CHAPTER 1

INTRODUCTION AND BACKGROUND

INTRODUCTION

There is no question that gambling is a major industry in the State of Louisiana. Louisiana has more forms of legalized gambling than any other state, save Nevada, with a land-based casino, riverboat casinos, horse-racing tracks, off-track betting, video poker in a large number of locations, Indian reservation casinos, and lotteries. With the exception of horse tracks and off-track betting, all of the other forms of gambling have been introduced into the State's economy over the past ten years.

In 1998, total revenues for the State's gambling industry were $2.178 billion. In contrast, 1990 total revenues for the State's gambling industry were $192.1 million. Clearly, the gambling industry has been a growth industry in the State in the 1990s. Unlike other industries, especially growth industries, the gambling industry has faced a great deal of criticism by business, government, and religious leaders. In the face of this explosive growth in the industry and the constant questions posed about the industry, the Louisiana Legislature in the Fiscal Session of 1998 added $600,000 to the budget of the Louisiana Gaming Control Board for **the purpose of studying the impact of gambling on the Louisiana economy**.

Among the questions that the Gaming Control Board and the Legislature wanted addressed are:

1. Who provides the billions of dollars spent on gambling in the State?

2. To what extent do the various gambling venues bring in dollars and people from outside the State to gamble in Louisiana? Do those visitors spend money in other businesses in the State while they are here to gamble?

3. Are the gambling dollars spent by Louisiana residents dollars that would have been spent out of state or are they dollars that would have been spent on activities other than gambling?

4. Do the gambling businesses spend their money in Louisiana with local business or do the dollars flow out of state?

5. Does gambling cause additional crime in the State?

6. Does gambling create additional social costs in the State?

These are some of the important questions that are addressed in this study.

RESEARCH TEAM

The Gaming Control Board contracted with the University of New Orleans to lead a team of Louisiana and national researchers in the search for answer to these and other questions. Dr. Timothy P. Ryan and Dr. Janet F. Speyrer, of the University of New Orleans, directed this effort. They assembled a team that included scholars from all corners of the State, especially those areas that had significant gambling activities. Several major universities in the State of Louisiana are represented. To guide the project, an Editorial Board was created to make important research decisions and give final approval to the overall project. The members of the Editorial Board are:

1. Dr. Timothy P. Ryan, University of New Orleans
2. Dr. Janet F. Speyrer, University of New Orleans
3. Ms. Susan T. Beal, Louisiana State University, Shreveport
4. Dr. Daryl V. Burckel, McNeese State University
5. Dr. Bobby R. Cunningham, Grambling State University
6. Dr. Michael M. Kurth, McNeese State University
7. Dr. Loren C. Scott, Louisiana State University, Baton Rouge
8. Dr. Jerry L. Wall, Northeast Louisiana University
9. Dr. James R. Westphal, Louisiana State University Medical School, Shreveport

In addition to the members of the Editorial Board, the research team also included Dr. Rachel Volberg and Mr. Lamar Moore, Gemini Research; Mr. John Boston, Survey Communications, Inc.; Dr. Dek Terrell, Louisiana State University in Baton Rouge; Dr. Lee Stevens, Louisiana State University Medical Center in Shreveport; Dr. Joyce Johnson, Centenary College of Louisiana; Ms. Carolyn White, Louisiana State University in Shreveport; Ms. Dee Jones, Northeast Louisiana University; and Ms. Jamie Fisk, Mr. Vinnie Maruggi, Ms. Patricia Connor, and Ms. Ludivine DorJe Foley, University of New Orleans.

The final report is a joint product of the Editorial Board. Several reports were conducted on specific subjects as part of the overall study and are included in the appendices. Those reports are credited to the individual authors.

In this study, the types of gambling analyzed include riverboat casino gambling, Indian reservation casino gambling, video poker, horse racing and off-track betting, and the lottery. Note that riverboat gambling receives the most in-depth treatment because of the limited number of locations and the potential ability of riverboat casinos to attract people and dollars from outside the community. Other than border effects, the other forms of gambling have limited ability to attract visitors from out of state. Indian casino gambling receives more limited analysis due to the non-availability of data. Since Indian gambling occurs in sovereign nations and is not subject to state regulation or taxation, data are not available from government sources. Indian casino representatives were unresponsive to our direct requests for data.

HISTORY OF THE GAMBLING INDUSTRY IN LOUISIANA

Prior to 1990, horse racing and charitable gambling were the only forms of legalized gambling in Louisiana. In 1990, the Louisiana Legislature and the voters passed a constitutional amendment authorizing the Louisiana Lottery. In 1991, the Legislature authorized video poker gambling devices for bars, restaurants, truck stops, racetracks, and off-track betting facilities. In the same year, the Legislature passed legislation authorizing 15 riverboat casinos statewide with a maximum of six in any one parish. In 1992, the Legislature passed legislation legalizing land-based casino gambling at the Rivergate site in New Orleans. During the period from 1990 to 1998, Indian reservation casinos also developed as the State entered into compacts with certain tribes.

Once the necessary legislation was passed, gambling activity began quickly. The Louisiana Lottery was unveiled in 1991; and, in 1995, Louisiana joined the multi-state powerball. Lottery revenues started at $79.7 million in the first year of operation and quickly climbed to $248.3 million in only the second year of operation. To this point in time, second year lottery revenues still mark maximum annual revenues.

After an initial delay in the licensing process, video poker machines began to operate in late spring 1992 at 42 locations with 1,273 devices operating. Then, video poker spread like wildfire throughout the State. In 1998, approximately 15,125 video poker machines existed in 3,600 establishments. Players lost approximately $676.5 million, and state and local governments collected almost $200 million in taxes, fees, penalties and interest. Recently, 33 parishes voted to make video poker illegal when current contracts expire. This change has not taken effect yet, and it is unclear how video poker revenues to the government will be affected.

Of the 15 riverboat casino licenses authorized, 13 license holders are currently operating casinos and one plans to start operations soon. One license remains available. Of the 13 operating boats, three are in the New Orleans metropolitan area (one in Orleans Parish and two in Jefferson Parish), two are in Baton Rouge, four are in Lake Charles, and four are in the Shreveport-Bossier City metropolitan area (one in Caddo Parish and three in Bossier Parish). The 14th license has been designated for a boat in the Shreveport-Bossier City metropolitan area, bringing the total in the Shreveport-Bossier City metropolitan area to five.

Land-based gambling, on the other hand, has had a much more tumultuous history. In 1995, a temporary casino, Harrah's Jazz, opened in New Orleans at the Municipal Auditorium while the permanent land-based casino was being constructed at the Rivergate site. However, when Harrah's Jazz went into Chapter 11 bankruptcy protection in November 1995, the temporary casino was closed after only six months of operation. All construction at the Rivergate site was halted until the company came out of bankruptcy in 1998. The casino is expected to re-open in 2000. (Note that the land-based casino was not included in this study since it did not operate during the period of this study).

Finally, three Indian tribes have signed compacts with the State to operate casinos on their reservations. By 1998, the Chitimacha, Tunica-Biloxi, and Coushatta tribes operated a casino in St. Mary, Avoyelles, and Allen Parishes, respectively.

Before proceeding with an analysis of the Louisiana gambling industry, it is important to define some terms used in the industry and in this report. First, it is very important to make a distinction between **gross wagering** and **gross revenue** for the gambling establishment. Gross wagering is the total amount of money bet by the players

(for racetracks, the gross wager is referred to as the "handle"). A significant fraction of the gross wager amount is returned to winners. The difference between the gross wager and the amount paid to winners is the gross revenue to the gambling establishment, which is equal to the amount lost by the players. For casinos, the gross revenue is referred to as the “Win.”

Table 1-1 presents the overall history of gambling revenue from 1990 to 1998. In 1998, players lost approximately $2.178 billion on the forms of gambling being studied. Over the period from 1990 to 1998, the gambling industry has grown by 1,134%, an increase of $1.986 billion.

TABLE 1-1
GAMBLING NET REVENUES OVER TIME
(IN MILLIONS)

Year	Video Poker	Riverboat Casinos	Lottery	Horse Racing	Charitable Gaming	Total
1990	–	–	–	$131.9	$60.2	$192.1
1991	–	–	$79.7	129.8	76.5	286.0
1992	$94.7	–	248.3	114.4	87.9	545.3
1993	274.6	–	201.8	104.5	79.3	660.2
1994	474.6	$309.3	158.4	87.1	65.1	1,094.6
1995	549.5	1,050.0	153.0	73.2	55.2	1,880.9
1996	605.4	1,211.5	142.0	73.7	53.6	2,086.2
1997	632.4	1,245.0	143.8	74.9	51.3	2,147.4
1998	676.5	1,212.9	156.1	78.7	54.1	2,178.3

Source: Louisiana State Police, Louisiana Racing Commission, Louisiana Lottery Corporation

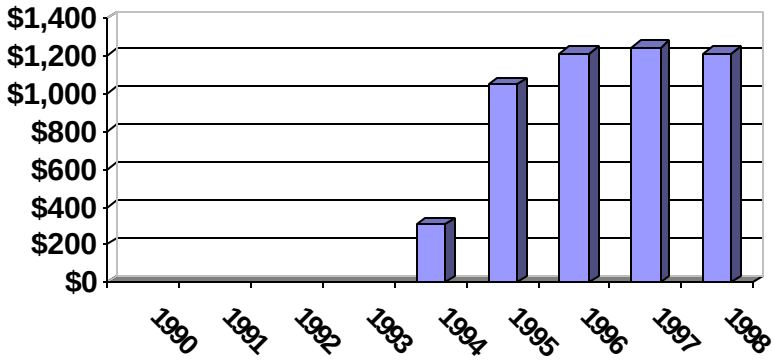
Clearly, the gambling industry is a very significant industry in the Louisiana economy. However, there does seem to be some substitution among forms of gambling. In 1992, before riverboat casinos and video poker were fully implemented, the lottery,

horse racing, and charitable gaming had net revenues of $450.6 million. In 1996, after these other forms of gambling were fully implemented, the lottery, horse racing, and charitable gaming had net revenues of only $269.3 million, a decline of $181.3 million (40%).

Initially, upon introduction of a new form of gambling, net revenues tend to grow rapidly. Once that form of gambling is in operation for a few years, the growth tends to slow. From 1990 to 1995, the gambling industry in Louisiana grew at an annual rate of 57.8%. From 1995 to 1998, a period in which no new forms of gambling were introduced into the economy, the annual growth rate has been 5.0%.

Figures 1-1 through 1-6 present the revenue trends of the various components of the gambling industry from 1990 to 1998. Figure 1-1 presents riverboat casino revenue.

FIGURE 1-1
RIVERBOAT CASINO WIN
(IN MILLIONS OF DOLLARS)



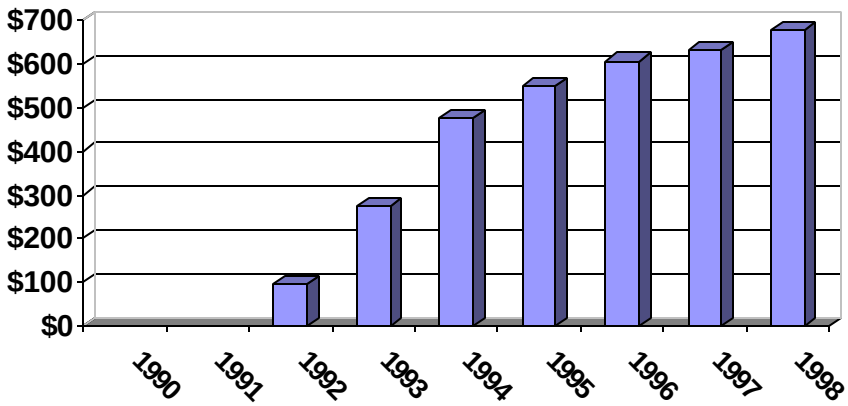
Source: Louisiana State Police

The riverboat casino industry reached high levels of Win very quickly. In only the second year of operation (1995), total riverboat revenues were 84% of the maximum

annual revenues (achieved in 1997). Riverboat revenues declined 3% in 1998 from the maximum revenues, which were achieved the previous year. This decline may be due to the closure of the Flamingo Casino in New Orleans.

Figure 1-2 presents video poker gross device revenue totals for the State from 1992 to 1998. Unlike riverboat revenues, video poker revenues rose more gradually from inception in 1992 to 1998. Also unlike riverboat revenues, video poker revenues have not declined in the most recent year.

FIGURE 1-2
VIDEO POKER REVENUE
(IN MILLIONS OF DOLLARS)

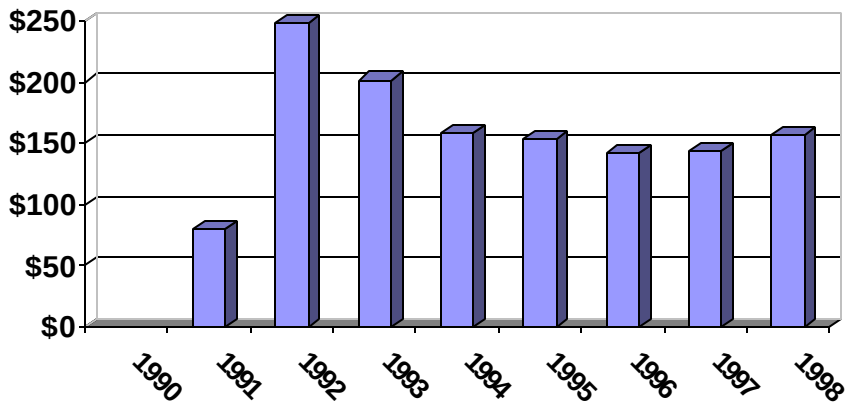


Source: Louisiana State Police

Figure 1-3 presents total net revenues for the Louisiana Lottery from 1991 to 1998. For the lottery, net revenues are defined as the total number of dollars that contribute to the economy through taxes or lottery expenses. Approximately 50% of total dollars wagered in the lottery are returned to winners, and 50% goes to the state government or the Louisiana Lottery Corporation to pay expenses associated with the

game. The Lottery reached its peak in only its second year of operation, 1992. From 1993 to 1996, Lottery net revenues dropped each year. Since 1996, a year after Louisiana joined the multi-state powerball lottery, State lottery sales have increased slightly.

FIGURE 1-3
LOTTERY NET REVENUES
(IN MILLIONS OF DOLLARS)

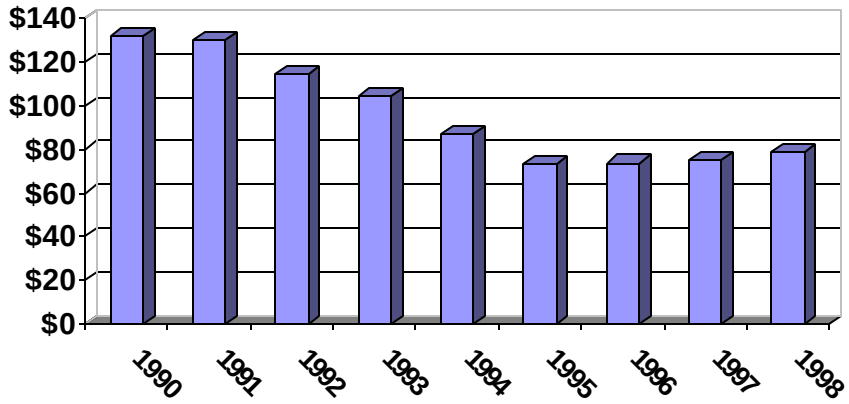


Source: Louisiana Lottery Corporation

Figure 1-4 presents horse racing and off-track betting net revenues from 1990 to 1998. As the State's oldest from of legalized gambling, horse racing has not fared well compared to the new forms of gambling. In 1998, horse racing net revenues were 60% of what they were in 1990, before, lottery, video poker and riverboat casinos were legal.

FIGURE 1-4

HORSE RACING REVENUES (INCLUDING OFF-TRACK BETTING)
(IN MILLIONS OF DOLLARS)

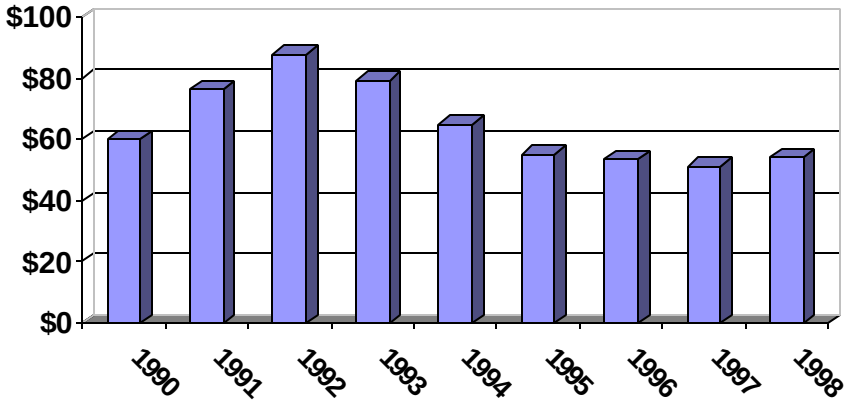


Source: Louisiana Racing Commission

Figure 1-5 presents the net revenues over time for charitable gaming. Although charitable gaming has fared somewhat better than horse racing, the pattern is similar. In 1998, charitable gaming net revenues were 89.9% of what they were in 1990. They are, however, 61.5% of what they were in 1992.

FIGURE 1-5

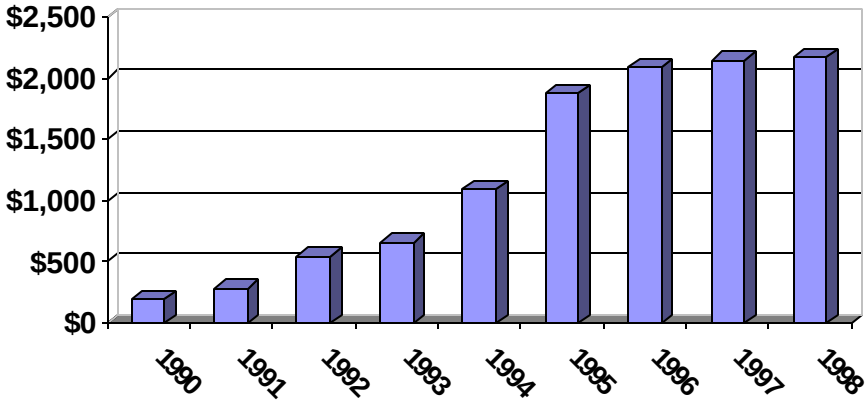
CHARITABLE GAMING NET REVENUES
(IN MILLIONS OF DOLLARS)



Source: Louisiana State Police

Finally, Figure 1-6 presents total net gambling revenues over the five forms of gambling identified.

FIGURE 1-6
OVERALL GAMBLING NET REVENUES
(IN MILLIONS OF DOLLARS)



Source: Louisiana State Police, Louisiana Racing Commission, Louisiana Lottery Corporation

The trend during the period from 1990 to 1998 has been positive with net revenues rising every year. The rate of growth has clearly slowed, however, as the gambling industry, as a whole, starts to mature. This pattern is similar to what most industries experience with companies tending to show higher growth rates in the early years than the later years.

DATA SOURCES AND METHODOLOGY

To answer the questions posed earlier in this report, it was necessary to gather as much data about the gambling industry as possible. Primary and secondary data were examined. Primary data are data that were generated expressly for this study. These data were obtained through a series of questionnaires developed by the research team.

Secondary data are those published data series that relate to the overall economy and to the impact of gambling on the economy.

PRIMARY DATA

Several different survey instruments designed and administered by the research team were used to collect primary data. Those instruments included:

1. **Intercept surveys** at the various riverboat casino sites to gather information on the visitors to casinos. The information collected included:

    a. State of residence
    b. Primary purpose of trip (gambling, other pleasure, business/convention, other)
    c. Length of trip
    d. Frequency of visits
    e. Spending in the casino
    f. Spending elsewhere in the community/elsewhere in Louisiana
    g. Basic demographics (residents/nonresidents and other)

2. **Surveys of vehicles in riverboat casino parking lots** to determine the percentage of license plates registered in Louisiana versus out of state (see Appendix G). This percentage, along with information from the intercept surveys, was used to determine the state of origin of casino visitors.

3. **A telephone survey** of Louisiana residents to gather information on casino and video poker visits and other gambling activities by locals. The data collected included:

    a. Frequency of gambling
    b. Annual resident spending on various gambling activities
    c. Source of gambling funds
    d. What type of gambling is preferred
    e. Where residents gamble
    f. Attitudes about gambling in general and about specific forms of gambling
    g. Perceived benefits and drawbacks or costs of gambling

4. **A mail survey of local businesses** in Louisiana. Although businesses statewide were surveyed, metropolitan areas with riverboat casinos were specifically targeted in the sample. The objective of the survey was to determine the impact of gambling on the following aspects of local businesses:

    a. Sales
    b. Costs
    c. Profits
    d. Business climate
    e. Employee performance
    f. Theft

5. **A casino employee survey** was designed to determine the working conditions, prior job history, job satisfaction, and other attributes of casino employment. The survey was distributed to a random sample of riverboat casino employees.

6. **A second telephone survey of Louisiana residents** was used to determine the prevalence of problem and pathological gambling among Louisiana residents. Dr. Rachel Volberg conducted this part of the current study to assure comparability to a similar 1995 Louisiana study and the recently completed National Gambling Commission study (both were conducted by Dr. Volberg). The prevalence study uses the South Oaks Gambling Screen (SOGS), a series of questions designed to determine the level of any gambling problem that may exist, to measure problem gambling prevalence. The SOGS has been used in all major gambling prevalence studies in the past 15 years. In addition to the SOGS, the 1998 prevalence study uses the Fisher screen to determine problem and pathological gambling behavior according to the DSM-IV criteria. DSM-IV is the currently accepted problem gambling measure used by the American Psychiatric Association.

7. **A survey of Gamblers Anonymous (GA) participants and gamblers in treatment programs** was conducted to determine the social costs created by problem gambling behavior. These include crime, credit problems, family problems, personal bankruptcies, treatment, and legal costs. Business costs such as absenteeism, reduced productivity, and embezzlement caused by gambling problems were also addressed. A random sample of people interviewed during the prevalence study were recalled for a panel-back survey so that a comparison of costs incurred could be made and the results generalized to the Louisiana population.

SECONDARY DATA SOURCES

In addition to the primary data gathered for the study, a number of sources of secondary data were used. The secondary data included:

1. Total employment by parish, by state planning district, and for the State of Louisiana.
   Data sources: United States Department of the Census, Bureau of Economic Analysis, and Louisiana Department of Labor.

2. Total earnings by parish and for the State of Louisiana.
   Data sources: United States Department of the Census and Bureau of Economic Analysis.

3. Total retail sales by parish and for the State of Louisiana.
   Data source: Woods and Poole Economics, Inc.

4. Per capita personal income by parish and for the State of Louisiana.
   Data sources: United States Department of the Census and Bureau of Economic Analysis.

5. Riverboat casino revenues, Win, and tax payments.
   Data source: Louisiana Department of Public Services, Information Services Section.

6. Riverboat casino accounting data.
   Data sources: Riverboat casinos and Louisiana Attorney General's Office.

7. Video poker revenue and tax receipts.
   Data source: Louisiana State Police, Video Poker Division.

8. Horse race track and off-track betting revenues, handle, and taxes paid.
   Data source: Louisiana State Racing Commission.

9. Horse race track and off-track betting employment and other expenditure.
   Data source: Horse race tracks.

10. Other data sources as listed.

CHAPTER 2

DEFINITION OF BENEFITS AND COSTS

INTRODUCTION

This chapter presents the costs and benefits that were included in the overall analysis. The focus of this study is to quantify as many of the costs and benefits as possible. However, there are some costs and benefits that are impossible or difficult to quantify but are important. Those costs and benefits that could be quantified are discussed in the report. Since non-quantifiable costs and benefits cannot be included, readers must understand that it is impossible to reach a simple conclusion that "gambling is good for the State" or "gambling is bad for the State."

BENEFITS

Almost all benefits derived from gambling are economic, such as new spending, new jobs, new income, and new tax revenues. Specifically, the benefits identified in this study included:

1. Net new direct spending in the State due to gambling. When any new industry or business enters a state and is successful, new dollar spending will be created in that state. That new spending is a very important part of the benefits of the introduction of the industry or business. Great care must be taken, however, to determine if that spending is really **new** to the state or is existing spending that is **diverted** from some existing industry or business.

   Some examples should help illustrate the problems in this determination. Consider the construction of a new convention center in an area that had none. Once the center is completed, national trade shows and conventions can be held in the area. In this case, the new convention center brings new spending into the area without displacing any existing spending. On the other hand, consider the building of a new Wal-Mart or other retail outlet in an area. Generally, the existence of a new retail outlet does not create new spending. In fact, if the retail outlet is popular, it will draw business away from other existing retail outlets.

   There are three important points to keep in mind with respect to this analysis. First, in the real world, there are seldom examples of either polar case mentioned in the examples. In most cases, the introduction of a new industry or business into an area creates some new spending and diverts some spending from existing businesses. Second, the amount of new spending introduced into an area by a

new industry or business may differ in the short run as opposed to the long run. In the Wal-Mart example in the short run, the economy may support both the new and the existing retailers. During this period, there could be new spending in the area as the owners of the firms subsidize lower sales by having overlapping staff and facilities. In the long run, it is likely that either the national or the local firm will reduce staff or facilities and spending in the area will decrease. Finally, from an economic point of view, the "Wal-Mart" effect is not necessarily an undesirable effect. If Wal-Mart does drive the local retailers out of the market, it is because the consumers prefer Wal-Mart; and, hence, the region is better off than before. The same thing can be said of gambling. Even if all of the spending related to gambling came from within the community (this is not likely), it does not mean that gambling is bad for that reason alone.

One of the most challenging parts of this research was to identify the net new spending created by the various gambling activities. The research team employed several different methodologies to identify net new spending as opposed to diverted spending. First, in interviews with local residents and casino patrons from Louisiana, questions were asked to determine the sources of their gambling funds. Second, econometric analysis was used to determine the net effect of the introduction of gambling in an area by analyzing data on total employment, sales tax revenues, and the like.

2. Net spending by local residents diverted from out-of-state gambling to Louisiana gambling destinations. When calculating the net impact of gambling on the Louisiana economy, it is important to consider that Louisiana gambling venues may keep people and dollars in the State. Gambling is a reality in the United States. There are countless opportunities, some very nearby, to gamble. If no legalized gambling were available in Louisiana, dollars would still leave the State. Thus, to some extent, offering gambling in Louisiana keeps dollars in the State. This is a net benefit of gambling. Louisiana residents were asked questions during the casino intercept and resident surveys to measure this phenomenon.

3. Net new jobs created (or jobs saved) by gambling. Based on an analysis similar to the one discussed in point 1, gambling can also create net new jobs in a community. There is generally a direct relationship between the amount of net new spending in an area due to some activity and the net new jobs created by that activity. The creation of net new jobs by gambling is measured by the same instruments that net new spending is measured.

4. Net new income created (or saved) by gambling. Based on an analysis similar to the one discussed in point 1, gambling can also create net new income in a community. There is generally a direct relationship between the amount of net new employment in an area due to some activity and the net new income created by that activity. The creation of net new income by gambling is measured by the same instruments that net new spending is measured.

5. Net new state and local tax revenues created (or saved) by gambling. Whenever a new economic activity creates new spending and creates new jobs in an area, new tax revenues are created for state and local governments. Some of these new tax revenues are direct taxes – taxes levied on the activity itself. Other new tax revenues are created by the indirect benefits of the new activity, such as the income created by the activity. In the case of gambling, the direct taxes are high compared to other industries. Thus, since the gambling industry is more heavily taxed than most other industries, one dollar spent at a casino instead of in another industry yields higher revenues to the government. In this study, direct tax revenues were obtained from the government agencies. The indirect tax revenues were estimated by the use of various economic models that will be explained as part of each individual section in this report.

6. Net new visitors attracted to the State by gambling. One important aspect of the gambling industry is the possibility that the industry can attract new visitors to the State. In addition to providing a source of net new spending directly in the gambling industry, new visitors can create additional spending in other industries of the State's economy (such as the hotel or restaurant industries). New visitors can also create other ancillary benefits, such as hotel and other related developments. The number of new visitors attracted to the State's gambling venues was measured by the intercept surveys at the casinos, by the license plate survey, and by econometric analysis of riverboat gambling and video poker revenues.

7. Other benefits. There are other benefits that can be identified but are not as easily quantified as points 1 through 6. These benefits could include providing jobs for otherwise unemployed or underemployed people (measured by the casino employee survey) or participation by casinos as "good corporate citizens" in an area as revealed in the survey of residents. As well, there are certain non-economic benefits such as improved entertainment opportunities, enhanced local infrastructure, etc. that are not included in the present study because of problems of quantification.

COSTS

A perennial problem in gambling benefit/cost studies is defining costs. Benefits are, in general, easily identifiable and quantifiable; but costs are difficult to identify and to quantify. The fact that costs are not easily quantifiable does not mean that they are not important. In this study, the research team made every effort to identify and quantify the costs of gambling. Cases in which the costs are not quantifiable but are significant were identified. These two types of costs included:

1. Increased government spending on regulating the gambling industry, enforcing gambling laws, and providing other extraordinary governmental services to the industry. In the United States, the gambling industry is heavily regulated. A state government, therefore, must spend part of the revenues it receives from the industry to regulate the industry. As a result, not all of the government revenues derived from the industry are net spendable revenues for the State. Data on government expenditures to regulate the industry were provided by the Louisiana Gaming Control Board, Louisiana State Police, Louisiana Attorney General's Office, Louisiana State Racing Commission, and the Louisiana Lottery Corporation.

2. Increased crime rates and related costs such as police and other criminal justice system expenditures. The introduction of gambling into a community has often been touted as the cause of an increase in the crime rate in that community. There are two potential sources of this increased crime. The first source is what can be referred to as "crimes of opportunity." These are crimes committed against casino patrons. Gamblers are believed to present an easy target to criminals; and, thus, burglary, theft and other property crimes increase in and around casino locations. The second source is crimes committed by addicted gamblers who steal or embezzle to pay for gambling losses. The "crimes of opportunity" costs were measured by an econometric analysis of cross-section data for the 64 parishes of Louisiana (see Appendix I). The magnitude of the gambling problems in Louisiana was measured by the gambling prevalence study. The Louisiana gambling prevalence and Gamblers Anonymous/Treatment studies measured the number and types of crimes associated with problem gambling behavior.

3. Increased personal and small business bankruptcies and related personal and government costs. One of the possible costs of problem gambling behavior is a misuse of credit related to gambling debts. Misuse of credit can lead to personal bankruptcy. The relationship between gambling and bankruptcy was measured by two studies. First, a bankruptcy study is included as a separate study within this research (see Appendix J). This study employed a macro analysis to determine the extent of the relationship between bankruptcy and gambling. Second, the relationship between gambling and personal bankruptcy was measured by the gambling prevalence and Gamblers Anonymous/Treatment studies to determine the number and types of negative outcomes, including personal bankruptcy, associated with addictive gambling behavior.

4. Increased costs to business due to employee theft, employee absenteeism and reduction in worker productivity. Many people argue that gambling problems causes significant work-related problems, including employee theft, employee absenteeism and reduction in worker productivity. The existence of any such problems was measured by the gambling prevalence, GA/Treatment, and business surveys. The objective was to determine the number and types of negative outcomes associated with addictive gambling behavior.

5. Increased social costs due to gambling. Social costs could include family problems, personal depression, and suicide. Many people believe that persons with gambling problems exhibit significant interpersonal and family problems, including personal depression and suicide. The gambling prevalence and GA/Treatment studies measured the existence of such problems. In addition to determining the number and types of negative outcomes associated with addictive gambling behavior, treatment costs to attempt to alleviate addictive gambling behavior were also estimated.

CHAPTER 3

CITIZEN AND BUSINESS ATTITUDES TOWARD GAMBLING

INTRODUCTION

The attitudes of Louisiana citizens and businesses toward gambling are discussed in this chapter. Data for this chapter were largely derived from the resident survey (See Appendix B for a complete report on the resident survey) and the business survey (See Appendix C for a complete report on the business survey). These results, for the most part, are **purely attitudinal**; very few "hard facts" about the gambling industry are included. Instead, attitudes of Louisiana residents and businesses about the gambling industry are reported. However, for policy makers, attitudes and perceptions of constituents and business leaders are very important.

RESIDENT SURVEY

In October 1998, over 2,200 Louisiana residents were reached by phone and asked a series of questions regarding their attitudes about gambling and the impact of gambling on their lives, their communities, and on the State of Louisiana. The survey was designed to oversample people in those areas of Louisiana that have significant gambling activities. Thus, a larger number of people in each of the Lake Charles, Shreveport-Bossier City, New Orleans, and Baton Rouge areas were contacted to insure that the sample size in those areas was sufficient to allow comparisons among areas. Questions were asked about all of the various forms of gambling that are legal and practiced in Louisiana.

The first series of questions asked residents to indicate what they thought about the overall impact of each form of gambling. Table 3-1 depicts the results by gambling type. Responses for additional forms of gambling are reported in Appendix B.

TABLE 3-1
OVERALL IMPACT OF GAMBLING

Type of Gambling	Positive	No Impact	Negative
Casino	26.4%	46.3%	26.3%
Video Poker	16.0%	55.4%	27.5%
Horse Racing	14.0%	63.9%	20.2%
Off-Track Betting	8.7%	66.2%	23.1%
Lottery	26.1%	51.7%	21.1%
Overall (Asked as a separate question.)	32.2%	16.9%	44.9%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

As Table 3-1 shows, "no impact" is the response most often reported for all the major forms of gambling in Louisiana. However, for all forms of gambling except lottery and casinos, negative impacts were cited more often than positive impacts. Moreover, the number of people who felt that casinos had a positive impact was only one-tenth of one percent higher than the number of people who felt casinos had a negative impact. According to residents' perceptions, off-track betting has the largest negative-to-positive response ratio with over 2 ½ times as many people reporting a negative impact.

Residents were also asked a general question about the overall impact of gambling (as opposed to any particular form of gambling). As shown in Table 3-1, it is clear that, in general, more people believe that, overall, gambling has had a negative impact more than a positive impact (by a more than four-to-three margin). Interestingly, the 44.9% negative impact for gambling overall is significantly higher than even the highest negative response elicited when questioned about specific forms of gambling (video poker at 27.5%).

A series of questions was asked about the effect of gambling on the respondent's community, on the respondent personally, and on his or her financial position. The results are shown in Table 3-2.

TABLE 3-2
IMPACT OF GAMBLING

Area	Positive	No Impact	Negative
On the Community	22.9%	45.6%	27.6%
On Respondent Personally	14.7%	73.3%	11.1%
On Respondent Financially	8.6%	84.9%	5.6%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

Thus, even though most Louisianans admit that gambling has had little negative impact on them personally or on their finances, over one fourth still believe that gambling has had a negative impact on their community.

A series of questions was asked to determine the attitudes of Louisiana residents about the impact of gambling on various quality of life issues. Table 3-3 presents the results of those questions.

Whether it is true or not, many Louisiana residents believe that gambling has had a negative impact on social values (young people, family life, and social problems) and on crime (violent crime, vice crime, and property crime). However, this is not a majority opinion. In fairness, it must be noted that the largest portion of the respondents answered "about the same" for most questions.

When asked if gambling has had any positive effects, 53.3% replied that it had. The most often cited response was that gambling produced more jobs (61.8 % of respondents). Other positive effects listed were more tax revenues (39.8%), more tourism (33.7%), good for the economy (31.9%), and new business opportunities (27.2%).

TABLE 3-3

IMPACT OF GAMBLING ON QUALITY OF LIFE

Response	Better[1]	Worse[1]
Local Government Services	19.4%	12.2%
Local Community's Youth	9.7%	29.8%
Property Values	20.6%	16.1%
Quality of Family Life	8.5%	37.6%
Availability of Restaurants	48.2%	7.8%
Violent Crime	5.9%	41.8%
Entertainment Options	41.1%	9.9%
Vice Crime	2.6%	43.1%
Tourism	55.2%	7.9%
Social Problems	3.2%	47.7%
Business Climate or Environment	33.5%	15.6%
Property Crime	3.9%	44.9%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

[1] Remaining percentages are in "about the same" category.

When asked if gambling has had any negative effects, 53.3% also replied that it had. The most often cited response was that gambling produced more gambling problems (59.5 % of respondents). Other negative effects cited were gambling by poor people (52.9%), more family problems (27.4%), more crime (24.9%), and more corruption (23.1%).

Statewide, 15.4% of the respondents reported being a crime victim since January 1, 1995. However, only 1.9% of the respondents (12.3% of the victims statewide indicated the crime was gambling related.

Almost 60% (59.8%) of the respondents indicated that they had gambled sometime in their life. Of these, 78% indicated that they had gambled in the past 12 months. When asked if they had ever gambled at a Louisiana casino, 49.2% of respondents indicated that they had. Of those who had gambled at a Louisiana casino,

43.4% indicated that they had not gambled in a casino before going to one in Louisiana. **Thus, there is some evidence that the introduction of casino gambling into Louisiana has provided opportunities for previous non-gamblers to gamble.**

A series of questions was asked to residents who gamble to determine if the existence of Louisiana gambling caused them to stay at home to gamble instead of going out of state to gamble. The results are summarized in Table 3-4 and indicate that **out-of-state casino visits by most (54%) Louisiana residents who gamble were unaffected by the introduction of Louisiana casinos.**

TABLE 3-4

FREQUENCY OF OUT-OF-STATE CASINO VISITS
AFTER INTRODUCTION OF CASINOS IN LOUISIANA

Less Frequently	About the Same	More Often
38.7%	54.0%	4.7%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

Those who gamble in Louisiana casinos were asked what would they do if the Louisiana casinos closed. The responses included go out of state to gamble (26.6%), play the lottery (4.9%), play video poker (2.0%), go to the race track (1.2%), and not gamble (57.1%). **Thus, it would appear that almost 60% of current casino gamblers would gamble less if casinos were not readily available. However, 38.7% did indicate that they do visit out-of-state casinos less frequently, keeping gambling dollars in the State.**

The survey was designed so that it was possible to analyze the results by geographical area. Results are reported for Lake Charles, Shreveport-Bossier City, New Orleans, Baton Rouge, and the rest of the State. Residents were asked a series of

questions about the impact of the various forms of gambling. The results are shown by geographical area in Tables 3-5 and 3-6.

TABLE 3-5

PROPORTION INDICATING GAMBLING HAS A **POSITIVE** IMPACT BY AREA

Type of Gambling	Lake Charles	Shreveport-Bossier City	New Orleans	Baton Rouge	Rest of the State
Casinos	38.0%	35.4%	26.8%	21.1%	24.8%
Video Poker	19.6%	17.7%	15.8%	14.5%	16.0%
Horse Racing	18.7%	21.2%	14.5%	10.4%	12.9%
Off-Track Betting	8.8%	11.6%	8.8%	5.9%	8.9%
Lottery	30.8%	27.8%	27.3%	24.6%	25.1%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

TABLE 3-6

PROPORTION INDICATING GAMBLING HAS A **NEGATIVE** IMPACT BY AREA OF THE STATE

Type of Gambling	Lake Charles	Shreveport Bossier-City	New Orleans	Baton Rouge	Rest of the State
Casinos	22.8%	17.7%	25.3%	29.1%	28.1%
Video Poker	27.2%	21.7%	24.4%	31.1%	29.8%
Horse Racing	18.7%	17.2%	16.7%	20.4%	23.4%
Off-Track Betting	20.9%	17.2%	21.8%	21.9%	25.7%
Lottery	19.8%	16.7%	19.2%	22.8%	23.1%

Source: Gambling Study Team, Louisiana Resident Survey, 1998

The pattern of residents' attitude is clear. **Residents in Lake Charles and Shreveport-Bossier City have a much more positive attitude about gambling than do people who live in the other parts of Louisiana.** They also have much higher positive responses about all forms of gambling than do residents of other areas in Louisiana.

Moreover, they have generally lower negative responses about all forms of gambling than do other areas of Louisiana. It is no coincidence that the riverboat casinos in Lake Charles and Shreveport-Bossier City have been the most successful and have been the only areas of the State in which casinos have attracted a large number of visitors from outside the area to gamble.

BUSINESS SURVEY

The first mailing of the business survey was sent to 13,000 businesses on November 10, 1998 with a cover letter from Governor Foster. A postcard was mailed November 17, 1998 as a reminder to those who had not returned the survey or a thank you to those who did return the survey. A follow-up mailing with a different cover letter from Governor Foster was mailed to a sample of the original 13,000 businesses. Over 2,800 businesses (21.5%) completed the survey.

The first question asked of businesses was, "Has the presence of gambling affected your local community as a place to do business?" The answers to this question vary widely depending on where the business is located. As was the case in the resident survey, business people in Lake Charles and Shreveport-Bossier City tended to answer positively to a much greater extent. In Lake Charles, 72.3% indicated that gambling had positively affected their community; in Shreveport-Bossier City, the proportion was 71.5%; in New Orleans, Baton Rouge, and the rest of the State, the positive responses were 44.7%, 47.8%, and 51.3%, respectively.

The next set of questions asked business respondents to indicate what effects the specific kinds of gambling had on their community as a place to do business. Table 3-7 presents the State totals for responses to these questions.

TABLE 3-7

BUSINESS ATTITUDES TOWARD GAMBLING'S EFFECT ON THEIR COMMUNITY AS A PLACE TO DO BUSINESS

Type of Gambling	Very Positive	Positive	No Effect	Negative	Very Negative
Casinos	15.9%	19.0%	9.1%	28.8%	24.6%
Video Poker	11.7%	11.2%	12.4%	25.5%	35.9%
Horse Racing	6.4%	13.4%	48.1%	12.0%	7.9%
Off-Track Betting	3.1%	6.2%	47.4%	16.9%	9.4%
Lottery	7.2%	12.7%	36.5%	22.9%	14.8%

Source: Gambling Study Team, Opinion Survey of Louisiana Businesses, 1998

When the business responses are viewed by area of the State, a very similar pattern to the resident survey emerges. Businesses in Shreveport-Bossier City and Lake Charles tend to feel much more positively about gambling than do businesses in the rest of the State. **The pattern is clear. In those areas in which the form of gambling in question is viewed as bringing in dollars and visitors from outside Louisiana, the business community is positive about that form of gambling (see Table 3-8). In areas where the particular form of gambling has no presence, such as horse racing in Baton Rouge, the business community is not very positive about that form of gambling.**

TABLE 3-8
PROPORTION INDICATING GAMBLING HAS
A POSITIVE OR VERY POSITIVE IMPACT
BY AREA

Type of Gambling	Lake Charles	Shreveport Bossier-City	New Orleans	Baton Rouge	Rest of the State
Casinos	68.6%	72.3%	32.5%	32.2%	20.2%
Video Poker	37.6%	35.2%	22.3%	23.3%	17.0%
Horse Racing	20.7%	52.8%	23.6%	5.6%	10.9%
Off-Track Betting	7.3%	24.3%	12.3%	4.6%	4.3%
Lottery	21.4%	33.3%	21.5%	19.3%	14.2%

Source: Gambling Study Team, Opinion Survey of Louisiana Businesses, 1998

A series of questions was asked to determine the specific impact of gambling on business costs and revenues and profits. Table 3-9 presents a summary of the results for gambling as a whole.

TABLE 3-9
BUSINESS ATTITUDES TOWARD GAMBLING EFFECT ON THEIR BUSINESS

Business Condition	Positive	No Effect	Negative	Mixed
Business Revenue & Customers	22.8%	39.8%	28.2%	4.0%
Business Costs	7.2%	62.3%	23.3%	1.3%
Business Profits	19.3%	43.2%	27.6%	2.8%
Employees	6.1%	62.8%	25.8%	0.9%

Source: Gambling Study Team, Opinion Survey of Louisiana Businesses, 1998

Again, the results vary by area of the State. Businesses in Lake Charles and Shreveport-Bossier City tended to answer every question with a response that is twice as positive as that of the State average. This is clearly due to the bigger economic impact, particularly the visitor impact of casinos in Lake Charles and Shreveport-Bossier City. It

is interesting to note, however, that their negative responses are not higher than those businesses in other parts of Louisiana. If gambling is larger in these two communities and gambling does have costs associated it with it, you would expect to find greater negative responses from businesses in those areas along with greater positive responses. We did not identify such an effect.

It has often been argued that one potential negative impact of gambling, especially casinos, is that gambling attracts workers from existing businesses. According to the business survey, 11.9% of all businesses statewide indicate that they had lost employees to the casino industry. In Lake Charles and Shreveport-Bossier City, as expected, those percentages are higher (20.8% and 17.1%, respectively). When asked why these employees had left to go to the casino industry, businesses statewide said some of the reasons were higher pay (67.2%), better benefits (31.0%), and a different working environment (29.3%).

It is often argued that crime and gambling go hand in hand. The business survey asked businesses if they had experienced crimes related to gambling. Survey questions asked about robberies, employee theft, non-employee theft, and burglary. Table 3-10 presents the results of these questions.

TABLE 3-10

PROPORTION OF BUSINESSES IMPACTED BY GAMBLING-RELATED CRIME BY AREA

Type of Crime	Lake Charles	Shreveport-Bossier City	New Orleans	Baton Rouge	Rest of the State
Robbery	0.9%	0.8%	1.7%	2.7%	1.8%
Employee Theft	6.0%	7.7%	6.0%	11.1%	7.4%
Non-Employee Theft	3.5%	3.6%	3.1%	4.7%	3.9%
Burglary	1.7%	2.8%	2.7%	4.2%	3.0%

Source: Gambling Study Team, Opinion Survey of Louisiana Businesses, 1998

These results should be viewed very skeptically. It seems that the overall attitude about gambling impacts the business response to the level of crime attributable to gambling. In Baton Rouge, the area of Louisiana with the least gambling activity, businesses indicate that they have the largest problem with gambling-related crime. Lake Charles and Shreveport-Bossier City, the two areas with the most gambling activity, report the least problems with gambling-related crime. Interestingly, some 7 % of all businesses statewide indicate that they have had employee theft related to gambling. Even in Lake Charles and Shreveport-Bossier City, where the aura of good feelings about gambling seems to be the strongest, 6.0% and 7.7% of the businesses indicate that they experienced some employee theft related to gambling.

CHAPTER 4

GAMBLING BENEFITS

INTRODUCTION

The benefits from gambling are presented in this chapter. Each major form of gambling under study will be discussed separately. As presented in Chapter 2, gambling benefits include:

1. Net new direct spending in the State due to gambling. Great care must be taken to determine if spending is really new to Louisiana or is existing spending that is diverted from some existing industry or business. The research team employed several different methodologies to identify net new spending as opposed to diverted spending. First, in interviews with local residents and casino patrons from Louisiana, questions were asked to determine the sources of their gambling funds. Second, econometric analysis was used to determine the net effect of the introduction of gambling in an area by analyzing data on total employment, sales tax revenues, and the like.

   When calculating the net new spending, it is important to consider that Louisiana gambling venues may keep people and dollars in Louisiana. This phenomenon is measured by questions asked of local residents during the casino intercept and resident surveys.

   The final consideration in the calculation of net new spending of the gambling industry is the possibility that the industry can attract new visitors to Louisiana. In addition to providing a source of net new spending directly in the gambling industry, new visitors can create additional spending in other industries of the State's economy, such as the hotel or restaurant industries. New visitors can also create other ancillary benefits, such as hotel and other related developments. The number of new visitors attracted to the State's gambling venues was measured by the casino intercept and license plate surveys and econometric analysis of riverboat gambling and video poker revenues.

2. Net new jobs and earnings created (or jobs saved) by gambling. Based on an analysis similar to the one discussed in point 1, gambling can also create net new jobs in a community. There is generally a direct relationship between the amount of net new spending in an area due to some activity and the net new jobs created by that activity. The creation of net new jobs by the gambling industry is measured by the same instruments that net new spending is measured. Based on an analysis similar to the one discussed in point 1, gambling can also create net new income in a community. There is generally a direct relationship between the amount of net new employment in an area due to some activity and the net new income created by that activity. The creation of net new income by gambling is measured by the same instruments that net new spending is measured.

3. Net new state and local tax revenues created (or saved) by gambling. Whenever a new economic activity creates spending and creates new jobs in an area, new tax revenues are created for state and local governments. Some of these new tax

revenues are direct taxes (taxes levied on the activity). Other new tax revenues are created by the indirect benefits of the new activity, such as the income created by the activity. In the case of gambling, the direct taxes are large compared to other industries. Thus, one dollar spent at a casino instead of at a movie theater yields the government a net increase in revenues since the gambling industry is more heavily taxed than the movie theater industry. Direct tax revenues were obtained from the government agencies. The indirect tax revenues were estimated by the use of various economic models that will be explained as part of each individual section in this report.

4. Other benefits. There are other benefits that can be identified but are not as easily quantified as points 1 through 3. Those benefits could include providing jobs for otherwise unemployed or underemployed people (measured by the casino employee survey). It could also include the participation of casinos as "good corporate citizens" in an area. As well, there are certain non-economic benefits such as improved entertainment opportunities, enhanced local infrastructure, etc. that are not included in the present study because of problems of quantification.

RIVERBOAT CASINOS

The benefits derived from riverboat casinos are presented in this section. Riverboat casinos receive a great deal of attention in this report for several reasons. First, the riverboat casino industry is the largest sector in the Louisiana gambling industry. Second, riverboat casinos have the greatest opportunity to create secondary benefits for the economy since they offer a greater attraction to visitors compared to the lottery, video poker, and horse racing. Finally, because of the limited number of casinos (compared to video poker with thousands of outlets) and the strict regulatory environment, it was possible to obtain the necessary information.

NET NEW DIRECT SPENDING

New spending in Louisiana due to the riverboat casinos consists of two parts: 1) the new dollars spent in the State by the casinos themselves and 2) those new dollars spent in other parts of the economy by those who visit Louisiana to gamble. To determine the new dollars spent in the State by the casinos, it is necessary to adjust the total casino spending by the dollars that are displaced from other forms of local spending.

The estimates for total new spending and other variables in this section are for calendar year 1998. The adjustment process has several steps:

1. Determine total revenues at the casinos.

2. Determine the total number of casino customers.

3. Determine the number of new out-of-state visitors versus in-state and existing out-of-state visitors. The two customer categories of interest are "non-local customers" and "local customers." Non-local customers (or new visitors) are nonresidents attracted to the State specifically by gambling (visitors-1) and nonresidents visiting for other purposes but extending their stay to gamble (visitors-2). Local customers include nonresidents not specifically visiting Louisiana to gamble (visitors-3) and Louisiana residents. Figure 4-1 depicts these categories.

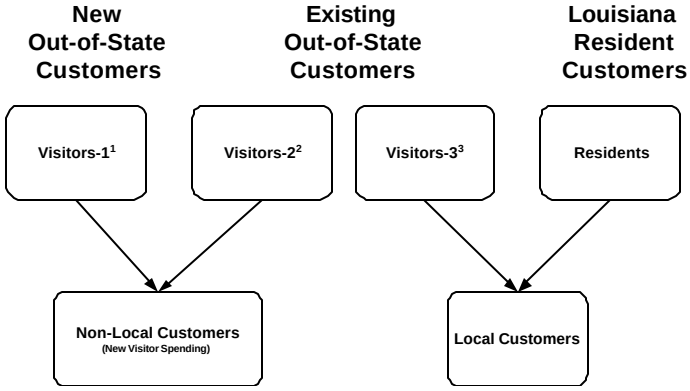
4. Determine the total amount of casino spending for each of the groups identified in step 3.

5. Adjust the total amount of spending by subtracting the amount displaced from other local spending by the local customers (local residents and visitors-3 who were in the area for reasons other than gambling but who spent money at the casino).

6. Estimate net new local spending by the casinos by subtracting displaced local spending.

7. Estimate the spending by non-local customers (visitors-1 and visitors-2) in other parts of the local economy – notably hotels, restaurants, and retail establishments. These are the people visiting Louisiana specifically with the intent to gamble at the riverboat casinos (or extend their stay to gamble); and, thus, are generating spending that would not have occurred without the riverboat casinos.

FIGURE 4-1
CASINO VISITOR CATEGORIES



1 Visitors (nonresidents) whose primary purpose is to gamble.
2 Visitors (nonresidents) whose primary purpose is **not** to gamble **but** extend their stay to gamble.
3 Visitors (nonresidents) whose primary purpose is **not** to gamble **and** who **do not** extend their stay to gamble.

The first step is to determine total revenues at the casinos. The total 1998 casino revenues by area are presented in Table 4-1. In calendar year 1998, local residents and all out-of-state visitors spent over $1.3 billion dollars at Louisiana's thirteen riverboats. The largest local market was Shreveport-Bossier City, followed by New Orleans, Lake Charles, and Baton Rouge. In 1998, almost 25.4 million people visited a Louisiana riverboat to gamble. Shreveport-Bossier City area riverboats led the State in customers (12.1 million), followed by New Orleans (5.7 million), Lake Charles (5.0 million) and Baton Rouge (2.6 million).

TABLE 4-1
TOTAL 1998 CASINO REVENUES BY AREA

Area	Revenues
New Orleans	$304,575,956
Baton Rouge	120,261,052
Lake Charles	299,703,642
Shreveport-Bossier City	598,695,792
TOTAL	$1,323,236,442

Source: Louisiana Attorney General's Office and Individual Casinos

The next step is to determine what proportions of the total customers are local customers and non-local customers. Those proportions were determined from the intercept survey results. From October 1998 to January 1999, riverboat customers on all thirteen of Louisiana's active riverboats were surveyed. A sample of over 1,700 riverboat customers were asked a series of questions concerning residency, purpose of trip, trip spending, etc. (See Appendix F). Table 4-2 presents the 1998 Louisiana riverboat casino customers by category and area.

The riverboat casino markets in New Orleans and Baton Rouge are primarily local markets with 97.7% and 99.0% local customers, respectively. Lake Charles and Shreveport-Bossier City attract large numbers of non-local customers, primarily from Texas. In Lake Charles, only 35.0% of the casino customers are local; and, in Shreveport-Bossier City, 55.9% are local. **In total, 8,755,562 non-local customers (or 34.5% of total casino customers) were attracted to Louisiana (or stayed extra time in Louisiana) by riverboat casinos.** Of this total, 98.2% of the total customers (8,599,266) were attracted to Lake Charles and Shreveport-Bossier City.

TABLE 4-2

TOTAL 1998 CASINO CUSTOMERS BY CATEGORY AND AREA

	Non-local Customers		Local Customers		
Area	Visitors-1[1]	Visitors-2[2]	Visitors-3[3]	Residents	Total
New Orleans	57,819	72,229	260,622	5,271,207	5,661,877
Baton Rouge	11,681	14,567	43,700	2,520,729	2,590,677
Lake Charles	3,051,606	198,243	462,567	1,290,840	5,003,256
Shreveport	4,739,598	609,819	1,810,097	4,975,255	12,134,769
TOTAL	7,860,704	894,857	2,576,986	14,058,032	25,390,579

Source: Louisiana State Police and Gambling Research Team, Casino Intercept Survey

1 Visitors (nonresidents) whose primary purpose is to gamble.

2 Visitors (nonresidents) whose primary purpose is **not** to gamble **but** extend their stay to gamble.

3 Visitors (nonresidents) whose primary purpose is **not** to gamble **and** who **do not** extend their stay to gamble.

The next step in the estimation process is to determine the total casino spending related to the various groups identified in Table 4-2 (local and non-local customers). Local and non-local customer spending may not be equal. There is no direct data on individual casino spending (remember that "casino spending" in this context is defined as the casino Win or the amount of money that the customers lose). In the absence of direct evidence of customer losses at the casinos, the gambling spending of each group was estimated by using the amount of time each group spent gambling (that figure is available from the casino intercept survey). In New Orleans and Baton Rouge, local and non-local customers spend, on average, the same amount of time gambling. Thus, there is no need to make any adjustment; and total casino spending can be apportioned to local and non-local customers based on the customer counts. In Lake Charles and Shreveport-Bossier City, the amount of time spent by non-local customers is statistically greater than the amount of time spent by local customers. In Lake Charles, non-local customers spend 54.9% more time, on average, in the casino than local customers do. In Shreveport-

Bossier City, non-local customers spend 51.8% more time in the casinos than local customers do. These ratios are used to adjust the customer count to estimate non-local and local casino spending. These estimates are shown in Table 4-3.

TABLE 4-3

TOTAL 1998 CASINO CUSTOMER SPENDING BY CATEGORY AND AREA
(IN MILLIONS)

Area	Non-local Customers	Local Customers	Total Customers
New Orleans	$7.00	$297.58	$304.58
Baton Rouge	1.22	119.04	120.26
Lake Charles	241.99	57.71	299.70
Shreveport-Bossier City	425.39	173.30	598.69
TOTAL	$675.60	$647.63	$1,323.23

Source: Louisiana State Police and Gambling Research Team, Casino Intercept Survey

In 1998, non-local customers visiting Louisiana for gambling purposes spent $675.60 million at the riverboat casinos alone. During that same period, local customers spent $647.63 million. Most of the non-local customer spending ($667.38 million) was in Lake Charles ($241.99 million) and Shreveport-Bossier City ($425.39 million). Thus, the Lake Charles and Shreveport-Bossier City markets account for 98.8% of the casino non-local customer spending in Louisiana. **These data clearly indicate two completely different gambling markets. New Orleans and Baton Rouge have local casino markets, and Lake Charles and Shreveport-Bossier City have primarily non-local casino markets.**

The next step in the estimation process is to determine local customer spending that is displaced from other competing local uses. Economic logic tells us that consumer

spending is limited by income. The basic tautology in economics is that total income is equal to consumption plus taxes plus savings. Those are the only uses of income. Thus, for a consumer to increase consumption on any good or service, he or she must reduce consumption of some other good or service, have an increase in income, or reduce savings (borrowings are considered reduced savings). This is obviously true for casino gambling.

In order to gain some information about the magnitude of the displacement effect, a Bayesian regression analysis was used to estimate the total earnings, both direct and secondary, created by the riverboat casino industry. The Bayesian technique allows us to begin with a plausible initial value (called the "prior") for the multipliers based on theory. Then, the data determine whether the multiplier for each of the state planning districts is larger or smaller than the assumed prior and by how much. (See text below for a detailed description of this methodology.) That analysis indicates that the riverboat industry generated $595.98 million of new earnings in Louisiana (see Table 4-13). Using the United States Bureau of Economic Analysis Input-Output Table, new earnings of $595.98 million are associated with $879.29 million of new spending in the State's economy. We know that non-local customer spending at the riverboat casinos in 1998 was $675.60 million. Thus, the implied net new local spending is the difference between the total estimated net new spending of $879.29 million and the new visitor (from non-local customers) spending of $675.60 million, or $203.69 million. Since the actual total local customer spending at Louisiana riverboat casinos in 1998 was $647.63 million, the diverted or displaced spending was $443.95 million. Table 4-4 presents the diverted spending figures by area for 1998.

TABLE 4-4

DIVERTED 1998 SPENDING BY CATEGORY AND AREA
(IN MILLIONS)

Area	Diversion
New Orleans	$203.99
Baton Rouge	81.60
Lake Charles	37.56
Shreveport-Bossier City	118.80
TOTAL	$443.95

Source: Authors' Calculations

Thus, riverboat casinos pulled a total of $443.95 million from other businesses in the Louisiana economy. This seems like a great deal of money; but, compared to the size of the overall riverboat gambling industry, it is small. It is also small compared to people's expectations based on the theoretical economic discussions of the budget constraint. If only a relatively small fraction of the local dollars spent on casinos comes out of other local spending, what is the source of the rest of the money? There are several possible answers. First, that money could come out of non-local spending, such as vacations, trips to out-of-state casinos, etc. Second, that money could come out of savings, borrowings, or some other source of income. Third, that money could come from increased incomes that occurred simultaneously with increased gambling spending. It is most likely the case that all three explanations are true in Louisiana.

This leads to a very important question. Is the low displacement rate temporary or will it be permanent? Clearly, there is no definitive answer to this question. There is, however, evidence to suggest that displacement of spending by Louisiana residents could increase over time for at least two reasons. First, if the local money spent on gambling comes from reduced savings or increased borrowing, eventually this pattern will be

reversed. When the savings run out or borrowing must be repaid, either the total dollars spent on gambling will decrease or displacement will increase. This needs to be watched carefully over time. Second, if the local money spent on gambling comes from increased local incomes due to the relatively good local economy in Louisiana, we should observe a change as the Louisiana economy slows. The period from 1994 to 1998 was a stronger than average growth period for the Louisiana economy due to other factors – a revival in the oil and gas industry, low interest rates, good national economy, and the like. It is likely that lower oil and natural gas prices and the resulting fallout effect is going to slow the State's economy closer to the average growth rate over the next two to three years. At that time, we should see either reduced gambling spending along with reduced discretionary spending in general, or increased displacement.

The steps that have been described above produce an estimate of existing (local customer) versus new (non-local customer) spending at the casinos themselves. This measures the amount of new money going into the casino. In order to estimate the net new impact of the casinos on the economy, we must measure what portion of this new money the casinos spend in the local economy. The Louisiana spending by the casinos was estimated by examining casino accounting data and various public reports (see Appendix K). Table 4-5 presents the amounts spent locally by the riverboat casinos.

TABLE 4-5

1998 LOUISIANA RIVERBOAT SPENDING BY CATEGORY AND BY AREA
(IN MILLIONS)

Area	New Orleans	Baton Rouge	Lake Charles	Shreveport-Bossier City	TOTAL
Wages and salaries	$65.26	$34.80	$66.75	$136.97	$303.78
Taxes	75.31	30.06	71.83	149.67	326.87
Local Purchases	65.40	28.15	56.44	108.89	258.88
Other	3.64	1.44	3.58	7.15	15.81
TOTAL	$209.61	$94.45	$198.60	$402.68	$905.34

Source: Louisiana Attorney General's Office and Individual Louisiana Riverboat Casinos

In 1998, the casinos spent over $900 million in the Louisiana economy in wages and salaries, state and local taxes, local purchases on goods and services, and other items. Based on data reported by the casinos, there were no significant capital expenditures that were not included in this figure. Of the total spent, $209.61 million was spent in New Orleans, $94.45 million in Baton Rouge, $198.60 million in Lake Charles, and $402.68 million in Shreveport-Bossier City. The final step in estimating the net new local spending related to riverboat casinos is to adjust the local spending in Table 4-5 by displacement ratios that can be calculated from Table 4-4. If one dollar is spent in the local community and $.50 of that dollar is from a reduction in spending somewhere else in that community, the net effect is only an increase of $.50. Table 4-6 presents the final net new casino spending numbers by area for 1998.

TABLE 4-6

1998 NET CASINO SPENDING BY AREA
(IN MILLIONS)

Area	Spending
New Orleans	$68.82
Baton Rouge	26.45
Lake Charles	177.99
Shreveport-Bossier City	328.34
TOTAL	$601.60

Source: Authors' Calculations

Thus, the net new spending in the State of Louisiana by the riverboat casino industry in 1998 was $601.60 million. Again, the largest share of that was spent in Shreveport-Bossier City with net new spending of $328.34 million, followed by Lake Charles ($177.99 million), New Orleans ($68.82 million), and Baton Rouge ($26.45 million).

The final step is to estimate the local spending by new casino visitors (non-local customers) in other areas of the economy – hotels, restaurants, retail establishments, local transportation and other local businesses. The methodology is straightforward. Total new visitor spending is equal to the number of non-local customers in Table 4-2 multiplied by the visitor spending in the various non-gambling categories. Data collected in the casino intercept survey is used to estimate the new visitor spending in these categories. Table 4-7 presents total visitor spending estimates in the spending categories.

TABLE 4-7

1998 NEW VISITOR SPENDING BY CATEGORY AND BY AREA
(IN MILLIONS)

Area	New Orleans	Baton Rouge	Lake Charles	Shreveport-Bossier City	TOTAL
Hotels	$23.71	$1.51	$14.17	$48.62	$88.01
Restaurants	10.37	2.45	31.38	69.16	113.36
Other	23.24	5.58	34.26	122.82	185.90
TOTAL	57.32	9.54	79.81	240.60	387.27

Source: Gambling Research Team, Casino Intercept Survey and Authors' Calculations

In 1998, visitors who came to Louisiana for the purpose of gambling at a riverboat casino or who extended their trip to gamble at a riverboat casino spent $387.27 million in other business in the State while they were here. The final step in estimating the total new spending in Louisiana related to riverboat casinos is to add the new visitor spending in Table 4-7 to the net new casino spending in Table 4-6. Those figures are presented in Table 4-8.

TABLE 4-8

1998 NET SPENDING BY AREA
(IN MILLIONS)

Area	Casino Spending	New Visitor Spending	Total New Spending
New Orleans	$68.82	$57.32	126.14
Baton Rouge	26.45	9.54	35.99
Lake Charles	177.99	79.81	257.80
Shreveport-Bossier City	328.34	240.60	568.94
TOTAL	$601.60	$387.27	$988.87

Source: Gambling Research Team, Casino Intercept Survey and Authors' Calculations

In 1998, the Louisiana riverboat casino industry contributed $988.87 million to the Louisiana economy. The big winner in the riverboat casino sweepstakes is Shreveport-Bossier City with $568.94 million in new spending (or 57.5% of the Louisiana total). Shreveport-Bossier City is followed by Lake Charles ($257.80 million, 26%), New Orleans ($126.14 million, 12.8%) and Baton Rouge ($35.99 million, 3.6%).

Table 4-9 presents a summary of the steps used to estimate the new spending generated by the riverboat casinos in Louisiana.

TABLE 4-9

1998 NET NEW RIVERBOAT SPENDING
(DOLLAR FIGURES IN MILLIONS)

Row	Category	Value
1	Total Riverboat Casino Win	$1,323.24
2	New Out-of-State Revenues	$675.60
3	In-State Revenues (Row 1 - Row 2)	$647.64
4	Diversion Rate	68.5%
5	Displaced Spending (Row 3 times Row 4)	$443.95
6	New Louisiana Customer Spending (Row 3 minus Row 5)	$203.69
7	Total New Customer Spending (Row 2 plus Row 6)	$879.29
8	Louisiana Spending by Casinos	$905.33
9	Louisiana Spending Rate (Row 8 divided by Row 1)	68.4%
10	Net new spending (Row 9 times Row 7)	$601.59
11	New Local Visitor Spending Outside of Casinos	$387.28
12	Net New Local Spending	$988.87

Source: Louisiana State Police, Gambling Study Team, Casino Intercept Survey, and Authors' Calculations

EMPLOYMENT AND EARNINGS

One important measure of the impact of gambling on the economy is the number of jobs produced. There is no question that the casino industry provides employment through casino jobs. Table 4-10 presents direct casino employment at the various casinos in the State. (Note that for the purpose of this table and the employment analysis, the Indian reservation casinos are included. This is one of the few areas in which Indian casino data are available (or are easily estimated) and are, therefore, used in the employment analysis.)

In 1998, there were 20,156 jobs directly at the riverboat and Indian casinos. The direct, or primary, employment of the casinos in Table 4-10 is relatively straightforward. A more difficult analysis is to determine what, if any, additional jobs in the economy are produced by the casino industry. The additional jobs are sometimes referred to as secondary employment and the phenomenon of creating these secondary jobs is referred to as the "multiplier effect." There has been a great deal of debate about the multiplier effect related to casino employment.

TABLE 4-10
1998 DIRECT CASINO EMPLOYMENT

Area	Casino	Employment
New Orleans	Boomtown	1,238
	Bally's	901
	Treasure Chest	1,321
	Total	**3,460**
Baton Rouge	Belle of Baton Rouge	749
	Casino Rouge	958
	Total	**1,707**
Lake Charles	Grand Palais	528
	Showboat Star	650
	Isle of Capri – Lake Charles	1,291
	Players	1,221
	Grand Casino – Coushatta[1]	2,000[2]
	Total	**5,690**
Shreveport-Bossier City	Isle of Capri – Shreveport	1,264
	Horseshoe – Bossier City	2,803
	Harrah's Red River	1,355
	Casino Magic	1,377
	Total	**6,799**
Houma	Cypress Bayou[1]	**1,200**[2]
Alexandria	Grand Casino Avoyelles[1]	**1,300**[2]
Louisiana Total		**20,156**

Source: Riverboat casino employment numbers were obtained from quarterly reports submitted to the Attorney General's office by casinos or directly from the casinos. For Indian casinos, the employment numbers were estimated using previous press reports on employment and the number of games.

[1] Denotes Indian Reservation casino.
2 Denotes estimated.

Critics of casino gambling argue that the multiplier effect may not hold for casinos. The key point is that dollars spent by local citizens in casinos would otherwise be spent in local businesses such as restaurants. Thus, casinos *crowd out* other businesses. The one exception occurs if the casino patrons come from other areas,

bringing new money to the local economy. Grinols' comparison of casinos to restaurants and factories is a good example of this view commonly expressed by casino critics:

> "A factory, when it locates in an area, sells to the rest of the country. Its payroll, materials purchases, and profits spent locally are new money to the area that represents tangible goods produced. On the other hand, adding a new restaurant that caters to local population in an area simply takes business from local firms [i.e., industry cannibalization]. The question for a particular region therefore is: Is a casino more like a factory or a restaurant? In Las Vegas, casinos are more like factories because they sell gambling services to the rest of the Nation. In most other parts of the country, gambling is like a restaurant, however, drawing money away from other businesses, creating no economic development, but leaving social costs in its wake (Grinols 1994b, 9; also see Grinols 1995b, 7-9)." [Note: a list of references for this section is contained in Appendix L.]

Goodman (1994a, 1994b), Grinols and Omorov (1995), and Edington (1995a, 1996) express similar concerns, but perhaps the strongest criticism comes from Rose (1995, p. 34):

> "A casino acts like a black hole sucking money out of a local economy. No one cares if you suck money out of tourists, but large-scale casinos that do not bring in more new tourist dollars than they take away from local players and local businesses soon find themselves outlawed."

These critics argue fervently that casinos will have no positive impact on the local economy if they fail to attract outside gamblers. However, others find their arguments less than compelling. As Evart (1995) notes, professional sports teams and countless other businesses fail to produce a tangible product yet economists typically find a positive economic impact from such industries. Why do casinos differ from other forms of entertainment?

Hoover and Giarrantani (1984) note another flaw in the theory above. If exporting is necessary for growth, how can the world as a whole grow? In the words of Hoover and Giarrantani (1984, p. 319):

> "The argument advanced for the [export base] approach is that a region, like a household or a business firm, must earn its livelihood by producing something that others will pay for. Activities that simply serve the regional market are there *as a result of* whatever level of income and demand the region may have achieved: They are passive participants in growth but not prime movers. A household, a neighborhood, a firm, or a region cannot get richer by simply "taking in its own washing"; it must sell something to others in order to get more income. Consequently, exports are viewed as providing the economic base of a region's growth.
>
> The view of export demand as the prime mover in regional growth raises some interesting questions that indicate the need for a more adequate explanation. Consider, for example, a large area, such as a whole country, that comprises several economic regions. Let us assume that these regions trade with one another, but the country as a whole is self-sufficient. We might explain the growth of each of these regions on the basis of its exports to the others and the resulting multiplier effects upon activities serving the internal demand of the region. But if all the regions grow, then the whole country or "superregion" must also be growing, despite the fact that it does not export at all. The world economy has been growing for a long time, though our exports to outer space have just begun and we have yet to locate a paying customer for them. It appears, then, that *internal* trade and demand can generate regional growth: A region really can get richer by taking in its own washing."

Scholars can easily disagree on the impact of casinos because there is little empirical evidence on the issue. Walker and Jackson's (1998) results based on state level data suggest that the introduction of casinos *does* lead to increases in personal income within a state. Impact studies also find benefits from casinos, though casino critics are quick to point out that most of the existing studies were funded by casinos. Hamer (1995) uses an input/output model with multipliers for New Jersey casinos and finds that every job in the casino industry creates an additional 1.09 jobs in all other industries in the state. That is, Hamer (1995) finds a multiplier of 2.09. An earlier study for Louisiana by Oakland Econometrics (1996) finds a multiplier of 1.81. Both studies appear to use

the input-output approach, which may overstate the multiplier for reasons that are discussed in the methodology section.

The literature provides several bits of key information for our study. First, combining non-empirical and empirical studies suggests a wide range for the multiplier. Critics would assert plausible values near zero while the most optimistic previous industry study suggests a value slightly over two. Second, the literature supplies an idea that casinos that attract outside gamblers will have a larger impact on the local economy. We label this idea as the *export hypothesis*, because it implies a larger multiplier for areas that export their product (gambling). For Louisiana, this implies that casinos in Shreveport-Bossier City and Lake Charles, which attract a large proportion of gamblers from Texas, will have a larger multiplier than other casinos which rely more on local gamblers.

To determine which view reflects the real impact of gambling in Louisiana, we use a novel approach to estimate the employment multipliers. That approach is to employ Bayesian econometric analysis. The econometric modeling approach consists of specifying regression equations for employment in each of the state planning districts. To allow for joint hypothesis tests, we estimate a system of equations with one equation for each of the eight state planning districts. Because Cypress Bayou casino is located near the boundary of the Houma and Lafayette state planning districts, we also consider models which combine these two districts (resulting in a total of seven). The approach consists of specifying key economic factors for each state planning district and estimating a regression model including these factors and casino employment. The coefficient on casino employment supplies the employment multiplier.

The central idea behind the Bayesian approach is to combine prior information with the data to obtain a final answer. A key advantage of the technique is that it is more flexible for our application than the frequentist techniques described above.

We begin by considering the data. Table 4-11 contains the key variables for each state planning district which were derived from the work described above. For each state planning district (the combined Houma-Lafayette district is counted as one), this implies a regression equation. For example, the New Orleans equation is:

$$spd1_t = b_0 + b_1 cas1_t + b_2 chem_t + b_3 oil_t + b_4 gdp_t + b_5 spd1_{t-1} + e_t$$

where $spd1_t$ is employment in state planning district one,

$cas1_t$ is casino employment in state planning district one,

$chem_t$ is chemical employment,

oil_t is the Louisiana active rig count measuring oil and gas activity,

gdp_t is U. S. real Gross Domestic Product, and

e_t is a random error term.

TABLE 4-11

ECONOMIC DRIVERS FOR THE BAYESIAN REGRESSION ANALYSIS

State Planning District	Economic Drivers	R^2
Lake Charles	Chemicals, Oil, U. S.GDP	.974
New Orleans	Chemicals, U. S. GDP, Oil	.947
Shreveport-Bossier City	U. S. GDP, AT&T	.929
Baton Rouge	Chemicals, U. S. GDP	.974
Lafayette/Houma	Oil, U. S. GDP	.975
Alexandria	Oil, U. S. GDP	.916
Monroe	U. S. GDP	.895

Source: Authors' Estimates Using Secondary Data as Noted in Chapter 1

The lagged employment term accounts for persistence in the series and also eliminates the problem of autocorrelation. The coefficient β_1 is the casino employment multiplier and the key focus of this study. A similar equation exists for each state planning district. Likewise, the assumption of normal errors allows us to write the likelihood function for any single equation and also for entire system. This likelihood function summarizes the information in the data, and the results summarized above were obtained by maximizing this likelihood function. The R^2 values in the final column of Table 4-11 were calculated using maximum likelihood and show that these models provide a good fit in each district. The final Bayesian results appear in Table 4-12.

The results show multipliers ranging from 1.02 in Lafayette/Houma to 1.75 in Shreveport-Bossier City. The results conform to the predictions of the export hypothesis; the multipliers are largest for the casinos in Shreveport-Bossier City and Lake Charles.

Table 4-13 presents the final results on the impact of riverboat and Indian casinos on employment and earnings. These results were generated using the Bayesian multipliers and earnings from the BEA's input-output tables. The Direct Employment column of Table 4-13 presents casino employment as number of employees; the number in parenthesis is casino employment as a proportion of total employment for the area. The Total Employment column is the number of jobs generated by the casino, both through directly employing workers and through the multiplier. Total employment is calculated as the product of the multipliers in Table 4-12 and the direct employment numbers in Table 4-13. The Total Earnings column of the table contains the estimated increase in earnings (both direct and via the multiplier effect) created by the casino industry in Louisiana. Table 4-14 presents the employment and earnings impact of just riverboat casinos (i.e., the Indian casinos are not included).

TABLE 4-12
CASINO EMPLOYMENT MULTIPLIERS

State Planning District	Multiplier
New Orleans (SPD1)	1.31
Baton Rouge (SPD2)	1.23
Lafayette/Houma (SPD3 & 4)	1.02
Lake Charles (SPD5)	1.63
Alexandria (SPD6)	1.38
Shreveport-Bossier City (SPD7)	1.75
Louisiana	1.53

Source: Authors' Calculations

Consider first the total impact of both riverboat and Indian casinos in Louisiana. These casinos employed 20,156 workers directly in 1998. This implies that roughly one out of every one hundred Louisiana workers was employed by a casino. **Taking into account the multiplier, Louisiana's casinos accounted for 30,823 jobs and $596 million in earnings**.

TABLE 4-13
1998 RIVERBOAT AND INDIAN CASINO
EMPLOYMENT AND EARNINGS IMPACT

Planning District	Direct Employment[1]	Total Employment[2]	Total Earnings
Lake Charles	5,690 (5.2%)	9,275 (8.5%)	$175,079,503
New Orleans	3,460 (0.6%)	4,533 (0.8%)	$ 91,324,915
Shreveport-Bossier City	6,799 (3.1%)	11,898 (5.5%)	$229,265,702
Baton Rouge	1,707 (0.5%)	2,100 (0.6%)	$ 42,203,659
Lafayette / Houma	1,200 (1.0%)	1,224 (1.0%)	$ 23,331,873
Alexandria	1,300 (0.6%)	1,794 (0.8%)	$ 34,776,364
Total	20,156 (1.1%)	30,823 (1.7%)	$595,982,017

Source: Louisiana Attorney General's Office and Authors' Estimates

1 Figures in parentheses are direct casino employment as a percentage of total employment in that area.

2 Figures in parentheses are total casino employment as a percentage of total employment in that area.

TABLE 4-14

1998 RIVERBOAT CASINO EMPLOYMENT AND EARNINGS IMPACT

Planning District	Direct Employment[1]	Total Employment[2]	Total Earnings
Lake Charles	3,690 (3.4%)	6,015 (5.5%)	$113,542,126
New Orleans	3,460 (0.6%)	4,533 (0.8%)	$ 91,324,915
Shreveport-Bossier City	6,799 (3.1%)	11,898 (5.5%)	$229,265,702
Baton Rouge	1,707 (0.5%)	2,100 (0.6%)	$ 42,203,659
Total	15,656 (.8%)	24,546 (1.3%)	$476,336,402

Source: Louisiana Attorney General's Office and Authors' Estimates

1 Figures in parentheses are direct casino employment as a percentage of total employment in that area.

2 Figures in parentheses are total casino employment as a percentage of total employment in that area.

The results also show that the impact of casinos is heavily concentrated in two areas. By simple job count, Shreveport-Bossier City led the State with 6,799 workers employed by casinos. With the multiplier, casinos in Shreveport-Bossier City accounted for 11,898 jobs. Lake Charles, including all direct and secondary employment, has 6,015 casino-related jobs, or 5.5% of total Lake Charles area employment.

Casinos do not play this dominant a role in the other state planning districts. Although casinos employ over a thousand workers in each of the four other districts studied, completely eliminating casinos in one of these areas would not begin to invoke the hardship of the Fruit of the Loom layoffs in Lafayette or the AT&T layoffs in Shreveport-Bossier City. Casinos employ less than 1% of total employment in these areas. Even accounting for the multiplier effect, total employment created does not rise above 1% in these areas.

Our results indicate that riverboat and Indian casino employees earned $377 million dollars. In addition, jobs created through the multiplier effect accounted for another $219 million in new earnings indirectly created by casinos. **Overall, the results**

indicate the total impact of casinos on Louisiana earnings is an additional $596 million ($476.3 million for riverboat casinos alone). To put this figure in perspective, Louisiana personal income is currently $92.6 billion. **This implies that direct and indirect earnings created by riverboat and Indian casinos make up 0.64% of the Louisiana economy**.

STATE AND LOCAL TAX REVENUE

This section of the report estimates total state and local tax revenues derived from the riverboat gambling industry in Louisiana. There are two types of tax revenues: direct and indirect. Direct revenues are those paid by the industry itself in the form of Win taxes, property taxes and other sources. Indirect tax revenues are those generated by the economic activity created by the industry but paid by others, generally out of the new income created by the gambling industry.

Table 4-15 presents the direct and indirect tax revenues paid by the riverboat casinos to the State by area. The primary source of direct tax revenue is the Win tax. The rate of the Win tax is 18.5% of total Win, or gross casino revenue. In 1998, the State's 13 riverboats paid approximately $244.8 million in direct taxes to the Louisiana Treasury.

TABLE 4-15

1998 GROSS STATE TAX REVENUE FROM RIVERBOATS BY AREA
(IN MILLIONS)

Area	Direct Revenue	Indirect Revenue	Total Revenue
New Orleans	$56.34	$7.32	$63.66
Baton Rouge	22.25	2.70	24.95
Lake Charles	55.45	12.82	68.27
Shreveport-Bossier City	110.76	22.23	132.99
TOTAL	$244.80	$45.07	$289.87

Source: Louisiana State Police, Louisiana Fiscal Office and Authors' Calculations

The indirect tax revenue is somewhat more complicated. Indirect tax revenues consist of two types of revenue. The first type are the tax revenues paid by the people who are the recipients of new income as a result of casino operations (both direct and indirect income). Economists in the Louisiana Legislative Fiscal Office have estimated that for every new dollar of income generated in the Louisiana economy the State collects approximately 5.5 cents in additional tax revenue. Thus, the $595.98 million in additional earnings created by the casino industry (see Table 4-13) should have increased state tax collections to the state treasury by approximately $32.8 million. The second type of indirect state tax revenues are those taxes paid by casino induced visitors on hotel rooms, meals, and other local expenditures. Based on the visitor spending estimates of $387.27 million (see Table 4-8), total visitor-related state taxes are $13.00 million.

The final step in arriving at net new tax revenues is to net out the displaced spending estimated in Table 4-4. The displaced spending is spending that is pulled out of other local uses. Those other uses are also taxable and generate income that produces tax revenue for Louisiana. The same methodology used to estimate the indirect tax revenues

was used to estimate the displaced revenue. Table 4-16 presents the displaced revenues and the net new state tax revenue.

TABLE 4-16
1998 TOTAL, DISPLACED, AND NET STATE TAX REVENUE
FROM RIVERBOATS BY AREA
(IN MILLIONS)

Area	Total Revenue	Displaced Revenue	Net Revenue
New Orleans	$63.66	$15.76	$47.90
Baton Rouge	24.95	6.31	18.64
Lake Charles	68.27	3.06	65.21
Shreveport-Bossier City	132.99	9.18	123.81
TOTAL	$289.87	$34.31	$255.56

Source: Louisiana State Police, Louisiana Fiscal Office and Authors' Calculations

Thus, in total the riverboat casino industry in 1998 generated $255.56 million in net new revenue for the State of Louisiana. One of the main arguments in favor of casino gambling is that it produces large amounts of tax revenue for the State. This appears to be true. Even after considering displaced spending, the tax revenue generated is substantial. The riverboat casino industry in Louisiana is a very heavily taxed industry with direct overall tax rates approaching and in some cases exceeding 25% of gross revenues. Other forms of spending are taxed at much lower rates. Thus, even if every dollar spent in the casino industry came from the displacement of other local spending, tax revenues would go up due to the much higher tax rate for gambling.

Local tax revenue can be estimated in much the same manner as state tax revenues. There are two major differences in the estimation of local tax revenues: first, local direct taxes include several different kinds of taxes (boarding fees, Win taxes,

casino property taxes, and other fees); second, the tax rates are different for the indirect taxes. Table 4-17 presents gross direct and indirect local tax revenues.

TABLE 4-17
1998 GROSS LOCAL TAX REVENUE FROM RIVERBOATS BY AREA
(IN MILLIONS)

Area	Direct Revenue	Indirect Revenue	Total Revenue
New Orleans	$18.97	$5.45	$24.42
Baton Rouge	7.82	1.34	9.16
Lake Charles	16.38	7.16	23.54
Shreveport-Bossier City	38.92	14.82	53.74
TOTAL	82.09	28.77	110.86

Source: Louisiana State Police, Louisiana Fiscal Office and Authors' Calculations

As was the case for state tax revenues, the final step in arriving at net new local tax revenues is to net out the displaced spending estimated in Table 4-4. The displaced spending is spending that is pulled out of other local uses. Those other uses are also taxable and would have generated income that produces tax revenue for local governments. The same methodology used to estimate the indirect tax revenues was used to estimate the displaced revenue. Table 4-18 presents the displaced revenues and the net new local tax revenue.

TABLE 4-18

1998 TOTAL, DISPLACED, AND NET LOCAL TAX REVENUE
FROM RIVERBOATS BY AREA
(IN MILLIONS)

Area	Total Revenue	Displaced Revenue	Net Revenue
New Orleans	$24.42	$13.55	$10.87
Baton Rouge	9.16	4.34	4.82
Lake Charles	23.54	2.10	21.44
Shreveport-Bossier City	53.74	6.31	47.43
TOTAL	$110.86	$26.30	$84.56

Source: Louisiana State Police, Louisiana Fiscal Office and Authors' Calculations

Thus, the riverboat casino industry in 1998 generated $84.56 million in total net new revenue for local governments in Louisiana. **Combining the state tax total of $255.56 with the local total of $84.56 million produces a total state and local government tax revenue of $340.12 million.**

OTHER BENEFITS

Casinos do provide a large number of jobs for Louisiana residents. Based on the casino employee survey, most casino employees believe that the casino does provide them opportunities that were not available to them without the casinos in the State (see Appendix H).

Many current casino employees were unemployed prior to their casino job (29%). Thus, one added benefit of the riverboat casino industry is that it has provided jobs for people who did not have them prior to the industry coming into Louisiana. Casino employees also believe that their casino jobs provide better pay and benefits and more marketable skills than the alternative jobs available.

VIDEO POKER

The analysis of video poker is conducted through a different methodology than the analysis of riverboat casinos for several reasons. First, there are only 13 riverboat casinos. The small number of casinos allowed the research team to gather a great deal of data from the casinos themselves – intercept surveys, license plate tallies, individual casino accounting data, and the like. In comparison, there are approximately 15,125 video poker devices in 3,600 different establishments. The large number of devices and establishments makes it impossible to gather survey and similar data at video poker sites. Second, the riverboat casinos have a greater ability to attract visitors from out of state. Due to large-scale operations and large advertising budgets, the casinos can attract visitors into the State. In general, video poker outlets are not able to do this. However, a border effect may exist for video poker outlets in parishes on the Louisiana border (documented in the next section).

NET NEW REVENUES

In 1998, total video poker revenues were $668.83 million. The first step in estimating the net new spending in the State related to video poker is to estimate the out-of-state share of total spending. Unlike riverboat casinos, there is no direct method of estimating visitor spending at Louisiana's video poker establishments. It is logical to assume that some out-of-state visitors would come into the State to play video poker. Given the nature of video poker, it is also logical to assume that this phenomenon is primarily limited to the border parishes.

To estimate the magnitude of the border effect, a pooled time series, cross-section data set was used. Data were collected for every Louisiana parish for a six-year period from 1992 through 1997. The data included video poker net device revenue, total

employment, per capita personal income, population, tourism spending, racial composition of population, and percent of population with a college degree. To this list of variables, a "dummy" variable was added that is equal to one if the parish is a border parish and zero otherwise.

A two-equation, simultaneous system was estimated to determine the economic impacts of video poker using the cross-section data. The first equation estimated total employment in a parish as a function of population in that parish, per capita income, tourism spending, and video poker revenues. The second equation uses video poker revenues as a function of total employment, percent of the population African American, percent of population with a college degree, and the border variable.

The coefficient of the border dummy was 1,195,994. This means that, holding everything else constant, a border location implies an additional $1.2 million of video poker revenues. Since there are 23 border parishes, the estimate for out-of-state video poker revenues is $27.51 million. **Thus, of the total $668.83 million video poker revenues, $27.51 million is from outside Louisiana and the remaining $641.32 million comes from Louisiana residents.**

The next step in the process is to estimate the proportion of the $641.32 million of local video poker spending that is displaced from other sources. The same methodology was used to estimate video poker displacement that was used to estimate riverboat casino displacement, with one major exception. The methodology used to estimate riverboat displacement was based on the Bayesian regression analysis to determine total observed employment based on direct riverboat employment. For Lake Charles and Shreveport-Bossier City, the total multipliers were higher than for other areas due to the fact that those markets have a great deal more out-of-state visitor spending. Thus, the more

appropriate multiplier to use for video poker was that of the Baton Rouge market in which the market is mostly local as is the video poker market. Based on that analysis, the rate of displacement was 86.9%. In other words, of every dollar spent on video poker by locals, $.87 is diverted from other local spending. It is very important to remember the riverboat displacement discussion. This displacement rate is very likely to increase in the future.

Based on that rate of displacement, $557.57 million of the total local video poker spending comes out of existing local spending in the State's economy and $83.75 million is new spending. The $83.75 million of new local spending is then added to the $27.51 million of out-of-state visitor spending to arrive at total new video poker customer spending of $111.26 million.

The next step is to estimate the amount of total video poker revenues that are spent within the State of Louisiana by the firms involved in the business. Table 4-19 presents the local spending of the video poker dollars for 1998. In 1998, $491.07 million of the total revenue from video poker machines was spent in the State of Louisiana. The Louisiana spending of the video poker industry is 73.4% of total revenues. The greatest part of that local spending is in payments to the local establishments housing the video poker machines and state and local taxes. For the purposes of this report, local establishments include bars and restaurants, video poker truck stops, and horse racing establishments. The video poker industry, like the riverboat casino industry, is a very heavily taxed industry, paying $198.71 million (or 29.7% of gross revenues) in state and local taxes.

TABLE 4-19

1998 LOCAL VIDEO POKER SPENDING
(IN MILLIONS)

Category	Local Spending
Taxes	$198.71
Payments to Local Establishments	235.09
Local Spending on Maintenance, etc.	12.81
Local Ownership and Distributors	44.46
TOTAL	$491.07

Source: Louisiana State Police and Authors' Calculations

The final step in determining net new spending created in the State by video poker is to adjust the new customer spending of $111.26 million by the local customer spending percentage of 73.4%. That adjustment yields an estimate of net new spending related to the video poker industry in the State of $81.69 million. Table 4-20 presents a summary of the calculation of net new spending.

TABLE 4-20

1998 NET VIDEO POKER SPENDING
(DOLLAR FIGURES IN MILLIONS)

Row	Category	Value
1	Total Video Poker Revenues	$668.83
2	Out-of-State Revenues (Row 1 minus Row 2)	$27.51
3	In-State Revenues	$641.32
4	Diversion Rate	86.9%
5	Displaced Spending (Row 3 times Row 4)	$557.57
6	New Louisiana Customer Spending (Row 3 minus Row 5)	$83.75
7	Total New Customer Spending (Row 2 plus Row 6)	$111.26
8	Louisiana Spending by Video Poker Businesses	$491.07
9	Louisiana Spending Rate (Row 8 divided by Row 1)	73.4%
10	Net new spending (Row 9 times Row 7)	$81.69

Source: Louisiana State Police and Authors' Calculations

EMPLOYMENT AND EARNINGS

The same methodology that was used to estimate new employment and earnings for the riverboat casino industry was used to estimate employment and earnings for video poker. Based on the net new revenues of $81.69 million, the new local earnings supported by that new spending is $55.37 million. Based on the State's average annual earnings in gambling-related secondary industries, the new earnings translate to employment of 2,914 jobs in Louisiana. Of the $81.69 million, about 40% is new tax dollars and; thus, the new or saved positions will be observed, most obviously, in the state and local government sectors.

STATE AND LOCAL TAXES

The video poker industry is a heavily taxed industry. In 1998, approximately $198.71 million in state and local taxes were paid directly by the video poker companies. Of that total, approximately 25% goes to local governments in the jurisdictions that the devices are located and 75% goes to the State of Louisiana. In addition to the direct tax revenues, the new earnings estimated in this chapter create tax revenues for state and local governments. This indirect tax revenue is estimated using the same methodology that was employed to estimate riverboat casino indirect tax revenues. Table 4-21 presents direct and secondary tax revenues created by video poker in 1998.

After netting out the state and local tax revenues lost on the diverted spending, the video poker industry contributed $179.47 million in tax revenue to state and local governments in Louisiana in 1998. Of that total, $140.93 million was collected by the State of Louisiana and $38.54 million was collected by various local governments in the State.

TABLE 4-21

1998 GROSS STATE AND LOCAL TAX REVENUE FROM VIDEO POKER
(IN MILLIONS)

Category	Revenues
State Direct	$149.03
State Indirect	3.05
less State Taxes Diverted	-11.15
Total New State Tax Revenues	140.93
Local Direct	$49.68
Local Indirect	1.41
less Local Taxes Diverted	-12.55
Total New Local Tax Revenues	38.54
TOTAL	179.47

Source: Louisiana State Police, Louisiana Fiscal Office and Authors' Calculations

HORSE RACING

This section presents a description of the benefits associated with the horse racing and off-track betting industry in Louisiana. Since race tracks and off-track betting parlors have video poker machines, care must be taken in this section to present only the benefits associated with the racing and horse betting activities at the tracks and off-track betting parlors.

The horse racing industry is different from both riverboat casinos and video poker devices in two fundamental ways. First, the horse tracks have been legal for many years in Louisiana, unlike riverboat casinos and video poker devices. As a result, the impacts are much more likely to be permanent. Whatever adjustment in consumer habits and preferences that are going to occur have probably already occurred. Second, unlike riverboats and video poker, the largest input into the production process – the breeding

and training of the horses – occurs in the State of Louisiana almost exclusively. An analogy would be that the video poker industry would be like the horse racing industry if all the video poker devices were actually manufactured and maintained by companies in the State.

In 1998, the State's four racetracks and related Off-Track Betting (OTB) parlors spent $56.1 million in the Louisiana economy (Source: Survey of Louisiana Racetracks, 1998). In addition, the horse owners paid $123.63 million to train the horses that are housed at the tracks and near-by facilities (Source: Timothy P. Ryan, Ed Nebel, Harsha Chacko, The Economic Impact of the Louisiana Racing and Horse Breeding Industries, 1990). Finally, the Louisiana horse breeders spent $47.62 million in the State to support the breeding and raising of thoroughbred racehorses (Source: Dr. Clinton Depew, Equine Specialist at LSU Co-operative Extension Service, 1990 adjusted for inflation and foal crop changes). In total, the horse racing industry in 1998 spent $227.39 million in the State of Louisiana.

These local spending figures must be adjusted to determine net new spending related to the horse racing industry. Three different methodologies were used to adjust the three different components of the horse racing impact.

The direct racetrack spending is adjusted in the same manner that the riverboat casino spending is adjusted. The first step is to determine the out-of-state visitors to the tracks. Based on the survey results, 31.3% of track customers were from outside Louisiana. Thus, $17.59 million of the direct spending comes from non-residents. The remaining $38.55 million come from Louisiana residents. As was the case for riverboat casinos, some of the spending of local residents is displaced from other local spending.

Using the same displacement ratio, 65.6%, the net new spending from locals is $13.26 million. Thus, total net new spending related to the tracks is $30.85 million.

The horse racing industry is a strange industry. On average, the purses that go to the owners of the winning horses are well below the costs of training the horses. In 1998, total purses only offset 22.1% of total training costs. The net effect of this is that, in part, horse racing is a sport engaged in by wealthy people who do not get all of their costs covered by the wagering that occurs at the tracks and OTB facilities. Clearly, however, they all believe that their horses will win and their costs will be covered and a profit made. In aggregate, this is never true. This is certainly unique in the gambling industry. This means that the training costs are only partially supported by wagering; and, thus, the normal diversion analysis that was used previously only partially applies to horse training. The estimate of net new spending involves adjusting 22.1% of training costs by the diversion ratio used above. This assumes that the remaining 77.9% comes out of investments and leisure for the wealthy owners and, thus, does not displace any local spending. Based on that methodology, the total net new spending created by horse training activities in the State in 1998 were $111.33 million.

Horse breeding is assumed to have no local displacement since horses can be sold anywhere and thus the breeding industry is much more like a typical manufacturing industry. Thus, the net new spending associated with the horse breeding part of the industry is $47.6 million.

Thus, the net new spending associated with the horse racing industry in the State in 1998 is $189.81 million. Table 4-22 presents the components of this total.

The horse racing industry also creates jobs, earnings and state and local tax revenue. In 1998, the tracks and OTB facilities, horse training operations, and breeding

farms employed 7,450 people directly. Using the same methodology used to estimate secondary employment for riverboat casinos, the industry was responsible for the support of an additional 4,172 secondary jobs in the State. In total, the horse racing industry supports 11,622 jobs. The number of jobs supported by the horse-racing industry appears to be rather large when compared to the employment estimates for the other forms of gambling. It must be understood that the horse-racing industry contains a number of part-time workers, seasonal employees, and low-paid agricultural employees. Thus, the number of jobs supported is large and the amount of earnings created is relatively small. The direct earnings generated by the horse racing industry in 1998 were $74.74 million. Secondary earnings were $53.92 million for a total of $128.65 million of total earnings. The horse racing industry in 1998 was responsible for $4.35 million in direct taxes to the State and $7.08 million in secondary revenues for a total of $11.43 million in state tax revenues. The horse racing industry in 1998 was responsible for $1.48 million in direct taxes to local governments and $2.80 million in taxes generated by secondary spending for a total of $4.28 million in local tax revenues. **In total, the horse racing industry created $15.71 million in state and local tax revenue.**

TABLE 4-22

1998 NET HORSE RACE SPENDING
(IN MILLIONS)

Category	Local Spending
Racetracks	$30.85
Horse Training	111.34
Horse Breeding	47.62
TOTAL	$189.81

Source: Racetracks and Authors' Calculations

CONCLUSION

It is clear that the economic benefits of the gambling industry in Louisiana are large. Measured by direct new dollars spent in the State's economy, jobs, earnings and tax revenues, the industry has had a substantial dollar impact on the economy. A large percentage of that impact is created by out-of-state dollars brought in by the industry. Table 4-23 presents a summary of the dollar benefits of the gambling industry in the State of Louisiana in 1998. The employment and earnings estimates are large numbers and should be considered in perspective of the overall Louisiana economy. The three forms of gambling identified in Table 4-23 amount to 2.1% of all Louisiana employment and 0.7% of total earnings in the State.

TABLE 4-23

1998 NET GAMBLING BENEFITS BY FORM OF GAMBLING
(DOLLAR FIGURES IN MILLIONS)

Category	Riverboats[1]	Video Poker	Horse Racing	Total
Direct Spending	$988.87	$81.69	$189.81	$1,260.37
Employment (persons)	24,546	2,914	11,622	39,082
Earnings	$476.34	$55.37	$128.65	$660.36
State Tax Revenues	$255.56	$140.93	$11.43	$407.92
Local Tax Revenues	$82.73	$38.34	$3.98	$125.05

Source: Authors' Calculations

[1] Note that this includes only riverboat casinos not Indian reservation casinos.

CHAPTER 5

GAMBLING COSTS

INTRODUCTION

Gambling costs fall into two broad categories. The first category includes costs to the government, or governments, to regulate gambling. The second category (external costs) includes the costs to other people or entities in Louisiana – including governments, businesses, and citizens in the State – that result from the actions of gamblers, particularly problem gamblers. The first category is relatively easy to quantify and measure. The second category is much more difficult to quantify, so it will be explored more fully.

REGULATORY COSTS

This section presents the costs of regulating and policing the gambling industry. In Louisiana, gambling is regulated at the state level. There are direct costs to establish and run the Louisiana Gaming Control Board and the other agencies that regulate the industry. Additionally, the Louisiana State Police and the Louisiana Attorney General's office are involved in the regulation and policing of the gambling industry.

Table 5-1 presents the direct regulatory costs of the gambling industry in Louisiana as reported by the various agencies.

The costs of regulating, policing and, in the case of the lottery, running the game, amounted to $50.02 million in 1998. These costs must be offset against government revenue that is collected from the gambling industry.

TABLE 5-1

1998 STATE REGULATORY COSTS
(IN MILLIONS)

Agency	Costs
State Police	$19.80
Attorney General's Office	3.51
Racing Commission	5.84
Louisiana Lottery Corporation[1]	19.38
Louisiana Gaming Control Board	1.49
TOTAL	**$50.02**

Source: Various State Agencies

[1] Since the Louisiana Lottery Corporation actually runs the Louisiana Lottery, the costs include the administrative costs of running the lottery instead of regulatory costs that would be incurred if the lottery were run by a private company.

EXTERNAL COSTS

This section presents the external costs that result from gambling in the State. Those costs include the following components:

1. Increased crime and related costs such as police and other criminal justice system expenditures that are a result of gambling activity, especially problem gambling activity.

2. Increased personal and small business bankruptcies and related personal and government costs that result from gambling.

3. Increased costs to business due to employee theft, employee absenteeism and reduction in worker productivity that result from gambling.

4. Increased social costs that result from gambling. Social costs could include family problems, personal depression, and suicide.

People with gambling disorders can develop considerable gambling related debts, commit crimes to obtain money to gamble or pay gambling debts, default on debts, lose productivity at work, and develop other medical and psychological disorders secondary to the stress of their gambling-related financial problems. Although the majority of these behaviors cause suffering principally for the gambler and their immediate family, some of

these behaviors will result in financial burdens to the general public. Costs that people with gambling disorders cause others in society, who are not directly impacted by the gambler's behavior, are defined as external costs. At present, researchers can only estimate the external costs of people with gambling disorders. With the exception of some prison costs, this study will only estimate the social costs of adults aged 18 and over with gambling disorders. (An estimate for underage gambling social costs is included in Appendix E.)

Before proceeding, some important definitions are presented to facilitate the understanding of this section:

Disordered Gambling:	Gambling that results in life problems either mild or severe, both Levels 2 and 3 gambling.
Level 1 Gambling:	Social or recreational gambling without significant life problems.
Level 2 Gambling:	Gambling that results in moderate personal or social consequences.
Level 3 Gambling:	Gambling behavior that results in multiple serious life problems consistent with a DSM-IV diagnosis of pathological gambling.
Level 4 Gambling:	Gambling behavior that results in life problems serious enough to cause the person to seek assistance by professional treatment or through self- help groups such as GA (Gambler's Anonymous) or other treatment.
Prevalence:	The percentage of a population that is affected by a phenomenon at a given time.

Pathological Gambling:	Pathological gambling is the most severe form of gambling disorder and was first defined in the Diagnostic and Statistical Manual, Version III by the American Psychiatric Association in 1990. An individual who fulfills 5 out of the following 10 diagnostic criteria is diagnosed as a pathological gambler: (1) preoccupation with gambling; (2) a need to increase the excitement produced by gambling; (3) restlessness or irritability when unable to gamble; (4) repeated unsuccessful efforts to control, cut back, or stop gambling; (5) gambling in an effort to get back money lost during gambling on a previous day; (6) gambling in an effort to escape a dysphoric mood; (7) lying to cover up gambling; (8) jeopardizing a significant job, relationship, or educational opportunity by gambling; (9) engaging in illegal activity to finance gambling; and (10) going to someone else to relieve a desperate financial situation produced by gambling similar to dependence on a drug or alcohol.
Problem Gambling:	Problem gambling is a milder version of a gambling disorder which is not defined by the American Psychiatric Association, but could be considered to be similar to the abuse of alcohol or a drug. Problem gamblers would satisfy only two, three, or four of the 10 diagnostic criteria. Researchers are currently investigating whether there should be a cutoff point for problem gambling, as there is for pathological gambling. This article will use the term "problem gambling" to refer to the less serious condition.

GAMBLING PREVALENCE STUDY

A gambling prevalence study was conducted to determine the extent of gambling by Louisiana residents and the percentage of the population estimated to be non-problem, problem, and probable pathological (pathological) gamblers. This study contained a replication of a 1995 prevalence study conducted in Louisiana and included the South Oaks Gambling Screen (SOGS). (See Appendix D for a complete report on the 1998 prevalence analysis and a comparison to the 1995 study.) The SOGS has been used in all major gambling prevalence studies in the past 15 years. The series of questions that make up the SOGS are designed to determine the level of any gambling problem that

may exist and measure problem gambling prevalence. Prevalence rates are based on the proportion of respondents who score on increasing numbers of items that make up the lifetime and current (or past year) scale of the SOGS. In addition to the SOGS, the 1998 prevalence study uses the Fisher screen to determine problem and pathological gambling behavior according to the DSM-IV criteria. DSM-IV is the currently accepted problem gambling measure used by the American Psychiatric Association (see Appendix D for a discussion of the Fisher screen results).

Table 5-2 presents information about the proportion of respondents who score on an increasing number of items on the lifetime and current SOGS. Table 5-2 also summarizes the prevalence of lifetime and current problem and probable pathological gambling based on established criteria for discriminating between respondents without gambling-related difficulties and those with moderate to severe problems.

According to the most recent population estimates from the United States Bureau of the Census (1999), the population of Louisiana in 1997 was 4,368,967 and 72.6% of these individuals were aged 18 and over. Based on these figures, we estimate that between 79,300 (2.5%) and 130,000 (4.1%) Louisiana residents aged 18 and over can be classified as lifetime problem gamblers. In addition, we estimate that between 57,100 (1.8%) and 101,500 (3.2%) Louisiana residents aged 18 and over can be classified as lifetime probable pathological gamblers.

Based on current prevalence rates and confidence intervals as well as census information, we estimate that between 50,700 (1.6%) and 95,100 (3.0%) Louisiana residents aged 18 and over can be classified as current problem gamblers. In addition, we estimate that between 31,700 (1.0%) and 69,800 (2.2%) Louisiana residents aged 18 and over can be classified as current probable pathological gamblers.

TABLE 5-2

SCORES ON LIFETIME AND CURRENT SOGS ITEMS

Number of Items	Lifetime (N=1800)	Past Year (N=1800)
Non-Gamblers (Level 0)	**30.2%**	**38.5%**
Non-Problem Gamblers (Level 1)	**63.9%**	**57.5%**
0	46.2	46.4
1	13.1	8.3
2	4.6	2.8
Problem (Level 2)	**3.3%**	**2.3%**
3	2.2	1.7
4	1.1	0.6
Probable Pathological (Level 3)	**2.5%**	**1.6%**
5	0.7	0.6
6	0.5	0.3
7	0.2	0.1
8 or more	1.1	0.6
Combined Problem/ProbPath	**5.8%**	**3.9%**

Source: Louisiana Gambling Prevalence Study, 1998

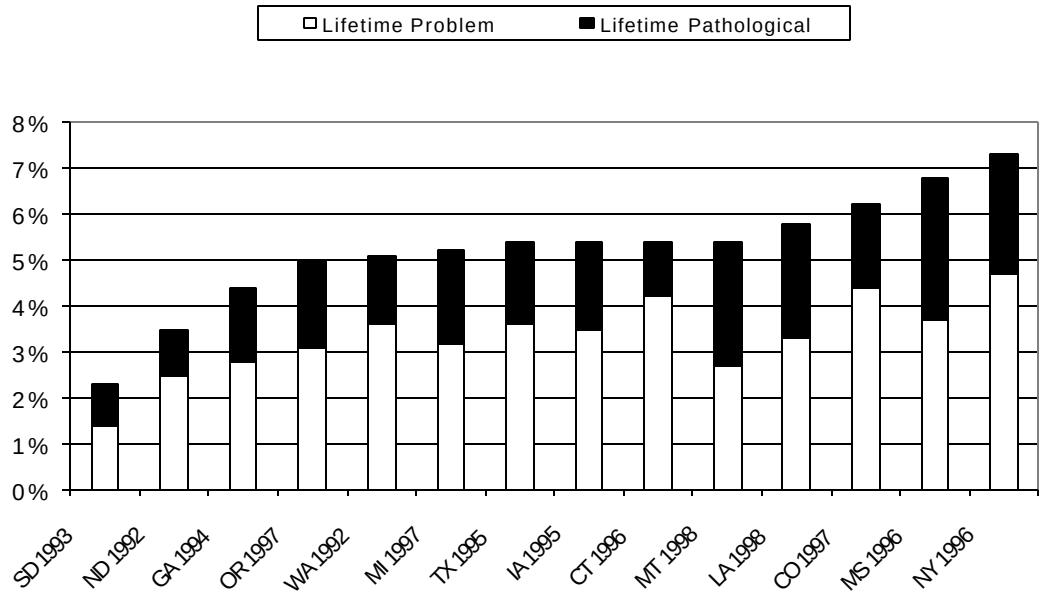
For the purposes of estimation of external costs, point estimates are used in the analyses. The point estimates used are 5.8% (lifetime) and 3.9% (current or past year) combined problem and probable pathological gamblers in Louisiana.

As in other jurisdictions, lifetime and current prevalence rates are significantly different among sub-groups in the population (see Appendix D). Substantial differences in lifetime and current prevalence rates by age, ethnicity, marital status, education and employment status were found.

Comparing Louisiana's prevalence figures with those of other states in the U. S. helps to put Louisiana's prevalence rates into perspective. The jurisdictions where problem gambling surveys have been done in the United States differ substantially in the types of

gambling available, in levels of gambling participation and in the demographic characteristics of the general population. Figure 5-1 shows prevalence rates of lifetime problem and probable pathological gambling in all of the United States jurisdictions where surveys based on the South Oaks Gambling Screen have been completed since 1990 and where prevalence rates have been calculated in a comparable manner. In states where replication surveys have been completed, the most recent prevalence rates are shown.

FIGURE 5-1
LIFETIME PREVALENCE RATES IN THE UNITED STATES



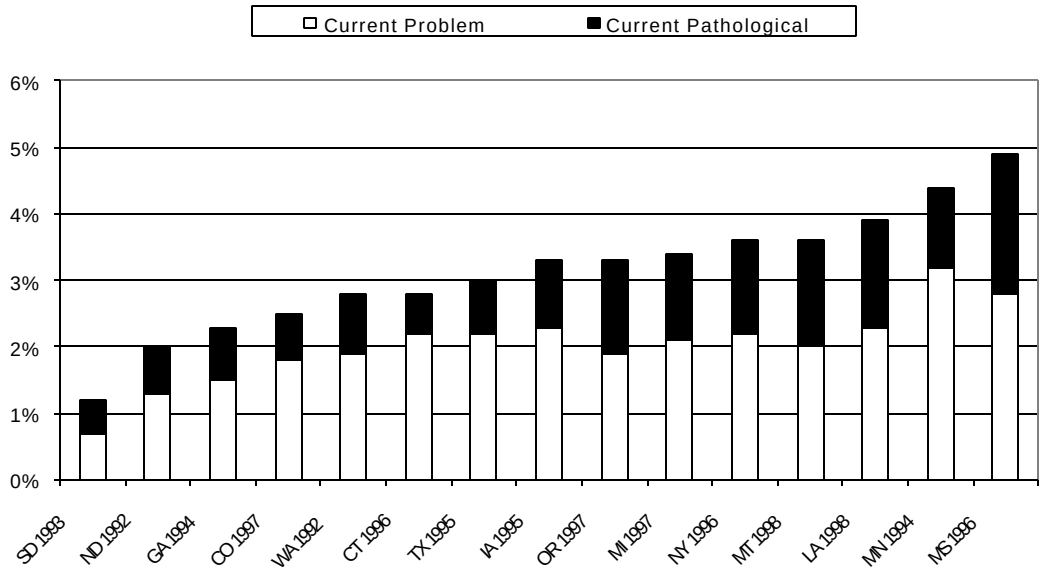
Source: Louisiana Gambling Prevalence Study, 1998

Figure 5-1 shows that the lifetime prevalence rate of problem and probable pathological gambling in Louisiana is higher than lifetime rates in other states where surveys have been carried out except New York, Mississippi and Colorado. Among Southern states, lifetime prevalence rates are higher in Mississippi and Louisiana than in Georgia and Texas.

Figure 5-2 shows prevalence rates of current problem and probable pathological gambling in all of the United States jurisdictions where surveys based on the South Oaks Gambling Screen have been completed since 1990 and where prevalence rates have been calculated in a comparable manner. Again, in states where replication surveys have been completed, the most recent prevalence rates are shown. Figure 5-2 shows that the current prevalence rates of problem and probable pathological gambling in Louisiana are higher than current prevalence rates in most other states where prevalence surveys have been conducted, with the exception of Minnesota and Mississippi.

FIGURE 5-2

CURRENT PREVALENCE RATES IN THE UNITED STATES



Source: Louisiana Gambling Prevalence Study, 1998

In considering these data, it is worth noting that the prevalence of current probable pathological gambling (the black portion of each bar) is higher in Louisiana than in Minnesota. Instead, the prevalence of current probable pathological gambling in Louisiana is equal to Montana and Oregon, where electronic gambling devices are

widespread. However, the prevalence of current probable pathological gambling in these states is higher in Mississippi than in all other states where similar surveys have been carried out.

We also compare the prevalence rates in Louisiana with national and international prevalence rates. A recent meta-analysis of studies in North America presented prevalence rates for several different population groups based on the South Oaks Gambling Screen. Table 5-3 compares prevalence rates from the Louisiana survey with the North American prevalence rates in the meta-analysis as well as with a recent national survey in Sweden (Volberg & Moore 1999).

TABLE 5-3
COMPARING PREVALENCE RATES INTERNATIONALLY

	Louisiana 1998	North America[1]	Sweden 1997
Lifetime Problem	3.3	3.4	2.7
Lifetime Probable Pathological	2.5	1.7	1.2
Current Problem	2.3	2.2	1.4
Current Probable Pathological	1.6	1.1	0.6

Source: Louisiana Gambling Prevalence Study, 1998

[1] From Shaffer, Hall & Vander Bilt (1997: 38). Includes Louisiana 1995. Lifetime and Current Problem groups are based on SOGS scores of 1 to 4 points.

Table 5-3 shows that the lifetime and current prevalence rates of **problem** gambling in Louisiana in 1998 are similar to problem gambling rates averaged over approximately 30 studies in North America between 1986 and 1996. The lifetime and current prevalence rates of **probable pathological** gambling in Louisiana in 1998 are somewhat higher than the lifetime and current prevalence rates averaged over North America. All of the prevalence rates in Louisiana in 1998 are substantially higher than

the prevalence rates identified recently in Sweden, a country where gambling participation is extremely high but where legal gambling is comprised largely of non-continuous activities, such as large jackpot lottery games and a weekly televised bingo game.

SOCIAL/EXTERNAL COST ESTIMATION

The research team used a five-step process to estimate these external costs. The first step calculated the average social costs per year of a person in treatment in Louisiana for a gambling disorder based on a survey completed by volunteers in Louisiana Gambler's Anonymous (GA) or in current treatment for gambling problems. The second step used standard and other quantitative measures of gambling behavior to estimate how closely the people with gambling problems identified in the 1998 prevalence study of the Louisiana adult population resembled the GA/Treatment sample. The third step estimated the social cost of gambling disorders for the 1998 prevalence study survey sample using a proportionate model of social costs for community samples. The fourth step extrapolated the prevalence study sample's social costs to the entire adult population of Louisiana for 1998. The fifth step used results from the 1995 and 1998 Louisiana gambling disorder prevalence surveys to estimate the proportion of revenues that each form of legalized gaming derived from people with gambling disorders.

There are two important points that must be made to fully understand the costs of gambling. First, there are many societal costs that are impossible to quantify. Unquantifiable, or unmeasurable, costs could include family problems, depression, and the like. These costs are important and should be considered in any benefit/cost analysis but they are not quantifiable and, therefore, cannot be compared directly to the dollar benefits identified in Chapter 4. Second, there is a timing problem in identifying these

costs. It may take quite a few years before some costs are transformed from costs to the individual alone to costs to society. Consider the following example – a relatively affluent individual with a substantial gambling problem is losing thousands of dollars a year gambling. Initially, the person may withdraw money from savings, borrow on credit cards or other sources, or not purchase other things. At this point, all of the costs of the person's gambling problem are internal and not considered as part of the benefit/cost analysis. Eventually, if the pattern continues, past savings will be gone, credit card debt will be at the limit, and necessary purchases will be affected. At that point, the individual may turn to other kinds of behavior to support his or her gambling losses. These behaviors may include personal bankruptcy, embezzlement, and theft. When this happens, the costs become social and should be counted in the benefit/cost analysis.

METHODOLOGY

The first step of the process of calculating the social costs of gambling used the Thompson and Gazel's gambling disorder social cost model. This method was also used in other studies of the social costs of gambling, such as those done for Wisconsin and Connecticut. The research team produced a GA/Treatment survey similar to surveys used in previous social cost studies. (See Appendix E for a copy of the GA/Treatment survey.) In January 1999, Reece Middleton, the Executive Director of the Louisiana Council on Compulsive Gambling, distributed the survey to GA meetings statewide and all sites of state-financed outpatient gambling treatment. The GA/Treatment survey included the SOGS. Also included were demographic questions similar to the telephone survey demographic questions and other social cost questions (developed by the Louisiana State University Medical Center at Shreveport, Gambling Studies Unit in a previous study of

gambling behavior in Indiana). Seventy-eight completed surveys were returned in time for the current analysis.

Social costs were calculated in nine categories: 1) work productivity losses from missed or impaired work, 2) unemployment compensation, 3) unemployment productivity losses, 4) bad debt, 5) theft, 6) civil court procedure (including bankruptcy), 7) criminal justice, 8) welfare, and 9) treatment. The specific calculations used for each category to determine the cost per year per Louisiana Level 4 gambler are described below:

> **Lost Productivity Costs.** Only employed respondent data were used in lost productivity calculations.
>
> Full-time workers reported the number of days missed from work per month because of their gambling. The total days missed per month was converted to hours per year and multiplied by the average United States hourly wage for 1997, determined from the Statistical Abstract of the United States 1997. This figure was divided by the number of total respondents.
>
> Part-time workers reported the number of days missed from work per month because of their gambling. The total days missed per month was adjusted for part-time work and converted to hours per year. This figure was multiplied by the average United States hourly wage for 1997 and then divided by the number of total respondents.
>
> Full-time workers also reported days per month of decreased productivity due to gambling. The maximum number for any one person was held at 21 days per work month since many people reported productivity losses for weekends. The number of hours per day for part-time workers were also adjusted to reflect part-time work. This number was adjusted by 50% to derive at a decreased productivity day total. This was converted to hours per year and multiplied by the average United States hourly wage for 1997. This figure was divided by the number of total respondents.
>
> Part-time workers also reported days per month of decreased productivity due to gambling. The maximum number for any one person was held at 21 days per work month since many people reported productivity losses for weekends. The number of hours per day were also adjusted to reflect part-time work. This number was then adjusted by 50% to derive at a decreased productivity day total. This was converted to hours per year and multiplied by the average United States hourly wage for 1997. This figure was divided by the number of total respondents.

Unemployment Costs. Respondents reported the number of months of unemployment compensation received due to gambling problems over their lifetime. This was multiplied by the average Louisiana monthly unemployment compensation as determined from the U. S. Statistical Abstract. This figure was divided by the disordered gambling person years, which is the number of respondents times the median gambling career length. The median gambling career length is the number of years that people in the sample reported having gambling problems. This was calculated by subtracting the age at which the individual experienced problems as a result of gambling from the age the individual began treatment or started attending Gamblers Anonymous meetings.

Productivity Losses From Unemployment Costs. The total months of unemployment due to gambling reported by all respondents was multiplied by the average United States hourly wage. This figure was divided by the disordered gambling person years.

Bad Debts Costs. The total amount of bad debts respondents reported that they did not repay because of their gambling was divided by the disordered gambling person years.

Theft Costs. The total amount of thefts respondents reported that they did not repay because of their gambling was divided by the disordered gambling person years.

Civil Court Procedure Costs. Previous studies estimated that each court case cost society $3,750. This cost represents cost of public counsel (many gamblers will not have funds and, therefore, require public counsel), costs of judicial and other court personnel salaries, and court facilities. The total number of bankruptcy cases and other civil cases reported by respondents was multiplied by $3,750 per case and totaled. This figure was divided by the disordered gambling person years.

Criminal Justice Costs. The respondents reported gambling related criminal arrests, trials, and months of probation. Previous studies have used $500 per arrest, $3,750 per trial, and $2,800 per year of probation. The total costs in each category were calculated and divided by the disordered gambling person years. Incarceration costs were separately determined.

Welfare Costs. The respondents reported number of months of welfare resulting from their gambling problems. Previous studies used $460 per month for welfare costs. The total for the year was calculated by multiplying the total months reported times $460 per month. This figure was divided by the disordered gambling person years.

Treatment Costs. The respondents reported costs of outpatient and inpatient treatment for gambling problems. The total costs for both types of treatment were summed and divided by the disordered gambling person years.

RESULTS

The annual societal costs of one Level 4 problem gambler in Louisiana are summarized in Table 5-4.

TABLE 5-4
A SUMMARY OF THE ANNUAL SOCIETAL
COSTS OF ONE LEVEL 4 PROBLEM GAMBLER IN LOUISIANA

Category	Costs
Employment Costs	**$5,968**
a. lost work hours (employed only)	5,809
b. unemployment compensation	33
c. lost productivity/unemployment	127
Bad Debts	**1,246**
Thefts	**1,929**
Civil Court Costs	**457**
Criminal Justice Costs	**935**
a. costs of arrests	53
b. costs of trials	192
c. costs of probation	157
d. costs of incarceration	533[1]
Welfare Costs	**27**
Treatment	**396**
Total Annual Social Costs	**$10,958**

Source: Louisiana GA/Treatment Study, 1998 and Agencies (Appendix E)
[1] See Estimation of 1998 Louisiana Incarceration Costs of Gambling Disorders (page 91).

The second step involved determining the social cost of gambling disorders in the prevalence survey sample. Over 200 respondents of the original 1,800 adults called in the 1998 prevalence survey to determine the prevalence of gambling disorders in Louisiana were recalled and asked 20 additional questions on gambling-related behavior. This group is referred to as the "panel-back" survey. (See Appendix E for the panel-back survey questions.) The panel-back survey was developed to determine the degree of similarity between the Level 2 and Level 3 gamblers found in the telephone survey and the Level 4 gamblers surveyed in the GA/Treatment sample. If the two groups of

gamblers are similar in their gambling behavior, then the average social costs of the GA/Treatment sample can be extrapolated to the Level 2 and 3 gamblers found in the population of the telephone survey to determine the statewide social costs of gambling disorders.

However, if the two samples are very dissimilar, then only a proportion of the social costs found in the GA/Treatment sample can be extrapolated to the Level 2 and 3 gamblers found in the population. The two groups were compared using SOGS scores and the quantitative measures of gambling used in the panel-back survey. The panel-back questionnaire included average amounts of time and money spent gambling, average gambling debt, average number of days missed from work and average number of days of reduced productivity at work, and total number of arrests and times sued related to gambling activities.

The GA/Treatment sample and the disordered gamblers identified in the prevalence study **were not identical** in SOGS scores or other quantitative measures of gambling behavior (see Appendix E). Consistently, the Level 4 gamblers in the GA sample were more severe in SOGS scores and other measures of gambling behavior. Thus, the data do not support directly extrapolating the Level 4 gambler's social costs to the disordered gamblers identified in the telephone survey.

An alternative method would be to attribute **proportions** of the Level 4 gambler's (GA/Treatment sample gamblers) social cost to the disordered gamblers (Level 2 and 3 gamblers in the panel-back sample). The only social cost that the Level 2 gamblers in the panel-back survey acknowledged was impaired productivity. The social costs of gambling debt and more severe loss of productivity were acknowledged by the Level 3 gamblers in the panel-back sample.

Therefore, we developed a two-step model for attributing Level 4 gambling annualized social costs to the telephone prevalence survey sample using two components, lost productivity cost and other social costs. The first step is to calculate the lost productivity cost, which is the only **past year cost** measured by the GA/Treatment survey (see Table 5-5). This cost is attributed to the disordered gamblers (**current** problem and probable pathological) in the telephone prevalence survey sample by multiplying a Productivity Graduated Multiplier (the proportion of their past year SOGS score to the average SOGS score (13.8) of the GA/Treatment sample) times the average productivity cost per Level 4 gambler. The total cost per person is then extrapolated to the adult population of Louisiana of 3,171,870 (age eighteen and older) to yield a total lost productivity cost statewide for each SOGS score.

The second step is to calculate the other social costs (the **annualized lifetime costs**). These costs are attributed to the disordered gamblers (**lifetime** problem and probable pathological) in the telephone prevalence survey sample by multiplying a Graduated Multiplier times the average lifetime productivity and societal costs per Level 4 gambler (see Table 5-6). These costs were summed to produce the total cost per person for each SOGS score. The total cost per person is then extrapolated to the adult population to yield a total cost statewide.

The 1998 productivity and annualized lifetime costs were summed to provide the 1998 total statewide social cost estimate of $485.64 million – $254.60 million in annual productivity lost (see Table 5-5) and $231.04 million in annualized social costs (see Table 5-6).

TABLE 5-5

PRODUCTIVITY COSTS OF GAMBLING STATEWIDE

SOGS Score	Number of Disordered Gamblers	Productivity Graduated Multiplier	Total Costs Per Person	Costs (in millions)
3	31	22%	$1,260.02	$68.83
4	11	29%	1,680.03	32.57
5	11	36%	2,100.04	40.71
6	6	43%	2,520.05	26.64
7	2	51%	2,940.05	10.36
8	5	58%	3,360.06	29.60
9	0	65%	3,780.07	–
10	1	72%	4,200.08	7.40
11	0	80%	4,620.09	0
12	2	87%	5,040.09	17.76
13	1	94%	5,460.10	9.62
14	0	101%	5,880.11	–
15	1	108%	6,300.12	11.10
Total	**71**		**$49,140.91**	**$254.60**

Source: Louisiana Prevalence Study, 1998, GA/Treatment Study, 1998, and Table 5-4

TABLE 5-6

ANNUALIZED LIFETIME SOCIAL COSTS OF GAMBLING STATEWIDE

SOGS Score	Number of Disordered Gamblers	Graduated Multiplier	Productivity Costs Per Person	Societal Costs Per Person	Total Costs (in millions)
3	41	21.7%	$34.58	NA	$2.50
4	19	28.9%	46.11	NA	1.54
5	13	36.2%	57.63	$1,803.93	42.64
6	9	43.4%	69.16	2,164.71	35.43
7	4	50.6%	80.69	2,525.50	18.37
8	7	57.8%	92.21	2,886.29	36.74
9	3	65.1%	103.74	3,247.07	17.71
10	1	72.3%	115.27	3,607.86	6.56
11	0	79.5%	126.79	3,968.64	–
12	3	86.8%	138.32	4,329.43	23.62
13	2	94.0%	149.84	4,690.21	17.06
14	1	101.2%	161.37	5,051.00	9.19
15	2	108.5%	172.90	5,411.79	19.68
Total	**105**		**$1,348.60**	**$39,686.43**	**$231.04**

Source: Louisiana Prevalence Study, 1998, GA/Treatment Study, 1998, and Table 5-4

ESTIMATION OF 1998 LOUISIANA INCARCERATION COSTS OF GAMBLING DISORDERS

Community samples such as the one used in this study, by definition, exclude members of the population in inpatient treatment, detention, or prisons. The social costs estimate in the present study captures social cost information from those in treatment and from those in the community. Absent from that estimation was a very important constituent of social costs due to gambling – those individuals whose gambling activities have led to their arrest, court conviction, and incarceration.

Gambling disorders and crime are closely associated. Researchers surveying Gamblers Anonymous or gambling-disorder-treatment populations find a significant proportion of gamblers who acknowledge criminal activity as a means to finance their

gambling. Researchers surveying prison populations find a significant portion of prisoners report symptoms consistent with gambling disorders. The GA/Treatment sample used in this study produced a very low estimate of incarceration costs – the low costs of incarceration obtained from the social cost estimate of the GA/Treatment populations may occur because gamblers whose criminal activities have led to their arrests and court convictions are currently incarcerated and are, therefore, not a part of the sample.

Therefore, a separate analysis was developed to estimate incarceration costs of gambling disorders in Louisiana in 1998. A study was performed in an adult prison in Louisiana in 1996. Survey questions in the study asked whether the current arrest was due to a gambling-related crime. Gambling-related crime includes gambling offenses and crime to obtain money to finance gambling activity or to repay a gambling-related debt. The study's results indicated that 10% of adult non-violent crimes committed by those in prison was gambling related.

Incarceration costs were calculated using the equation shown in Table 5-7. First, the Louisiana 1998 daily cost of one adult residing in prison is multiplied by the total days spent in 1998 in Louisiana adult prisons by non-violent offenders. This number is multiplied by the percentage of adult non-violent population in prison for gambling-related crime to yield the total 1998 cost of gambling-related adult incarceration. The same formula is also used to determine the costs for the Louisiana Technical Institute, a facility for non-violent juvenile offenders. The other social costs in this study were only estimated for people 18 years old and older due to the difficulty of surveying juveniles via a telephone survey. Since the incarceration costs are available through the use of a different methodology, they were included in the analysis.

TABLE 5-7
INCARCERATION COSTS

	Cost per Day		Total person Days		Percent Gambling-Related Crime		Total Cost
Adult Prison	$35.86	X	4,954,348	X	10.00%	=	$17,766,292
LTI[1]	$71.86	X	669,752	X	11.6%	=	$5,586,000
Total						=	$23,352,292

Source: Department of Public Safety and Corrections and Authors' Calculations

[1] Louisiana Technical Institute is a program for nonviolent juvenile offenders.

This estimate is conservative, because it is restricted to average costs of incarceration only. If these people were not in prison, we would expect that a significant portion would be in full- or part-time employment. Incarceration implies an additional social cost of lost productivity. Also, the incarceration estimate does not reflect the impact of their imprisonment on their families and possible increased dependence by family members on social services.

COMPARISONS TO OTHER STATES

Previous studies have collected data almost exclusively from Caucasian males, consistent with the historical evidence that Level 3 gambling behavior is highly associated with males. This study's data are almost equally split between males and females, more consistent with contemporary national and Louisiana studies that find an increasing female prevalence of gambling disorders. This study's female data coupled with our findings that female gambling careers are different and their social costs are higher and different than their male counterparts makes this study unique.

However, we will discuss our findings in comparison to previous studies to provide context. Table 5-8 provides a comparison of the Louisiana GA/Treatment sample results to data available from Connecticut and Wisconsin studies on gambling debt levels and careers (see Appendix E for full references to these studies). Data from previous studies have found that female gamblers have less debt, shorter career lengths, and begin gambling at a later age than their male counterparts. These findings are consistent with the Louisiana data.

The average Louisiana Level 4 gambler, based on our sample, starts his/her gambling, participates in weekly gambling, and experiences borrowing and disordered gambling later than the Wisconsin and Connecticut samples. In addition, the Louisiana gambler has less treatment time and lower lifetime gambling debt than the other states. This is, in all probability, due to the recent addition of many forms of gambling to the Louisiana economy. The Louisiana gambler is older, has a longer length of disordered gambling, and more gambling debt the year before entering treatment than Wisconsin but is younger, has less gambling debt the year before treatment, and a shorter duration of disordered gambling than Connecticut.

TABLE 5-8

COMPARISONS FOR MEDIAN GAMBLING CAREER HALLMARKS FOR WISCONSIN, CONNECTICUT, AND LOUISIANA

Characteristic	Wisconsin (Median)	Connecticut (Median)	Louisiana (Median)
Age Gambling Began	20	16	25
Age Weekly Gambling Began	31	21	34
Age First Borrowed to Gamble	33	27	38
Age Gambling Problems Began	35.5	29	37
Length of Disordered gambling	3 years	9 years	4 years
Time in GA	1.45 years	2 years	.375 year
Age Now	43	47	44
Lifetime Gambling-Related Loss	$45,000	$82,500	$37,500
Year before GA Loss	$12,000	$20,000	$17,500

Source: Louisiana GA/Treatment Study, 1998 and Connecticut and Wisconsin Studies (see Appendix E)

A comparison of Louisiana's social cost components with Connecticut's and Wisconsin's is presented in Table 5-9. The Louisiana social costs per year are between the Wisconsin and Connecticut results. A previous study found common patterns in Wisconsin and Connecticut social costs with over four-fifths of the variation in costs represented by more theft and bad debts in Connecticut. The Connecticut study's predominantly male respondents had longer gambling careers and greater indebtedness than their male counterparts in Wisconsin, which may explain their heavier reliance on non-personal financial sources to sustain their gambling activity. Louisiana's social costs fit the Wisconsin pattern with significantly less theft and bad debt compared to the Connecticut respondents, and lower arrest, trial, and probation costs than Connecticut.

TABLE 5-9

A SUMMARY OF THE ANNUAL SOCIETAL
COSTS OF ONE LEVEL 4 PROBLEM GAMBLER

Costs	Connecticut	Wisconsin	Louisiana
Employment Costs			
a. lost work hours	$1,770	$1,329	$5,809
b. unemployment compensation	488	488	33
c. lost productivity/unemployment	1,666	1,666	127
Bad Debts	2,300	1,487	1,246
Thefts	7,219	1733	1,929
Civil Court Costs	536	535	457
Criminal Justice Costs			
a. costs of arrests	71	38	53
b. costs of trials	458	179	192
c. costs of probation	333	152	157
d. costs of incarceration	556	534	533[1]
Welfare Costs	523	347	27
Treatment Costs	114	377	396
Total Annual Social Costs Per Compulsive Gambler	$16,034	$8,635	$10,958

Source: Louisiana GA/Treatment Study, 1998 and Connecticut and Wisconsin Studies

[1] See Estimation of 1998 Louisiana Incarceration Costs of Gambling Disorders (page 91).

The **pattern** of social costs found in Louisiana are different than the Wisconsin and Connecticut patterns. The major differences are in employment costs, civil court costs, unemployment costs, and welfare costs.

The major area of variation in the Louisiana employment costs are lost work hours or productivity. Two differences account for the larger productivity costs. The first is methodological. The Louisiana study asked about impaired productivity in addition to missed days of work, which doubled the productivity costs. The second difference is Louisiana respondents reported significantly more lost days due to gambling than the respondents in the other states.

The civil court costs, unemployment costs, and welfare costs are lower in the Louisiana study because the Louisiana respondents were asked whether the negative outcome was due to gambling. The other studies did not ask this question and attributed all court costs, unemployment costs, and welfare costs to gambling. The differences in civil court costs are probably gender related. Louisiana females reported fewer divorces and debt-related civil suits than their male counterparts. Louisiana respondents reported high amounts of months on welfare and unemployment, but only attributed a small percent of their welfare and unemployment months to gambling problems, which accounts for the smaller Louisiana costs.

One interesting observation on social costs in all three states is that treatment is a small percentage of total social costs. Treatment costs are 0.7%, 4.4%, and 3.6% in Connecticut, Wisconsin, and Louisiana, respectively. Treatment comprises less than five percent of social costs in all three states.

GAMBLING REVENUE DERIVED FROM PEOPLE WITH GAMBLING DISORDERS

In the analysis of the gambling industry on the State, one important factor to consider is the proportion of total gambling spending that is derived from problem gamblers. It is clear that the gambling industry has a very large presence in the State of Louisiana. Policy makers should have information on how much of this spending comes from problem gamblers. The Louisiana prevalence study contains adequate information to make this calculation for all of the various forms of gambling.

The methodology is straightforward based on the direct results of the prevalence study. Everyone surveyed who had gambled during the past year was asked to report how much money they spent on gambling for each form of gambling within the last year. Total gambling expenditures from Louisiana residents for each form of gambling is equal

to the average amount spent in the last year on gambling by problem gamblers times the number of problem gamblers (defined by the prevalence study) plus the average amount spent in the last year on gambling by non-problem gamblers times the number of non-problem gamblers (defined by the prevalence study). The proportion of gambling spending that is derived from problem gamblers is equal to the average amount spent in the last year on gambling by problem gamblers times the number of problem gamblers (defined by the prevalence study) divided by total gambling expenditures as calculated above.

The equation below summarizes the calculation of the proportion of gambling spending by problem (disordered) gamblers:

$$P^i = \frac{(D^i \times N \times PR)}{(D^i \times N \times PR) + (S^i \times N \times (1\text{-}PR))}$$

Where:

P^i = The proportion of total spending that comes from problem gamblers for each form of gambling.

D^i = The average amount spent on each form of gambling by problem gamblers.

S^i = The average amount spent on each form of gambling by non-problem gamblers.

N = Total number of people in the sample.

PR = Prevalence rate; i.e., the proportion of the sample that are problem gamblers.

1-PR = The proportion of the sample that are not problem gamblers.

$(D^i \times N \times PR)$ = Total gambling spending by problem gamblers.

$(S^i \times N \times (1\text{-}PR))$ = Total gambling spending by non-problem gamblers.

$(D^i \times N \times PR) + (S^i \times N \times (1\text{-}PR))$ = Total gambling spending.

The amount of expenditures by problem gamblers in Louisiana on each form of gambling activity for 1995 and 1998 are provided in Table 5-10. There are some important results in Table 5-10. **In 1998, according to the Louisiana Prevalence Study conducted for this study, 29.9% of all Louisiana spending on riverboat casinos comes from problem and pathological gamblers.** Assuming that the out-of-state gamblers follow the same pattern, 30% of all revenue coming into Louisiana's riverboat casinos comes from problem gamblers. **Likewise, 42.3% of all Louisiana spending on Indian reservation casinos comes from problem and pathological gamblers. For video poker, the proportion is 27.1%.** These are important facts to keep in mind in the overall evaluation of casino gambling in the State.

TABLE 5-10

PROPORTION OF TOTAL SPENDING FROM PROBLEM AND PATHOLOGICAL GAMBLERS FOR EACH GAMBLING ACTIVITY

	1995			1998		
Games	Problem	Path	Total	Problem	Path	Total
Pari-mutuel	18.2%	46.8%	65.0%	1.8%	6.3%	8.1%
Lottery	7.9	3.5	11.4	16.3	3.3	19.7
River Casino	6.9	11.1	18.0	18.3	11.6	29.9
Charity	17.6	6.3	23.9	5.3	6.4	11.7
Indian Casino	6.3	2.5	8.8	33.8	8.5	42.3
Electronic	16.7	9.9	26.6	18.4	8.7	27.1
Out of State	4.0	13.4	17.4	11.9	8.4	20.3
Private[1]	14.4	12.7	27.1	8.1	17.0	25.1
Telephone/Internet	0	0	0	0	10.5	10.5
Other	8.4	5.2	13.6	0	0	0
Total	11.2	14.1	25.3	15.5	9.6	25.1

Source: Louisiana Prevalence Study, 1998 and Louisiana GA/Treatment Study, 1998

[1] Private includes card games, games of chance, games of skill, and sports betting·

It is also possible, from the data presented in Table 5-10, to identify trends in gambling activity from 1995 to 1998. It is clear that there is a movement away from pari-mutuel gambling and charitable gambling by problem gamblers. **For these two forms of gambling, the proportion contributed by problem gamblers decreased from 65.0% to 8.1% and 23.9% to 11.7%, respectively. Those declines have been matched by increases in the proportion for riverboat and Indian casinos, from 18.0% to 29.9% and 8.8% to 42.3%, respectively.**

The total percentage spent on gambling by disordered gamblers has remained approximately the same – 25.3% compared to 25.1% even though the prevalence of disordered gamblers has decreased in 1998. **The most significant difference is the dramatic increase in the proportion of spending coming from Level 2 gamblers (from 11.2% to 15.5%) to rates that exceed the gambling proportion of Level 3 gamblers in 1998 (9.6%). The increased spending of Level 2 Louisiana gamblers in 1998 could signal an increase in the severity of disordered gambling by this group as a whole, and may argue for increased social costs for this group of gamblers. The increased spending could also chronicle the progression of an addictive disease in this group of gamblers.**

The major differences in the pattern of gambling in Louisiana between 1995 and 1998 is 1) the shift from pari-mutuel gambling by disordered gamblers to casino gambling (mostly Indian casinos), 2) the decrease in private forms of gambling in 1998 by all groups of gamblers, and (3) the increase in out-of-state gambling overall. In general, from 1995 to 1998 in Louisiana, casino gambling diverted revenues from other forms of legalized and private gambling and benefited from the expenditures of

disordered gamblers the most of any form of legalized gaming. Indian casinos seem to benefit the most from the shift in gambling patterns.

CONCLUSIONS

The social costs of Level 4 gambling disorders per person per year found in Louisiana are consistent with previous studies. The major categories of social costs found in this study are also consistent with previous studies, with productivity losses, theft, bad debt and criminal justice costs comprising the majority of social costs. The treatment cost of gambling disorders is a small part of the total social cost (less than four percent in Louisiana). **The social costs of gambling disorders in Louisiana in 1998 were substantial, approximately $485 million dollars. A large part of the casino gambling benefits were derived from expenditures by disordered gamblers in Louisiana. Two trends were identified in Louisiana gambling: 1) the increase in women with gambling problems and their higher social costs and 2) the dramatic increase in gambling expenditures of people with milder forms of gambling disorders (Level 2 gamblers). These findings indicate that social costs of gambling disorders may rise, possibly dramatically in the future.**

CHAPTER 6

CONCLUSIONS

Based on the analysis presented in this study, it is clear that the overall measurable benefit/cost ratio for the three forms of gambling studied in this report in the State of Louisiana is positive. In order to reach that conclusion, the following definitions must be made. The costs of gambling are defined to include the regulatory costs to the state government and the measurable external or social costs that are generated by problem gamblers. The benefits of gambling are defined to equal the new dollars generated by the gambling industry to pay for the costs. Thus, the benefits of gambling are equal to the new earnings created for Louisiana residents by the industry plus the new direct state and local tax revenues generated by the industry. New earnings and new tax revenues are the measure of the annual increase in the wealth of Louisiana's citizens created by the gambling industry. The reason why only direct tax revenues are included in the benefits is that indirect tax revenues are paid out of earnings and their inclusion would constitute double counting since we are already counting 100% of new earnings in the benefit calculation. Table 6-1 presents a summary of the benefit/cost figures.

TABLE 6-1

1998 GAMBLING BENEFIT/COST ANALYSIS
(DOLLAR FIGURES IN MILLIONS)

Category	Amount
BENEFITS:	
New Earnings	$660.36
New Direct Tax Revenues	$447.12
TOTAL BENEFITS	**$1,107.48**
COSTS:	
Regulatory Costs	$50.02
Measurable Social Costs	$481.45
TOTAL COSTS	**$531.47**
BENEFIT/COST RATIO	**2.08**

Source: Tables 4-15, 4-16, 4-17, 4-18, 4-21, 4-23, 5-1, 5-5, 5-6 and text.

Thus, the net benefit created by gambling in the State is $1,107.48 million. The net costs are $531.47 million. The benefit/costs ratio is slightly above 2. In addition, gambling has created **39,082** new jobs in the Louisiana economy. Thus, purely on the basis of measurable economic costs and benefits, the benefits outweigh the costs. However, the unmeasurable costs and benefits should be considered by anyone making a public or private decision about the overall impact of gambling. It is inappropriate for the authors to make a decision about how the unmeasurable costs and benefits might change the analysis since this implies value judgements. Businesses and citizens of Louisiana, however, seem to have made this judgment themselves. The resident and business surveys included in this report (See Chapter 3) indicate a clear negative view of the gambling industry statewide. It is also clear from this report that the **measurable**

economic benefits are greater than the **measurable** economic costs. It is quite likely that residents and businesses are putting their own value judgements on the **unmeasurable** costs and coming to the conclusion in their minds that the **real** benefits are less than the real costs.

It is very important to make several points about the implications of the benefit/cost analysis made in this study.

1. First, the costs and benefits that are presented in this report are for 1998. There is every reason to believe that these costs and benefits may change over time. The gambling industry in the State of Louisiana is still relatively young, starting in earnest in 1993 or 1994. As the industry matures, we believe that the benefits may decrease and the costs will likely increase, thus changing the overall benefit/cost ratio. It is certainly possible that the results could even switch and costs may outweigh benefits at some point in time.

   The benefits derived from the local population could decrease due to the fact that the rate of diversion is likely to increase over time. As discussed earlier, the relatively low diversion rate is caused by the fact that local people can spend new dollars on gambling without reducing other consumption by drawing down existing savings, borrowing, reducing non-local consumption, or by spending "new" income created by a growing economy. Most of these things will tend to diminish over time. Savings are finite; one can spend out of existing savings only for a finite period of time. The amount of money a person can borrow without getting into financial trouble is also limited; and, eventually, prolonged borrowing will result in bankruptcy, loss of credit, or default.

   Finally, the Louisiana economy will not continue to grow at the rate that it grew from 1994 to 1997 indefinitely. The growth rate of the Louisiana economy during that period was above the long-term trend. We are already seeing a slowdown in the Louisiana economy as oil and natural gas prices have come down. In order to continue increased gambling spending as the rate of growth of the economy slows, consumers must make more difficult financial decisions and diversion may increase. These factors may be offset by the introduction of several new casinos into the State's economy – Harrah's land-based casino in New Orleans and up to two additional riverboat licenses. In addition, 33 of the State's parishes have voted to make video poker illegal when the current contracts expire, beginning in 1999. The effect of this on the benefits and costs of video poker are uncertain. For these reasons, the benefits of gambling may change over time.

   The costs will tend to increase over time. The primary reason for this is that most of the costs are due to problem gamblers. It is clear from the psychiatry literature that addictive problems with any activity – drugs, alcohol, or gambling – do not develop overnight. On average, it takes ten years to develop full symptoms of addictive

behavior. Thus, as the gambling industry matures in the State, the number of problem gamblers will increase and the costs of the gambling industry will also increase. There is evidence from the prevalence survey conducted for this report that this phenomenon may already be underway. When comparing the 1995 prevalence study to the 1998 study, the Level 2 problem gamblers are losing nearly twice as much in 1998 as they were in 1995. The Level 2 problem gamblers are those that are in a transitional state – they could become a Level 3 pathological gambler or fall back to become a non-problem gambler. If many become pathological gamblers, the social costs of gambling will increase substantially. If they transition to a non-problem gambler, social costs overall will decrease. The evidence that, on average, the problem gamblers are losing much more indicates that many are on their way to Level 3 status.

2. The lion's share of the net new spending created by gambling in the State is created by visitor spending at the Lake Charles and Shreveport riverboat casinos. Clearly, most of this spending comes from Texas residents. If Texas legalizes casino gambling or allows for the introduction of Indian reservation casinos, much of this visitor spending could be eliminated. Without the visitor spending, the benefit/cost analysis would reverse and gambling could become a net negative industry in the State.

3. Policy makers should consider carefully the source of the economic benefits derived from gambling. In 1998, according to the Louisiana Prevalence Study conducted for this study, 29.9% of all Louisiana spending on riverboat casinos comes from problem and pathological gamblers. Likewise, 42.3% of all Louisiana spending on Indian reservation casinos comes from problem and pathological gamblers. For video poker, the proportion is 27.2%. The total percentage spent on gambling by disordered gamblers has remained approximately the same – 25.3% compared to 25.1% even though the prevalence of disordered gamblers has decreased in 1998. **The most significant difference is the dramatic increase in the proportion of spending coming from Level 2 gamblers (from 11.2% to 15.5%) to rates that exceed the gambling proportion of Level 3 gamblers in 1998 (9.6%). The increased spending of Level 2 Louisiana gamblers in 1998 could signal an increase in the severity of disordered gambling by this group as a whole, and may argue for increased social costs for this group of gamblers. The increased spending could also chronicle the progression of an addictive disease in this group of gamblers.**

4. The costs and benefits presented in this report are those that existed in 1998. Once the industry has reached maturity, adding additional casinos or other gambling opportunities will not necessarily increase the benefits or costs proportionately, especially benefits. There is a certain size market for any good or service in a particular location. After maturity, increasing a new retail outlet in that market will not increase the size of the market, it will just spread out the spending. Thus, **if the casino industry has reached maturity, adding new casinos will not increase the size of the market or the new spending related to the casino industry in the State.** Given the data presented in Chapter 1 of this report, there is some reason to believe that the industry may be reaching maturity.

5. Finally, it seems that, from a purely economic point of view, repealing the gambling laws would not result in increased net benefits for the State. Given all the alternatives to the State's legalized forms of gambling – out-of-state gambling, Internet gambling, 1-800 sports betting, illegal games, and so forth – a repeal of the gambling laws would eliminate the benefits of gambling while not reduce the costs significantly. It is akin to the old saying, "Once the genie is out of the bottle, you can't put it back in." This does not mean that it is irrational to advocate the repeal of gambling laws, just that the repeal should not be done for measurable economic reasons.

In sum, the quantifiable benefits of gambling in Louisiana exceeded the quantifiable costs by a ratio of 2 to 1 in 1998. Although the attitudes of citizens and businesses do not reflect this very positive impact, opinions are distinctly more positive in areas that benefit directly from out-of-state riverboat gambling customers than in other areas around the State. Caution must be used in extrapolating the results into the future or in answering policy questions not specifically addressed by this study. In light of the many potential changes over time, continued monitoring of the benefits and costs of the gambling industry in Louisiana is strongly advised.