9
Net Revenue	**89.6**	**88.8**	**88.8**	**88.8**	**88.8**	**89.1**
Costs and Expenses:						
Cost of Goods and Services	45.1	47.3	48.3	47.6	46.8	46.4
Selling, General, and Administrative	22.1	23.7	21.2	20.9	21.3	21.0
Provision for Doubtful Accounts	0.4	0.5	0.6	0.8	1.0	0.6
Total Operating Costs and Expenses	**67.7**	**71.5**	**70.1**	**69.3**	**69.1**	**68.0**
Gross Operating Profit	**21.9**	**17.3**	**18.6**	**19.5**	**19.7**	**21.0**
Other Expenses	2.0	2.7	2.7	2.8	3.3	3.3
Investment and Non-operating Expenses	1.2	0.1	0.2	0.2	3.3	0.4
EBITDA	**18.7**	**14.6**	**15.7**	**16.5**	**13.1**	**17.2**
Depreciation and Amortization	5.3	5.5	5.5	6.0	5.7	5.1
Interest Expense	9.0	8.6	8.3	8.1	9.1	9.3
Net Income (Loss) Before Income Taxes & Extraordinary Items.	**4.5**	**0.4**	**1.9**	**2.3**	**(1.8)**	**2.8**

Note. From "Annual Report," by New Jersey Casino Control Commission (1995 – 2000). All items are expressed as a percentage of the aggregate hotel-casinos' total revenue.

As shown in Figure 4, in 1995, Atlantic City casinos had high EBITDA and profit margin as a percentage of total revenue, with 67.7 percent of total revenue in total operating costs and expenses. In 1996, however, Atlantic City casinos had much higher total operating costs and expenses, 71.5 percent of total revenue, so that they generated significantly lower EBITDA and profit margins than the previous year. Since 1996,

Atlantic City casinos have gradually improved in terms of declining total operating costs and expenses and increasing EBITDA and profit margins as a percentage of total revenue. Total costs and expenses of Atlantic City casinos have gradually declined each year since 1996, from 71.5 percent of total revenue in 1996 to 68.0 percent of total revenue in 2000.

The decline in total operating costs and expenses led Atlantic City casino operators to have increasing EBITDA and profit margins as a percentage of total revenue, except for a sudden decline in 1999, when the Claridge and Trump Plaza each had considerable non-operating expenses. These two casinos spent 3.3 percent of total revenue for their non-operating expenses for the year, which caused a serious decline of EBITDA and profit margin for aggregate Atlantic City casinos. In 2000, EBITDA as a percentage of total revenue increased by 2.6 percent, while profit margin as a percentage of total revenue in Atlantic City increased by 2.4 percent from 1996.

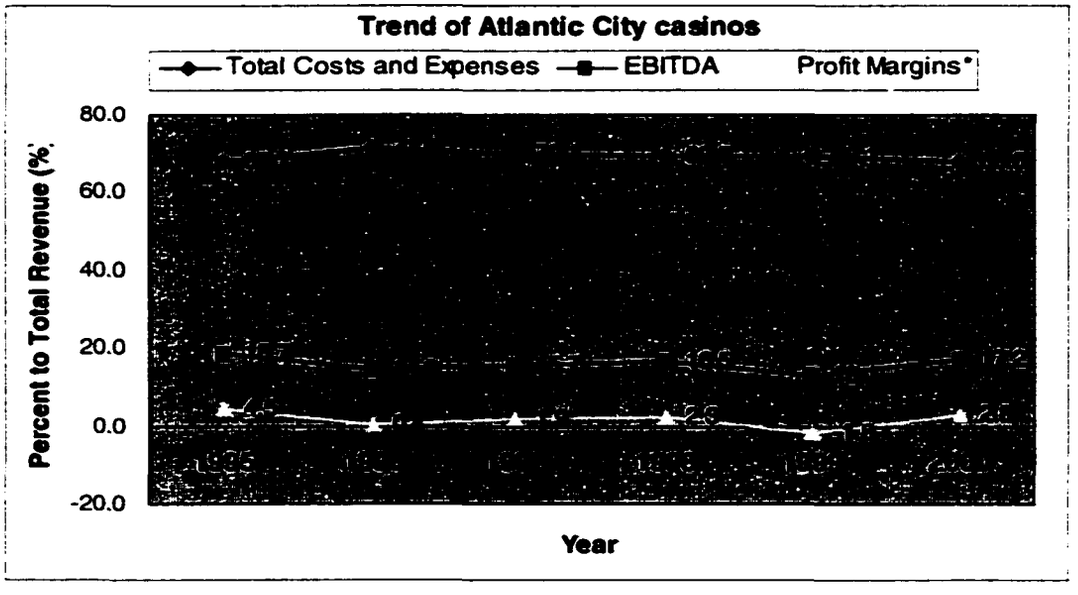

Figure 4. Total Costs and Expenses, EBITDA, and Profit Margins of Atlantic City Casinos *Net Income (Loss) Before Income Taxes and Extraordinary Items.

Horizontal Analysis

Table 13 shows aggregate income statements of Atlantic City casinos from 1995 to 2000, expressed as a form of horizontal analysis, which compares each amount with a base amount for a selected base year of 1995. Revenue distribution for Atlantic City casinos shows that room departments grew into the promising revenue centers, which increased revenue by 121.7 percent in 2000 over the 1995 base year. Other department' revenues' has increased by 117.3 percent in 2000 over the base period. Food and beverage departments' revenues have increased by 113.8 percent, while gaming revenue for Atlantic City has increased by 112.9 percent in 2000 over the base period. Altogether, total revenue of Atlantic City casinos increased by 113.6 percent in 2000 over the base period.

In 1996, promotional allowances significantly increased to 110.6 percent over 1995, due to the fierce marketing war to compete for players (Rutherford, 1999). After showing moderate growth since then, promotional allowances have increased by 119.6 percent in 2000 over the base period. The increase of promotional allowances has been faster than that of total revenue; it has led to a 112.9 percent increase in net revenue in 2000 over the base period.

Total operating costs and expenses of Atlantic City casinos have increased by 114.2 percent in 2000 over the base period, faster than the total revenue's 113.6 percent. The fastest growing item was provision for doubtful accounts, which increased by 248.6 percent in 1999, and by 160.8 percent in 2000 over the base period. The combined cost of goods and services, which constitutes mainly employee payroll, has gradually increased since 1996, after an initial rapid increase of 107.4 percent in 1996. Selling, general, and

administrative expenses have increased by only 107.9 percent in 2000 over the base period, offsetting the high increase of provision for doubtful accounts and cost of goods and services.

Due to a dramatic increase in total operating costs and expenses in 1996, gross operating profit (net revenue minus total costs and expenses) declined to 81.1 percent in that year over the 1995 base year. After experiencing moderate growth since then, due to declining total operating costs and expenses, gross operating profit in 2000 increased to 108.8 percent over the 1995 base year, more slowly than did growth of total revenue.

Other expenses, which constitute corporation fees and internal maintenance fees, such as internal information systems, have increased rapidly over the base period. In 2000, other expenses increased by 194.1 percent. Non-operating expenses declined to 7.6 percent of 1995 base year. However, non-operating expenses for aggregate Atlantic City casinos jumped to 293.6 percent in 1999 over the base period, due to a dramatic increase in expenses by both the Claridge and the Trump Plaza, significantly affecting the declining EBITDA and net income before income taxes and extraordinary items for the year. Non-operating expenses declined to 41.4 percent in 2000 over the base period. The EBITDA of Atlantic City casinos has increased gradually since 1996, except for a significant decline in 1999, due to high non-operating expenses that year. In 2000, EBITDA increased to 104.4 percent over the base period, slower than growth of total revenue.

Depreciation and amortization has seen a rapid increase since 1995. However, since 1998, it declined from 123.2 percent in 1998 to 120.0 percent in 1999, and to 110.2

percent in 2000. Interest expenses increased by 117.9 percent in 2000 over the base period, after experiencing decline from 1996 to 1998.

In 1996, net income before income taxes and extraordinary items declined 10.0 percent from 1995, due to a significant increase in total operating costs and expenses caused by fierce market competition for players. Atlantic City casinos have generated gradually increasing net income before income taxes and extraordinary items since then. In 2000, net income before income taxes and extraordinary items experienced moderate growth (70.4 percent over the base period) after the serious net loss of 1999, caused by huge non-operating expenses.

Table 13

Horizontal Analysis of Aggregate Income Statements of Atlantic City Casinos

	1995	1996	1997	1998	1999	2000
Revenues						
Gaming	100.0	101.6	103.1	106.3	109.6	112.9
Rooms	100.0	109.4	113.3	119.8	122.5	121.7
Food and Beverage	100.0	105.5	107.5	110.4	111.9	113.8
Other	100.0	109.1	121.5	122.8	122.4	117.3
Total Revenue	**100.0**	**102.6**	**104.6**	**107.9**	**110.9**	**113.6**
Less: Promotional Allowances	100.0	110.6	113.4	116.2	119.6	119.6
Net Revenues	**100.0**	**101.6**	**103.5**	**106.9**	**109.8**	**112.9**
Costs and Expenses:						
Cost of Goods and Services	100.0	107.4	111.9	113.8	114.9	116.8
Selling, General, and Administrative	100.0	109.7	100.5	101.9	107.0	107.9
Provision for Doubtful Accounts	100.0	126.1	140.4	209.1	248.6	160.8
Total Operating Costs and Expenses	**100.0**	**108.3**	**108.4**	**110.5**	**113.2**	**114.2**
Gross Operating Profit	**100.0**	**81.1**	**88.7**	**95.8**	**99.6**	**108.8**
Other Expenses	100.0	140.1	143.3	153.5	187.8	194.1
Non-operating Expenses	100.0	7.6	21.0	16.3	293.6	41.4
EBITDA	**100.0**	**79.8**	**87.4**	**95.0**	**77.5**	**104.4**
Depreciation and Amortization	100.0	106.7	108.0	123.2	120.0	110.2
Interest Expense	100.0	98.8	96.8	97.8	113.3	117.9
Net Income (Loss) Before Income Taxes & extraordinary items.	**100.0**	**10.0**	**44.3**	**56.1**	**-44.0**	**70.4**

Note. From "Annual Report," by New Jersey Casino Control Commission (1995 – 2000). All items are expressed as a percentage based on every item of 1995.

Unit Analysis

Figure 5 shows that daily win per table of Atlantic City casinos has increased each year since 1997. While Atlantic City casinos' numbers of table games increased from 1,368 in 1995 to 1,488 in 1997, their daily win per table decreased from $2,354 in 1995

to $2,179 in 1997, the lowest of the most recent 6 years. However, this increased to $2,559 in 2000, while the number of table games in Atlantic City decreased to 1,298 in 2000 from 1,488 in 1997. Although the number of table game in Atlantic City decreased, daily win per table has seen rapid increases since 1997.

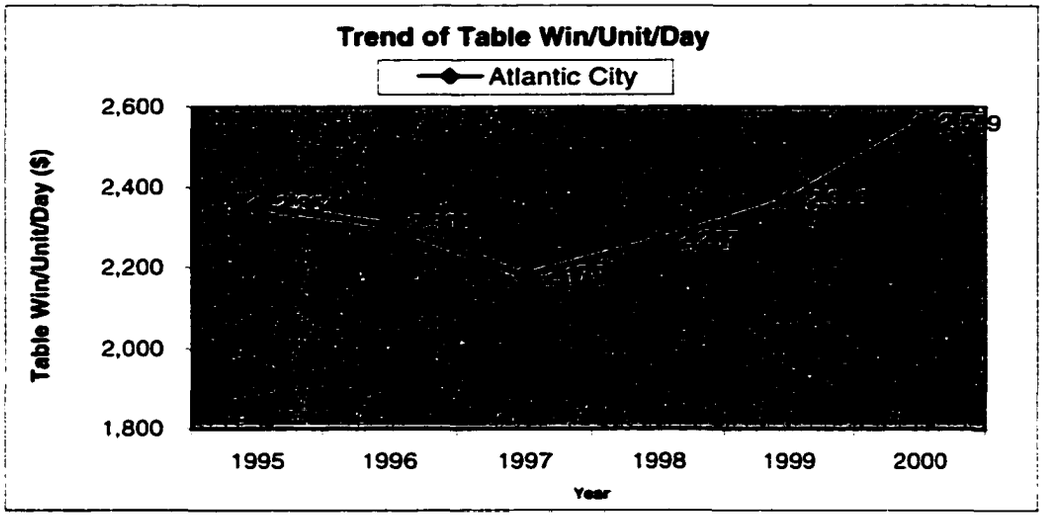

Figure 5. Daily Win Per Table of Atlantic City Casinos

Figure 6 shows that daily win per slot of Atlantic City casinos has decreased each year since 1995, from $250 in 1995 to $219 in 1999. However, daily win per slot of Atlantic City casinos jumped, in 2000, to $233. The number of slots in Atlantic City increased from 28,323 in 1995 to 36,237 in 2000. Slot win revenue for Atlantic City casinos has increased from $257.9 million in 1995 to $308.7 million in 2000, which accounted for approximately 73 percent of total gaming revenue in Atlantic City in 2000.

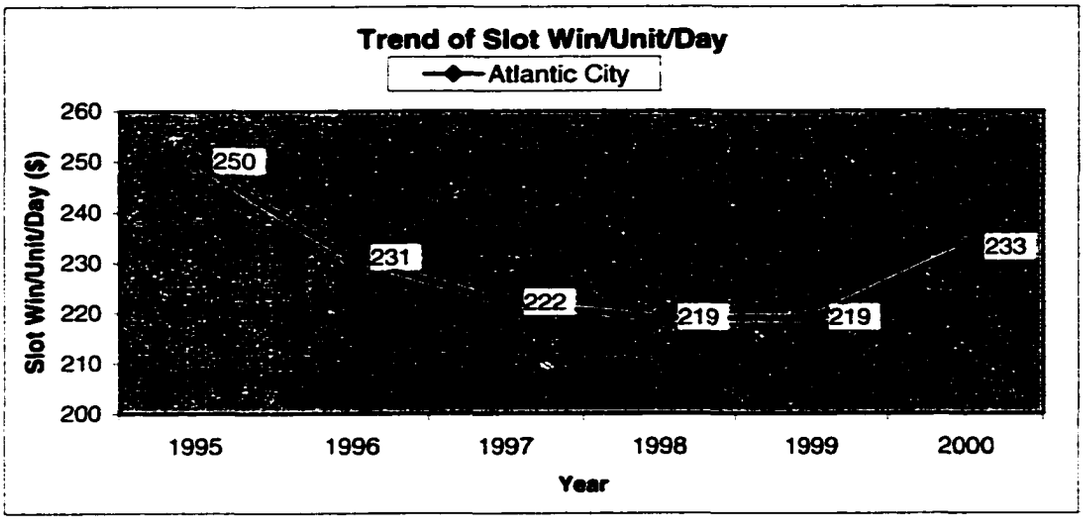

Figure 6. Daily Win Per Slot of Atlantic City Casinos

Summary

Within revenue distributions for Atlantic City casinos, gaming revenue has accounted for approximately 81 – 82 percent of total revenue since 1995, while non-gaming revenue has accounted for less than 20 percent of total revenue. For future success for Atlantic City casinos in highly competitive markets, casino operators need to increase their numbers of non-gaming entertainment options, and also increase the percentage of travelers who come by air, and the average lengths of stays of visitors.

Daily win per table of Atlantic City casinos has consistently increased since 1997, from $2,179 in 1997 to $2,559 in 2000, while the number of table games decreased from 1,488 in 1997 to 1,298 in 2000. Atlantic City's daily win per slot has declined each year from an average win of $250 in 1995 to an average win of $219 in 1999; however, this increased from $219 in 1999 to $233 in 2000. The number of slot machines in Atlantic City has increased significantly, from 28,323 in 1995 to 36,237 in 2000. Slot revenues accounted for approximately 73 percent of gaming revenue in Atlantic City in 2000.

Atlantic City casinos seem to be recovering from the fierce marketing war of 1996, when their total operating expenses increased significantly, and correspondingly, their net income before income taxes and extraordinary items declined from that of the previous year. Since 1997, their total operating costs and expenses as a percentage of total revenue have gradually declined, contributing to the increase of EBITDA and net income before income taxes and extraordinary items. In 1999, however, there were very high non-operating expenses (3.3 percent of total revenue), which caused a significant decline of EBITDA and profit margin for the year. In 2000, Atlantic City casinos enjoyed moderate growth in EBITDA and net income before income taxes and extraordinary items, continuing to decrease their total operating costs overall.

To achieve higher bottom-line profit margins, Atlantic City casinos should decrease their high interest expenses (approximately 9.0 percent of total revenue), and also decrease other expenses, such as corporation and internal maintenance fees. Atlantic City casinos also need to more tightly control non-operating expenses.

Comparison of Large and Small Casinos on the Las Vegas Strip

This part of the chapter compares aggregate financial conditions and performance of small casinos to those of large casinos on the Las Vegas Strip, in terms of vertical income statement analysis, ratio analysis, and unit analysis. Large and small casinos are categorized, based on criteria established within the Nevada Gaming Abstract (2000), which separates casinos on the Las Vegas Strip into two groups: 15 small casinos with annual gaming revenues of $1 million to $72 million, and 22 large casinos with annual gaming revenues of $72 million and over.

Vertical Analysis

Table 14 illustrates 2000 aggregate income statements of small and large casinos on the Las Vegas Strip, with each item shown as a percentage of total revenue. Revenue distribution suggests that large casinos' revenue centers were more diversified than were those of the small casinos, with smaller amount of gaming revenue as a percentage of total revenue. Large casinos' revenues for rooms; food; and other departments, as percentages of total revenue, were higher than small casinos' revenues within those departments.

Combined cost of sales incurred by large casinos (6.7 percent of total revenue) was lower than those of small casinos (8.7 percent of total revenue). Complimentary expenses of large casinos were slightly higher than those of small casinos by 0.1 percent of total revenue. Large casinos' cost advantage was evident in payroll and related expenses of revenue centers (25.5 percent of total revenue), compared to small casinos' 31.9 percent of total revenue. Other departmental expenses of large casinos' revenue centers, however, accounted for 27.3 percent of total revenue, significantly higher than small casinos' 22.2 percent. Large casinos' cost advantage in cost of sales and payroll and related expenses of revenue centers was offset by higher other departmental expenses. As a result, large casinos' aggregate departmental income was only 3.3 percent better than that of small casinos.

Large casinos' total overhead expenses before income taxes accounted for 36.2 percent of total revenue, but 51.8 percent of total revenue for small casinos. Primary contributors of the 15.6 percent difference were the small casinos' much higher other general and administrative expenses; rent; and interest expenses as a percentage of total

revenue. Small casinos were higher, by 8.2 percent of total revenue, in terms of other general and administrative expenses, such as corporate fees; management fees; and internal maintenance fees (such as internal information systems). Their rent and interest expenses were individually higher, by 3.3 percent and 1.6 percent of total revenue, than were those of large casinos. Small casinos' greater expenses for advertising and promotion; payroll for non-revenue centers; and depreciation and amortization also contributed to their high total overhead expenses before income taxes.

In 2000, departmental income of the small casinos (37.2 percent of the total revenue) was only 3.3 percent below the large casinos' 40.5 percent. After subtracting total overhead costs, however, small casinos had a net loss before income taxes and extraordinary items of 15.2 percent of total revenue, while large casinos generated 3.4 percent of total revenue in net income before taxes and extraordinary items. Small casinos fell behind 18.6 percent in net income before taxes and extraordinary items. Primary contributors were small casinos' significantly higher overhead expenses, and other general and administrative expenses in particular.

Table 14

Vertical Analysis of Aggregate Income Statements of Small and Large Casinos on the Las Vegas Strip

	Small Casinos	Large Casinos
Total Revenue	100.0	100.0
Gaming	47.5	45.8
Rooms	21.8	23.5
Food	11.4	12.4
Beverage	6.8	4.7
Other	12.5	13.6
Cost of Sales	8.7	6.7
Gross Margin	91.3	93.3
Complimentary expenses	9.0	9.1
Payroll and related expenses (revenue centers)	31.9	25.5
Other departmental expenses	13.8	19.1
Departmental income	36.6	39.6
Advertising & promotion	2.9	2.7
Payroll and related expenses (non-revenue centers)	7.9	6.9
Depreciation and amortization	9.4	8.1
Rent	3.9	0.6
Interest expense	8.6	7.0
Other general & administrative expenses	19.1	10.9
Total overhead expenses before income taxes	51.8	36.2
Net income before income taxes and extraordinary items	-15.2	3.4

Note. From "Nevada Gaming Abstract," by Nevada State Gaming Control Board (2000). All items are expressed as a percentage of aggregate hotel-casinos' total revenue.

Ratio Analysis

Ratio Analysis is the comparison of related facts and figures, most of which appear on financial statements. A ratio gives mathematical expression to a relationship between two figures, and is computed by dividing one figure by another. Ratio analysis goes beyond the figures reported in a financial statement, making these figures more meaningful, informative and useful (Schmidgall, 1997). Therefore, the objective of ratio analysis is to generate indicators for evaluating various aspects of a financial situation.

For an in-depth analysis of the financial conditions and performance of small and large casinos on Las Vegas Strip, Table 15 provides ratios derived from aggregate income statements and balance sheets of the two groups of casinos. As shown by ratios of total comp expense to gaming revenue, large casinos spent more on comps to attract people; large casinos spent 19.9 cents, from every dollar of gaming revenue, while small casinos spent 18.9 cents. Ratios of total revenue to average total assets and total revenue less comp sales to average total assets indicate that the large casinos are more efficient at using assets to generate revenue than are small casinos.

Return on invested capital is the ratio of income before income taxes and extraordinary items plus interest expense, divided by average assets, less average current liabilities. This represents return to equity and long-term debt. Return on average assets is income before income taxes and extraordinary items plus interest expense divided by average assets. It measures the return to total financing (Gu, 1999). The two ratios show that large casinos provided much better returns on equity than did small casinos. Large casinos was higher, by 11.1 percent, in return on invested capital, and generated 9.8 percent more than small casinos in a comparison of return on average assets.

Table 15

Ratios of Small and Large Casinos on the Las Vegas Strip

	Ratios	Small Casinos	Large Casinos
1	Total Complimentary Expense to Gaming Revenue	18.9%	19.9%
2	Total Revenue to Average Total Assets	53.6%	60.2%
3	Total Revenue Less Comp Sales to Average Total Assets	49.0%	55.1%
4	Return on Invested Capital	-3.9%	7.2%
5	Return on Average Assets	-3.6%	6.2%

Note. From "Nevada Gaming Abstract," by the Nevada State Gaming Control Board (2000).

Unit Analysis

To compare the daily win per table and daily win per slot of small and large casinos on the Las Vegas Strip, unit analysis is used in this study. Figure 7 shows that large casinos have had much higher daily win per table than have small casinos ever since 1995. Daily win per table of large casinos has declined since 1995, however, from $3,073 in 1995 to $2,751 in 2000. In 2000, daily win per table of large casinos was $2,751, more than three times that of small casinos', $820. Daily win per table of small casinos has also declined each year since 1997, from average win of $1,106 in 1997 to an average win of $820 in 2000. In 2000, the number of table games in large casinos on the Las Vegas Strip increased by 740 since 1995, from 1,518 in 1995 to 2,258 in 2000, due to openings of 7 mega hotel-casinos during this time. The number of table games in small casinos has decreased by 96 since 1995, from 506 in 1995 to 407 in 2000.

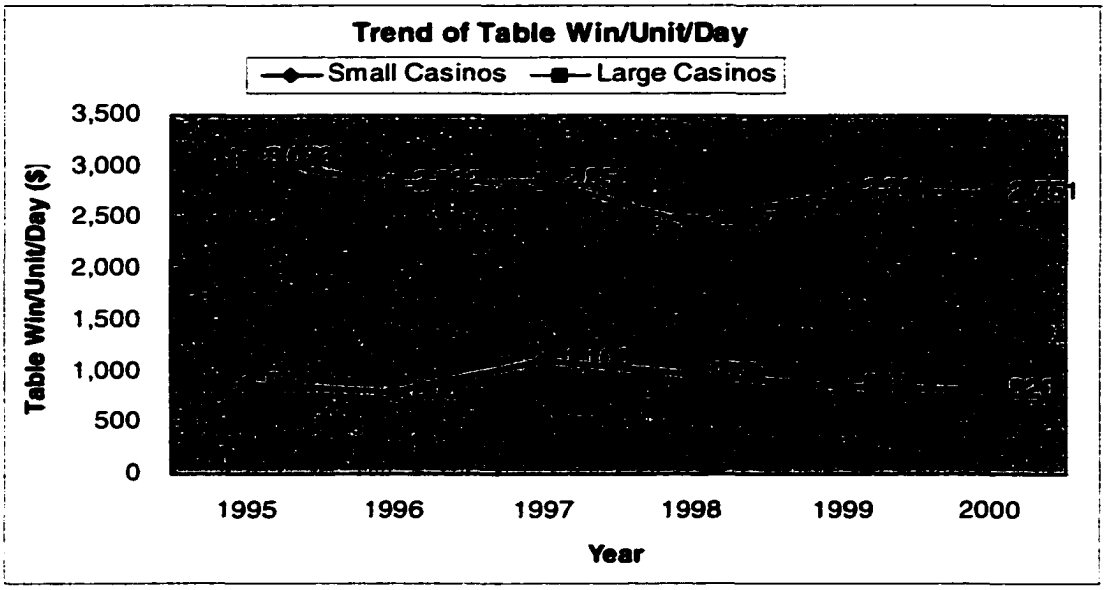

Figure 7. Daily Win Per Table of Large and Small Casinos on the Las Vegas Strip

Figure 8 shows that daily win per slot of large casinos on the Las Vegas Strip has been much more efficient than that of small casinos. Neither group has changed significantly in its daily win per slot since 1995; the daily win per slot of large casinos has been in the range of $104 and $ 115, while that of small casinos has been in the range of $59 and $67 since 1995. Meanwhile, gaps between large and small casinos' daily win per slot were less than those of daily win per table games in Figure 4. The numbers of slot machines in large casinos on the Las Vegas Strip increased significantly, from 36,191 in 1995 to 50,203 in 2000, due to openings of several hotel-casinos during this period, while the numbers of slot machines in small casinos decreased, from 14,581 in 1995 to 11,104 in 2000.

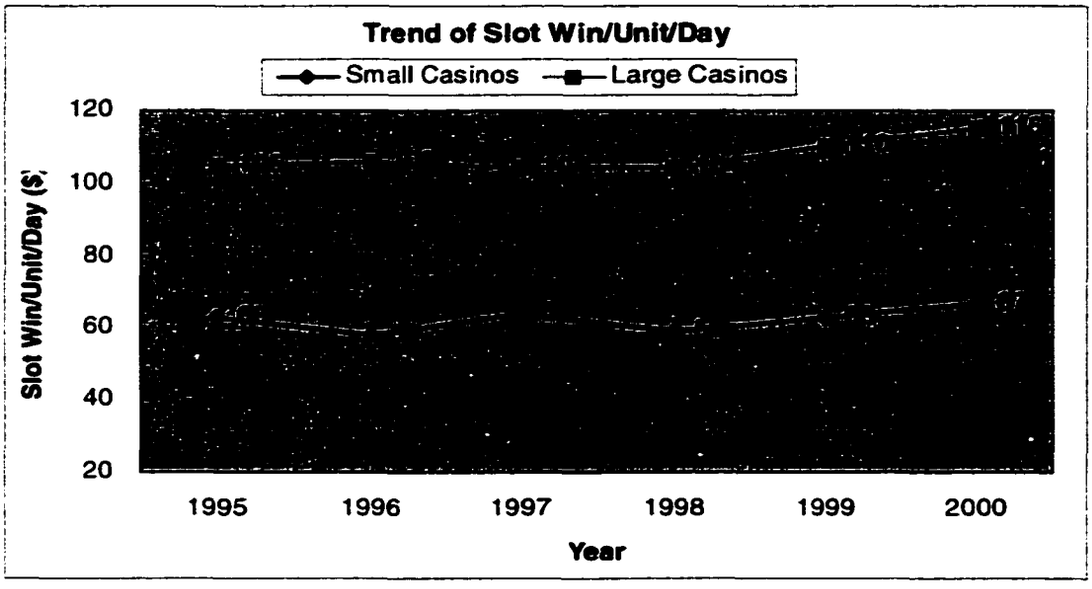

Figure 8. Daily win per slot of large and small casinos on the Las Vegas Strip

Comparison Between Large and Small Casinos in Atlantic City

This part of the chapter compares aggregate financial performance of small casinos with that of large casinos in Atlantic City using the 2000 Annual Report, published by the New Jersey Casino Control Commission. The researcher separates casinos in Atlantic City into two groups: 5 small operations with annual gaming revenues of less than $400 million and 7 large operations with annual gaming revenues of $400 million and over in 2000. Since each category's ratios involving balance sheet information and slot and table revenue per unit were not available, this part of the chapter investigates only vertical income statements of small and large casinos in Atlantic City.

Vertical Analysis

Table 16 illustrates 2000 aggregate income statements of large and small casinos in Atlantic City, with each item shown as a percentage of total revenue. In revenue distribution, small casinos' gaming revenue as a percentage of total revenue was higher

than that of large casinos by 1.4 percent. Small casinos' food and beverage revenue centers, 10.2 percent of total revenue, also had greater weights in total revenue than those of large casinos, 9.8 percent of total revenue. Large casinos' higher rooms and other revenue centers accounted for the difference of 1.8 percent of total revenue between small and large casinos. In comparing costs of promotional allowances, small and large casinos in Atlantic City spent the same amounts of promotional allowance, 10.9 percent of total revenue, leading to the same net revenue of 89.1 percent of total revenue.

In comparing total operating costs and expenses, this study found that small casinos spent significantly more on operating costs and expenses than did large casinos, by 10.3 percent of total revenue. Small casinos also had higher cost of goods and services, by 5.2 percent of total revenue, and higher selling, general, and administrative expenses, by 5.0 percent of total revenue. Provision of doubtful accounts of small casinos was also higher than that of large casinos, by 0.1 percent of total revenue.

Those significantly higher total operating costs and expenses incurred by small casinos resulted in gross operating profit by large casinos' being much higher than that by small casinos', by 10.3 percent; Large casinos' gross operating profit as a percentage of total revenue was 25.5 percent, while that of small casinos was 15.3 percent of total revenue. Other expenses, which constitute corporation fees; internal maintenance fees; and other fees, when incurred by small casinos, were lower than large casinos by 0.8 percent of total revenue. Small casinos spent 1.0 percent of total revenue for non-operating expenses, which were nearly zero for large casinos.

EBITDA of large casinos was higher than that of small casinos by 10.4 percent of total revenue. Large casinos, however, had higher depreciation and amortization expenses than small casinos, by 0.6 percent of total revenue. Interest expenses incurred by large casinos, 9.5 percent of total revenue, were also higher than small casinos' 9.1 percent of total revenue.

As a result, net income (loss) before income taxes and extraordinary items of large casinos was 6.9 percent, and that of small casinos was (2.5) percent. Large casinos' net income before income taxes and extraordinary items was higher than that of small casinos by 9.4 percent of total revenue, while EBITDA of large casinos was higher than that of small casinos by 10.4 percent of total revenue. This means that large casinos had higher combined interest and depreciation and amortization expenses by 1.0 percent of total revenue. The primary contributor to this difference in net income before income taxes and extraordinary items, 9.4 percent of total revenue, between small and large casinos was due to small casinos' significantly higher total costs and expenses.

Table 16

Vertical Analysis of Aggregate Income Statements of Large and Small Casinos in Atlantic City

	Small Casinos	Large Casinos
Revenues		
Gaming	82.4	81.0
Rooms	5.4	6.5
Food and Beverage	10.2	9.8
Other	2.0	2.7
Total Revenue	**100.0**	**100.0**
Less: Promotional Allowances	10.9	10.9
Net Revenues	**89.1**	**89.1**
Costs and Expenses:		
Cost of Goods and Services	49.3	44.1
Selling, General, and Administrative	23.8	18.8
Provision for Doubtful Accounts	0.7	0.6
Total Operating Costs and Expenses	**73.8**	**63.5**
Gross Operating Profit	**15.3**	**25.6**
Other Expenses	2.9	3.7
Non-operating Expenses	1.0	0.0
EBITDA	**11.4**	**21.8**
Depreciation and Amortization	4.8	5.4
Interest Expense	9.1	9.5
Net Income (Loss) Before Income Taxes & Extraordinary Items	**(2.5)**	**6.9**

Note. From "Annual Report," by State of New Jersey Casino Control Commission (2000). All items are expressed as a percentage of aggregate hotel-casinos' total revenue.

Summary

In its comparison of financial performances of large and small casinos on the Las Vegas Strip, this analysis shows that large casinos on the Las Vegas Strip were much more diversified in revenue distribution than were small casinos, with less contribution from gaming revenue. Large casinos' rooms, food, and other operations had greater

weights in total revenue than those of small casinos. In its comparison of total costs and expenses, this study determined that large casinos enjoyed an obvious cost advantage, with overall lower cost of sales, lower labor costs, and lower other general and administrative expenses as a percentage of total revenue.

Total overhead expenses before income taxes incurred by small casinos were significantly higher than those of large casinos, by 15.6 percent of total revenue. Primary contributors were other general and administrative expenses: corporation fees; management fees; and internal maintenance fees, rent expenses, and labor expenses as percentages of total revenue. Due to the cost advantage, large casinos could spend 0.1 percent of total revenue more in complimentary expenses than could small casinos. Ratio analysis also provided evidence that large casinos had better financial performances.

Large casinos have had higher daily win per table and daily win per slot than small casinos even though the number of slots and table games for large casinos has increased significantly since 1995, due to openings of several hotel-casinos during this period. Large casinos' daily win per slot and daily win per table have been more than double to small casinos since 1995. Because of large casinos' obvious cost advantage due to economies of scale, their net income before income taxes and extraordinary items was significantly higher than that of small casinos, by 18.6 percent of total revenue in 2000.

In Atlantic City, revenue distribution shows that large casinos' rooms and other operations had greater weights in total revenue while small casinos had larger amount of gaming and food & beverage revenues as percentages of total revenue. Both groups spent the same amount of promotional allowances as a percentage of total revenue. In 2000,

however, total costs and expenses incurred by small casinos were significantly greater than those of large casinos by 10.3 percent of total revenue.

The obvious cost advantage of large casinos led them to have a higher bottom-line profit margin, even though they spent 1.0 percent of total revenue more in combined interest expenses, depreciation and amortization. While large casinos' net income before income taxes and extraordinary items was 6.9 percent of total revenue, small casinos operated net loss of 2.5 percent of total revenue in 2000. Small casinos' significantly higher total costs and expenses, the primary contributor to their operations below breakeven, result from economies of scale.

Comparison between the Las Vegas Strip and Atlantic City

This part of the chapter presents descriptive analysis for its comparison of financial performances of Atlantic City and Las Vegas Strip casinos, in terms of vertical income statement analysis; unit analysis; capacity analysis; and revenue per employee analysis. Through comparative analysis of casinos operations within Atlantic City and Las Vegas Strip casinos, this study investigates differences in financial performance and reasons for those differences.

Vertical Analysis

Table 17 shows 2000 aggregate income statements for Atlantic City and Las Vegas Strip casinos. Revenue distribution suggests that the Las Vegas Strip's revenue centers were much more diversified than those of Atlantic City, with smaller contribution from gaming. Atlantic City casinos focused their revenue sources primarily on gaming, 81.6 percent of total revenue, while on the Las Vegas Strip, gaming revenue accounted

for 45.9 percent of total revenues. The 35.7 percent difference was made up with revenue from rooms, food & beverage, and other revenue centers of the Las Vegas Strip. While room revenue was 6.0 percent of Atlantic City's total revenue, room revenue on the Las Vegas Strip accounted for 23.3 percent of total revenue. Food & beverage generated only 9.9 percent of Atlantic City's total revenues, but 17.2 percent of Las Vegas Strip's total revenues. Meanwhile, other revenue, for instance leases of malls and restaurants; entertainment shows; clubs; and spas, accounted for 2.5 percent of Atlantic City's total revenue and 13.5 percent of the Las Vegas Strip's total revenue.

In 2000, Atlantic City casinos complied with Las Vegas Strip casinos in terms of gaming revenue, but the total revenue of Las Vegas Strip casinos was nearly double that of Atlantic City casinos, due to higher contributions of non-gaming revenues on the Las Vegas Strip. According to Ader & Lumpkins (1996), the fundamental reason for the disparity between Atlantic City and Las Vegas Strip casinos is these markets' converse characteristics: Atlantic City is a regional day- and overnight-trip market, which primarily draws visitors from a 300-mile radius, while the Las Vegas Strip is a destination vacation market that surpasses even Orlando, Florida, in terms of numbers of visitors.

In comparing promotional allowances, or complimentary expenses, Atlantic City was higher than the Las Vegas Strip by 1.8 percent; these accounted for 10.9 percent of total revenue in Atlantic City, but 9.1 percent of total revenue on the Las Vegas Strip. In other words, Atlantic City casinos had to give back 1.8 cents more than did Las Vegas Strip casinos, from every dollar of total revenue, to comp customers. This led to higher net revenue for the Las Vegas Strip by 1.8 percent of total revenue.

Total operating costs and expenses incurred by Las Vegas Strip casinos were significantly higher than those of Atlantic City casinos, by 5.8 percent of total revenue. Combined costs of goods and services, which include employee payroll, of Las Vegas Strip casinos, 42.4 percent of total revenue, offset total costs and expenses by spending 4.0 percent below Atlantic City casinos' 46.4 percent. Las Vegas Strip casinos, however, had significantly higher selling, general and administrative expenses, by 8.1 percent of total revenue and 1.7 percent of total revenue in bad debt expenses, or provision for doubtful accounts. Selling, general, and administrative expenses of Las Vegas Strip casinos were primary contributor to their higher total costs and expenses.

Correspondingly, gross operating profit, that is, net revenue minus total operating costs and expenses, of Atlantic City casinos was higher than that of Las Vegas Strip casinos by 3.9 percent of total revenue. Other expenses of Atlantic City casinos, 3.8 percent of total revenue, accounted for non-operating expenses, investment and related expenses, and internal maintenance fees. The EBITDA of Atlantic City casinos, 17.2 percent was, however, slightly higher than that of Las Vegas Strip casinos, 17.1 percent, due to Atlantic City casinos' higher other expenses.

Depreciation and amortization of Las Vegas Strip casinos was significantly higher than that of Atlantic City casinos by 3.1 percent of total revenue. Atlantic City casinos, however, had higher interest expenses by 2.2 percent of total revenue. As a result, net income before income taxes and extraordinary items in Atlantic City was higher than that of the Las Vegas Strip by 1.0 percent of total revenue: net income before income taxes and extraordinary items of Atlantic City casinos was 2.8 percent of total revenue, but 1.8 percent of total revenue on the Las Vegas Strip.

To increase net income before income taxes and extraordinary items for Atlantic City, casino operators would need to decrease their high promotional allowances, costs of goods and sales, and interest expenses in particular, thus better diversifying their revenue centers. They have had very high interest expenses, approximately 9.0 percent of total revenue, considering that Las Vegas Strip casinos' interest expenses increased significantly with the changes in the casino accounting method in 2000. Las Vegas Strip casinos should aim to decrease operating costs and expenses in selling, general, and administrative, and bad debt expenses to yield better profit margins. Las Vegas Strip casinos' high depreciation and amortization, 8.2 percent of total revenue, also lowered their net income before income taxes and extraordinary items.

Table 17

Vertical Analysis of Aggregate Income Statements of Atlantic City and Las Vegas Strip Casinos

($ in Thousands)	Atlantic City		Las Vegas Strip	
	Dollars	Percent	Dollars	Percent
Revenues:				
Gaming	4,223,337	81.6	4,683,729	45.9
Rooms	311,581	6.0	2,380,444	23.3
Food & Beverage	514,450	9.9	1,758,655	17.2
Other	126,282	2.5	1,372,842	13.5
Total Revenues	**5,175,650**	**100.0**	**10,195,670**	**100.0**
Less: Promotional Allowance	565,464	10.9	926,342	9.1
Net Revenues	**4,610,186**	**89.1**	**9,269,328**	**90.9**
Costs and Expenses:				
Cost of Goods and Services	2,402,871	46.4	4,324,654	42.4
Selling, General, and Administrative	1,087,286	21.0	2,964,671	29.1
Provision for Doubtful Accounts	32,396	0.6	238,879	2.3
Total Operating Costs and Expenses	**3,522,553**	**68.0**	**7,528,204**	**73.8**
Gross Operating Profit	**1,087,633**	**21.0**	**1,741,124**	**17.1**
Other Expenses	197,223	3.8	-	-
EBITDA	**890,410**	**17.2**	**1,741,124**	**17.1**
Depreciation and Amortization	265,446	5.1	831,860	8.2
Interest Expense	480,960	9.3	723,813	7.1
Net Income (Loss) Before Income Taxes & Extraordinary Items	**144,004**	**2.8**	**185,450**	**1.8**

Note. From "Annual Report," by State of New Jersey Casino Control Commission (2000). "Nevada Gaming Abstract," by State of Nevada Gaming Control Board (2000). All percents are expressed as a percentage of aggregate hotel-casinos' total revenue.

Figure 9 shows trends in total operating costs and expenses of Atlantic City and Las Vegas Strip casinos since 1995. In 1996, Atlantic City casinos' total operating costs and expenses increased by 3.8 percent of total revenue, due to their periodic marketing

war that consisted of bus and coin giveaway packages, while Las Vegas Strip casinos decreased their total operating costs and expenses by 1.6 percent of total revenue over previous year. Since then, however, total costs and expenses of Las Vegas Strip casino operations have increased each year while those of Atlantic City casinos have consistently decreased annually. Correspondingly, gaps in total costs and expenses of operating Atlantic City and Las Vegas Strip casinos, respectively, have been widening since 1997. In 2000, Las Vegas Strip casinos' total operating costs and expenses were much higher than those of Atlantic City, by 5.8 percent of total revenues.

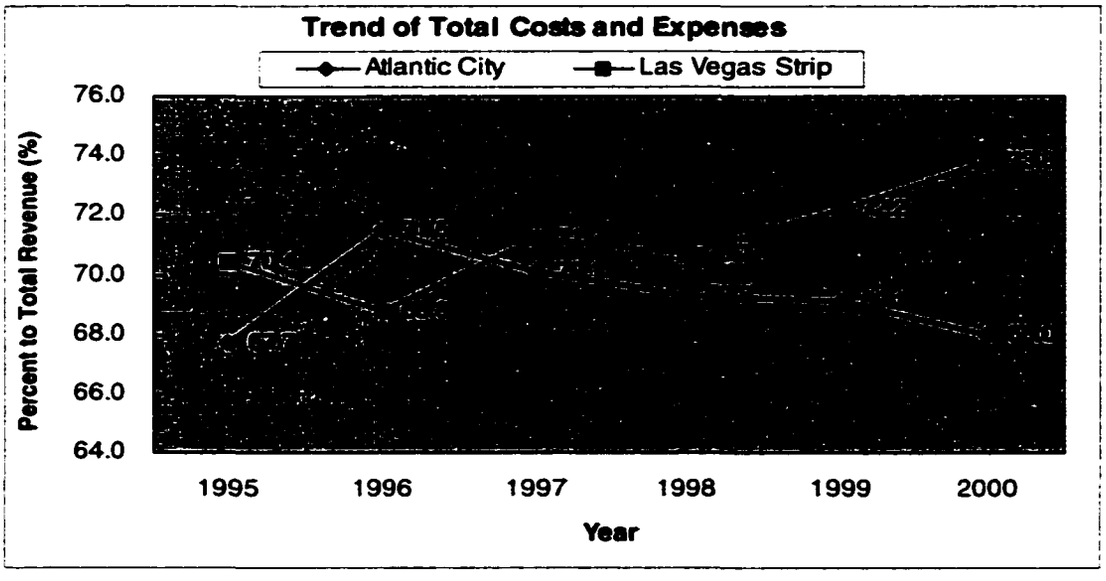

Figure 9. Total Costs and Expenses of Atlantic City and Las Vegas Strip Casinos

Figure 10 shows trends in EBITDA for Atlantic City and Las Vegas Strip casinos since 1995. Las Vegas Strip casinos' EBITDA, as a percentage of total revenue, has declined each year since 1996, while that of Atlantic City casinos has increased since then, contrary to the trend of total costs and expenses shown in Figure 9. The sudden drop

in EBITDA for Atlantic City casinos in 1999 was definitely due to the dramatic increase in non-operating expenses in the Claridge and Trump Plaza, 3.3 percent of total revenue. The EBITDA of Las Vegas Strip casinos has been higher than that of Atlantic City since 1995; however, in 2000, the EBITDA of Atlantic City, 17.2 percent of total revenue, was slightly higher than that of Las Vegas Strip casinos, 17.1 percent of total revenue.

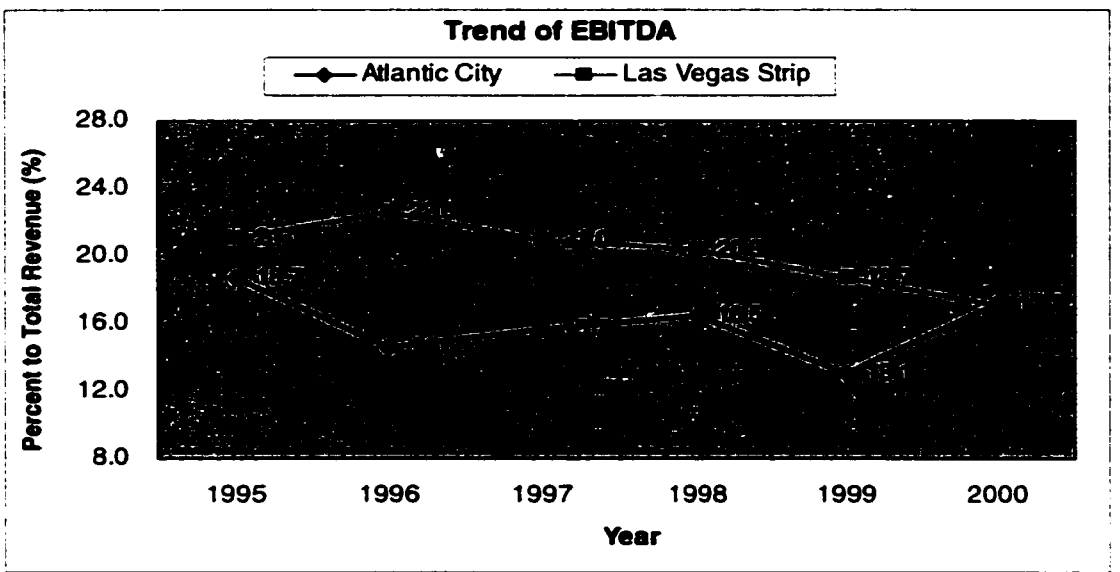

Figure 10. EBITDA of Atlantic City and Las Vegas Strip Casinos

Figure 11 shows trends in profit margin, net income before income taxes and extraordinary items, of Atlantic City and Las Vegas Strip casinos since 1995. The profit margin of Las Vegas Strip casinos has significantly decreased since 1996, especially in 1999 and 2000, when several major hotel-casinos opened on the Las Vegas Strip. On the other hand, the profit margin of Atlantic City casinos has gradually increased since 1996, from 0.4 percent as total revenue in 1996 to 2.8 percent as total revenue in 2000. The

sudden decline in profit margin for Atlantic City in 1999 was due to significantly increased non-operating expenses for the Claridge and the Trump Plaza.

The increase in total operating costs and expenses of Las Vegas Strip casinos, shown in Figure 9, has led to a decline in profit margin on the Las Vegas Strip, while Atlantic City has generated gradually increasing profit margins since 1996, primarily due to declining total costs and expenses since then. Gaps in the profit margins of Atlantic City and Las Vegas Strip casinos, respectively, from 1995 to 1998, have been much wider than EBITDA gaps between the two respective markets during the same period. This means Atlantic City casinos have had more than double the combined interest and depreciation and amortization expenses during this period.

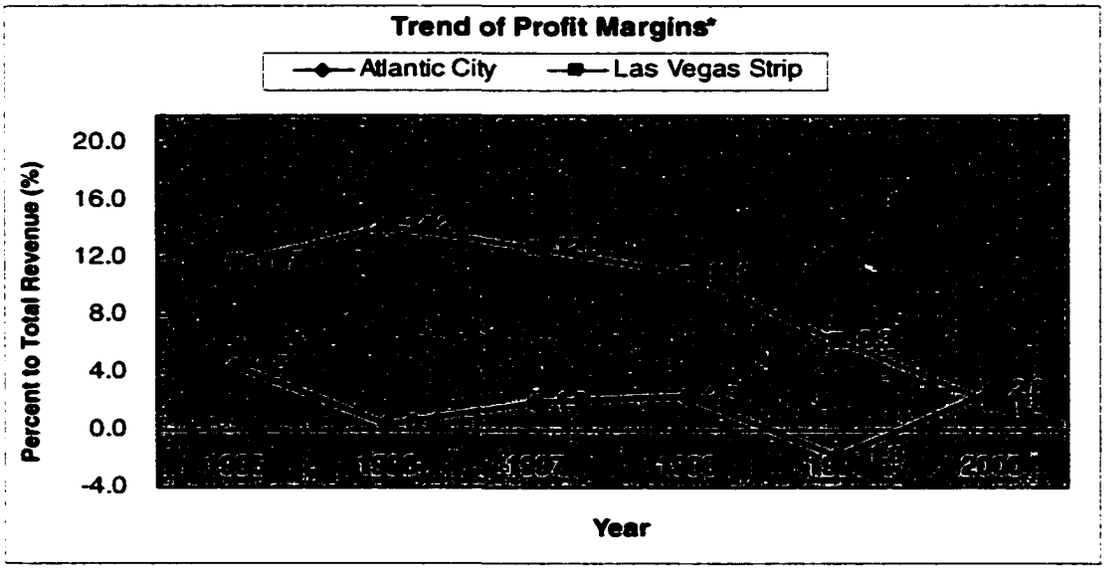

Figure 11. Profit Margins of Atlantic City and Las Vegas Strip casinos
*Net income (loss) before income taxes and extraordinary items.

Unit Analysis

Figure 12 shows trends in daily win per table of Atlantic City and Las Vegas Strip casinos since 1995. Each market has had higher daily win per table game in turn since 1995. In 1995, daily win per table game of Atlantic City casinos was $2,354 while that of Las Vegas Strip casinos was $2,521. In 2000, however, Atlantic City casinos had higher daily win per table game than did Las Vegas Strip casinos, by an average win of $104; Atlantic City casinos' daily table win per unit was $2,559 while it was $2,455 on the Las Vegas Strip. The number of table games in Atlantic City decreased from 1,368 in 1995 to 1,298 in 2000, while these increased significantly on the Las Vegas Strip from 2,024 in 1995 to 2,668 in 2000, due to openings of several hotel-casinos during that period.

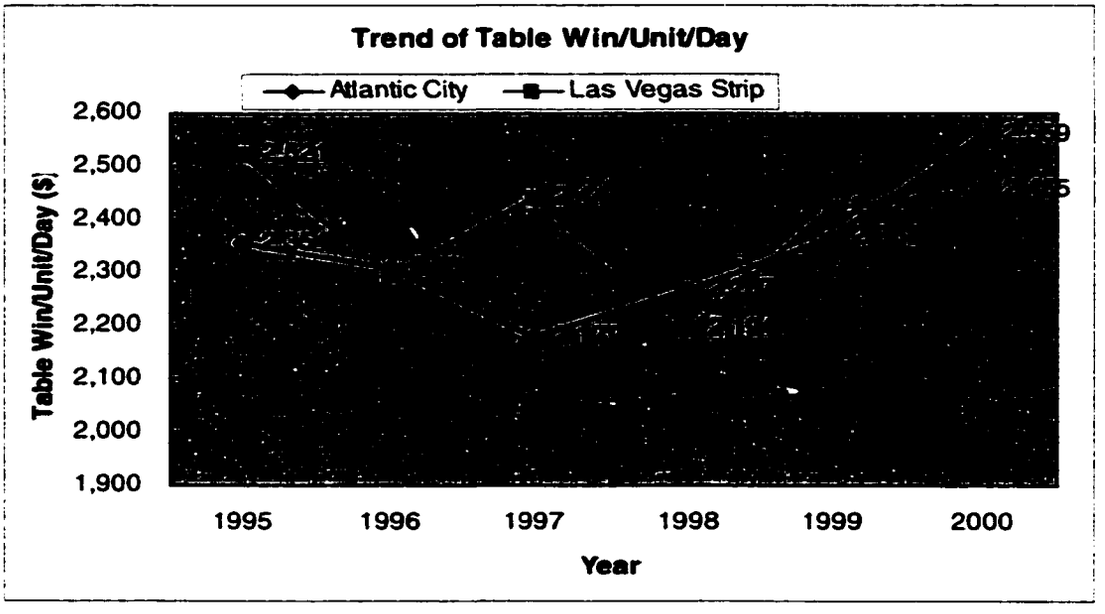

Figure 12. Daily Win Per Table game of Atlantic City and Las Vegas Strip Casinos

In its comparison of daily win per slot of Atlantic City casinos with that of Las Vegas Strip casinos as shown in Figure 13, this study found that Atlantic City casinos have generated much higher daily win per slot than have Las Vegas Strip casinos. Daily win per slot of Atlantic City casinos has declined each year since 1995, from an average win of $250 in 1995 to an average win of $219 in 1998 and 1999; however, it increased to $233 in 2000, which was more than double that of Las Vegas Strip casinos, $106. On the Las Vegas Strip, daily win per slot has consistently increased each year since 1996, from $92 in 1996 to $106 in 2000. The total number of slot machines in Atlantic City increased significantly from 28,323 in 1995 to 36,237 in 2000 and on the Las Vegas Strip from 50,772 in 1995 to 61,307 in 2000.

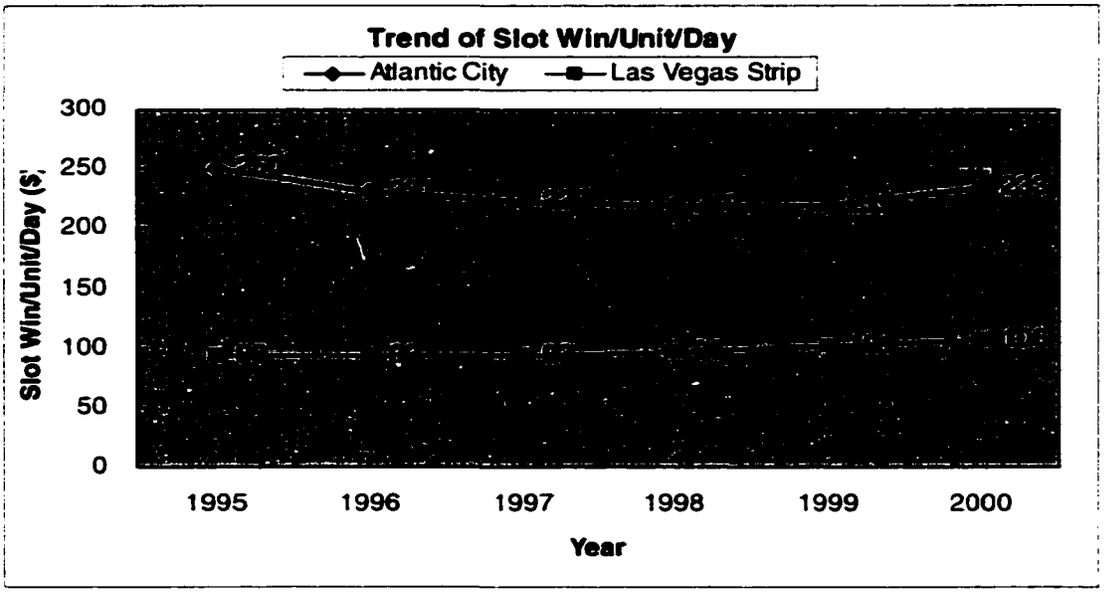

Figure 13. Daily Win Per Slot of Atlantic City and Las Vegas Strip Casinos

Capacity Analysis

Capacity analysis is used in this study to compare room, table, and slot capacities of Atlantic City with those of the Las Vegas Strip. These capacities are based on the number of visitors and average number of stayed nights in each market. Meanwhile, the average number of stayed nights in Atlantic City was not available. Since approximately 80 percent of Atlantic City visitor are day-trippers (Miller & Association, Inc., 2000), this study supposed the average number of stayed nights for Atlantic City visitors to be 1.0. Table 18 shows rooms, slot, and table game capacity of Atlantic City and Las Vegas Strip casinos, respectively, based on the methodology discussed in Chapter 3.

Table 18

Capacities of Rooms, Slots, and Table Games in Atlantic City and on the Las Vegas Strip

	Rooms Capacity		Slot Capacity		Table Capacity	
	AC	LVS	AC	LVS	AC	LVS
1995	0.1006	0.1943	0.3107	0.1824	0.0150	0.0073
1996	0.1086	0.1815	0.3343	0.1739	0.0151	0.0071
1997	0.1154	0.2006	0.3600	0.1830	0.0159	0.0075
1998	0.1251	0.2231	0.3768	0.1997	0.0155	0.0083
1999	0.1265	0.1899	0.4018	0.1751	0.0152	0.0074
2000	0.1245	0.1991	0.3986	0.1687	0.0143	0.0073

Figure 14 shows trends in room capacity for Atlantic City and Las Vegas Strip casinos since 1995. Room capacity on the Las Vegas Strip has been higher than that of Atlantic City since 1995. In 2000, the ratio of rooms to visitors for the Las Vegas Strip was 0.1991, and 0.1245 for Atlantic City. Room capacities of Atlantic City casinos have gradually increased since 1995, except for a minute decline in 2000. Room capacities for

Las Vegas Strip casinos have significantly increased from 1996 to 1998; however, these decreased in 1999, due to greater availability of rooms, caused by several hotel-casinos' openings during the period. This increased the number of available rooms on the Las Vegas Strip by more than 5,000,000 during that year.

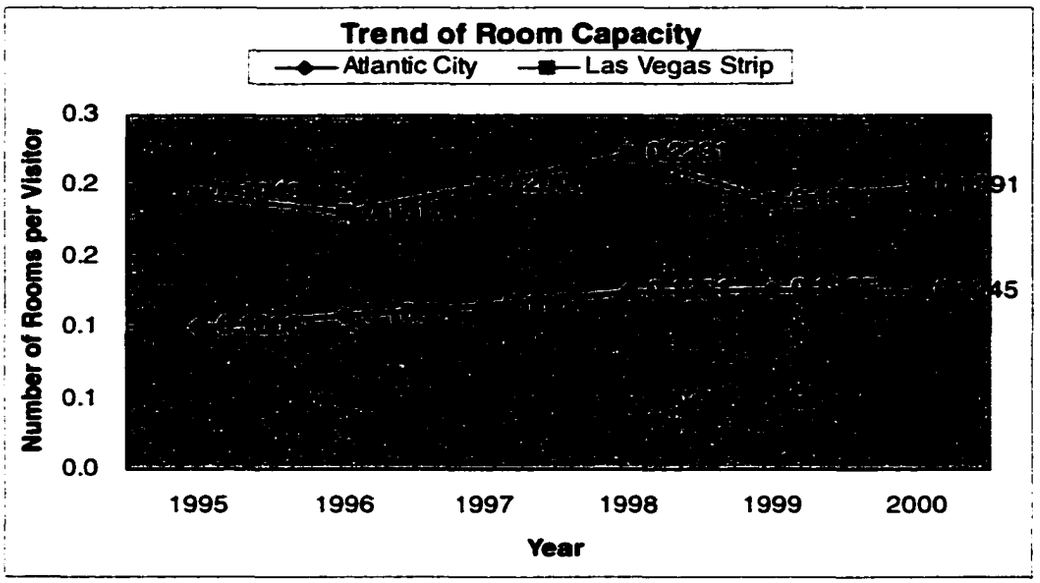

Figure 14. Room Capacities of Atlantic City and Las Vegas Strip Casinos

Figure 15 shows trends in slot capacities of Atlantic City and Las Vegas Strip casinos since 1995. Slot capacity in Atlantic City has increased each year since 1995, resulting in much higher slot capacity than the Las Vegas Strip. In 2000, the ratio of slots to visitors in Atlantic City was 0.3986, but 0.1687 on the Las Vegas Strip. The greater availability of slots, due to openings of several hotel-casinos on the Las Vegas Strip in 1999 and 2000, caused a decline in the Las Vegas Strip's slot capacity since 1998. In 2000, the number of slot machines on the Las Vegas Strip was 61,307 while Atlantic City had 36,237.

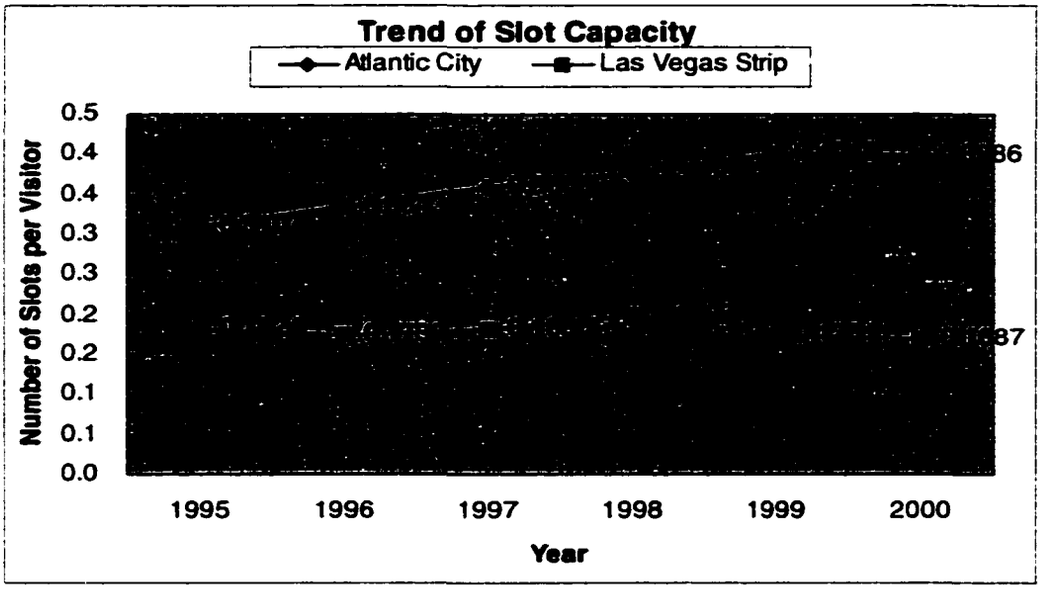

Figure 15. Slot Capacities of Atlantic City and Las Vegas Strip Casinos

Figure 16 shows trends in table game capacity for Atlantic City and Las Vegas Strip casinos since 1995. Table game capacity in Atlantic City casinos has been higher than that in Las Vegas Strip casinos since 1995. Table game capacity of Atlantic City casinos has decreased each year since 1997, while that of Las Vegas Strip casinos has decreased each year since 1998, along with the openings of several hotel-casinos on the Las Vegas Strip. In 2000, the ratio of table games to visitors to the Las Vegas Strip was 0.0073 while the ratio of tables to every visitor to Atlantic City was 0.0143.

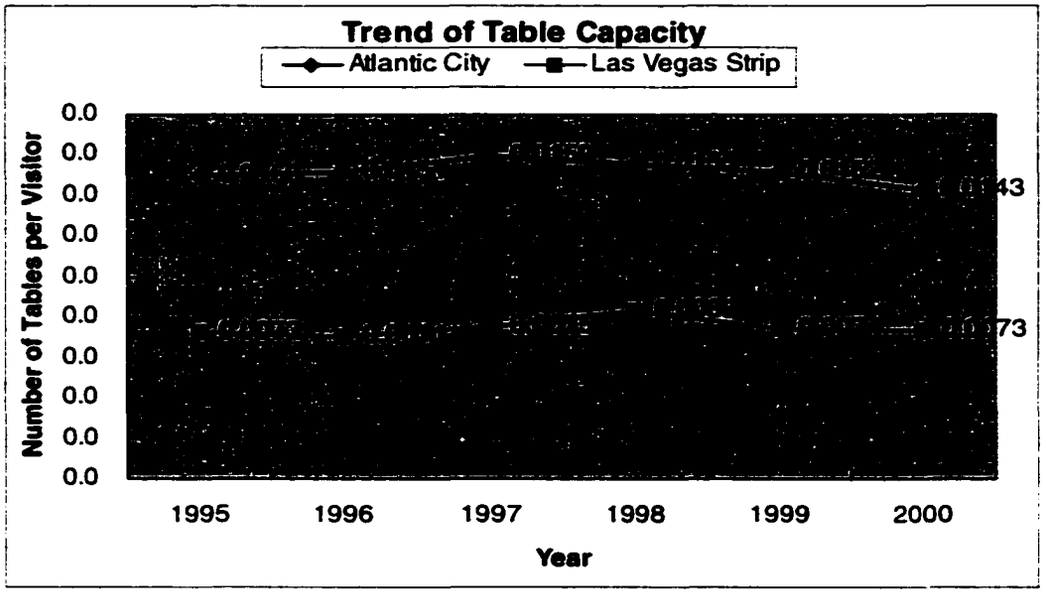

Figure 16. Table Game Capacities of Atlantic City and Las Vegas Strip Casinos

Revenue per Employee Analysis

Figure 17 shows trends in revenue per employee of Atlantic City and Las Vegas Strip casinos since 1995. Revenue per employee was calculated each year by dividing total revenue by the total number of employees. Figure 17 shows that revenue per employee in Atlantic City has been higher than that in the Las Vegas Strip since 1995. The reason for this difference in revenues per employee is that the Las Vegas Strip has had more than twice the number of employees in non-gaming revenue centers, such as rooms, restaurants, and entertainment, than has Atlantic City.

In 1999, there was a significant increase in the number of employees on the Las Vegas Strip due to openings of several hotel-casinos that year. This caused a decline in revenue per employee for the year for the Las Vegas Strip, yielding much lower revenue per employee than Atlantic City. In 2000, Atlantic City casinos' revenue per employee was $108,805 while revenue per employee was $103,434 on the Las Vegas Strip.

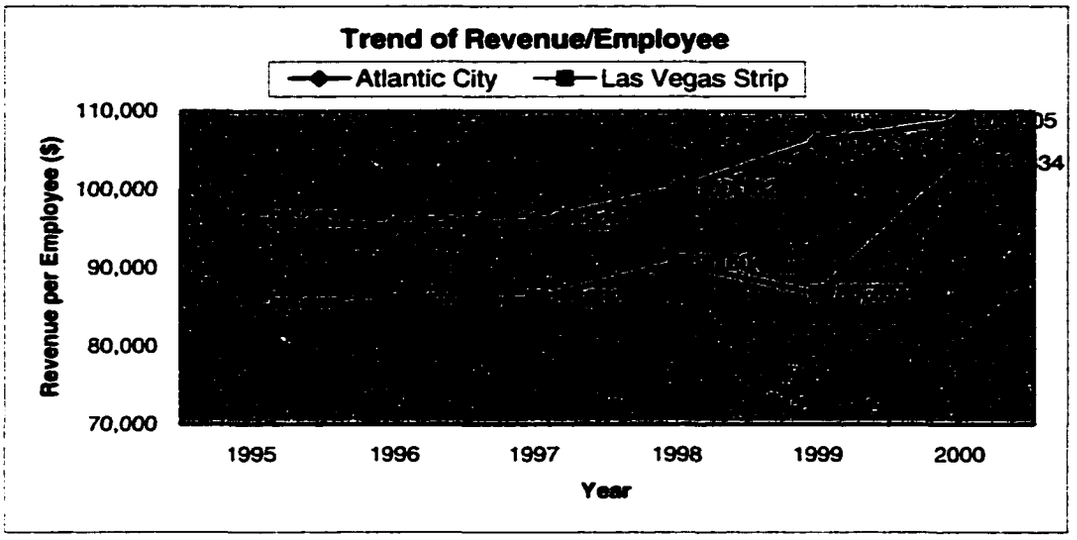

Figure 17. Revenue Per Employee of Atlantic City and Las Vegas Strip Casinos

Summary

The significant difference between Atlantic City and Las Vegas Strip casinos in financial performance was that Las Vegas Strip casinos were much more diversified than Atlantic City casinos in revenue distributions, with smaller contributions from gaming revenue centers. Despite comparable gaming revenues, Atlantic City's overall revenues were much lower than those of the Las Vegas Strip due to Atlantic City's significantly lower proportion of non-gaming revenues; in 2000, non-gaming revenues in Atlantic City accounted for approximately 18.4 percent of total revenue, while these accounted for approximately 54.0 percent of total revenue on the Las Vegas Strip.

In its comparison of total operating costs and expenses, the results of this study indicate that Las Vegas Strip casinos should lower their bad debt and selling, general, and administrative expenses in comparison with those of Atlantic City casinos. Atlantic City casinos have made progress in controlling their total operating costs and expenses since

1996, when there was a fierce marketing war took place, consisting of bus and coin giveaway packages. Atlantic City should, however, still lower their high promotional allowance and interest expenses as a percentage of total revenue. Atlantic City had to give back 1.8 cents more than did the Las Vegas Strip of every dollar of total revenue to comp customers in 2000. In particular, high interest expenses of Atlantic City casinos have significantly lowered their bottom-line profit margins since 1995.

In its comparison of daily win per table game of Atlantic City with that of the Las Vegas Strip, this study found that daily win per table game for both markets have seen comparable since 1995. Daily win per table was $2,559 in Atlantic City and $2,455 on the Las Vegas Strip in 2000. Atlantic City, however, has had significantly higher daily win per slot than the Las Vegas Strip since 1995. In 2000, Atlantic City's daily win per slot was $233, but $106 on the Las Vegas Strip.

Capacity analysis, based on the number of visitors and average stayed nights, for each market's rooms, slots, and table games shows, that the Las Vegas Strip has had a higher ratio of rooms to visitors while Atlantic City has had a higher ratio of slots and table games to visitors since 1995. From its revenue per employee analysis, this study found that every employee in Atlantic City has generated higher revenue per employee than has the Las Vegas Strip since 1995. In 2000, every employee in Atlantic City generated revenue of $108,805 while an employee on the Las Vegas Strip generated an average revenue of $103,434.

Trends and Stability of Gaming Wins of Slots versus Table Games

The SPSS program was utilized to conduct the simple linear regression analysis for examining gaming win revenue trends and stability of Atlantic City and the Las Vegas Strip casinos, respectively, with deseasonalized gaming revenues as the dependent variable and time as the independent variable. Table 19 shows regression results for win revenues of slots and table games on the Las Vegas Strip in terms of four games: blackjack; baccarat; quarter slots; and dollar slots, the four leading gaming revenue generators on the Las Vegas Strip since 1991. Table 20 shows change rates of win revenues of the four major games on the Las Vegas Strip, regression results after log on each win revenues.

In linear regression analysis, the goodness of fit of the model is measured by R^2 statistics, which tells the percentage of variance in the dependant variable that can be explained by the independent variable. "F-statistics" is also a useful measure of statistical reliability of the regression. The large F and R^2 values associated with the model indicate that the regression model was validated with a high statistical significance for all tested games. The higher R^2 in the regression results for the each game's win revenues is associated with more stable and predictable win revenues, while the higher slope *b* is associated with higher revenue growth trends.

Table 19

The Regression Results for the Las Vegas Strip

	Constant *a* ($)	Slope *b* ($)	R^2	F	Sig F
1 Blackjack	35,276.245*	208.22*	67.99	250.59	5.78E-31
2 Baccarat	26,113.298*	190.56*	18.17	26.20	1.21E-06
3 Quarter Slot	47,341.153*	308.22*	89.88	1,047.68	1.58E-60
4 Dollar Slot	39,481.704*	147.86*	68.47	256.28	2.33E-31

Note: * p< .01, $ in thousands

Regression results of blackjack win revenues show that they had a higher growth trend and more stable win revenues than baccarat win revenues; the growth trend for blackjack win revenues was $208,220, while that of baccarat win revenues was $190,560. Figure 18 shows the regression result of blackjack win revenues on the Las Vegas Strip, while the regression result of baccarat win revenues is shown in Figure 19.

Regression results of quarter slot win revenues on the Las Vegas Strip show that these had a higher revenue growth trend and more stabilized revenues than did dollar slot win revenues. The revenue growth trend for quarter slots was $308,220 while that for dollar slots was $147,860. Table 20 shows change rates of win revenues for the four major games on the Las Vegas Strip. They are logged win revenues regressed against time, and the slope may imply average monthly growth rate. Baccarat had the highest change rate, 0.00285, among them, while dollar slot had the lowest change rate, 0.00138.

Figure 20 shows the regression result of quarter slot win revenues, and Figure 21 shows the regression result of dollar slot win revenues on the Las Vegas Strip. In its comparison of the trend and stability of blackjack win revenues with quarter slots win revenues on the Las Vegas Strip, this study found that quarter slot win revenues, which

here represent slot win revenues, had more stable revenues and a higher revenue growth trend than did blackjack games, which represent table win revenues.

Table 20

Change Rate of Gaming Win Revenues on the Las Vegas Strip

	Blackjack	Baccarat	Quarter Slot	Dollar Slot
Change Rate (ΔR)	0.00187*	0.00285*	0.00211*	0.00138*

Note: * $p < .01$

Table 21 shows revenue growths for blackjack and baccarat on the Las Vegas Strip during the 1991 base year. Blackjack win revenues, associated with high R^2 of 67.99 percent in the regression results, have seen stable increases, while baccarat win revenues, associated with low R^2 of 18.17 percent and relatively high change rate, have seen unstable increases; baccarat wins increased significantly to 188.3 percent in 1995, but declined to 169.3 percent in 2000 during the 1991 base year. Table 22 shows that the quarter and dollar slot wins associated with high R^2 in the regression results have seen stable increases, from 1991 through 2000.

Table 21

Table Games Win Revenues on the Las Vegas Strip

	Blackjack Win ($ in thousands)	Growth (%)	Baccarat Win ($ in thousands)	Growth (%)	Total Table Win ($ in thousands)	Growth (%)
1991	459,880	100.0	316,059	100.0	1,303,742	100.0
1995	553,891	120.4	595,078	188.3	1,862,745	142.9
2000	744,634	161.9	535,195	169.3	2,390,355	183.3

Note. From "Gaming Revenue Report," by Nevada State Gaming Control Board.

Table 22

Slots Win Revenues on the Las Vegas Strip

	0.25 Slot Win ($ in thousands)	Growth (%)	1.00 Slot Win ($ in thousands)	Growth (%)	Total Slots Win ($ in thousands)	Growth (%)
1991	563,145	100.0	457,745	100.0	1,339,180	100.0
1995	783,135	139.1	617,615	134.9	1,728,904	129.1
2000	979,573	173.9	679,140	148.4	2,380,019	177.7

Note. From "Gaming Revenue Report," by the Nevada State Gaming Control Board (1991, 1995, and 2000).

Table 23 shows regression results of slot and table win revenues for Atlantic City casinos. Aggregate table win revenues for Atlantic City casinos were associated with significantly lower F and R^2 in comparison with aggregate slot win revenues. Slot win revenues had much more stabilized revenues than did table win revenues, with significantly higher R^2. Slot win revenues also had a significantly higher growth trend than did table win revenues; the predicted table revenue growth trend was $94,000 while the slot revenue growth trend was $905,000. Table 24 shows change rates of win revenues of slots and table games in Atlantic City. They are logged win revenues regressed against time, and the slope may imply average monthly growth rate. The change rate of slot win revenues was higher than that of table win revenues.

Figure 22 shows the regression result of table win revenues, deviating substantially from the predicted table revenue line, with low R^2 of 23.82 percent, while Figure 23 shows the regression result of slot win revenues, highly concentrated on the predicted slot revenue line, with high R^2 of 92.05 percent.

Table 23

Regression Results for Atlantic City

	Constant *a* ($)	Slope *b* ($)	R^2	F	Sig F
1 Table Wins	91.273*	0.094*	23.82	36.89	1.57E-08
2 Slots Wins	155.963*	0.905*	92.05	1,366.99	9.82E-67

Note: * p< .01, $ in million.

Table 24

Change Rate of Gaming Win Revenues in Atlantic City

	Table Wins	Slot Wins
Change Rate (ΔR)	0.000422*	0.001923*

Note: * p< .01

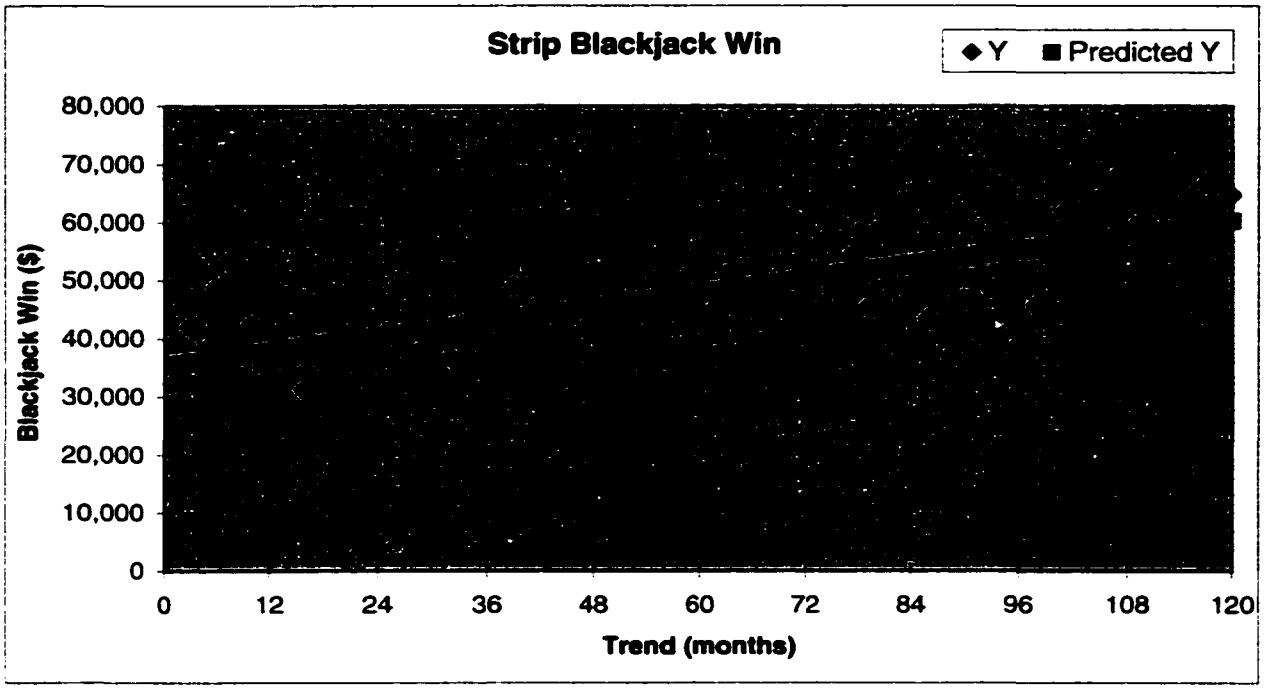

Figure 18. Regression result of Blackjack revenues on the Las Vegas Strip
*$ in thousands

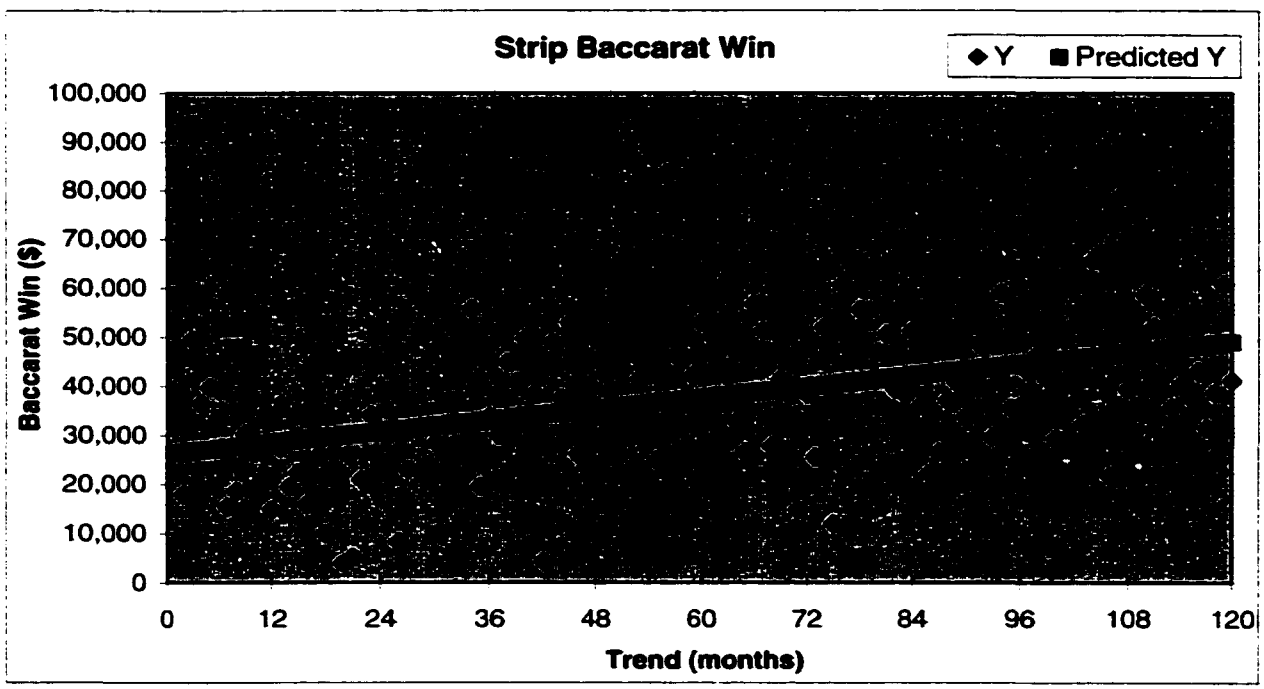

Figure 19. Regression result of Baccarat revenues on the Las Vegas Strip
*$ in thousands

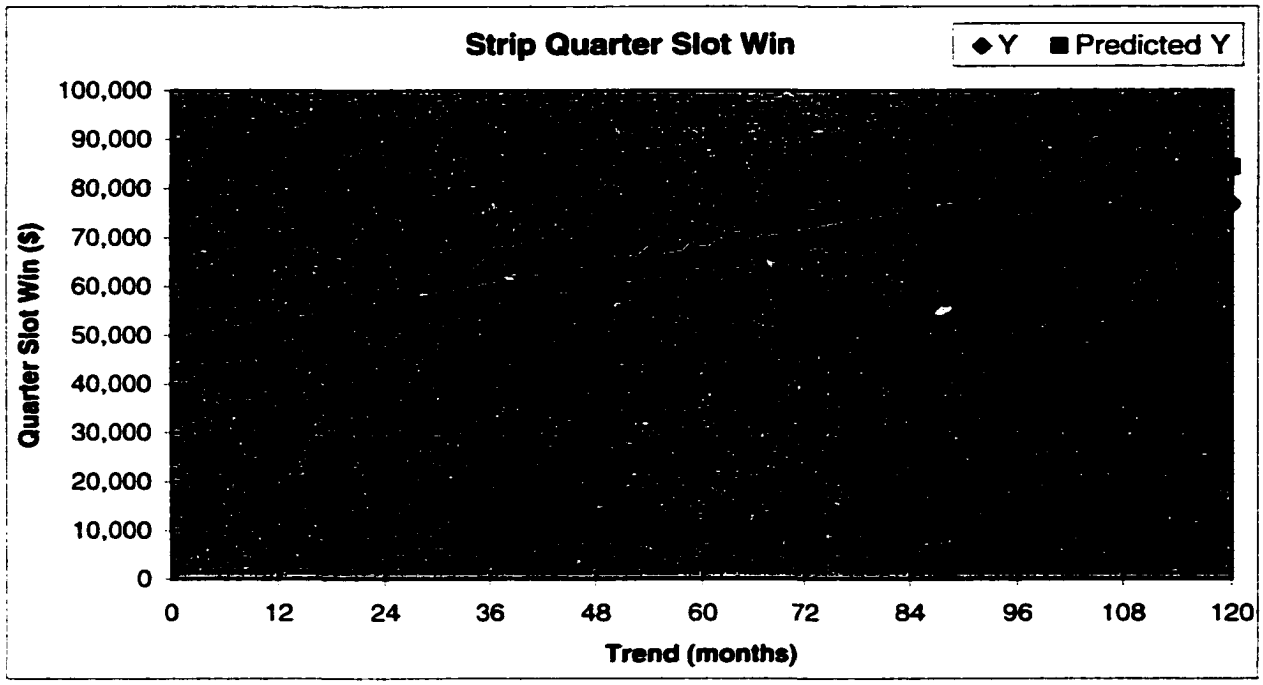

Figure 20. Regression result of Quarter Slot revenues on the Las Vegas Strip
*$ in thousands.

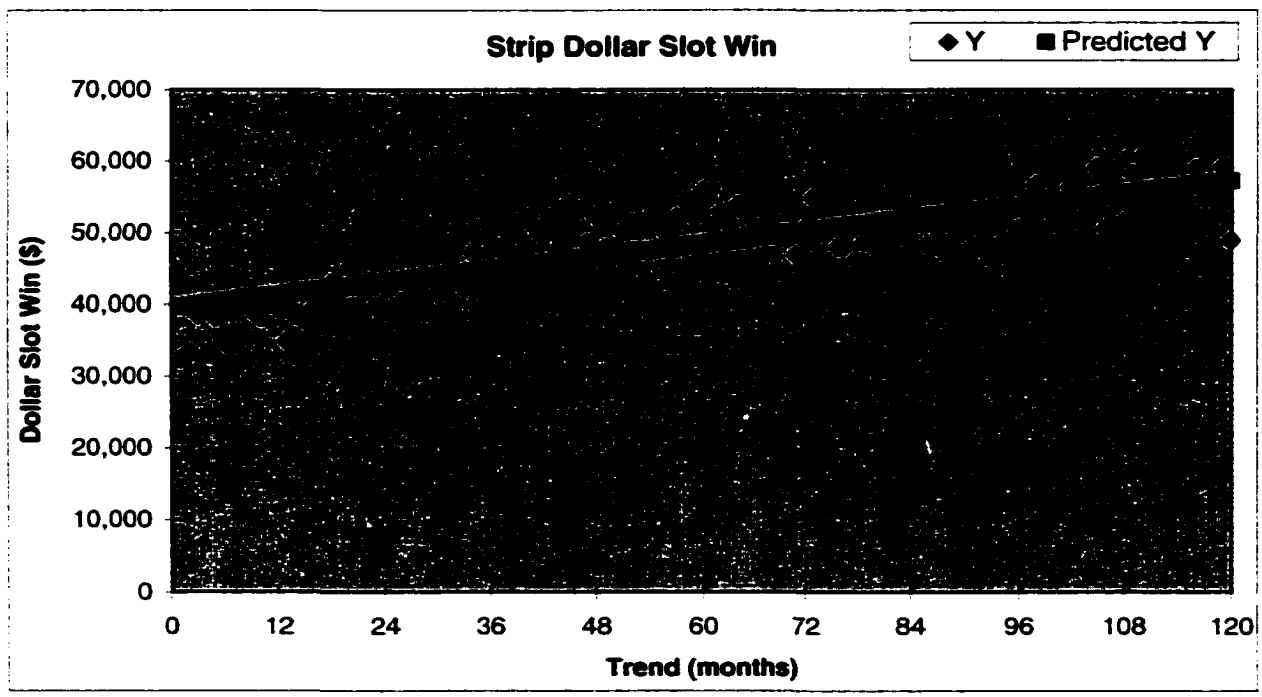

Figure 21. Regression result of Dollar Slot revenues on the Las Vegas Strip
*$ in thousands

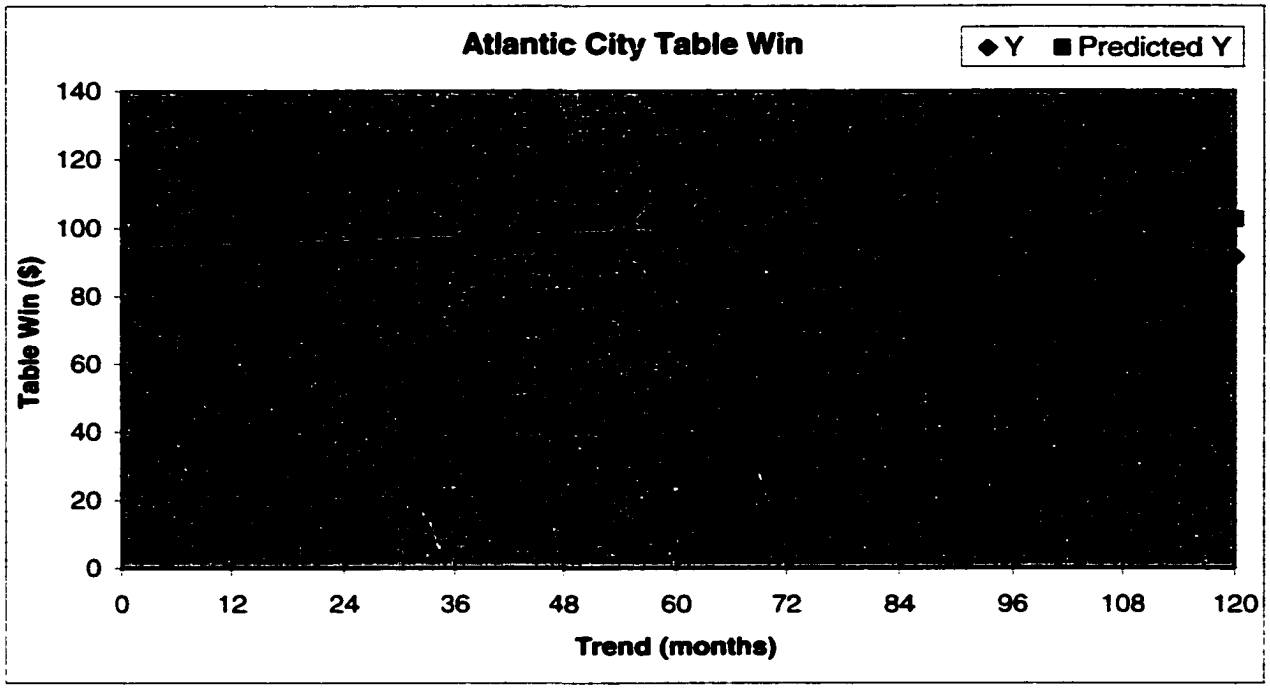

Figure 22. Regression result of table revenues in Atlantic City *$ in millions.

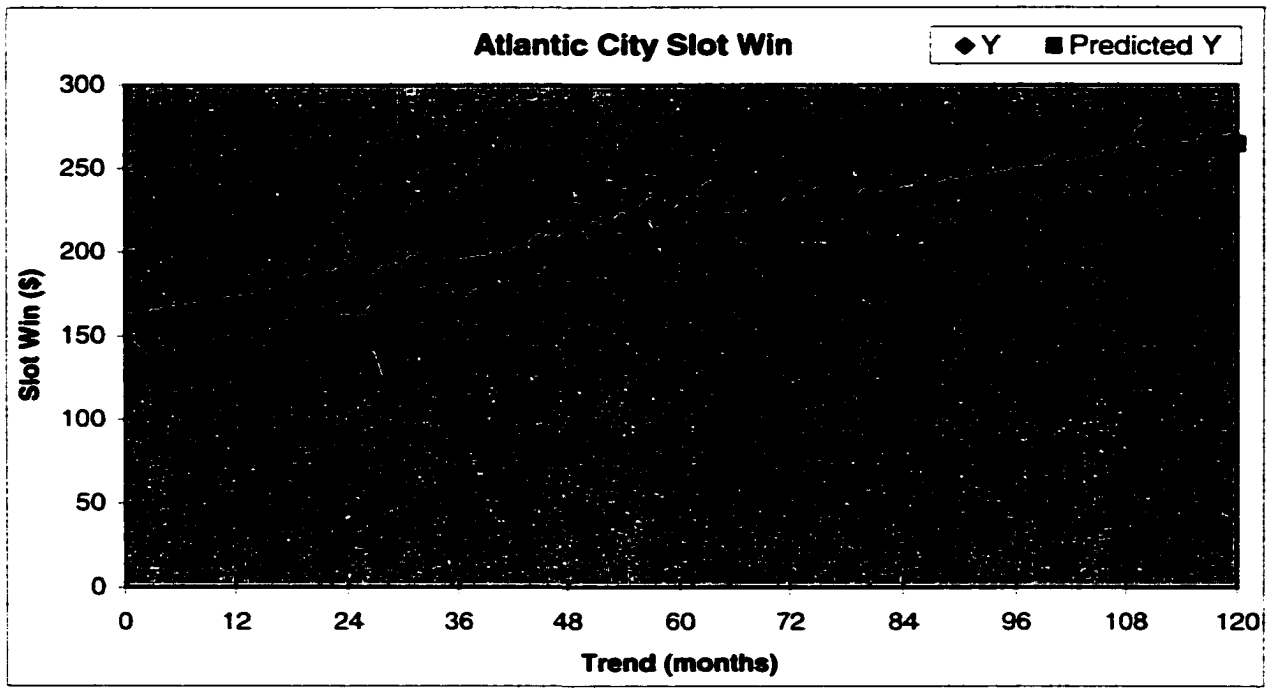

Figure 23. Regression result of slot revenues in Atlantic City *$ in millions

CHAPTER 5

SUMMARY AND CONCLUSIONS

Summary

There have been significant declines in net income before income taxes and extraordinary items on the Las Vegas Strip since 1996. In Atlantic City, net income before income taxes and extraordinary items declined dramatically in 1996, but has improved gradually since then. The main purpose of this study has been to assess the state of the casino industry in the two major U.S. markets of the Las Vegas Strip and Atlantic City, based on recent changes in their respective financial performances. Casino performances in the two markets were compared. Furthermore, this study investigated whether there are economies of scale in the gaming industry by comparing operations of large and small casinos in the two markets. Finally, win revenues of slots versus table games in Atlantic City and on the Las Vegas Strip were examined in terms of trends and stability.

To achieve this study's objectives, aggregated data of 37 casinos on the Las Vegas Strip and that of 12 casinos in Atlantic City were used in analyzing each market and comparing the two. For a comparison of financial performances of large and small casinos, Las Vegas Strip casinos were separated into two groups based on annual gaming revenue in 2000: 22 large casinos and 15 small casinos. In Atlantic City, 5 casinos with

annual gaming revenue of $400 million and over were categorized as large, while 7 casinos with annual gaming revenue of less than $400 million were categorized as small.

The results and findings of Chapter 4 were developed into six parts as follows: (1) Las Vegas Strip casinos; (2) Atlantic City casinos; (3) comparison between large and small casinos on the Las Vegas Strip; (4) comparison between large and small casinos in Atlantic City; (5) comparison between the Las Vegas Strip and Atlantic City; and (6) trends and stability of gaming wins of slots versus table games.

Las Vegas Strip casinos have grown rapidly since 1995 in terms of revenues and number of visitors. Non-gaming revenue sources, such as rooms, food, beverage, and other revenue centers, have increased in importance to drive revenues higher, while gaming as a percentage of total revenue declined by 7.9 percent in 2000 from 1995. Despite the fast rising revenue on the Las Vegas Strip, however, total costs and expenses have increased faster than total revenue and have caused a decline in net income before income taxes and extraordinary items for Las Vegas Strip casinos since 1996. Primary contributors to the declining profit margins were a significant increase in other general and administrative expenses: management fees; corporation fees; and internal maintenance fees, interest expenses, and depreciation and amortization, especially in 1999 and 2000, when several hotel-casinos opened on the Las Vegas Strip.

Atlantic City experienced a periodic marketing war that consisted of bus and coin giveaway packages in 1996 (Rutherford, 1999), which significantly contributed to an increase in total operating costs and expenses, and a decline in the bottom-line profit margin for the year. Since then, Atlantic City casinos have seen declining ratios of total costs and expenses and correspondingly increasing profit margins as a percentage of total

revenue. In 1999, Atlantic City casinos generated a net loss of 1.8 percent of total revenue, primarily due to huge non-operating expenses for the year. In 2000, however, Atlantic City casinos seemed to improve with moderate growth in EBITDA and net income before income taxes and extraordinary items, continuing to lower their total costs and expenses as a percentage of total revenue.

In the comparison of operations of large casinos with those of small casinos in Atlantic City and on the Las Vegas Strip, there were significant differences between large and small casinos. Large casinos had more diversified revenue distributions than small casinos, with lesser contributions from gaming revenue centers. Large casinos also enjoyed an obvious cost advantage, with significantly lower costs and expenses incurred for their overall operations. Because of large casinos' obvious cost advantages, due to economies of scale, their ratios of net income before income taxes and extraordinary items was significantly higher than that of small casinos in both markets.

In comparing of casino operations on the Las Vegas Strip with those of Atlantic City, this study found that Las Vegas Strip casinos have had more diversified revenue distributions than have Atlantic City casinos since 1995, with fewer contributions from gaming. Meanwhile, Las Vegas Strip casinos have had higher bad debt expenses and selling, general, and administrative expenses as a percentage of total revenue, while Atlantic City casinos had higher promotional allowances and interest expenses as a percentage of total revenue. Despite the comparable daily win per table game, the Las Vegas Strip has had lower daily win per slot than Atlantic City since 1995. In 2000, Atlantic City's daily win per slot was $233, while daily win per slot was only $106 on the Las Vegas Strip. Capacity analysis showed that the Las Vegas Strip has had a higher ratio

of rooms to every visitor, while Atlantic City has had a higher ratio of slots and tables to every visitor since 1995.

Trends and stability of win revenues of slots versus table games in Atlantic City and on the Las Vegas Strip were examined by using the simple linear regression model. Each win revenue of four major games: blackjack; baccarat; quarter slots; and dollar slots, was examined for the Las Vegas Strip, while aggregate win revenues of slots and table games were examined for Atlantic City. Regression results showed that slots win revenues from quarter and dollar slots on the Las Vegas Strip had a higher revenue growth trend and more stabilized revenues than did win revenues for two major table games: blackjack and baccarat. In Atlantic City, aggregate slot win revenues had a significantly higher revenue growth trend and more stabilized revenues than did aggregate table wins.

Implications of the Study

Based on the results and findings, this study offers four important implications for Atlantic City and Las Vegas Strip casinos. First, Las Vegas Strip casinos need to tightly control their rising costs and expenses, which have increased even faster than has growth of total revenue. Primary contributors to rapidly rising costs and expenses were the music & entertainment item and other general and administrative item: management fees; corporation fees; and internal maintenance fees. Rapid increases in interest expenses, and in depreciation and amortization also contributed to a significant decline in net income before income taxes and extraordinary items, while EBITDA as a percentage of total revenue declined moderately since 1996. Las Vegas Strip casinos need to lower their

overall costs and expenses, focusing on items of general and administrative expense, and also change their emphasis from capacity expansion to customer market expansion.

Second, Atlantic City casinos need to build more diversified revenue distributions, increasing their non-gaming revenue proportion, just as the Las Vegas Strip has repositioned itself as a multi-entertainment destination. For the future success of Atlantic City, casino operators need to increase their numbers of non-gaming entertainment options, and also add to the percentage of travelers who come by air in order to increase the average length of stay and number of visitors, as opposed to a continued reliance on day-trippers. In addition, Atlantic City casinos need to decrease their interest expenses and promotional allowances by lowering their debt finance and changing their marketing strategies to be more cost efficient.

Third, Las Vegas Strip casinos could invest more in slots, quarter slots in particular, in comparison with table games, because regression results showed that slots win revenues have a higher revenue growth trend and more stable revenues than do table games. However, since the daily win per slot on the Las Vegas Strip has been lower than that of Atlantic City, Las Vegas Strip casinos should invest in promoting slots with various marketing strategies, rather than merely increasing the number of slots. In comparison with blackjack, baccarat has had low and unstable wins with substantial changes. This may be because most of baccarat players are high rollers, and casinos do not always win against them due to a low theoretical win of 1.235 percent (Kilby & Fox, 1998). Therefore, casino operators could promote blackjack games over baccarat games. For Atlantic City casinos, they need to invest more heavily in slots, which have a significantly higher revenue growth trend and much more stabilized revenues compared

to table games, even though slot revenues for Atlantic City accounted for more than 70 percent of gaming revenue in 2000.

Finally, it was identified, based on comparison of financial performance of large and small casinos in the two markets, that economies of scale exist in the gaming industry. Therefore, more active mergers and acquisitions could be considered by the gaming industry, since lower borrowing costs; amelioration of duplicative general and administrative expenses; and purchasing economies of scale should be primary drivers of earnings growth.

One of the most beneficial aspects of merger and acquisition activity is "synergy gaining". According to Morck, Shleifer and Vishny (1988), synergy gains may derive from increases in market power, offsetting the profits of one firm with tax loss carry forwards, thus combining marketing networks or simply eliminating functions common to both firms. Within the gaming industry especially, a merger and acquisition might also provide benefit: acquiring customer databases from the target company. Such databases can help an acquiring company enter a new market with greater ease.

Recommendations for Future Studies

For future studies comparing casino operations of the Las Vegas Strip and Atlantic City, respectively, it is suggested that new emerging markets, such as riverboat gaming and Indian reservation gaming also be examined. Both of these markets have increased in importance within the U.S. gaming industry in terms of gaming revenue. Merrill Lynch estimates that in 2000, riverboat gaming won approximately $9.3 billion,

and Indian reservation gaming won $9.9 billion while total gaming revenue for the U.S. as a whole was approximately $35.1 billions for that year (Simpson, 2001).

Based on examination of such emerging markets, future studies could compare casino operations of traditional markets, such as Las Vegas and Atlantic City, with those of emerging markets, like riverboat and Indian reservation gaming. The comparative analysis of casino operations within traditional markets with those of emerging gaming markets would provide a more complete picture of the gaming industry in the United States.

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