The New Buffalo

A Comparative Examination Of Tribal Casino Gaming In Michigan 1993-2003

Revised Nov. 5, 2007

PREFACE

Gaming in one form or another (bingo, horse racing, lottery, etc.) has been a part of the Michigan economic landscape long before the first Native American (hereinafter referred to as "tribal") casino compacts were approved by the state in the early 1990's. Nevertheless, the emergence of legally recognized casino gambling, first approved for rural counties of Michigan in 1993 and then for the metro Detroit area in 1996, remains even today a controversial development.

Previously published research analyzing the tribal casino gambling phenomenon has varied both methodologically and by perspective– from the psychological to the economic and social impacts of casino gaming. As voluminous as this research is, few research reports provide a systematic collection and presentation of tribal casino impact data. A need exists for casino impact data which is both reliable and longitudinal in context, both social and economic in perspective, conducted in a more controlled setting than purely local or national projections, and which focuses upon the impact of tribal casino gaming as opposed to other forms of gambling (e.g. commercial and governmentally administered gambling).

This project is an attempt to fill some of these gaps by creating a Michigan tribal casino database, in which is compiled data (both social and economic) on a county-level basis for the first full decade of tribal gaming in the state. The database is then used to examine some of the major economic and social impact issues often associated with casino gambling, as well as to encourage further research of the tribal casino phenomenon both in Michigan and the nation as a whole.

What follows is a two part report. Part One is a collection of county-level data purchased or otherwise acquired from reliable sources (both government and non-profit organizations). A number of economic and social variables are analyzed to present a longitudinal picture of all 83 Michigan counties from the period 1993-2003. Since some tribal casinos in 1993 did not officially open until the following year, this 11 year "decade" is defined as 1993-2003 to capture a full ten years of tribal casino operation.

Part Two of the report examines many of the same variables and issues, during the same time period as in Part One. However, the focus of this analysis is to compare the experiences of only those Michigan counties which have hosted tribal casinos since their legalization in 1993 (10 counties) with those Michigan counties which theoretically have not been impacted by any kind of casino (16 counties) from 1993-2003.

In addition, there is a more sophisticated, statistical appendix included at the end of this report, conducted by two Central Michigan University economics professors. This appendix contains an exploration of the impact of tribal casinos on a selected number of casino-associated variables using the data base developed for this report. It is offered as an example of the kind of specialized casino impact analyses that can be done. The database created for this report provides an opportunity for the Honors Program of Central Michigan University to explore a wide variety of casino-related issues related to tribal casino expansion in Michigan with local units of government, tribal governments, and private groups and organizations

First and foremost, I would like to thank Central Michigan University, through a Research Excellence Fund grant, for financially supporting the collection and analysis of the data in this report.

Thanks are also in order to Dr. Greg Falls and Dr. Philip Thompson for their analysis in Appendix A of this report and their help in the development of the tribal casino database.

Particular thanks go out to Xiaomeng Wang for all of her help in entering and developing the tribal casino database, as well as the following Honors students for their early data collection efforts: Emily Doerr, Robert Boden, Nathan Nelson, and Jennifer Williams.

I also would like to thank Shari Jackson and Laura Bantle who did much of the table and report editing, the CMU GIS center for its assistance in creating the Michigan casino maps found in this report, and Katie Chichester, who designed the cover of this report from casino chips used by several Michigan tribal casinos.

Copies of this report may be purchased through the Honors Program at Central Michigan University by calling 989-774-3902.

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Director
Central Michigan University Honors Program
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EXECUTIVE SUMMARY

PART ONE
(Includes 83 county comparisons)

The following findings were the product of an analysis of the Central Michigan University database relating to Michigan tribal casinos for the period 1993-2003 (unless otherwise noted):

Part One: Economic Issues

1. Casino and casino impacted counties experienced a 50% and 66% increase in the total number of business establishments compared to a 5.5% and 8.5% increase for unaffected counties and the average state county
2. Only half of the local communities located nearest to a casino experienced a percentage increase in the total number of business establishments.
3. The number of construction establishments in both casino and casino-impacted counties grew by 88% during the 1993-2003 period, while unaffected counties grew by 16% and the average state county experienced a 24% increase in construction establishments.
4. Percentage increases in construction employment and payroll were highest in casino counties.
5. The number of food and drinking business establishments increased in casino counties and decreased in impacted and unaffected counties. However, the percentage increase in such establishments in casino counties (9.37%) was less than the average state county (12.8%).
6. Food and drinking employment and payroll percentage increases were greater in casino counties than they were for any of the other 3 county groupings.
7. The number of accommodation establishments increased in casino counties by nearly 160%, compared to a average state county increase of 11.2 % and decreases in the impacted and unaffected counties.
8. Accommodation employment and payroll also experienced significant percentage increases in casino counties compared to all three other county groupings.
9. Amusement establishments increased (by nearly 38%) in casino counties while decreasing in the average state and unaffected counties, although that increase was less than the percentage increase experienced by casino impacted counties (57%).
10. There was a substantially larger percentage growth in amusement payroll and employment in casino-impacted counties than in host casino counties. (Amusement employment actually declined by over 38% in casino counties).
11. Business bankruptcy filings declined at about the same percentage as casino impacted counties and near the state county average, with only unaffected county bankruptcy filings declining less.
12. Personal bankruptcy filings increased by 314% and 534% in casino and casino-impacted counties, versus increase of 169% and 177.5% in the average unaffected and state counties.
13. The percentage increase in the number of jobs was greater in casino impacted counties (84%) than in host casino counties (44.6%). The percentage increase in jobs in the average state county was only 9.2%
14. The average wage per job in casino counties increased only slightly more (in percentage) than the other 3 county comparisons. A similar outcome was found in per capita personal income. The average wage per job in casino counties was the lowest of the four county groupings and nearly $2500 less than the average state county.

15. Total payroll percentage increases for casino counties (147%) were about three times higher than the average state county and unaffected counties, though casino-impacted counties experienced an even higher percentage increase (179%).
16. Standard Equalized Valuation (SEV) for property from 1997-2003 shows a greater percentage (almost 100%) increase for casino counties than casino impacted and the average state county, but unaffected counties had a slightly larger percentage increase than host casino counties for 1997-2003.
17. Lottery sales in casino impacted counties experienced the greatest percentage increase (137%) while casino counties experienced the smallest percentage increase (19.6%) in these sales.

Part One: Social Issues

1. Embezzlement, forgery and counterfeiting, and stolen property criminal offenses all show the highest percentage increase in unaffected counties during the 1997-2003 time period, and total non-index criminal offenses show only a slightly higher percentage increase in casino counties than the average state county.
2. For narcotics, DUI, prostitution (vice crimes), vandalism, and motor vehicle theft criminal offenses, the percentage crime increase was greatest in unaffected counties between 1997-2003.
3. Abuse and neglect referral rates per thousand children in casino counties, while increasing only slightly more than the average state county, experienced the largest percentage increase of all county groupings from 1993-2003.
4. From a law enforcement resources perspective, there was a large percentage increase in the number of full-time law enforcement employees for both casino and casino-impacted counties compared to the unaffected and the average state county.
5. Circuit courts in unaffected counties experienced the largest percentage increase in terms of the number cases filed, while all other county groupings experienced a percentage decrease in case filings.
6. Probate courts in all county groupings experienced a percentage decrease in case filings, but the unaffected counties experienced the smallest percentage decrease (-5.9%) of all the county groupings.
7. The population in casino counties increased at nearly four times the percentage rate of change as the average state county (19.3% versus 5.6%), though there was a more dramatic population increase in casino-impacted counties (79.1%).
8. The percentage of people ages 25 and over who are high school graduates was about the same for casino counties as for the other county groupings.
9. The percentage increase in the number of children in grades 9 through 12 in casino counties was not significantly different from the average state county, but casino impacted counties experienced a percentage change which was 3-4 times larger than the change in host casino counties.
10. The percentage change in school student demographics of Native Americans in casino counties was approximately double the state county average, though casino impacted counties experienced an even greater percentage increase than casino counties.
11. Casino county school districts showed the largest percentage decline in the number of children aged 5-17 from families in poverty and also the smallest percentage increase in the number of reduced price and free lunches provided..
12. Liquor sales in casino counties increased at almost double the percentage rate of the average state county (78.5% versus 41%), but casino-impacted counties experienced an even higher 149.1% increase.

13. Liquor-related crimes percentage increases were highest in unaffected counties.
14. The percentage decline in the rate of divorce was smallest in casino counties (-6%), with the average state county experiencing a -14.5% decline.

PART TWO

(26 County Comparisons)

Comparing only the 10 original host casino counties versus the 16 counties which have never been within a 50 mile radius of any type of casino (unaffected counties) for the period 1993-2003, we found the following information:

Part Two: Economic Issues

1. There was little difference in the growth of business establishments between casino and unaffected counties.
2. The two types of business activities in casino counties that showed percentage growth (as measured by employment and payroll increases) versus the unaffected counties were in the construction and accommodation businesses.
3. Amusement activity in casino counties declined in terms of number of new establishments, employment, and payroll.
4. Food and drinking establishments in casino counties, while declining in terms of the total number of establishments, showed increases in employment and payroll, but much greater percentage increases in growth occurred in unaffected counties.
5. Business bankruptcy filings declined at a greater percentage rate in casino counties, but personal bankruptcy filing increased by 217% versus more than 175% for unaffected counties.
6. The number of jobs in casino counties showed a slightly higher percentage rate of increase (2.1%) than in unaffected counties.
7. The average wage per job and per capita personal income in casino counties showed only small percentage increases over unaffected counties. However, the average wage per job in unaffected counties was almost $5,000 more than in casino counties in 2003.
8. The total payroll percentage increase in casino counties was only 2.2% more than in unaffected counties.
9. The Standard Equalized Valuation (SEV) in casino counties was up 78% versus 66.5% for unaffected counties.
10. Lottery sales in casino counties increased 105.8% over this time period compared to 76.6% for unaffected counties.

Part Two: Social Issues

1. The percentage increases in casino counties exceeded those increases in unaffected counties for: embezzlement, stolen property, and DUIs.
2. The percentage increases/differences in casino counties was less than what occurred in unaffected counties for forgery and counterfeiting, total non-index crime, narcotics, prostitution, vandalism, and motor vehicle theft.
3. Abuse and neglect referral rates per 1000 children showed about the same percentage increase (between 33% and 35%) as in Part One.
4. Law enforcement employment increased in casino counties by 46% compared to an increase of about 29% for unaffected counties.

5. Circuit and probate court case filings showed a greater percentage decline in casino counties than in unaffected counties.
6. Population in casino counties rose by 2.3%, but rose by a greater 7.3% rate in unaffected counties.
7. Grades 9-11 showed declines in enrollment in county public schools near casinos while public schools in unaffected counties showed an average increase exceeding 20%.
8. Casino counties are more demographically diverse in terms of Native American populations, and also experienced a greater percentage increase in such diversity compared to unaffected counties.
9. The number of families in poverty was about the same for both casino and unaffected counties, while the number of students participating in the reduced price lunch program showed a slight decline in casino counties but an 18.4% increase in unaffected counties.
10. Liquor sales and liquor related crimes showed a greater percentage increase in unaffected counties than in casino counties.
11. The rate of divorce declined slightly less in casino counties than in unaffected counties (14.2% vs. 16.4%).

Note:
An executive summary of the findings of the two CMU Economic professors can be found at the beginning of Appendix A.

BACKGROUND AND INTRODUCTION

When Congress passed the Indian Gaming Regulatory Act (IGRA) of 1988 which opened the door to legalized casino gambling nationwide, it was hailed for the economic promise and hope it offered to Native Americans living on struggling reservations. By virtually any economic measure, many tribal nations were in desperate need of such economic hope.

According to the 1990 Census Bureau figures, 27% of Native families were living below the poverty level compared to only 10% of all families in the United States. The Bureau of Labor Statistics pegged unemployment of Native Americans in 1991 at a staggering 45% versus 8% for the general population. On reservations in 1989, 47.3% of families lived in poverty compared to a national average of 11.5%; the alcoholism rate was 663% higher than the national rate; and the suicide rate was 95% higher than the national rate.[1]

Hence the phrase "new buffalo" emerged to describe the economic promise that legalized tribal casinos under IGRA could bring to reservation life. This "new buffalo" analogy seemed appropriate for tribal casinos. Like the buffalo of old, tribal casinos represented a new, single source capable of meeting the basic needs of tribal members.

It was against this backdrop of economic need that Congress enacted IGRA, which was expected to create new employment opportunities for tribal members, provide investment capital for tribal infrastructure, and help tribes address some of the major social problems faced on reservations. By 1993, over 170 tribes nationwide had created some form of legalized gambling, with 145 tribes in 24 different states having Class III[2] casino gaming and over 160 signed tribal casino compacts. However, despite the rapid growth in the number of tribal casinos in the first few post-IGRA years, tribal gambling revenue only represented 5% of the total U.S. gaming revenue. [3]

By 2004, according to the National Indian Gaming Commission, Class III tribal gambling expanded to 224 of the 562 federally recognized tribes in 28 states. Tribal gambling revenue grew to over $19 billion or 23% of total gambling revenue in the U.S. The National Indian Gaming Commission recently announced that net revenues from Indian gambling grew by 11% in 2005-2006, and that the Indian gambling industry has doubled between 2001-2006, growing from $12.8 billion to $25.1 billion.[4] Needless to say, tribal casino gambling is now a major economic player, with impacts reaching far beyond reservation and host local community boundaries.

Not long after the passage of IGRA, Class III tribal gambling also became a major economic enterprise in the state of Michigan.[5] With the adoption of the initial wave of Michigan tribal-state gambling compacts in 1993, tribal gambling quickly grew in central and northern Michigan. By 2007, there were twelve federally recognized tribes[6] and 17 tribal casinos operating in the state,[7] making Michigan what one writer describes as the state with the largest gambling complex between

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[1] Roger Dunsdon. Gambling in California Research Bureau, Sacramento, Cal. January, 1997.

[2] IGRA provided for three classes of tribal gaming. Class III gaming is by far the most lucrative, as it permits slot machines and video poker as well as banking card games.

[3] For a current and more thorough examination of the status of American Indians, see the Taylor and Kalt Harvard Project on American Indian Economic Development, particularly the January 2005 report entitled, "American Indians on Reservations: A Databook on Socioeconomic Change between the 1990 and 2000 Census."

[4] National Indian Gaming Commission press release, June 4, 2007.

[5] Although tribal casinos with high stakes bingo have existed in Michigan's Upper Peninsula since 1984.(Ross, 2000).

[6] Seven tribal-state gaming compacts were approved in 1993 and four more were approved in 1998 (though 2 of these 4 have not yet opened as of the date of this report). One in Standish was announced in late April 2007 and is scheduled to open by the end of 2007.

[7] Two more Michigan tribal casinos near New Buffalo and Battle Creek are also expected to open in 2007 or 2008, despite existing nearby out-of-state casino competition in Indiana, not to mention the casinos in Sarnia and Windsor, Canada.

Atlantic City and Nevada.[8] With approximately 4400 slot machines, the Soaring Eagle Casino and Resort in central Michigan is the state's largest tribal casino, with the second largest floor space of any tribal casino in the United States.

Until the Detroit commercial casinos opened in 1999[9], tribal state compacts required that these tribal casinos pay the state eight percent of its net winnings from electronic video games and slot machines. According to statistics published by the Michigan Gaming Control Board, this eight percent funding provided the state with a considerable annual source of revenue, peaking in 1998 at nearly $47 million.

However, this revenue stream was reduced to a mere trickle for the state of Michigan in 1999 when the commercial Detroit casinos opened and the state approved four new tribal casinos. The 1993 tribal state compacts with the seven original tribes stipulated that these eight percent state-designated funds would continue to be paid only as long as the original seven tribes retained the exclusive right to operate electronic video games or video lottery terminals. [10] Thus, the direct financial benefit from tribal casinos to the state largely disappeared (a loss of almost $300 million[11] over the past seven years) and will continue to be lost until renegotiation of these twenty year compacts with the original seven tribes is required to be undertaken by 2013.[12]

Meanwhile, 2% tribal casino payments to local units of Michigan government have continued unabated since 1993, totaling nearly $167 million though 2006.[13] Thus, host communities near the tribal casinos have seen significant economic benefits from these 2% payments.

However, Michigan tribal casino benefits are not limited to private economic gains. According to Lansing economist Dr. Carol Berquist, prior to their casino jobs, 37% of tribal gaming employees (native and non-native) were receiving state and federal welfare assistance and 31% were receiving state or federal unemployment compensation.[14] Thus, funding demands for government assistance programs for Native Americans also have been reduced.

There were intangible benefits as well, especially for Native Americans. As the late and highly respected Saginaw Chippewa Tribe Chief Arnold Sowmick observed when asked about the impact of tribal gaming even in its earliest years:

> It's a whole new ballgame….You can see it all around, but where I like to look is at our young people. They're outgoing, confident, and they present a positive image. It hasn't always been that way. People will listen to us now who wouldn't before. That old saw about 'money talks' is true.[15]

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[8] R. Fred Wacker. Michigan Gambling: The Interactions of Native American, Detroit, and Canadian Casinos, American Behavioral Scientist Sage Publications Vol. 50, No. 3 Nov, 2006, p. 373.

[9] The Detroit commercial casinos were approved by voters in 1996, but years of legal conflict and negotiation ensued before the casinos actually were operational.

[10] Other tribes also have withheld payments for other legal issues being contested in court.

[11] See Appendix B for a table compiling the annual 8% payments made in accordance with the terms of Michigan-tribal compacts.

[12] In light of the state's current distressed economy and the continued growth of tribal casinos, both the state and the seven original tribes may find it mutually advantageous to renegotiate these compacts earlier than 2013. The renegotiation process actually would begin one year earlier than 2013 if either party serves notice in writing of its desire to renegotiate the compact.

[13] See Appendix B for a table compiling the annual 2% payments made in accordance with the terms of Michigan-tribal compacts.

[14] Statistics on the Economic Impact of Indian Gaming: www.dgsys.com/niga/stats.

[15] Quote from Detroit News, January 17, 1988, written by Detroit News Reporter Thomas BeVier.

Nationally, the Native population on reservations grew by a quarter in the decade following IGRA passage, and tribes with casinos became major political players at the local, state, and even national level.[16] As one writer summarized the value of tribal gaming:

> There is little doubt that tribal gaming has been more successful than all previous anti-poverty programmes in creating jobs, reducing welfare dependency, and holding the promise of a bright future for some Indian tribes and their members.[17]

However, a discussion of the significant benefits of casino gaming for tribal members (which is likely considerable for tribes which operate casinos) is not the focus of this report for two reasons: (1) the lack of reliable data on tribal gains and (2) the bulk of the research on tribal gaming has been its impact on communities outside the reservation.

Indeed, the allure of the "new buffalo" has spread to the non-tribal host casino communities as well. As tribal casinos grow in financial size, their impact (social and economic) on host communities and the state as a whole becomes a more salient issue for policy-makers, especially as they continue to be faced with requests for building additional casinos.[18]

The literature on casino gaming is replete with studies which assess the aggregate benefits associated with the introduction of a casino into a community – citing jobs, investment stimulation, tourism development, capture of economic rents, and tax revenue benefits. Similarly, a considerable number of studies also project a number of social and economic ills which arise from the opening of tribal casinos.

The purpose of this report is not simply to provide more aggregate data nor more general attributions toward the positive and/or negative impacts of tribal casinos on host tribal communities. Rather, it is to provide comparative data to help guide Michigan policy makers and to provide researchers with quality, longitudinal data to help them further assess impact linkages suggested in tribal casino research.

Accordingly, this report is divided into two parts. Part One of this report will discuss selected major economic and social issues associated with tribal casino gaming in casino-related literature. Using primarily county-based Michigan data for the first full decade of casino gaming (1993-2003) to examine some of the literature-associated casino gaming issues, the first full decade experience with tribal casinos will be compared using four major groupings of Michigan counties:

1. Host tribal casino counties (rural counties where the casino is located geographically)
2. Casino-impacted counties (rural counties within a 50 mile radius of a tribal casino)[19]
3. Unaffected Counties (rural counties outside the 50 mile radius of a tribal casino)[20]

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[16] Although the Jack Abramof scandal has somewhat tarnished this national lobbying effort.

[17] Angela Gonzales. Gaming and displacement: winners and losers in American Indian casino development. The International Social Science Journal. Vol. 175. March, 2003, p. 131. Blackwell Publishing, Oxford UK.

[18] With three casinos scheduled to open by 2008, the issue of casino expansion remains a live political issue among proponents and opponents alike.

[19] The 50 mile radius classification is based on a study by the National Opinion Research Center (NORC) at the University of Chicago and the Harvard Project on American Indian Economic Development. Both studies suggested the 50 mile radius would capture the effective range of pathological gamblers or the effective economic impact of the casino. Other studies have indicated a smaller range (Worthington in 1995 suggested 35 miles and Hornack in 1995 suggested 30 miles). The greater range was chosen because it was based on more recent casino research and ensures we capture the full casino impact.

[20] The urban counties of Wayne, Oakland, Macomb, and Kent also were deleted from this comparison since they are so unlike the rural casino counties and have a series of issues unique to their urban setting that may affect the social and economic impacts addressed in this report. Eadington (1999) concluded that it is possible that the positive economic

4. All 83 Michigan counties (average state county)

Part Two will discus these same economic and social variables often associated in the literature with tribal casino gaming. The analysis will be undertaken for the same time period but comparing only two Michigan county groupings: casino counties in existence from 1993-2003 (10 counties) with those counties which have not been affected by casinos (those 16 counties located more than 50 miles from any kind of casino) during this same time period.

In addition, in Appendix A of this report, there is a section written by two Central Michigan University economics professors further analyzing this data. Using regression analysis, they report their more specific findings for different time periods based upon data availability, focusing upon some selected casino-related issues, particularly as they relate to the issues of wages and crime.

It should be noted that the four county categories used in Part One of this report are (unlike Part Two) not static. When new tribal casinos were opened/approved in Grand Traverse County in 1996 and in Manistee and Emmet counties in 1998, these three counties became casino counties and those unaffected rural counties within 50 miles of these new casino counties were re-classified as casino-impacted counties. (See the GIS-created maps of Michigan at the end of this section to view how new tribal casino openings affected these county categories.)[21]

Similarly, when non-tribal casinos opened in Indiana, Canada, and Detroit during this period, the counties within 50 miles of these out of state casinos also became casino impacted counties[22], as it is difficult to separate distinctive impacts among various types of casinos. However, Part Two only analyzes those counties which retained the same casino or unaffected casino status from 1993-2003, providing a cleaner, full decade comparison of casino and non-casino county experiences.[23]

For purposes of data presentation and comparison, we generally have chosen to report the average annual differences (both raw number averages and by graphs) among these four categories of counties for the period 1993-2003. This approach will allow researchers to examine yearly as well as decade-long patterns in the variables after the first tribal casinos were approved in 1993. Also, a comparison of this 1993-2003 period is provided to quantify differences in percentage changes which have occurred over this same time period for each of the four county groupings - a longitudinal measure of comparison.

Our approach is not intended to show causal relationships between the presence of tribal casinos and purported casino impacts identified in the literature. There are multiple reasons besides

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development effects of gambling (job creation, tax revenue, support of peripheral businesses and services, etc.) may be greater in destination communities due to the net positive infusion of outside dollars, than if a casino is built in an urban setting with a higher percentage of local patrons.

[21] On the GIS maps, three non-tribal, outstate casino are identified and taken into account in county classifications if counties were within 50 miles of these casinos, as political boundaries (even with Canada) do not impose significant barriers to gambling participation, at least during the pre 9/11 era. Indeed, the major reason why gambling was approved in Detroit was because of the many Michigan gamblers traveling to Windsor. The three out of state casinos included in the map are Michigan City, Windsor, and Sarnia.

[22] Out of state casinos were only considered in Parts One and Two of this report.

[23] There are obviously other county groupings that could have been made with this data. For example, casino counties could be further separated in terms of the size of the tribal casino, distinguishing between the predominantly smaller Upper Peninsula casinos and the relatively larger ones in the Lower Peninsula. Furthermore, we could more carefully compare Michigan counties by giving more weight to the more populous counties, as Michigan casino counties have only 50 persons per square mile while the other three county categories have an average of nearly 200 persons per square mile**.**

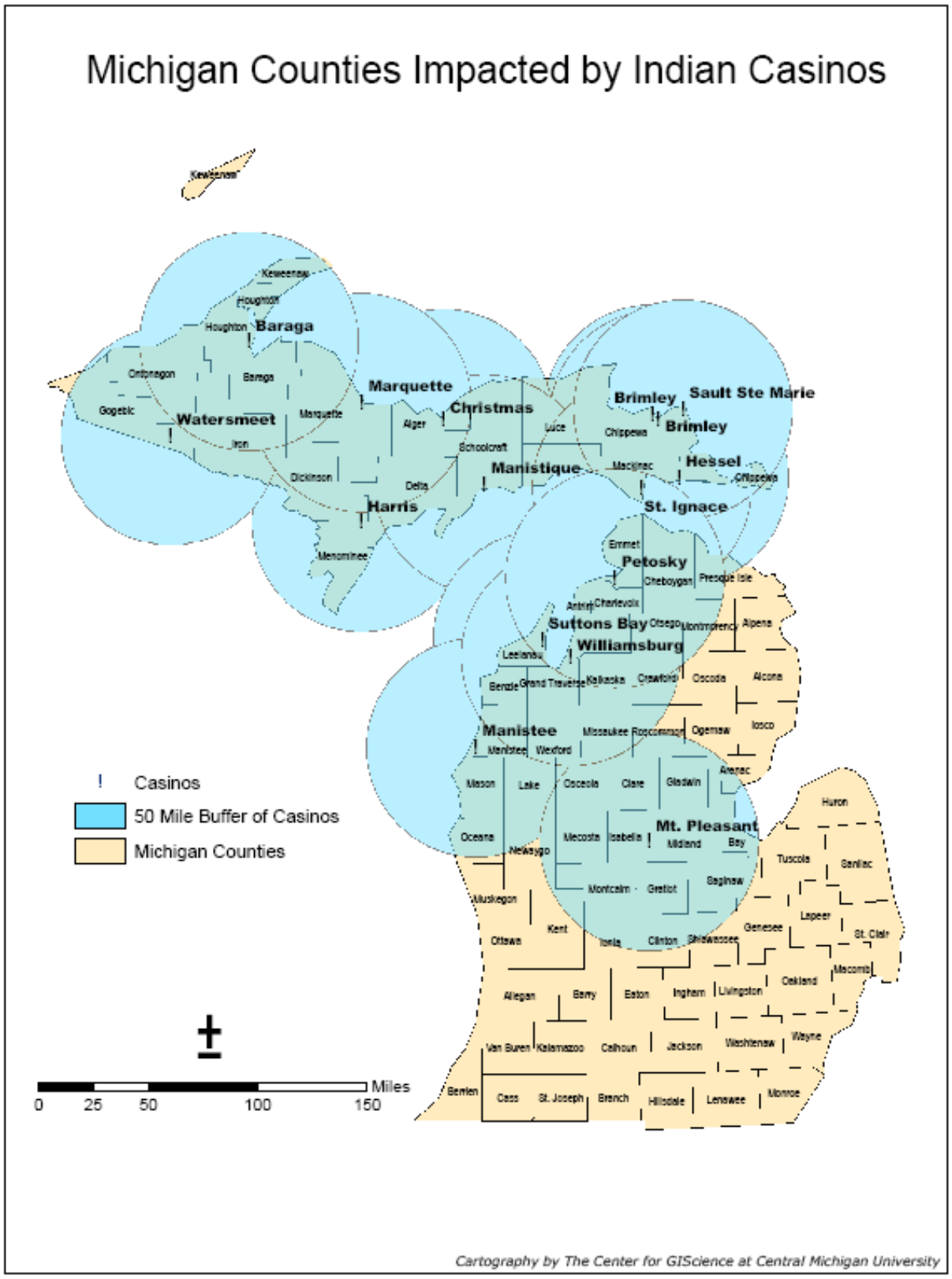
the presence of a tribal casino for the many, decade-long changes in economic and social conditions in Michigan counties.

Rather, using Michigan as a quasi-laboratory setting with the same laws and compact obligations, it is intended to comparatively examine, through quality, longitudinal data over the first full decade of tribal casino experience in Michigan, how the average host casino counties have fared and now this data corresponds to the predictions in the casino impact literature. While there are more sophisticated techniques available for such analysis, including the regression analysis used in Appendix A of this report, it is hoped that this report will stimulate further issue-specific research into Michigan's tribal casino experience.

Michigan GIS Casino Maps

Map 1: Tribal Casino 50 Mile Impact Radius

Map 2: Tribal, Detroit, and Out of State Casino 50 Mile Impact Radius


Michigan Counties Impacted by Indian Casinos
Keweenaw
Houghton
Baraga
Ontonagon
Gogebic
Watersmeet
Marquette
Alger
Christmas
Schoolcraft
Manistique
Dickinson
Delta
Harris
Menominee
Luce
Chippewa
Brimley
Sault Ste Marie
Mackinac
Hessel
St. Ignace
Emmet
Petosky
Cheboygan
Presque Isle
Charlevoix
Antrim
Suttons Bay
Williamsburg
Otsego
Montmorency
Alpena
Leelanau
Benzie
Grand Traverse
Kalkaska
Crawford
Oscoda
Alcona
Manistee
Missaukee
Roscommon
Ogemaw
Iosco
Wexford
Arenac
Mason
Lake
Osceola
Clare
Gladwin
Huron
Oceana
Newaygo
Mecosta
Isabella
Mt. Pleasant
Midland
Bay
Tuscola
Gratiot
Saginaw
Genesee
Lapeer
Muskegon
Kent
Ottawa
Ionia
Clinton
Shiawassee
St. Clair
Macomb
Oakland
Allegan
Barry
Eaton
Ingham
Livingston
Wayne
Van Buren
Kalamazoo
Calhoun
Jackson
Washtenaw
Berrien
Cass
St. Joseph
Branch
Hillsdale
Lenawee
Monroe
Casinos
50 Mile Buffer of Casinos
Michigan Counties
Miles
0
25
50
100
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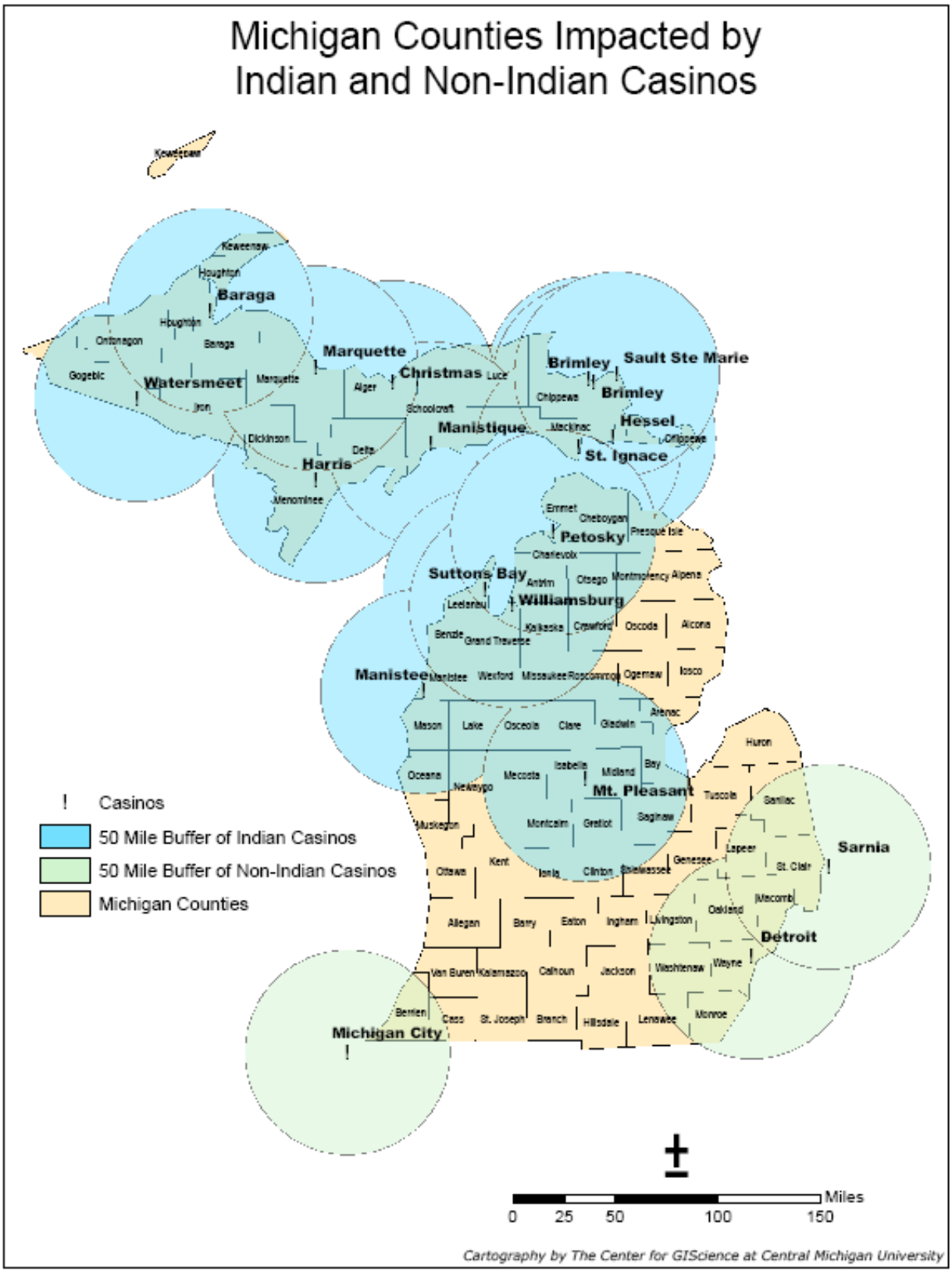
Cartography by The Center for GIScience at Central Michigan University


Michigan Counties Impacted by
Indian and Non-Indian Casinos
Keweenaw
Houghton
Baraga
Ontonagon
Gogebic
Watersmeet
Marquette
Christmas
Alger
Luce
Schoolcraft
Manistique
Dickinson
Delta
Harris
Menominee
Brimley
Sault Ste Marie
Chippewa
Brimley
Mackinac
Hessel
Chippewa
St. Ignace
Emmet
Cheboygan
Petosky
Presque Isle
Charlevoix
Suttons Bay
Antrim
Otsego
Montmorency
Alpena
Leelanau
Williamsburg
Kalkaska
Crawford
Oscoda
Alcona
Benzie
Grand Traverse
Manistee
Wexford
Missaukee
Roscommon
Ogemaw
Iosco
Arenac
Mason
Lake
Osceola
Clare
Gladwin
Huron
Oceana
Newaygo
Mecosta
Isabella
Midland
Bay
Mt. Pleasant
Tuscola
Sanilac
Muskegon
Montcalm
Gratiot
Saginaw
Lapeer
Sarnia
St. Clair
Ottawa
Kent
Ionia
Clinton
Shiawassee
Genesee
Macomb
Oakland
Allegan
Barry
Eaton
Ingham
Livingston
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Van Buren
Kalamazoo
Calhoun
Jackson
Washtenaw
Wayne
Berrien
Cass
St. Joseph
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! Casinos
50 Mile Buffer of Indian Casinos
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Michigan Counties
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Cartography by The Center for GIScience at Central Michigan University

METHODOLOGY

As the volume and range of variables analyzed in previous casino impact studies have grown with the expansion of tribal casinos, so has the variety of methodologies employed in these studies to measure the impacts of these casinos. Thus, it has been difficult to accumulate a critical mass of uniformly collected, longitudinal data on the impact of these casinos.

A primary purpose of this project was to develop such a data base with objective, longitudinal data from which researchers could begin to focus upon some of the more interesting and significant impacts often associated with casinos in the literature. Using the state of Michigan as a quasi-laboratory for studying the first decade of tribal gaming in order to control for state laws and compacts, along with similar state regulations and state court decisions, this report highlights some of these key issues and provides some quantitative information about the state's experience.

In order to achieve these objectives, prior to beginning this statewide assessment of tribal casino gaming, certain questions initially had to be addressed; namely:

(1) At which sub-state level(s) of Michigan government should data comparisons be made?
(2) How should casino differences be organized and compared?
(3) Which casino-related variables should be selected and how should they be measured?
(4) What requirements should be established to ensure the collection of quality data?
(5) What time period should be used to make these comparisons?

(1) Level of Government

For comparison purposes, it was determined that county level data was the most reliable, available, and uniformly reported sub-state data to use for casino comparison purposes. Although some limited use of uniformly reported school district and casino business zip code data was also undertaken to handle a few sub-county specific issues, it was determined that use of other sub state data such as municipal or township data was unlikely to be as accurately nor uniformly reported as county data.

It is recognized that choosing groups of counties to measure casino impacts versus using even smaller sub-state units of government like townships or municipalities may create an "averaging" problem which in turn may understate or dilute both positive and negative local casino impacts. However, the fact that tribal casinos are largely located in rural and sparsely populated counties reduces the local averaging effect that otherwise would occur if a tribal casino were located in more populous and developed urban counties. To further decrease the "averaging" effect resulting from combining groups of similarly situated counties and taking county averages, Michigan's most urban counties are not included in any of the county grouping comparisons except the overall state average.

(2) Casino County Comparisons

Past studies, including the 1999 study by the National Opinion Research Center (NORC) at the University of Chicago, have used a fifty mile radius from a casino as the area most impacted by a casino. While other studies have used lesser impact "zones", this 50 mile radius appears to be the most accepted geographical outer range of casino impacts. Using this metric, a fifty mile radius was drawn from the location of a casino. The GIS maps at the end of the previous background section of this report highlight the location of Michigan's casino-impacted counties, both tribal and

commercial. Using the 50 mile radius metric on these maps, Michigan counties were divided into three groups:

a. Casino Counties (includes only those **rural** counties where a tribal casino is physically located)
b. Casino-impacted Counties (includes those **rural** counties which are partially or entirely within the 50 mile radius from the tribal casino – excluding the host casino counties and the urban county of Kent, which was excluded to reduce the county averaging effect)[24].
c. Unaffected Counties (those **rural** counties unaffected by a tribal casino since they are located beyond the 50 mile radius of tribal casinos, excluding the three urban counties of Wayne, Oakland, and Macomb which were removed for the same reason as described in b).

In addition, a statewide (unweighted) comparison which includes the four previously excluded urban counties was added to provide a fourth comparison - an overall state 83 county average comparison. Please refer to table A-13 in Appendix A of the report the county classification breakdowns.

We excluded the four large city and/or urban counties of Wayne, Oakland, Macomb, and Kent from the first three county groupings because they are quite unlike the more rural remaining counties in the state, and three of them are also impacted by three large commercial casinos in the metro Detroit area, not to mention a casino in nearby Windsor, Canada.[25] These populous urban counties and the Detroit commercial casinos would unduly influence the average impacts of other largely rural and smaller population counties.[26]

In Part Two of this report, only Michigan counties which had a tribal casino compact since 1993 are considered casino counties (10 counties), while only those counties which have been more than 50 miles from any operating casino from 1993-2003 (16 counties) are categorized as unaffected counties.

(3) **Variable Selection and Measurement Process**

To develop a common information basis for this study of tribal casino gambling in Michigan, creation of a substantial database with a variety of variables was necessary. Over 200 variables were identified for this database. This database has been retained by CMU in order to permit conducting future detailed individual casino impact studies upon the request of tribal and

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[24] It also should be noted that two Canadian casinos (in Windsor in 1994 and the Sarnia area in 1999) plus a Michigan City, Indiana casino (1997) cannot be ignored. Accordingly, when each of these casinos opened, the Michigan counties within a 50 miles radius of these non- Michigan casinos were shifted to the appropriate casino county category. Thus, the previously presented first GIS map displays the tribal casino impact while the second map represents the total casino impact on Michigan and not just the tribal impacts.

[25] Also see footnote 20 explanation

[26] In Appendix A of this report, where Wayne County is treated as a casino county and Oakland and Macomb as casino impacted counties, their inclusion has an overall major impact on casino county averages. Accordingly, these three urban counties are included and then excluded in the statewide county comparisons in the 2000-2003 analysis to compare their relative impacts on the tribal casino average statistics.

local units of state government. This report only provides a partial presentation of the data collected for this database.

A primary concern with past casino impact studies has been the process by which variables were selected or measured. Sometimes, a very subjective and limited selection of variables was used in order to arrive at the desired conclusions sought by those underwriting the report. [27] In other reports, purely national data analysis made discerning local tribal casino impacts difficult.

The variables presented in this report were selected on the basis of findings or conclusions drawn from past casino gaming studies and quality data availability. That is to say, when published studies indicated there might be a correlation between the opening of a tribal casino and a certain outcome (e.g. rise in crime rates) and these outcomes were used in these studies to either support or oppose the opening of a tribal casino, those variables were examined in this report if there was reliable Michigan data available. Furthermore, data collection was limited to Michigan impacts rather than analyses which encompass a variety of other non-Michigan and broader regional variables to keep the comparisons consistent.

It should be emphasized that the selection of variables in this report does not necessarily suggest that there is a causal relationship between the presence of a tribal casino and a certain outcome (e.g. divorce). Each variable was merely examined to see if studies purporting to link a variable to a casino have any statistical support when examined on a longitudinal basis in Michigan.

The variables in this report are presented and measured in table form for information purposes in two ways:

a. A year by year, average number of occurrences table from 1993-2003 according to county groupings providing average county comparisons using raw numbers, followed by a linear graph depiction of this data, and

b. A percentage table along with a bar graph showing the percentage change in occurrences for each county grouping over this same 1993-2003 time period.

(4) **Data Quality Requirements**

To ensure that the data used for this study was both uniformly reported and unbiased in collection, data from government sources rather than privately generated data was used wherever possible. In some instances, the data used was a derivative of a government source; such as bankruptcy data which was purchased from a university source that performed the otherwise arduous task of separating bankruptcy data into county reporting data.

It is acknowledged that although government data sources may not be as accurate as we would prefer, the data inadequacies do not reflect an intentional bias for or against casino gambling. Even so, in some instances we chose not to use available longitudinal data simply because of significant changes in data reporting that occurred during this ten year period (e.g. pre-1997 uniform crime data were not used because crime data collection and classification methods changed in 1997, making the older data incompatible with the new).

Again, it is emphasized that the purpose in presenting this data is to provide a broad picture of what we know statistically has occurred in Michigan between 1993 and 2003 rather than draw conclusions as to the value or cost of tribal casinos in Michigan. We do offer some possible explanation for this data, but these explanations are presented merely to stimulate further research

[27] For example, reports aimed at finding only the adverse effects of a casino and ignoring or undervaluing its positive benefits in their analysis, and vice versa.

into these issues. However, we have provided in Appendix A of this report the findings of two CMU economists who, using our database, have made some preliminary explorations into two commonly addressed casino impact concerns -crime and wages- to encourage future research into tribal casino impacts.

(5) **Report Time Period**

It was determined that examination of casino impacts should begin in the year when the first tribal casino compacts were approved by the state in 1993. Some of these tribal gaming facilities had bingo and other table gaming activities in operation prior to 1993, but did not have the large scale slot machine operations that dominate these facilities now. It is also recognized that some casinos experienced significant expansion of casino operations after 1993 (e.g. The Soaring Eagle Casino and Resort major expansion occurred in 1996).

However, even though casinos may not have been in operation during the year of signing of the compact, the compact signing date of 1993 was chosen as the overall preferred base year to assess the impact of tribal casinos (as was the 1998 date for two later casinos). Year by year comparison tables are presented for researchers who wish to use a different pattern of years as comparative data points.

A full 10 year period was chosen (rather than ending the analysis in 2000 in conjunction with 2000 U.S. Census figures) to ensure we capture the impact of more recent tribal casinos that were approved in 1998. As was stated previously in the Foreword, since some casinos in 1993 did not officially open until the following year, this 11 year “decade” is defined as 1993-2003 to capture a full ten years of casino operations.

PART ONE
TRIBAL CASINO COMPARATIVE DATA FOR ALL 83 MICHIGAN COUNTIES

PART ONE
General Economic Issues

Before we discuss the economic impacts of tribal casinos in Michigan, it should be clear what type of gambling we are examining in this study. We are referring to gambling which attracts tourists to a casino – destination gambling – and not slots or videos located in restaurants, bars, drugstores, or retail outlets in order to attract local residents – convenience gambling. We also are not discussing the impact of state lotteries, bingo, or commercial casinos in Detroit (approved by the voters in 1996 and which opened in 1999). Although there is tribal ownership in one of these Detroit commercial casinos, they are located in an urban rather than a rural environment and are highly regulated by the state, unlike the tribal casinos.

Instead we are looking at tribal casinos, which continue to play an increasingly important role on the local and state economies. While the direct economic benefit to the state of the 8% revenue share has been greatly diminished as mentioned previously, these casinos still create state tax revenue through job creation and economic development.

More specifically, we wish to examine how these tribal casinos may have economically and socially impacted their host Michigan counties by comparing some impacts commonly associated with casinos in the literature for Michigan counties hosting a casino with the experiences of other Michigan county groupings without such tribal casinos.

Accordingly, we propose to examine four broad categories[28] of economic effects which, rightly or wrongly in recent casino literature, have been directly or indirectly attributed in part to the presence of a tribal casino and for which there is reliable, longitudinal data; namely:

1. Casino impacts on new and existing businesses, including
    a. Total number of new business establishments
    b. Construction establishments
    c. Food and drinking establishments
    d. Accommodation establishments
    e. Amusement, gambling and recreation establishments
    f. Bankruptcy filings- business and individual
2. Casino impacts on employment and wages.
3. Casino impacts on housing and property values
4. Casino impacts on state lottery sales.

I. New and Existing Businesses Impact

Tribal casinos often are projected in casino impact studies and gambling literature to create more new businesses as well as enhance existing business activity by (1) increasing the number of new visitors to the community and (2) through the purchasing power of new casino employees. One representative casino impact study projected that most towns and cities within a 30 mile radius of a non-urban casino experience marked growth in the number of casino and service business establishments that can be specifically attributed to the nearby casino. [29] The same author further

[28] Obviously there are other economic issues that could be explored as well, but these were the major issues raised in the literature with sufficient Michigan-focused data to support an analysis.

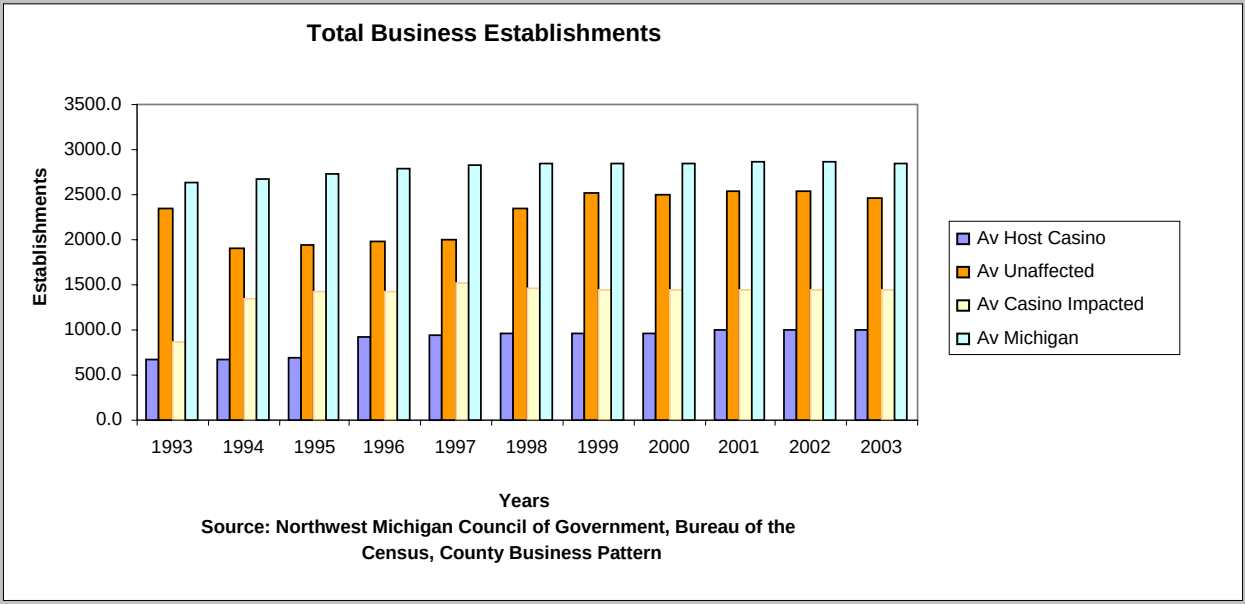
[29] Hoenack and Renz, "Effects of the Indian-Owned Casinos on Self-Generating Economic Development in Non-Urban Areas of Minnesota." 1995.

found that the closer a town or city is to a casino, the greater effect of the casino on the number of new business establishments. This result is common to a number of the casino impact reports issued over the past ten years.

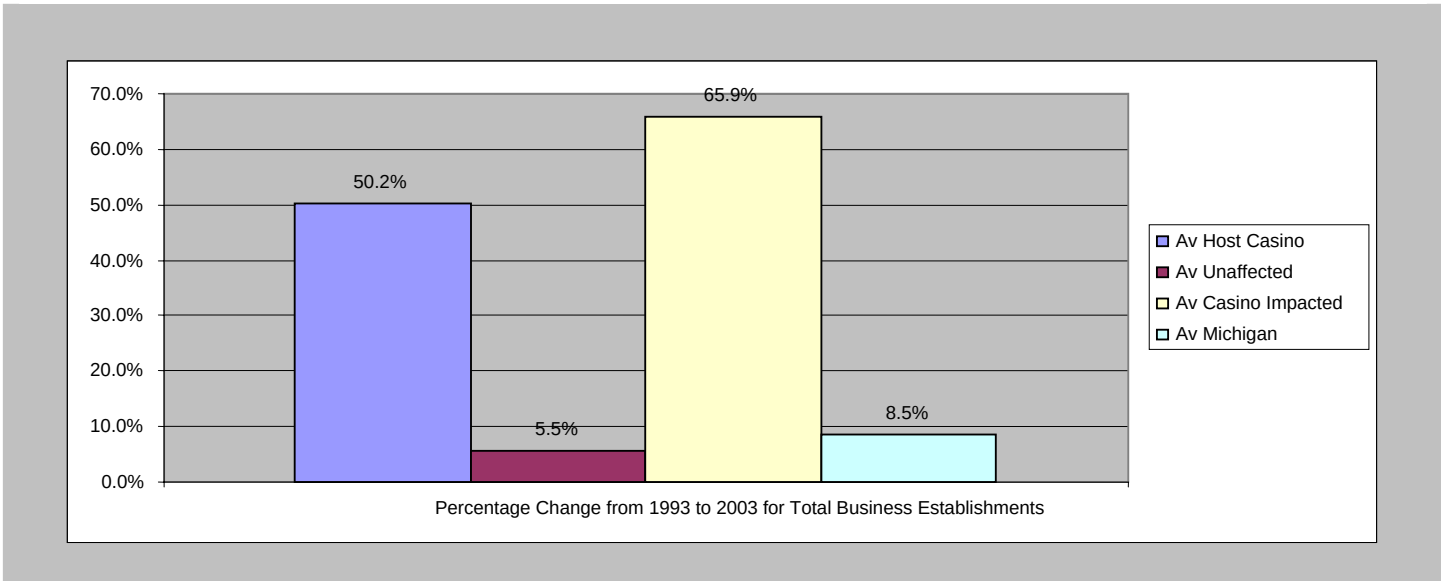
If the casino literature is correct about the overall new business generation benefit of casinos, one would expect a greater percentage increase in the total number of business establishments in casino counties than the percentage increase in other similar rural county groups. As Table 1 demonstrates, there was indeed a significant percentage increase in the total number of business establishments in casino counties, but there was an even greater percentage increase in casino impacted groupings of Michigan counties as well (50% versus 65.7% respectively). This casino county percentage increase was nearly ten times the percentage increase of business establishments in unaffected counties (5.5%)

Table 1: Total Business Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	667.3	675.5	684.5	927.9	946.9	962.8	964.7	959.4	1000.2	993.2	1002.6
Av Unaffected	2337.0	1907.9	1945.3	1977.3	1992.5	2349.8	2510.4	2507.8	2536.4	2530.7	2465.3
Av Casino Impacted	866.5	1347.7	1425.9	1430.0	1511.7	1454.7	1442.8	1439.8	1438.9	1434.2	1437.5
Av Michigan	2629.0	2676.3	2727.9	2786.0	2835.9	2848.5	2853.9	2851.3	2862.3	2856.2	2852.3



Counties	Percentage Change from 1993 to 2003 For Total Business Establishments
Av Host Casino	50.2%
Av Unaffected	5.5%
Av Casino Impacted	65.9%
Av Michigan	8.5%



While this dramatic difference in the number of new business establishments in host casino counties was projected in the literature, the even greater increase (by more than 15%) in new business establishments in casino impacted counties (within 50 miles of the casino) is curious. One simple explanation for this greater percentage increase in casino-impacted counties may be that many of those tribal casinos are located near the borders of several impacted counties, so these impacted counties are in essence host casino counties themselves by their close proximity.

To further explore this proximity explanation, we need to isolate that part of the casino county closest to the casino and explore the business activity in that more limited sub-county area. By examining the business activity at the more geographically limited community level, we also can avoid diluting the effect of this casino impact which otherwise would occur by measuring this effect at the broader county level.

Therefore, we acquired tribal casino zip code addresses in order to locate zip code business patterns available under the North American Industry Classification System (NAICS). The NAICS available data begins in 1998, which coincidently is the same year that the last currently operating tribal casino in Michigan was approved by compact.

This NAICS data is more sensitive to businesses located in very close proximity to the tribal casino and provides us with more precise new business establishment activity. If the literature is correct, the zip code geographical area of the casino should show the most intense business growth because of its very close proximity to the casino.

Table 2 describes the local business impacts from 1998-2003 in terms of the number of new business establishments created closest to the tribal casinos in Michigan.[30]

[30] There was a list of business impacts for the 14 communities within the same zip code as the tribal casino, but there was no data for the 15th community- the tiny town of Harrisville.

Table 2: Local Business Impact

	Number of Establishments						
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**Percent Change**
Baraga	74	79	70	72	70	60	-19%
Brimley*	31	40	34	36	35	35	13%
Hessel*	18	18	20	15	20	24	33%
Manistee*	419	420	414	419	426	422	1%
Manistique*	215	221	223	218	215	225	5%
Marquette	1,075	1,057	1,038	1,019	1,075	1,076	0%
Mount Pleasant*	1,069	1,068	1,081	1,077	1,141	1,143	7%
Munising	169	160	158	156	165	167	-1%
Petoskey*	831	902	908	927	961	953	15%
Saint Ignace	202	204	199	187	186	194	-4%
Sault Sainte Marie	598	588	569	552	591	569	-5%
Suttons Bay	151	151	156	153	152	150	-1%
Watersmeet	27	31	28	26	29	25	-7%
Williamsburg*	129	130	141	137	165	165	28%

Source: North American Industry Classification System

* = Percentage increase

It appears from this local business zip code data that only 7 of the 14 tribal casino communities in the NAIC system experienced a percentage increase in the number of new business establishments over this six year period, with Manistee (one of the newest 1998 tribal casinos) registering a net increase of only 3 new establishments. While Petoskey (among the newest of the tribal casinos in 1998), Williamsburg (1996), and Mount Pleasant (1993) saw significant percentage increases in the number of business establishments, Sault Ste Marie (1993) showed a decline of 5%, as did many other tribal casinos in the Upper Peninsula. Similarly, Examination of this same NAICS data also indicates that only 4 of these same 14 casino communities registered an increase in the number of employees in relevant business establishments, although nine of the casino counties did show a payroll increase.

The mixed nature of the Michigan tribal casino local data suggests that further exploration of the uneven progress in the new business creation power of tribal casinos in Michigan would be appropriate. Many other factors can influence business formation rates but are not picked up in this comparison of means.

The new business growth patterns of both casino and casino-impacted counties and the lack of NAICS data indicating enhanced local business establishment activity might suggest that (contrary to literature predictions that proximity increases economic intensity) the economic impact of a casino is not significantly more intense near the casino than it is throughout this 50 mile radius area. This possible explanation will be further explored by comparing the growth of four types of businesses considered in the casino literature to be more closely associated with the operation of a casino; namely,

- the construction business (impacted because of major casino and casino-related construction contracts plus the logistical advantage of locating near the casino construction site),
- the food service and drinking business,
- the accommodation business,

- and the amusement, gambling, and recreation business.

The construction businesses likely would be most active where all this casino related activity is focused- near the casino. The other three types of business also likely would locate very near the casino in order to attract the visiting casino patrons.

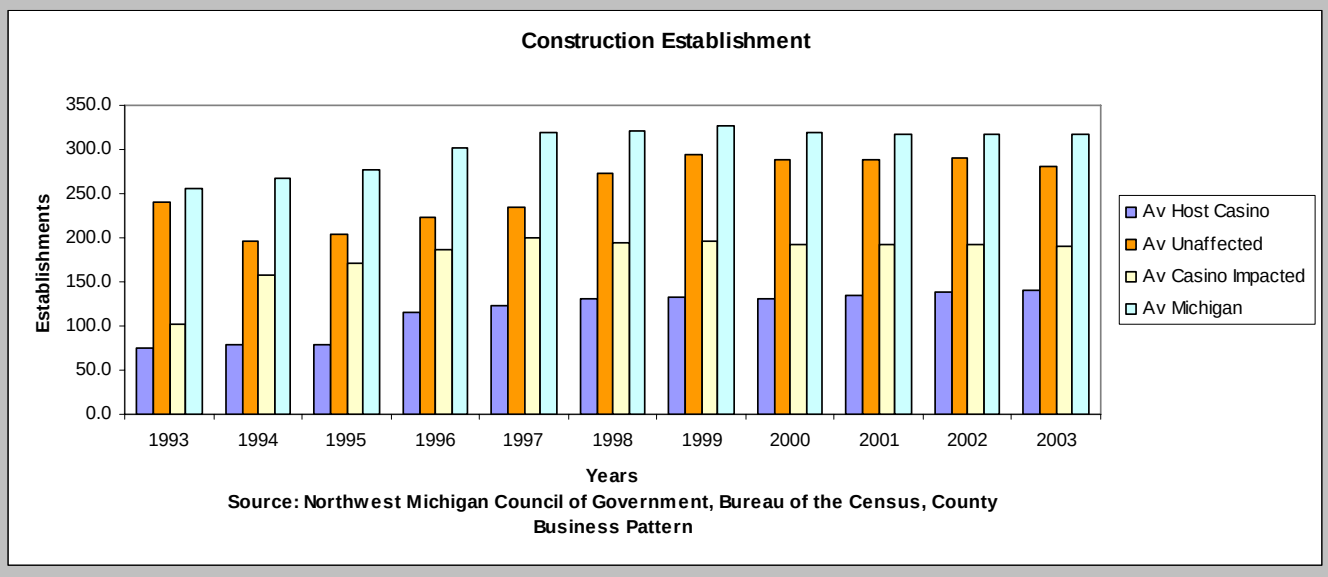
Let us turn first to the construction industry to determine whether a more distinctive difference can be found between the growth of businesses in host casino counties versus the casino-impacted counties, in addition to the already significant general business growth differences we already have seen between casino counties and the other two county groupings.

A. Construction Industry Impact

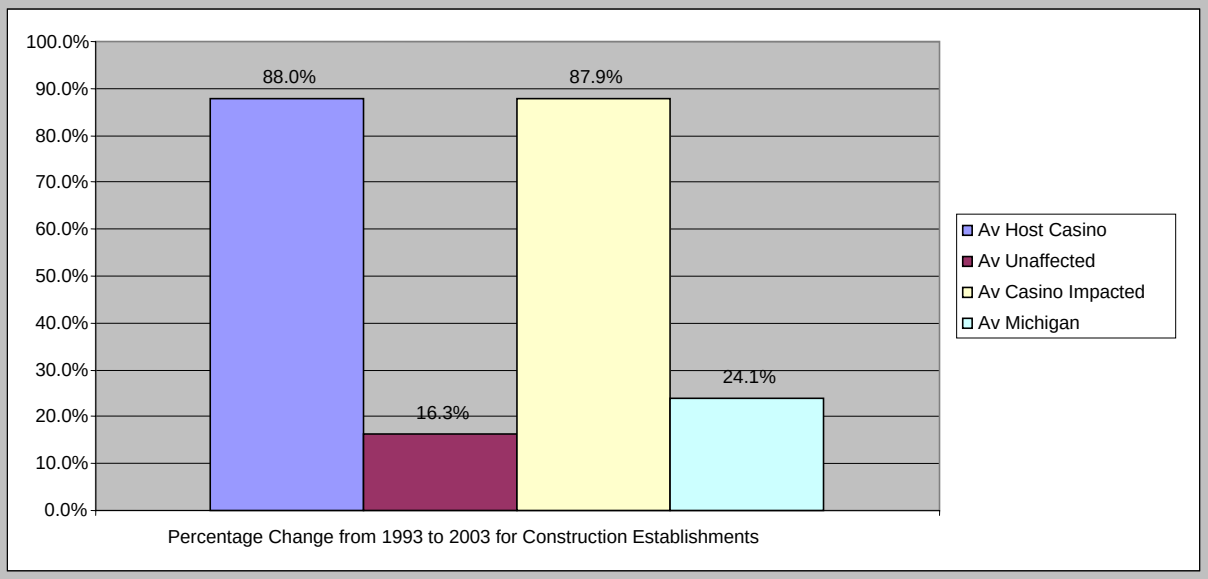
Compared to the total number of new business establishment data in Table 2, the data in Table 3 indicate that there was an even greater percentage change difference between the number of new construction establishments in the casino and casino-impacted counties (virtually identical at about 88%)) compared to unaffected counties and the average state counties (16.3% and 24.1%, respectively). The significant difference between host casino counties and the latter two categories is consistent with literature projections of increases in new business establishments, particularly in terms of new business construction establishments being created to handle casino construction and expansion and new businesses seeking to locate nearer the casino. (See Table 3). It is interesting to note that the greatest growth in casino counties occurred between 1995-1997.

Table 3: Construction Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	74.6	78.6	78.1	115.3	122.6	130.9	132.1	131.1	135.2	137.6	140.2
Av Unaffected	241.3	197.0	204.6	222.4	234.0	273.7	293.5	289.4	288.9	290.6	280.6
Av Casino Impacted	101.7	157.0	170.3	187.2	199.3	194.1	196.9	191.4	192.1	191.4	191.0
Av Michigan	256.2	268.0	276.7	301.5	319.0	321.8	327.1	319.2	316.9	318.1	317.9



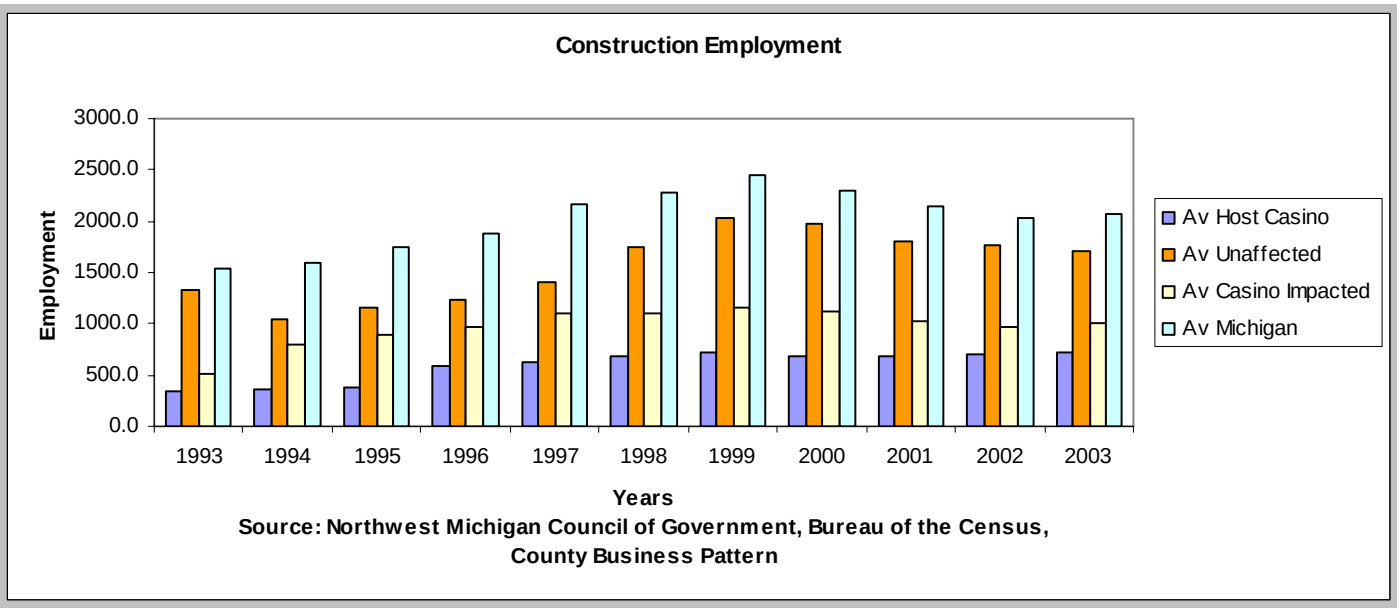
Counties	Percentage Change from 1993 to 2003 for Construction Establishments
Av Host Casino	88.0%
Av Unaffected	16.3%
Av Casino Impacted	87.9%
Av Michigan	24.1%



Examination of construction employment (see Table 4) and construction payroll data (see Table 5) in the average Michigan casino and casino-impacted counties also shows the same dramatic increase in the percentage change for both host casino and casino-impacted counties versus the average state county and for unaffected counties, consistent with the casino literature projections that business growth will occur at a greater rate in those areas impacted by tribal casinos.

Table 4: Construction Employment

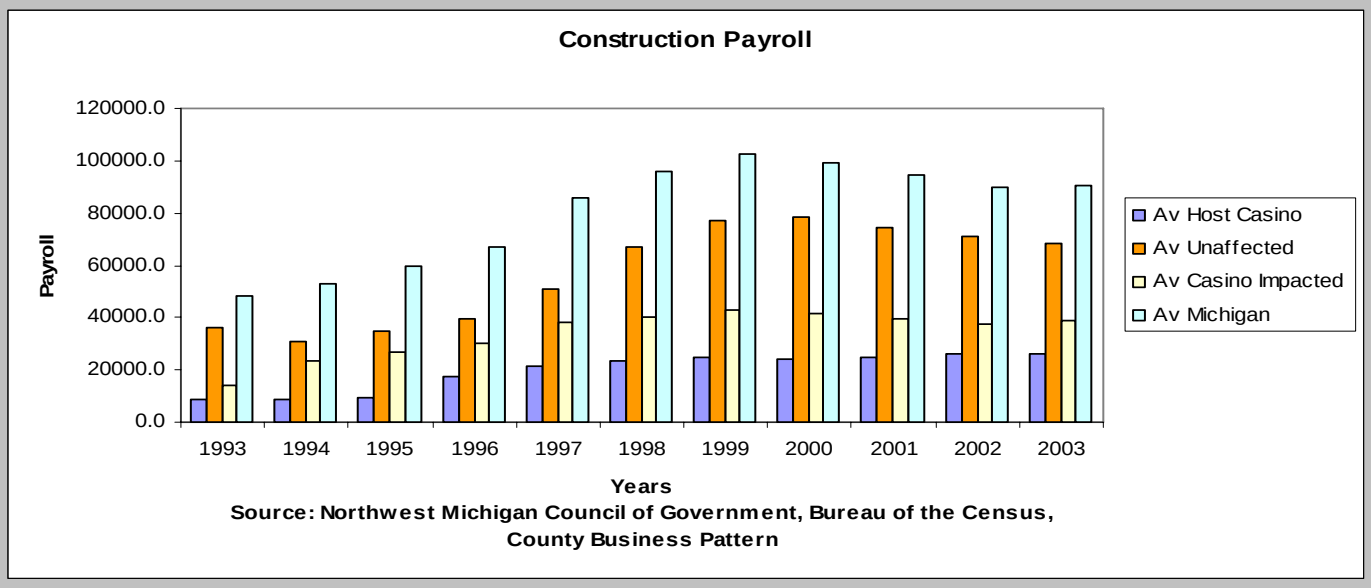
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	336.1	351.8	380.7	579.8	628.2	680.0	723.1	677.7	684.6	707.5	724.2
Av Unaffected	1323.0	1036.4	1154.4	1236.2	1397.5	1747.0	2032.7	1971.0	1798.3	1770.5	1704.0
Av Casino Impacted	516.9	802.2	898.3	965.1	1106.8	1104.5	1167.4	1127.5	1033.9	968.6	1004.1
Av Michigan	1546.4	1590.9	1747.1	1875.8	2157.6	2279.9	2456.7	2299.7	2137.9	2031.9	2064.1



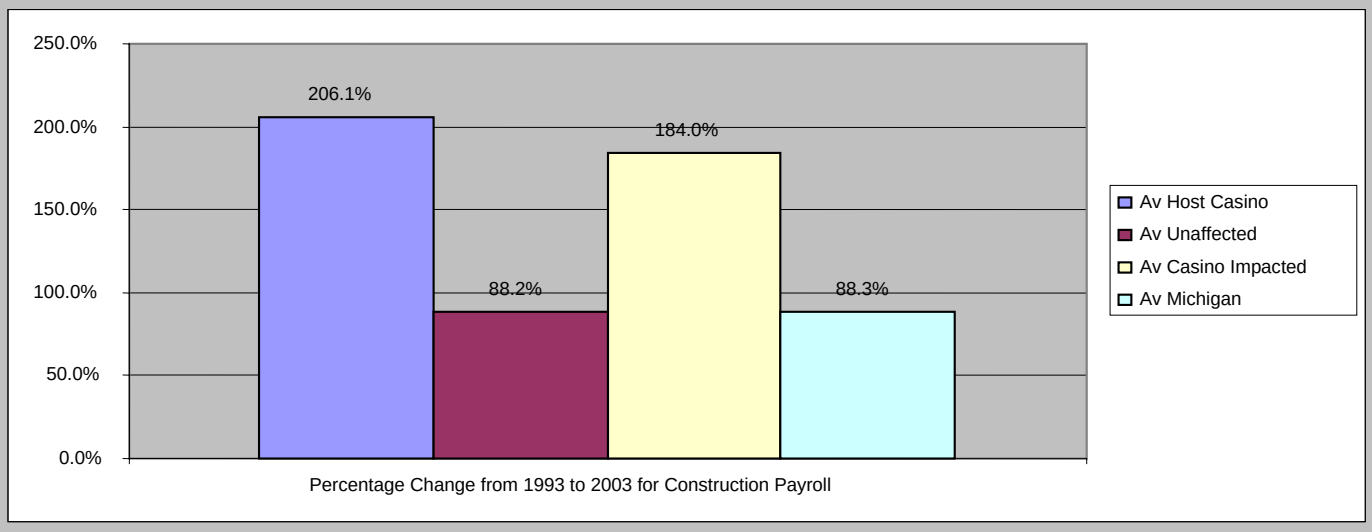
Counties	Percentage Change from 1993 to 2003 for Construction Employment
Av Host Casino	115.5%
Av Unaffected	28.8%
Av Casino Impacted	94.2%
Av Michigan	33.5%

Table 5: Construction Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	8,501.1	8,947.7	9,536.1	17,387.0	21,181.5	23,478.7	24,742.5	24,317.2	25,014.8	25,888.0	26,022.9
Av Unaffected	36,307.1	30,816.4	35,080.6	39,297.9	50,919.0	66,957.4	77,019.1	78,302.1	74,253.9	70,995.1	68,319.6
Av Casino Impacted	13,746.5	23,739.3	26,656.2	29,945.9	37,911.4	40,327.9	42,685.1	41,726.2	39,360.6	37,828.2	39,039.7
Av Michigan	47,986.5	52,850.0	59,540.1	67,194.1	86,101.8	95,909.6	10,2617.2	99,502.4	94,206.3	89,830.0	90,382.1



Counties	Percentage Change from 1993 to 2003 for Construction Payroll
Av Host Casino	206.1%
Av Unaffected	88.2%
Av Casino Impacted	184.0%
Av Michigan	88.3%



Accordingly, it would appear that construction businesses in both the average casino county and the average casino-impacted county did indeed experience a comparatively greater degree of growth and activity than the average unaffected and the average Michigan county during the first 10 full years of legalized tribal casino gaming. While there are obviously other contributing factors to the growth in these two county groupings, this Michigan county-based data tends to support projections in casino literature of significant increases in the number of businesses in general and new construction businesses in particular with the introduction of a tribal casino.

Interestingly, the percentage change of the host casino counties was approximately 22% greater than in casino-impacted counties in these two construction establishment tables (employment and payroll). While our choice of county groupings or the differing geographical locations of the casino within the host county may account for some of this differentiation between casino and casino-impacted counties, this Michigan construction establishment data does indicate that proximity to the casino may have some additional economic impact.

However, from a total number of business establishments perspective, the average casino-impacted county seems to have experienced even more business growth than the average host casino county, an outcome that suggests the scope and intensity of the geographical economic impact of tribal casinos may have a more significant economic impact beyond the host county than the literature would posit and is an issue worthy of further research.

With so many other variables potentially impacting a county's economy, not all of this new business activity can be attributable to tribal casinos. Accordingly, we need to move beyond general business and construction establishments to examine growth in particular business enterprises which have been even more closely associated in the literature with the presence of a casino.

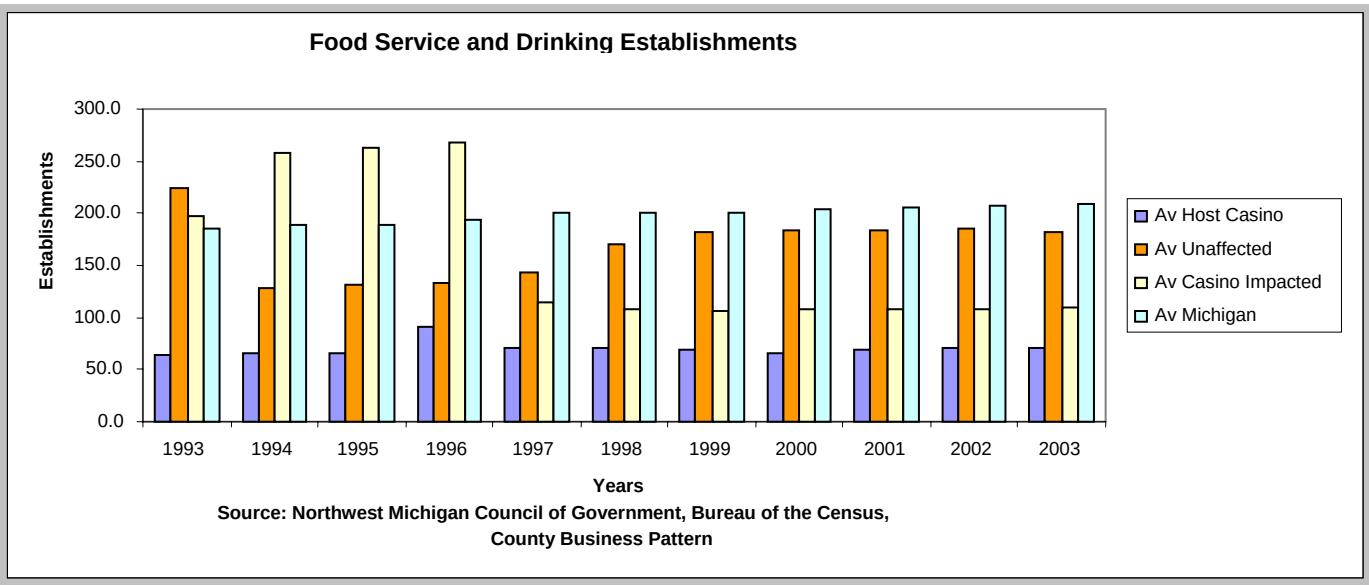
B. Food Service and Drinking Establishments

A number of studies and reports have concluded that the two greatest expenditures outside the casino are food and accommodations. One university thesis looking at the economic effects of tribal gaming on rural Minnesota counties further expanded the types of casino impacted businesses to the amusement industry. (Gabe, 1994). To ensure we capture all potentially impacted businesses, we will explore all three of these business establishments.

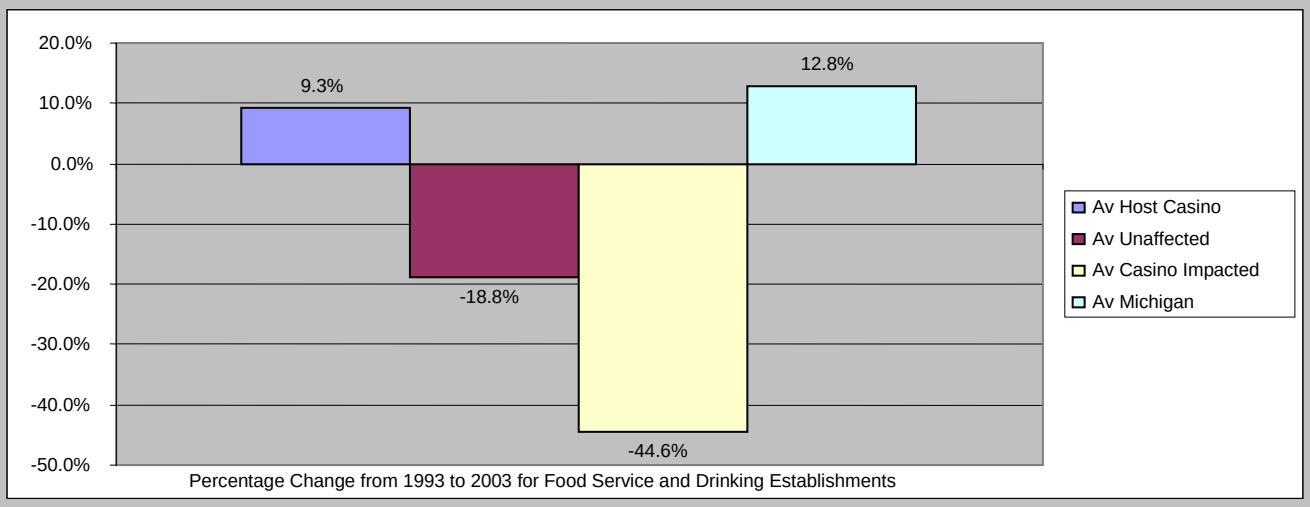
A look first at data for food service and drinking establishments indicates that (consistent with literature projections) Michigan casino counties did indeed expand in this industry, showing an average increase of 9.3% in the number of food and drinking establishments during the study period while the two other rural Michigan county groupings showed an average decrease of 18-45% (see Table 6). However, the average state county (which includes the four large city and urban counties) showed a slightly higher percentage increase in growth than the casino counties over this same time period (12.3%).

Table 6: Food Service and Drinking Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	64.3	65.3	65.4	90.7	70.4	70.5	69.0	66.2	69.3	70.4	70.3
Av Unaffected	224.3	128.4	130.7	132.4	143.5	169.9	181.6	183.1	184.5	184.8	182.1
Av Casino Impacted	196.9	258.5	262.5	268.2	114.4	108.5	106.9	107.5	107.9	108.3	109.0
Av Michigan	184.7	188.0	189.3	193.7	201.0	201.0	201.3	203.7	204.9	207.8	208.4



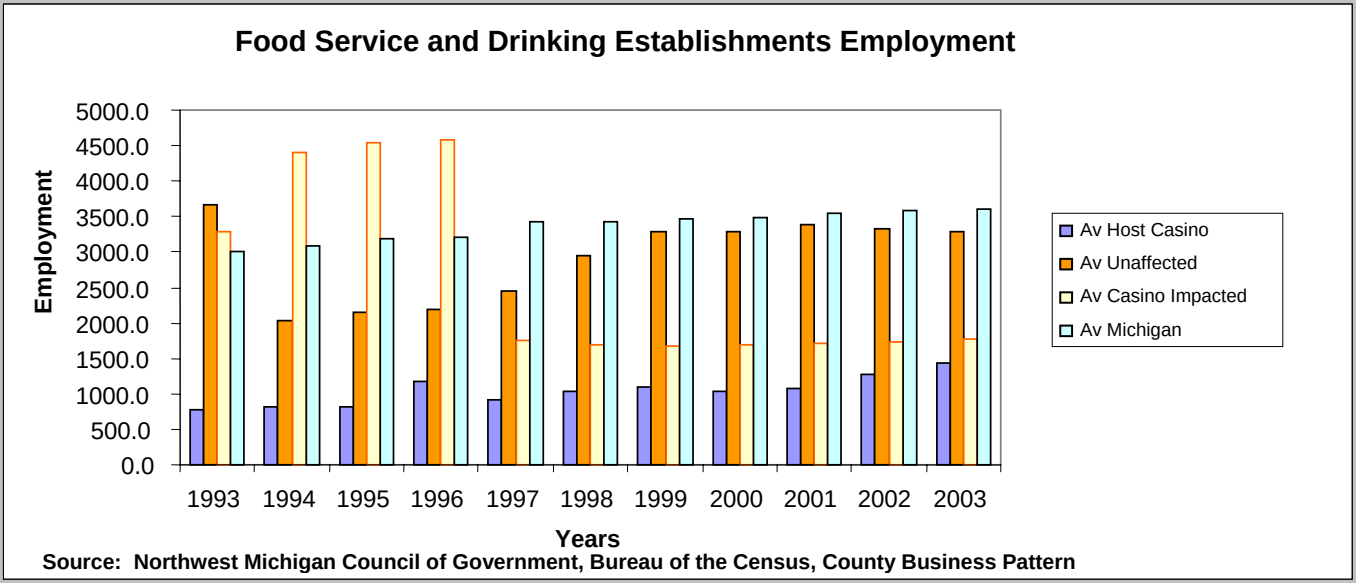
Counties	Percentage Change from 1993 to 2003 for Food Service and Drinking Establishments
Av Host Casino	9.3%
Av Unaffected	-18.8%
Av Casino Impacted	-44.6%
Av Michigan	12.8%



A similar overall percentage difference (increases in casino counties versus decreases in other rural counties) exists in food and drinking establishment employment, which saw an average 85.7% increase in employment, which also is more than four times the state average. The unaffected casino counties showed a decline of nearly 11% in food and drinking establishments employment while the casino impacted counties showed an even more dramatic 46.2% decline during this same period (see Table 7).

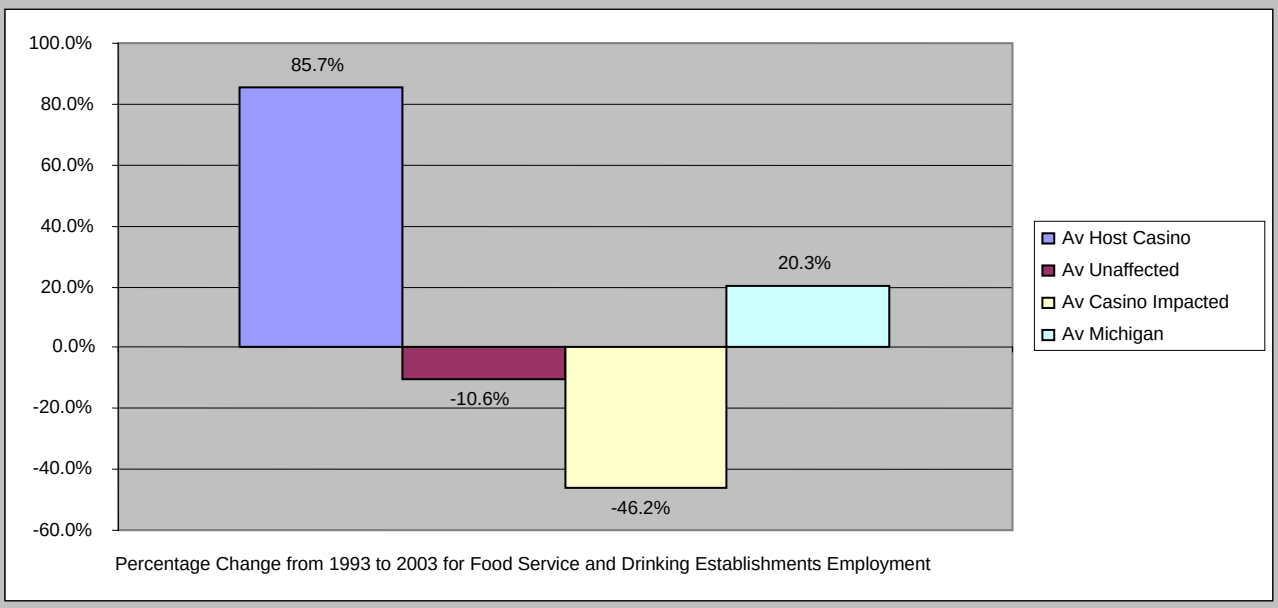
Table 7: Food Service and Drinking Establishments Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	767.4	816.8	813.3	1,173.6	907.0	1,044.6	1,086.1	1,039.9	1,084.5	1,265.8	1,425.4
Av Unaffected	3,673.9	2,029.3	2,148.5	2,182.4	2,440.6	2,956.1	3,282.8	3,284.4	3,380.1	3,329.9	3,285.7
Av Casino Impacted	3,286.7	4,404.2	4,538.7	4,583.4	1,755.7	1,685.2	1,667.2	1,697.9	1,717.2	1,732.7	1,769.1
Av Michigan	3,002.1	3,091.1	3,181.9	3,216.9	3,416.7	3,436.0	3,468.9	3,492.7	3,541.1	3,580.5	3,612.4



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

Counties	**Percentage Change from 1993 to 2003 for Food Service and Drinking Establishments Employment**
Av Host Casino	85.7%
Av Unaffected	-10.6%
Av Casino Impacted	-46.2%
Av Michigan	20.3%

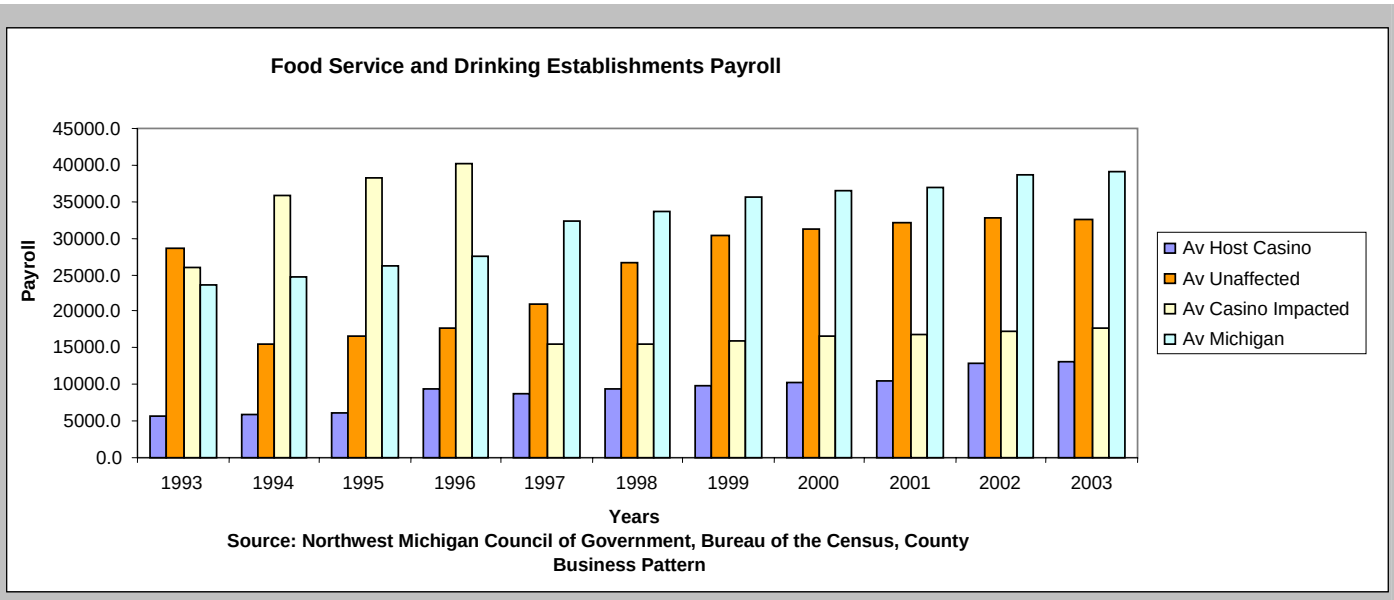


There could be many reasons for the dramatic decline in food and drink employment in casino-impacted counties versus other county groupings. One casino-related cause sometimes alluded to in the literature is migration of employees from low-paying jobs to casino jobs. Loss of low-paid employees in nearby casino county businesses may be one reason for this employment decline, though this explanation will require further research. Another factor may be local consumers patronizing the new establishments closer to the casino and thus spending less in older establishments.

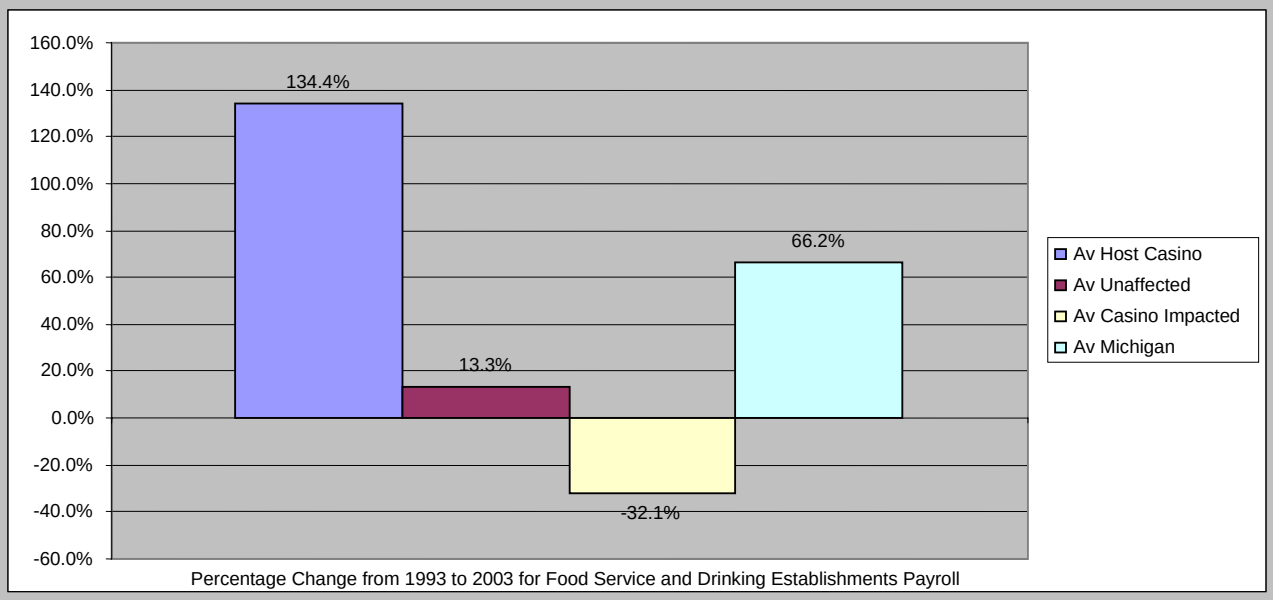
Casino counties also showed a dramatic increase in food and drink payroll, with Michigan casino counties showing a dramatic 134% average percentage increase compared to only a 13% average increase for unaffected counties. The casino impacted county comparison showed a decline of 32.1% while the average state county experienced a 66.2% increase, a large increase but still only about half the host casino county percentage increase (see Table 8).

Table 8: Food Service and Drinking Establishments Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	5,623.3	5,910.1	6,166.4	9,380.3	8,662.7	9,496.6	9,822.1	10,228.8	10,558.5	12,918.7	13,179.5
Av Unaffected	28,691.9	15,549.0	16,591.8	17,609.4	20,998.5	26,611.7	30,309.0	31,281.4	32,188.8	32,689.4	32,521.5
Av Casino Impacted	25,997.2	35,857.5	38,247.4	40,197.8	15,471.6	15,424.4	15,914.5	16,508.8	16,902.0	17,281.5	17,640.4
Av Michigan	23,530.1	24,752.7	26,242.0	27,613.7	32,267.8	33,679.6	35,593.4	36,398.9	37,006.7	38,577.3	39,095.9



Counties	Percentage Change from 1993 to 2003 for Food Service and Drinking Establishments Payroll
Av Host Casino	134.4%
Av Unaffected	13.3%
Av Casino Impacted	-32.1%
Av Michigan	66.2%



Again, these data tend to support casino research that projects major growth in the food and service industry (not in just business establishments in general) in counties hosting tribal casinos. However, the casino impacted county experience is the most negative of all four county groupings in this industry. It would seem that if there were residual positive impacts from a tribal casino, the

average impacted county would have a more positive food and drink establishment experience than the unaffected counties, but the Michigan county data does not support this expectation. Instead, the payroll decline may be linked to the employment decline some economists predicted and which was mentioned earlier; that is, the loss of such employment opportunities due to the migration and commuting of low paid food and drink workers from nearby casino-impacted counties to similar jobs in host casino counties.

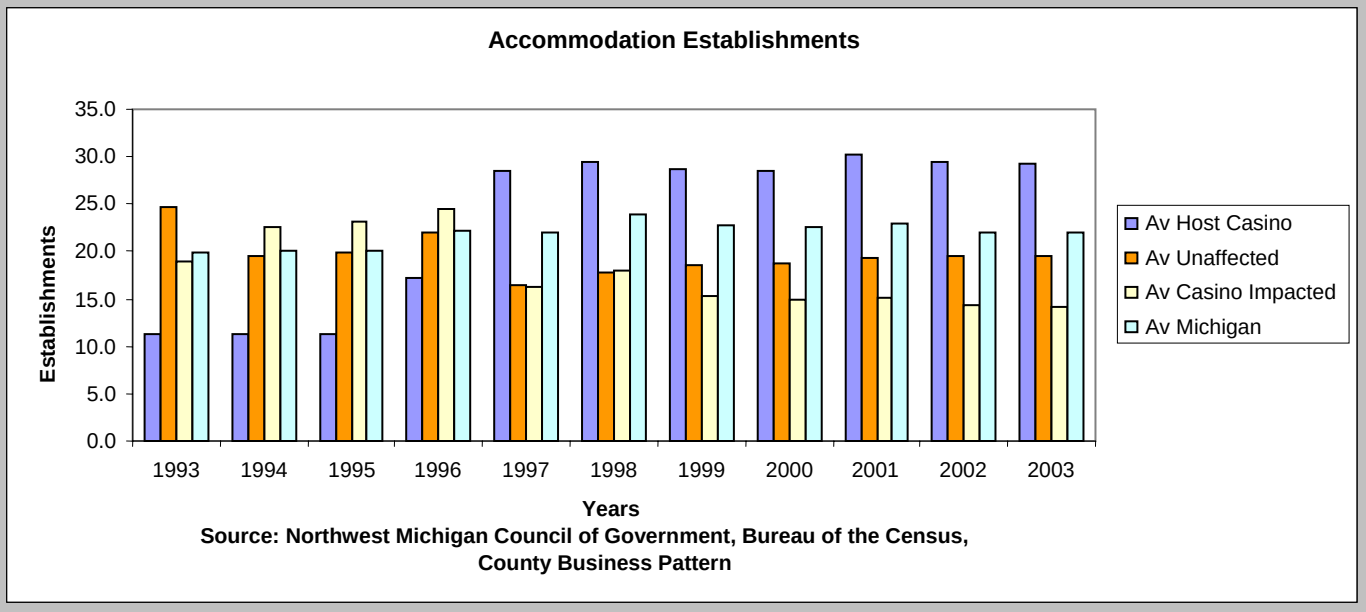
In any event, this data suggests that even in this important casino-related industry, there could be costs to the outlying counties which need to be factored into any casino cost-benefit analysis when it comes to the economic benefits associated with the presence of a casino.

C. Accommodation Establishments

A second casino-related industry is accommodations - largely hotels, motels, etc. The data in Table 9 describes a more dramatic county contrast than in the food service tables; namely, a nearly 160% [31] increase in accommodations growth versus a state county average of only about 11%. The other two county comparisons show percentage decreases of 20-26% over this same time period.

Table 9: Accommodation Establishments

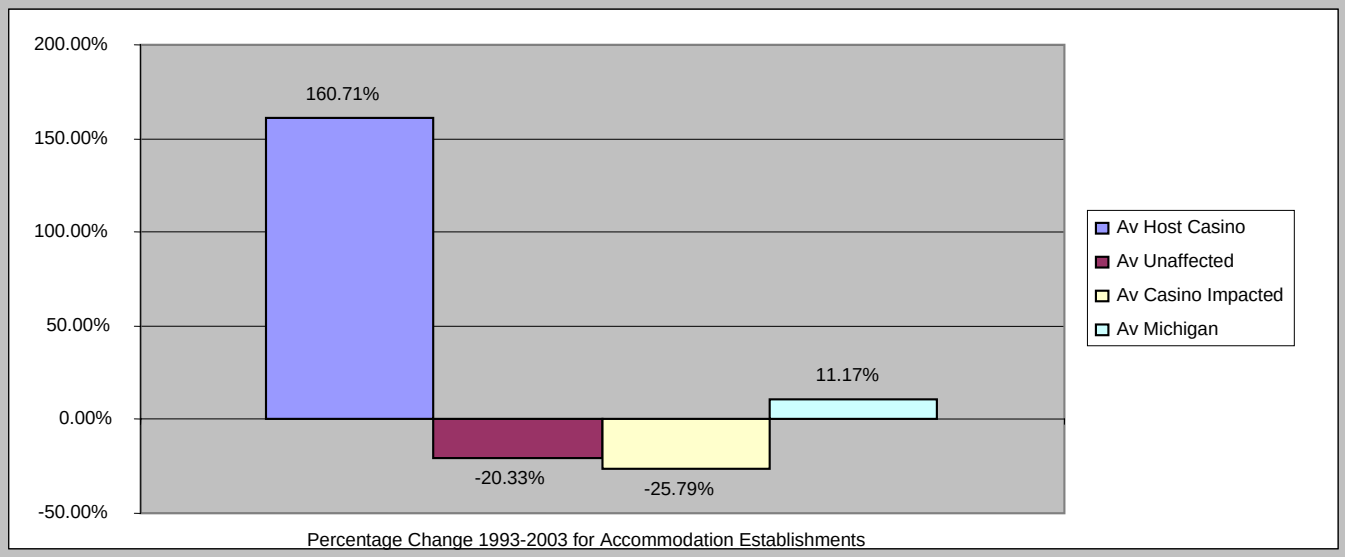
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	11.2	11.3	11.2	17.3	28.5	29.4	28.6	28.5	30.2	29.5	29.2
Av Unaffected	24.6	19.6	19.8	22.0	16.5	17.7	18.6	18.8	19.4	19.6	19.6
Av Casino Impacted	19.0	22.5	23.1	24.5	16.2	18.0	15.3	15.0	15.2	14.4	14.1
Av Michigan	19.8	20.0	20.1	22.3	22.1	23.8	22.7	22.5	22.9	22.0	22.1



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

[31] The raw numbers in Table 9 are small, so percentages may be deceptive.

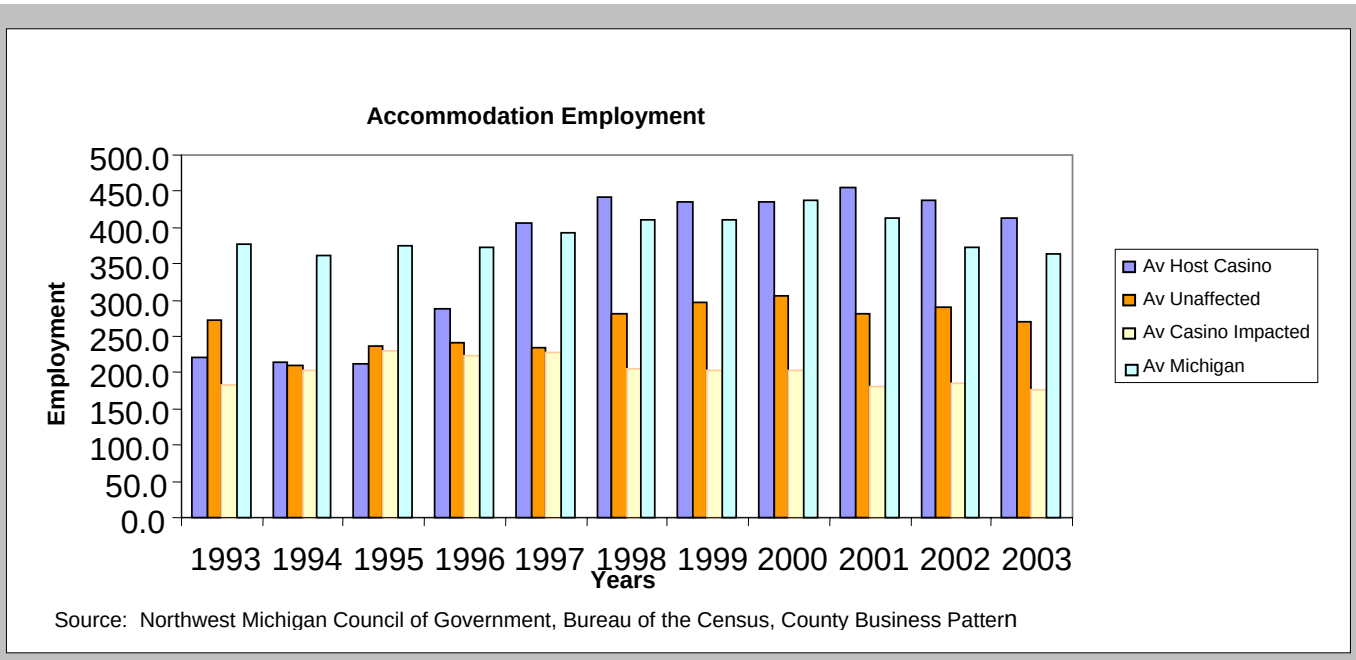
Counties	Percentage Change 1993-2003 for Accommodation Establishments
Av Host Casino	160.7%
Av Unaffected	-20.3%
Av Casino Impacted	-25.8%
Av Michigan	11.2%



Accommodation employment shows a strong 87% average percentage increase over this 10 year time period in the casino counties, while all three other county groupings actually experienced a small decline in such employment over the same time period (see Table 10). Consistent with the data on food and service employment, casino-impacted counties suffered the largest percentage decline in accommodation employment of all casino groupings, although the difference was only .2%.

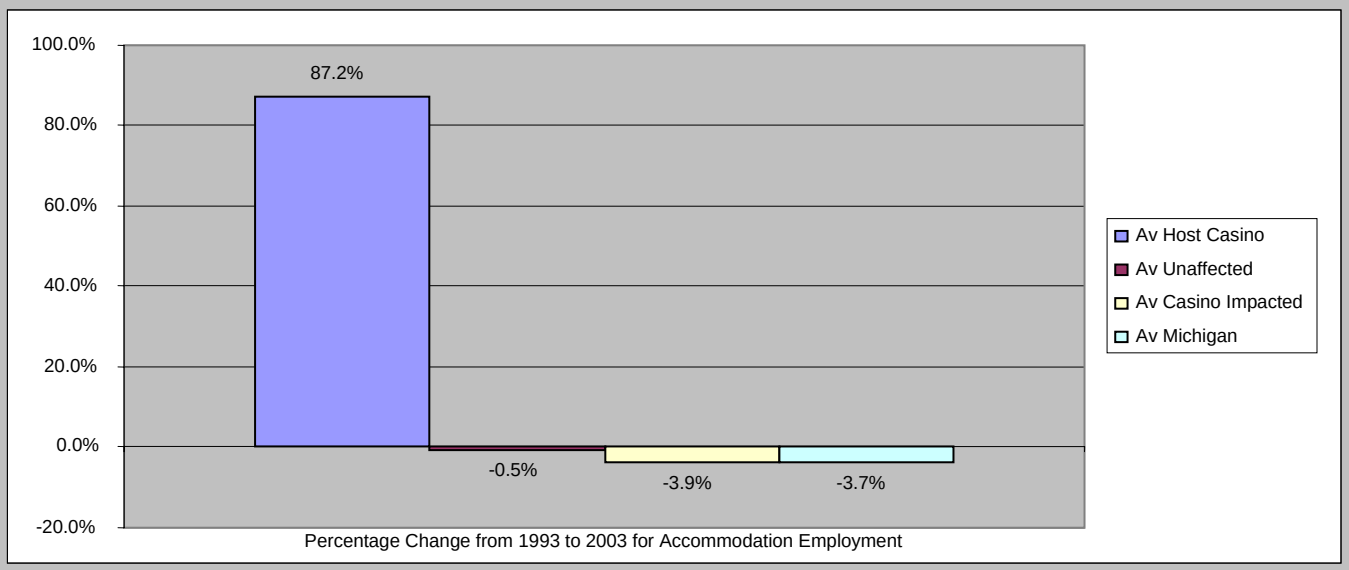
Table 10: Accommodation Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	220.7	213.7	212.4	288.9	406.2	442.8	434.6	434.3	456.3	437.8	413.1
Av Unaffected	271.9	210.8	235.7	240.0	234.2	282.3	297.6	304.9	281.6	290.0	270.4
Av Casino Impacted	182.5	204.0	229.4	223.2	228.3	205.0	202.1	202.2	180.2	184.2	175.4
Av Michigan	377.9	361.8	374.9	373.1	392.7	410.2	409.8	438.0	413.1	373.4	363.9



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

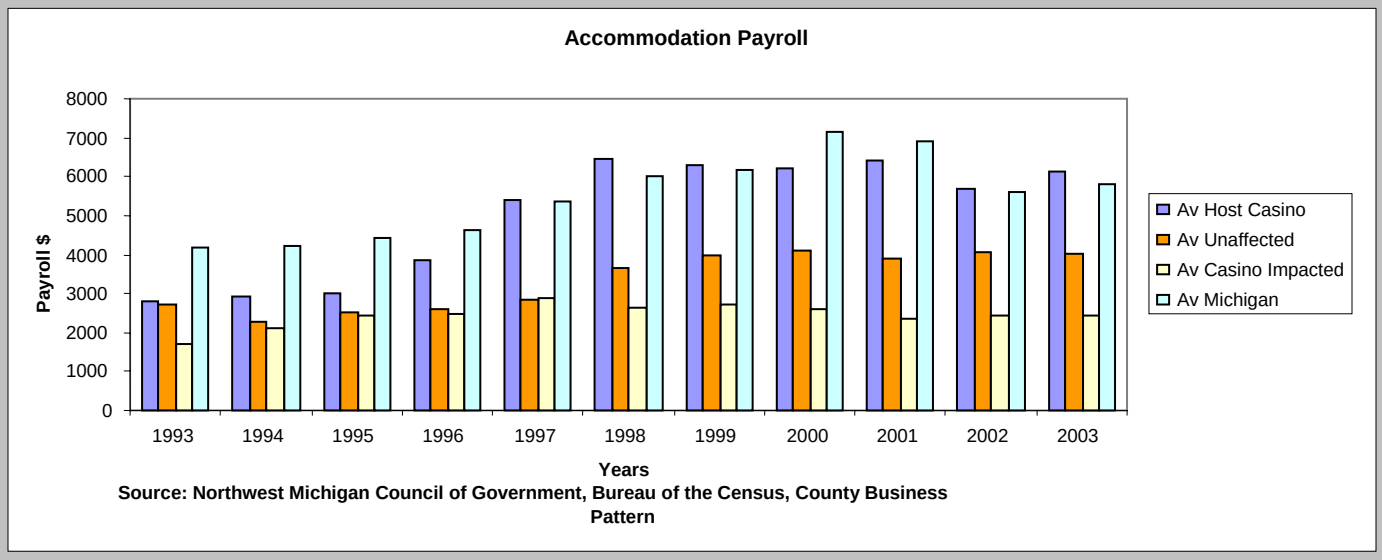
Counties	Percentage Change from 1993 to 2003 for Accommodation Employment
Av Host Casino	87.2%
Av Unaffected	-0.5%
Av Casino Impacted	-3.9%
Av Michigan	-3.7%



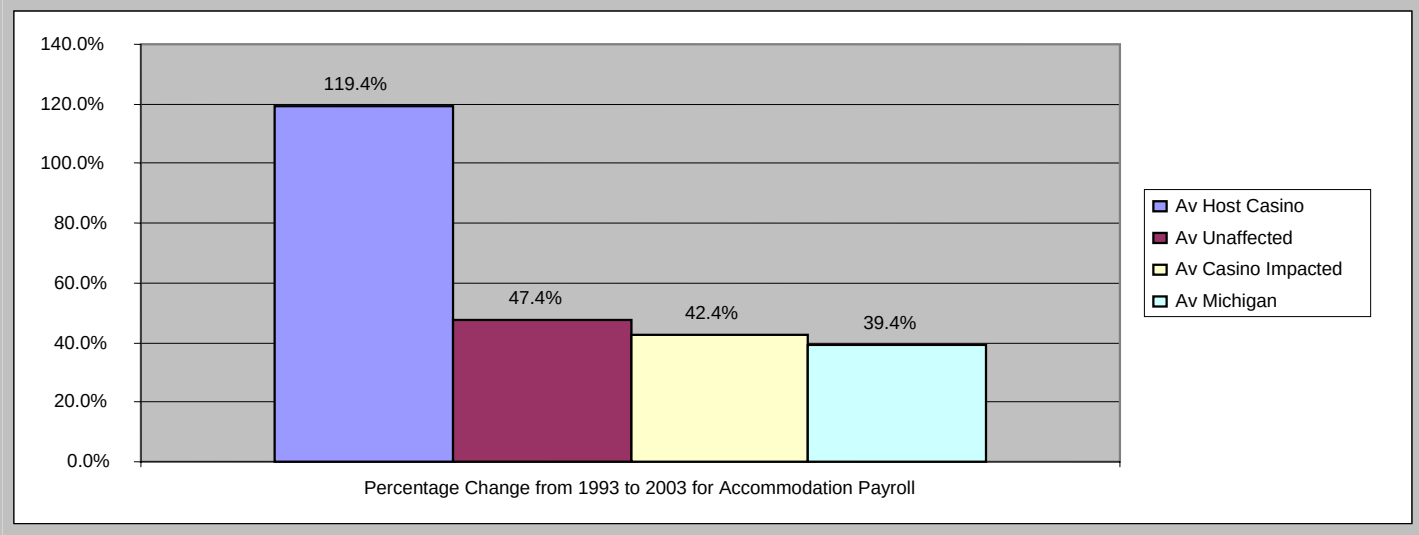
Accommodation payroll for host casino counties also experienced a similar dramatic increase over this same period of 119%, which was more than twice the percentage change of any of other three county groupings (see Table 11).

Table 11: Accommodation Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2,788	2,907	3,005	3,843	5,412	6,472	6,303	6,198	6,410	5,682	6,117
Av Unaffected	2,732	2,254	2,505	2,580	2,861	3,661	3,982	4,107	3,896	4,067	4,027
Av Casino Impacted	1,703	2,102	2,437	2,480	2,893	2,657	2,713	2,581	2,360	2,454	2,426
Av Michigan	4,173	4,240	4,436	4,613	5,377	5,997	6,186	7,167	6,917	5,586	5,816



Counties	Percentage Change from 1993 to 2003 for Accommodation Payroll
Av Host Casino	119.4%
Av Unaffected	47.4%
Av Casino Impacted	42.4%
Av Michigan	39.4%



This accommodation data is consistent with the previous food and drink data showing strong growth in these two types of establishments in casino counties, as the literature projected. Indeed,

the accommodation industry data in Michigan shows an even stronger growth pattern in casino counties than the food and drinking establishments. The decline in the accommodation and food and drink business activity in casino-impacted counties during the first 10 years of tribal casino gambling in Michigan contrasts with the large overall increase in total new business establishments for these same casino impacted counties shown previously.

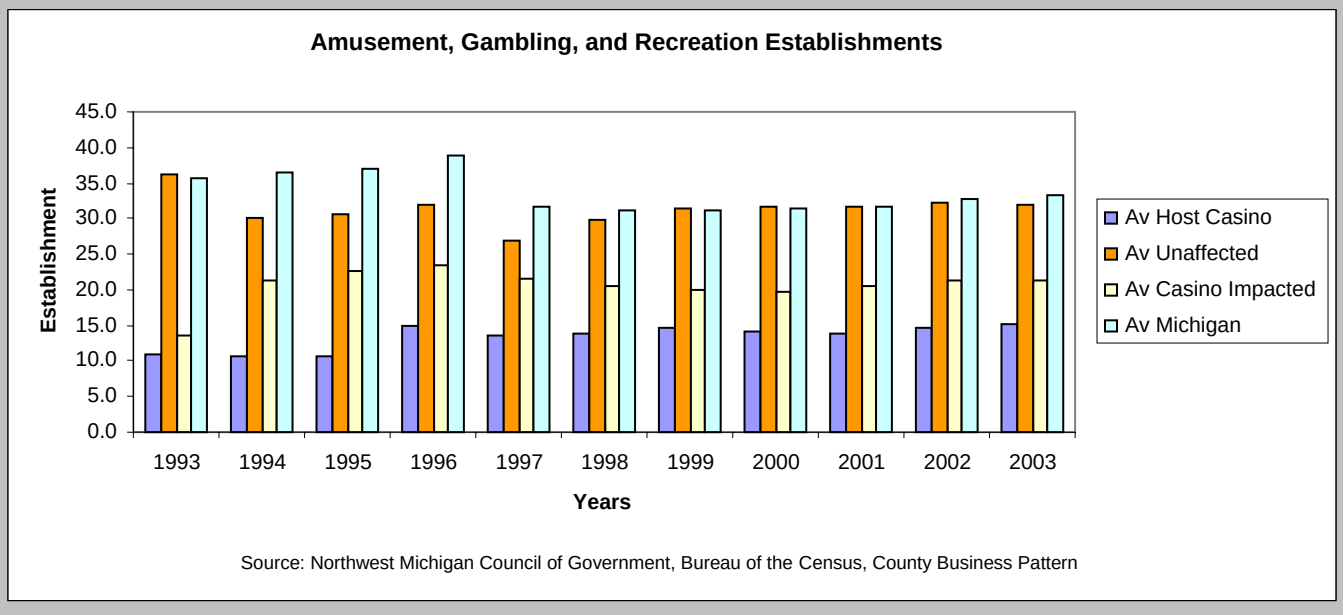
Where did this growth in business establishments in casino impacted counties occur? It would appear some of that growth occurred in the next category of business establishments we will explore - the amusement, gambling and recreation establishments.

D. Amusement Establishments

Unlike the previous two casino-associated business establishments (food and drinking and accommodation establishments), the number of new amusement, gambling and recreation industry establishments (hereinafter abbreviated as amusement establishments) in casino counties did not grow at a greater pace than those in casino impacted counties. The unaffected and average county categories actually experienced a percentage decline in the number of amusement establishments over this 10 year period. Casino counties showed a healthy average increase of 38%, but casino impacted counties experienced a greater increase of nearly 59%.

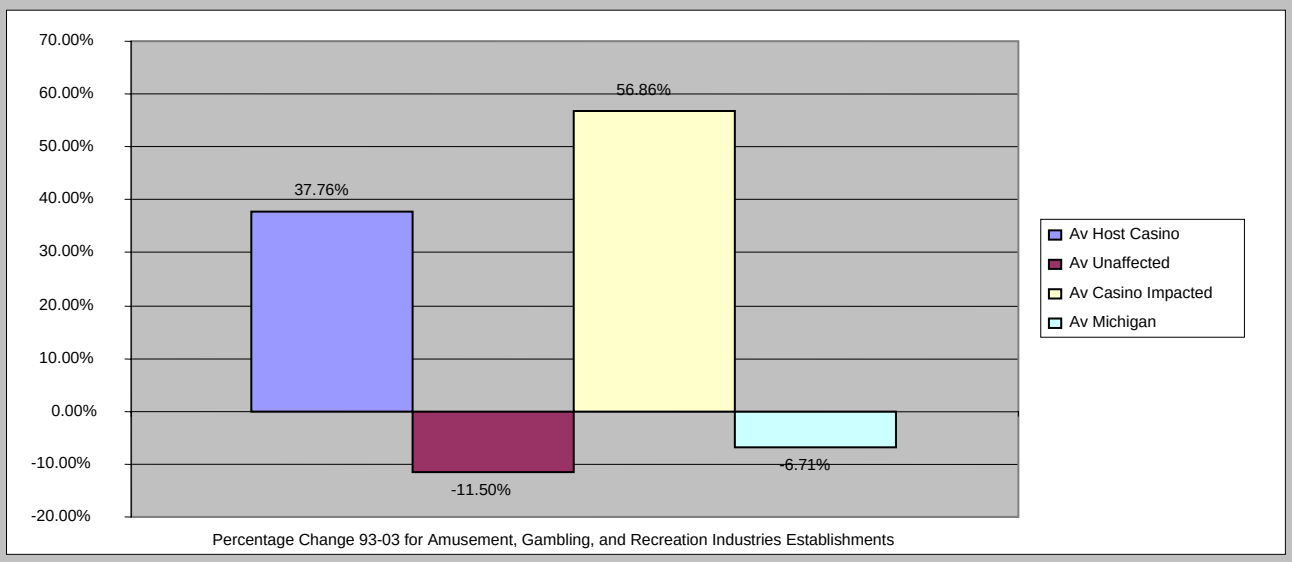
Table 12: New Amusement, Gambling, and Recreation Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	11.0	10.7	10.7	14.8	13.5	13.8	14.5	14.2	13.8	14.8	15.2
Av Unaffected	36.2	30.2	30.6	31.8	26.9	29.7	31.4	31.7	31.6	32.2	32.0
Av Casino Impacted	13.5	21.3	22.7	23.4	21.5	20.5	19.9	19.8	20.5	21.2	21.2
Av Michigan	35.6	36.4	37.1	38.9	31.6	31.3	31.1	31.4	31.7	32.7	33.2



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

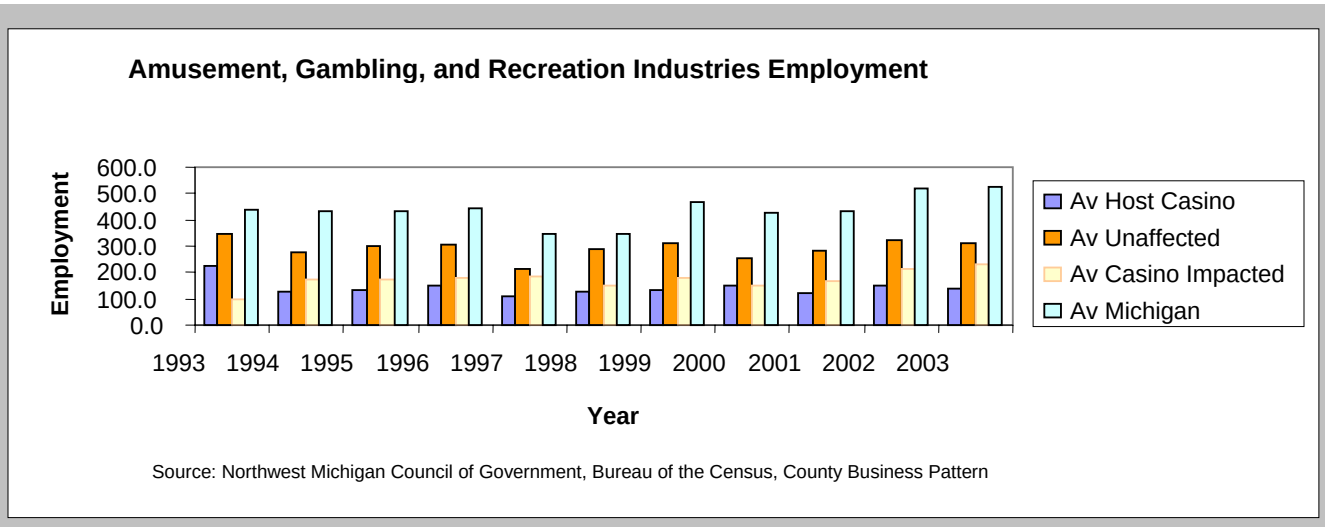
Counties	Percentage Change from 1993-2003 for Amusement, Gambling, and Recreation Industries Establishments
Av Host Casino	37.76%
Av Unaffected	-11.50%
Av Casino Impacted	56.86%
Av Michigan	-6.71%



Similarly, amusement employment in casino-impacted counties experienced a markedly greater percentage increase than the host casino counties. In fact, the average percentage change of amusement employment in casino counties actually showed a 38% decline (see Table 13) compared to a 132.8% average increase in employment in casino impacted counties, a 20% increase in the average state county and a 9.7% decline in the unaffected counties during this ten year period.

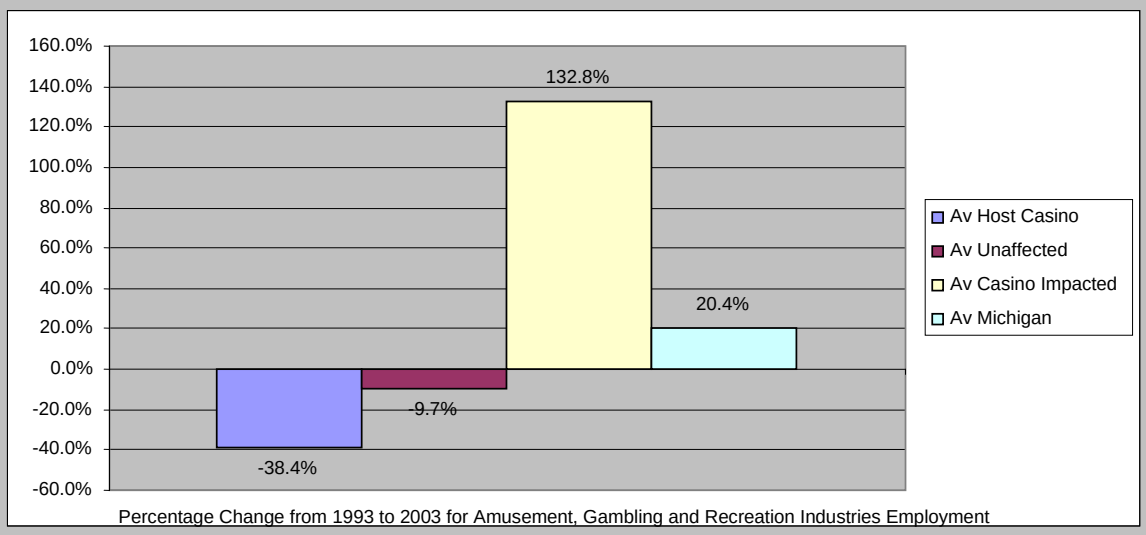
Table 13: Amusement, Gambling and Recreation Industries Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	227.8	127.5	132.6	151.4	112.2	127.1	132.9	152.5	123.2	149.3	140.2
Av Unaffected	348.2	277.2	302.1	304.1	213.2	290.9	309.6	255.3	282.3	320.8	314.3
Av Casino Impacted	99.0	170.4	175.6	181.4	183.7	152.4	181.1	150.5	165.2	215.4	230.5
Av Michigan	436.2	431.5	434.4	445.1	348.5	347.9	467.6	425.1	434.3	520.2	525.3



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

Counties	Percentage Change from 1993 to 2003 for Amusement, Gambling and Recreation Industries Employment
Av Host Casino	-38.4%
Av Unaffected	-9.7%
Av Casino Impacted	132.8%
Av Michigan	20.4%

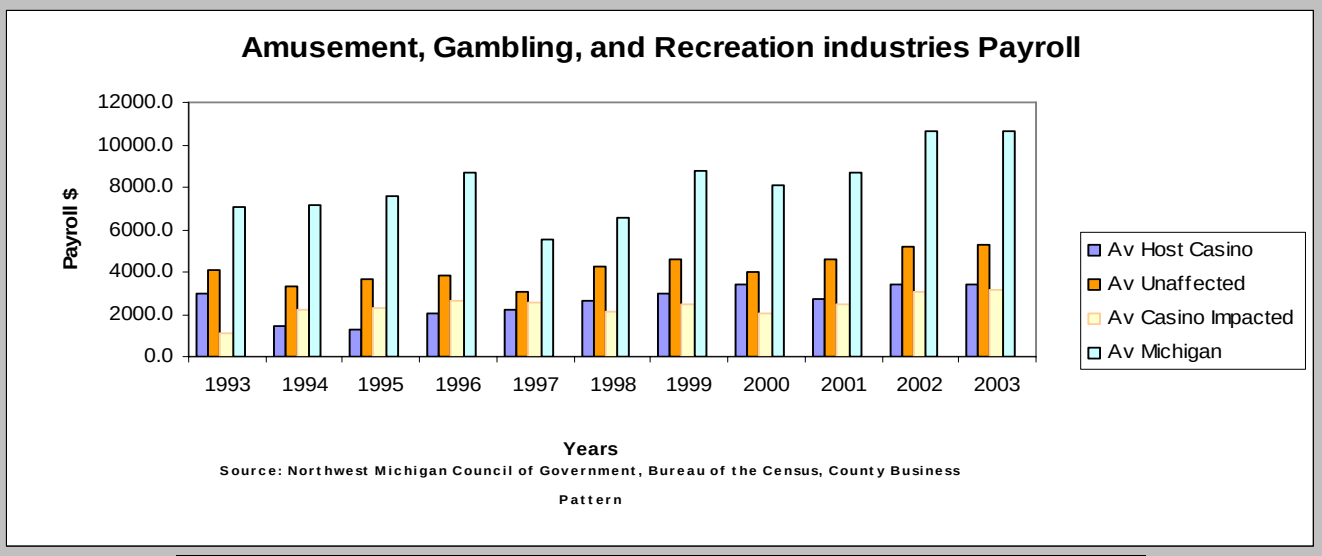


Percentage Change from 1993 to 2003 for Amusement, Gambling and Recreation Industries Employment

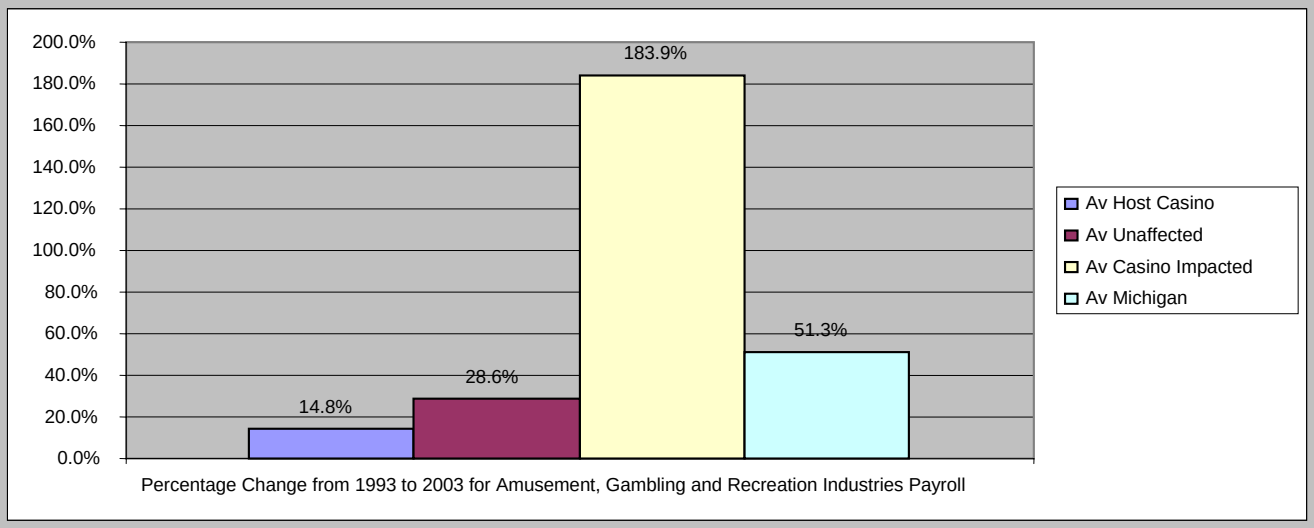
Furthermore, amusement payroll percentage increases were the lowest in host casino counties among all four county categories, as demonstrated in Table 14. Casino- impacted counties, on the other hand, experienced a nearly 184% increase.

Table 14: Amusement, Gambling and Recreation Industries Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2,963.2	1,407.2	1,296.0	2,070.1	2,242.2	2,654.0	3,014.9	3,417.5	2,703.5	3,394.8	3,400.7
Av Unaffected	4,090.7	3,347.8	3,696.9	3,825.5	3,031.2	4,235.7	4,631.4	4,028.6	4,599.0	5,155.3	5,260.4
Av Casino Impacted	1,106.2	2,231.5	2,316.5	2,600.8	2,566.3	2,100.1	2,438.5	2,032.5	2,489.2	3,095.7	3,140.2
Av Michigan	7,038.6	7,165.5	7,556.6	8,693.2	5,565.6	6,569.5	8,775.0	8,110.3	8,648.9	10,638.2	10,650.3



Counties	Percentage Change from 1993 to 2003 for Amusement, Gambling and Recreation Industries Payroll
Av Host Casino	14.8%
Av Unaffected	28.6%
Av Casino Impacted	183.9%
Av Michigan	51.3%



While there are many other variables that could affect the growth of amusement, gambling, and recreation industries, this data would suggest that, despite some research projections to the contrary, overall amusement establishments do not fare as well with the introduction of tribal casinos as food and drink and accommodation establishments.

One could theorize that tribal casinos cannibalize existing amusement businesses in the host county, but such a conclusion would require further research and is beyond the scope of this report. Such a theory also would not explain the dramatic growth in these establishments in the nearby casino-impacted counties and the decline in such employment in casino counties.

It is important to remember that economic expansion is not a win-win situation for all businesses. As any large new business moves into a county, whether it is a tribal casino or even Wal-Mart, there will be those businesses which cannot compete and either move or close their doors. The contrasting growth patterns in these three types of business establishments is a good example of these trade-offs.

Along this same line of thinking, some literature suggests that casinos increase the rate of bankruptcies in host communities by creating pressures on established businesses of all types, as well as creating incentives for the entrance of new business competitors. Thus, we will turn to bankruptcy rates in the next section of this report to explore further the economic growth tradeoffs associated with tribal casinos.

E. Bankruptcy Rate

While there is considerable controversy over whether or not there is a connection between bankruptcy rates and the introduction of casinos, there has been sufficient research through the years raising this issue to justify an inquiry into the bankruptcy rates of casino and unaffected counties in Michigan. In 1997, SMR Research found higher county bankruptcy rates in casino and nearby casino-impacted counties. In 2000, Barron et. al. concluded that the proximity of casino gambling appeared to be associated with higher bankruptcy rates, especially at the local level. Goss and Morse in 2005 argued that small increases in bankruptcy rates in casino counties are lower than in non casino counties in the first 3-9 years; but thereafter the initial dampening effects on these rates from new construction and new employment will fade and the effects of problems gamblers will swell the ranks of bankruptcy petitions. They concluded in an earlier 2004 article that bankruptcy rates rise above those of non-casino counties after 9 years of operation.

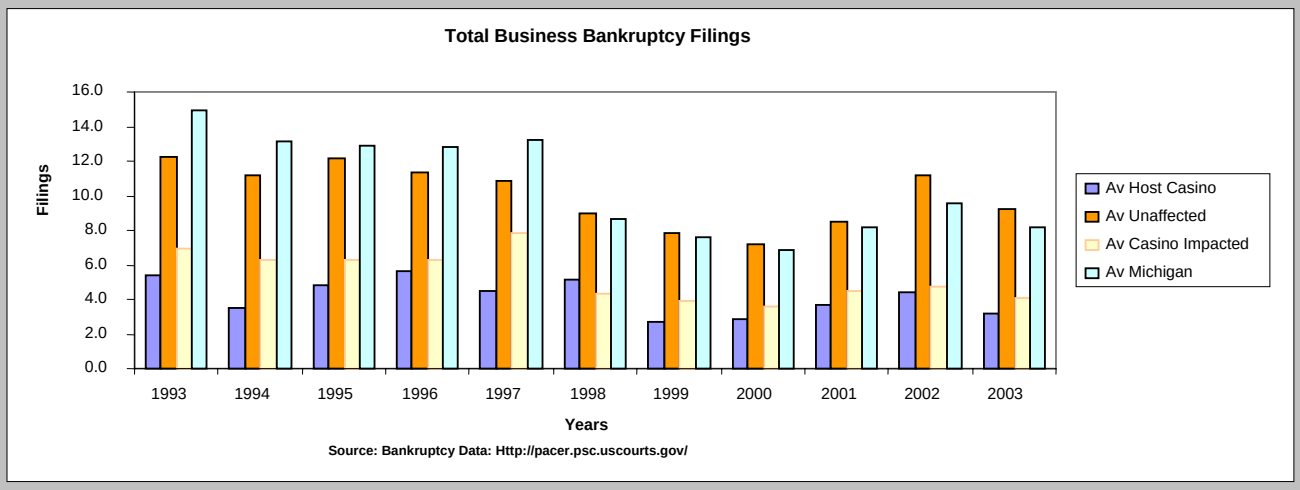
On the other hand, a 1999 bankruptcy study by the Department of Treasury concluded, similar to the findings of the NORC, that the casino effect (proximity to a casino) is not a statistically significant factor in determining bankruptcy rates. The national rise in consumer bankruptcies is suggested to be more a product of changes in bankruptcy laws, increased consumer credit availability, reduced social stigma of such filings, high medical costs, and other factors.

To explore the possible bankruptcy-casino linkage issue in Michigan, we will examine both individual and business bankruptcy filings. Individual filings could include small business entrepreneurs, so their bankruptcy filings could be a business indicator as well. Thus, we will examine the percentage change in county bankruptcy filings between casino counties and the other three county groupings. Table 15 indicates the average number of business bankruptcy filings. While all county groupings show a decline in such filings contrary to the research projections of those who feel there is a casino-bankruptcy relationship, the casino impacted counties show a percentage decrease (41%) which is nearly identical to the filings in casino counties.[32]

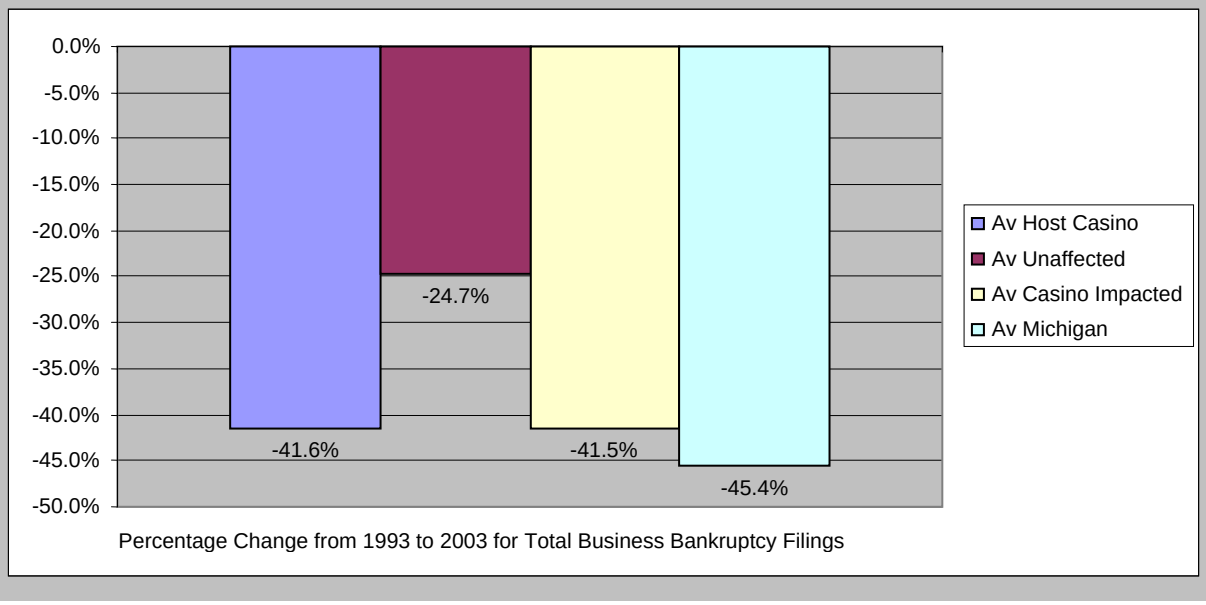
[32] Again, these are very small numbers so the percentages must be viewed with great caution.

Table 15: Total Business Bankruptcy Filings

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	5.4	3.5	4.8	5.6	4.5	5.2	2.7	2.8	3.7	4.4	3.2
Av Unaffected	12.3	11.2	12.2	11.3	10.8	8.9	7.8	7.2	8.5	11.2	9.3
Av Casino Impacted	6.9	6.3	6.3	6.3	7.8	4.3	3.9	3.6	4.5	4.8	4.1
Av Michigan	15.0	13.1	12.9	12.9	13.3	8.7	7.6	6.9	8.1	9.5	8.2



Counties	Percentage Change from 1993 to 2003 for Total Business Bankruptcy Filings
Av Host Casino	-41.6%
Av Unaffected	-24.7%
Av Casino Impacted	-41.5%
Av Michigan	-45.4%

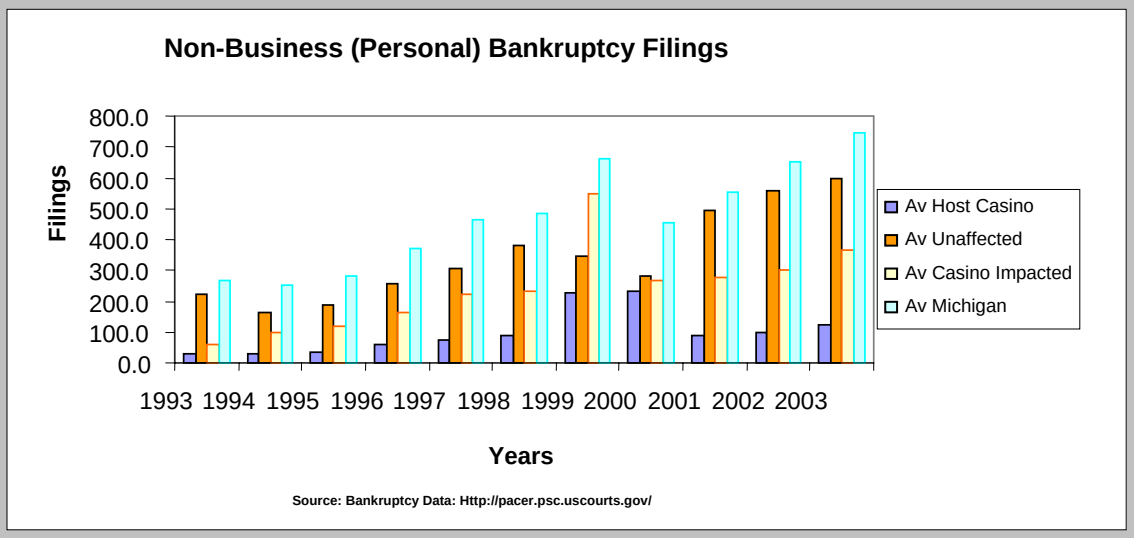


Personal bankruptcy filings, on the other hand, did show increased percentage changes for casino-impacted and casino counties (showing increases of 300-500%), while unaffected counties

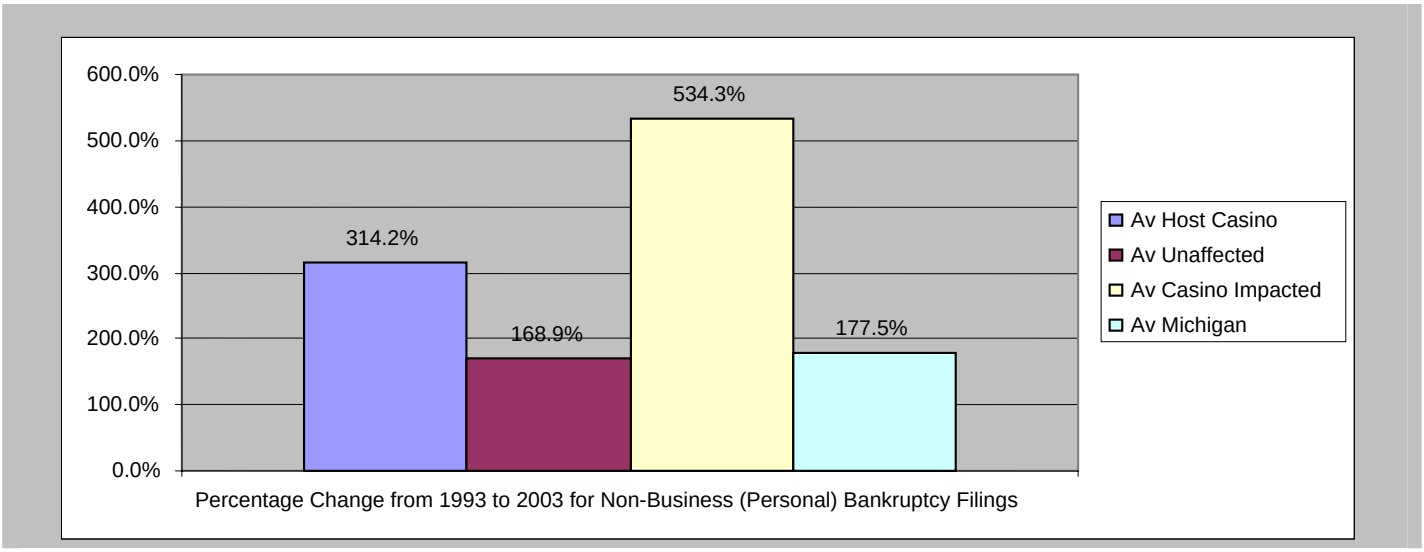
showed a lesser 169% increase and the average state county showing an increase of 177.5%. (See table 16)

Table 16: Non-Business (Personal) Bankruptcy Filings

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	29.6	27.5	34.7	61.5	76.1	88.5	226.2	230.7	90.3	100.9	122.6
Av Unaffected	221.6	160.6	188.3	257.5	308.6	379.2	346.6	280.9	492.9	559.1	595.7
Av Casino Impacted	57.5	100.5	119.5	162.4	222.1	233.9	548.3	268.7	275.5	300.1	364.8
Av Michigan	269.1	252.1	283.5	369.9	463.4	481.7	661.3	452.2	555.3	650.3	746.9



Counties	Percentage Change from 1993 to 2003 for Non-Business (Personal) Bankruptcy Filings
Av Host Casino	314.2%
Av Unaffected	168.9%
Av Casino Impacted	534.3%
Av Michigan	177.5%



This rather mixed bankruptcy filing data makes it difficult to reach any initial conclusions over the impact of tribal casinos on business bankruptcies. We would expect, if the literature linking increased bankruptcy filings to casino proximity were correct, that Michigan business bankruptcy rates in casino counties would have shown greater growth or at least experienced the smallest decline of the four county groupings. Yet the casino impacted counties showed the same percentage decline in filings as the casino counties. Furthermore, we would expect, if individually owned business were suffering from casino impacts, that personal bankruptcy filings in casino counties would have shown the greatest average percentage increase. Though there was a dramatic increase in such personal bankruptcy filings in casino counties, it was the casino impacted counties that held the distinction for the greatest increase.

Certainly, where bankruptcy petitions are filed could have some impact on these reported county bankruptcy filings, as one might file for bankruptcy in a county other than where one resides. And there is the argument mentioned previously in the literature that there may be a lag of as long as 9 years after a casino opens before bankruptcy rates rise – a time period that cannot sufficiently be handled in this 10 year period where some tribal casinos did not open until 1998. This lag issue is certainly an area of future research interest and will be further addressed in Part Two of this report where we compare only those counties that were casino or unaffected counties for the entire study period of this project.

Furthermore, the personal bankruptcy filings are a combination of sole proprietor and individual filing data, which may confound the business bankruptcy connection. There may also be a link between these high Michigan personal bankruptcy rates and the presence of a casino in terms of the overall number of problem/pathological gamblers in casino and casino-impacted counties. The 1999 NORC found a higher incidence of pathological gambling behavior in areas within 50 miles of casinos (double the prevalence of problem and pathological gambling), which the personal bankruptcy filing data could be interpreted to support.

This Michigan bankruptcy data might be useful to explore further in conjunction with the findings by the 1999 Department of Treasury report, which minimized the impact of high risk

gamblers on the probability of bankruptcy.[33] We will discuss the issue of problem or pathological gamblers further in the social section of this report.

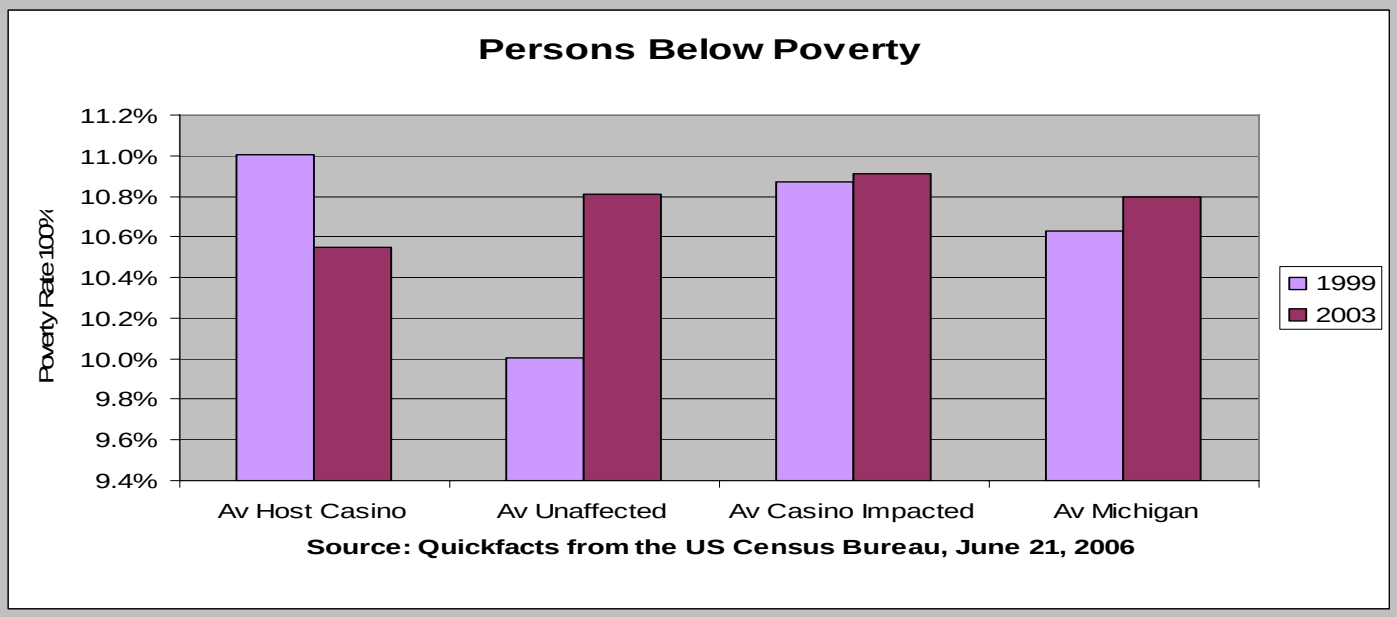
Suffice it to say, the bankruptcy data presented in this report does not provide clear support for the casino-business bankruptcy connection

II. Employment and Wage Impact

One of the most frequently touted benefits of tribal casinos has been increased employment, which is particularly important in the largely rural areas where many of Michigan's tribal casinos are located. Rural areas traditionally have had higher unemployment rates, making the introduction of a job-generating casino in such areas particularly important and more welcome than in more prosperous areas of the state. Job creation has both individual and governmental economic impacts. For example, Table 17 indicates that from 1999[34] to 2003, the number of persons below the poverty level dropped only in casino counties, potentially decreasing government welfare and unemployment program costs as well as increasing taxable wage revenue.

Table 17: Persons Below Poverty by Percentage

	1999	2003
Av Host Casino	11.0%	10.5%
Av Unaffected	10.0%	10.8%
Av Casino Impacted	10.9%	10.9%
Av Michigan	10.6%	10.8%



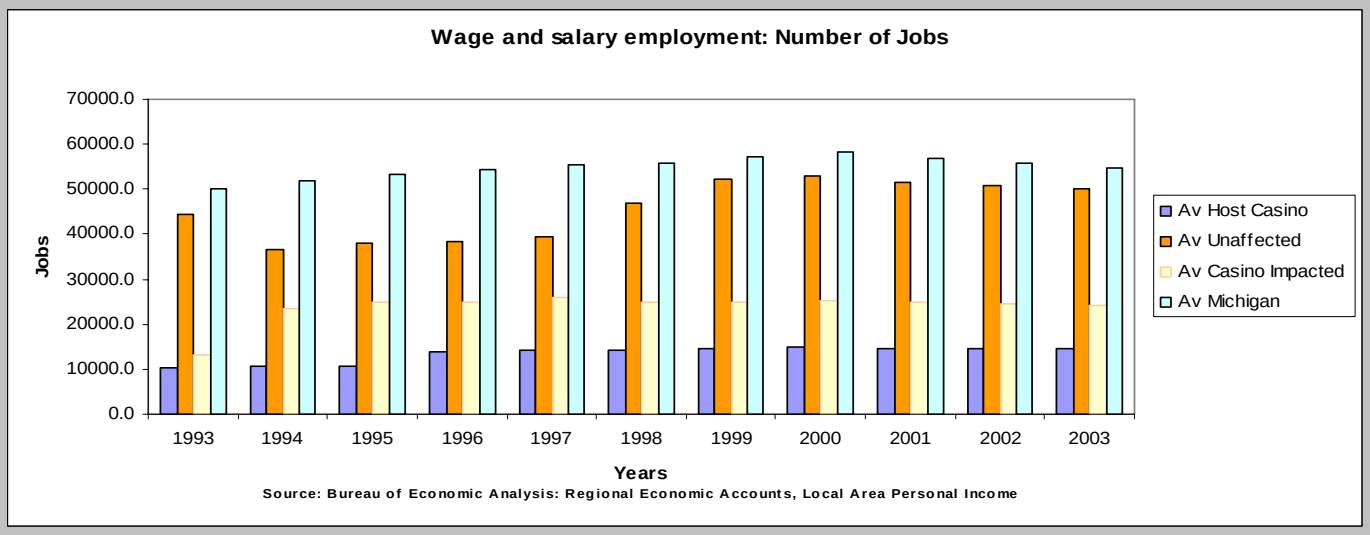
[33] The 1999 study estimated that on average, frequent high-risk gambling raises the probability of bankruptcy by 6% from occasional gamblers. Since only 2.7% of the population fall into the category of frequent high risk gamblers, the impact of these activities on overall bankruptcy rates is relatively small.

[34] No pre-1999 data was available, but 1999 was the first full year where all 17 tribal casinos were in operation in Michigan.

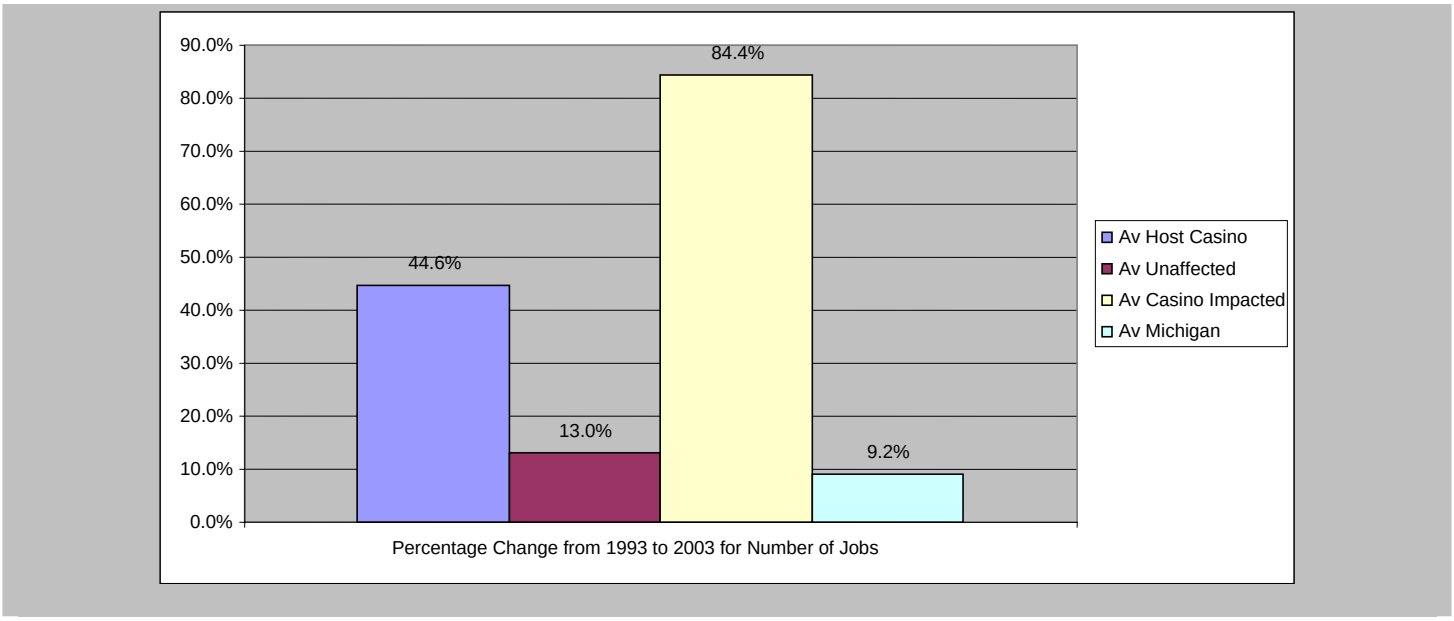
Table 18 indicates that there was a 44.6% and 84.4% increase in the average number of jobs in casino counties and casino-impacted counties, respectively. Unaffected counties experienced only a 13% increase in jobs over this same period, while the average state county experienced an even smaller 9.2% increase.

Table 18: Wage and Salary Employment--Number of Jobs

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	10,144	10,529	10,590	13,783	14,116	14,081	14,506	14,871	14,706	14,693	14,665
Av Unaffected	44,258	36,512	37,929	38,459	39,348	47,064	52,320	52,859	51,626	50,745	50,008
Av Casino Impacted	13,092	23,417	24,711	24,786	25,810	24,854	24,901	25,284	24,761	24,483	24,140
Av Michigan	50,277	51,967	53,448	54,453	55,271	55,937	57,146	58,128	56,742	55,700	54,879



Counties	Percentage Change from 1993 to 2003 for Number of Jobs
Av Host Casino	44.6%
Av Unaffected	13.0%
Av Casino Impacted	84.4%
Av Michigan	9.2%



However, comparing the number of jobs that may have been created or influenced by the introduction of a tribal casino only describes part of its economic impact. The kinds of jobs created and the wages paid are also considerations in terms of valuing the job creation aspects of tribal casinos. For example, critics of casino employment argue that the casino job skills are not readily transferable, and gaming jobs may create "trained incapacities for tribal and non-tribal employees alike" (HSU, 1999).

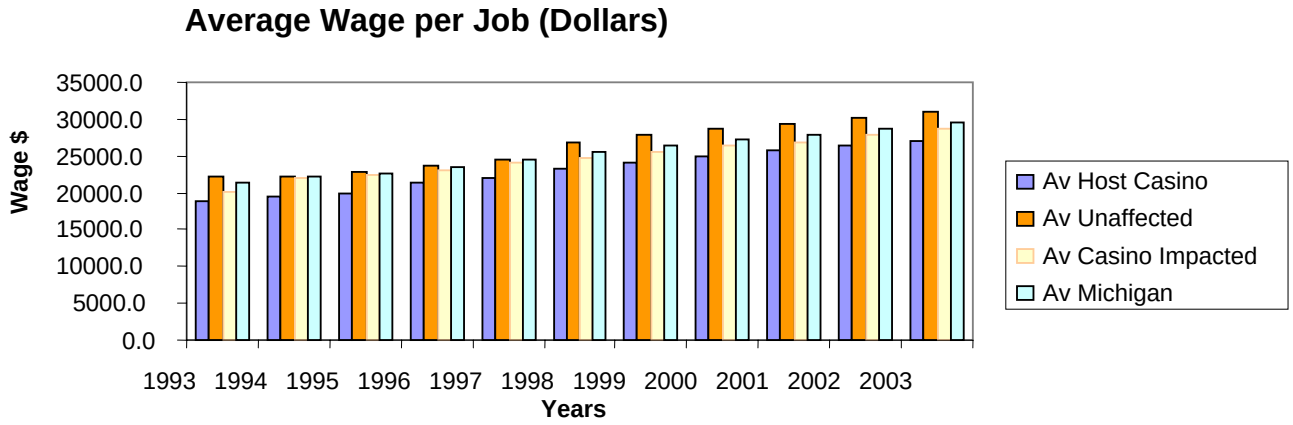
The counter argument in the casino literature to this job skill criticism is that increases in employment may decrease depression and alcohol and tobacco use, social issues that will be addressed later in this report (Taylor, 2003).

Was the average wage in Michigan counties statewide significantly different from that in casino counties? In terms of wage impact, there are a number of variables we could use to address how local wages may have been impacted by the introduction of tribal casinos. One variable to look at is the percentage change in the average wage per job over this 10 year period. Table 19 indicates that the average host casino county experienced a slightly higher average percentage growth in wages per job than the other three categories, although the overall difference between casino and unaffected casino counties was less than 2%.

Further analysis of the average wage per job can be found in the regression analysis in Appendix A of this report.

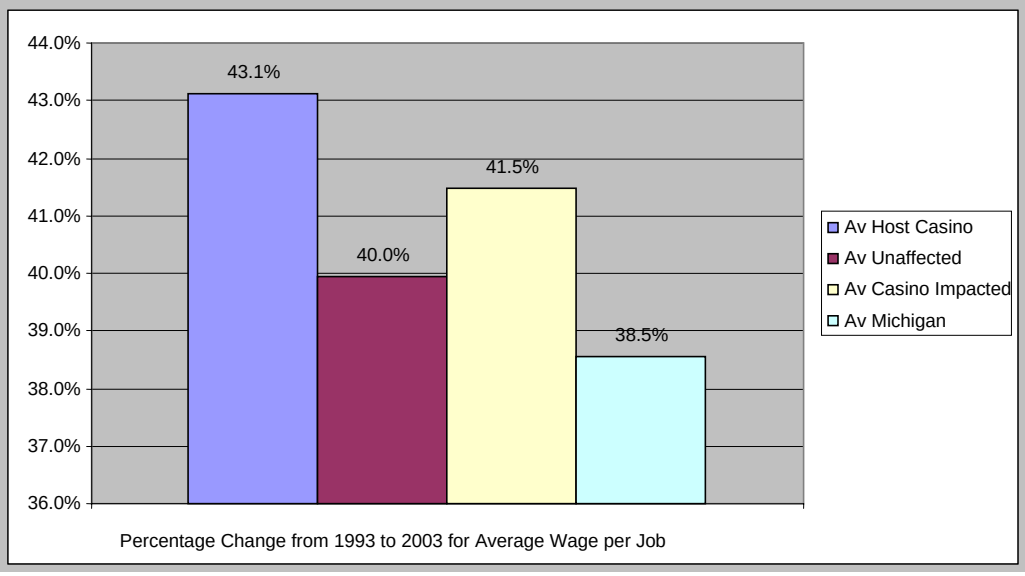
Table 19: Average Wage per Job in Dollars

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	18,909	19,435	19,901	21,367	22,078	23,280	24,097	24,932	25,746	26,345	27,061
Av Unaffected	22,226	22,161	22,796	23,599	24,601	26,742	27,878	28,769	29,279	30,286	31,106
Av Casino Impacted	20,223	21,930	22,337	23,029	24,129	24,781	25,567	26,334	26,854	27,780	28,610
Av Michigan	21,303	22,158	22,688	23,503	24,520	25,573	26,412	27,244	27,797	28,676	29,515



Source: Bureau of Economic Analysis: Regional Economic Accounts, Local Area Personal Income

Counties	Percentage Change from 1993 to 2003 for Average Wage per Job
Av Host Casino	43.1%
Av Unaffected	40.0%
Av Casino Impacted	41.5%
Av Michigan	38.5%

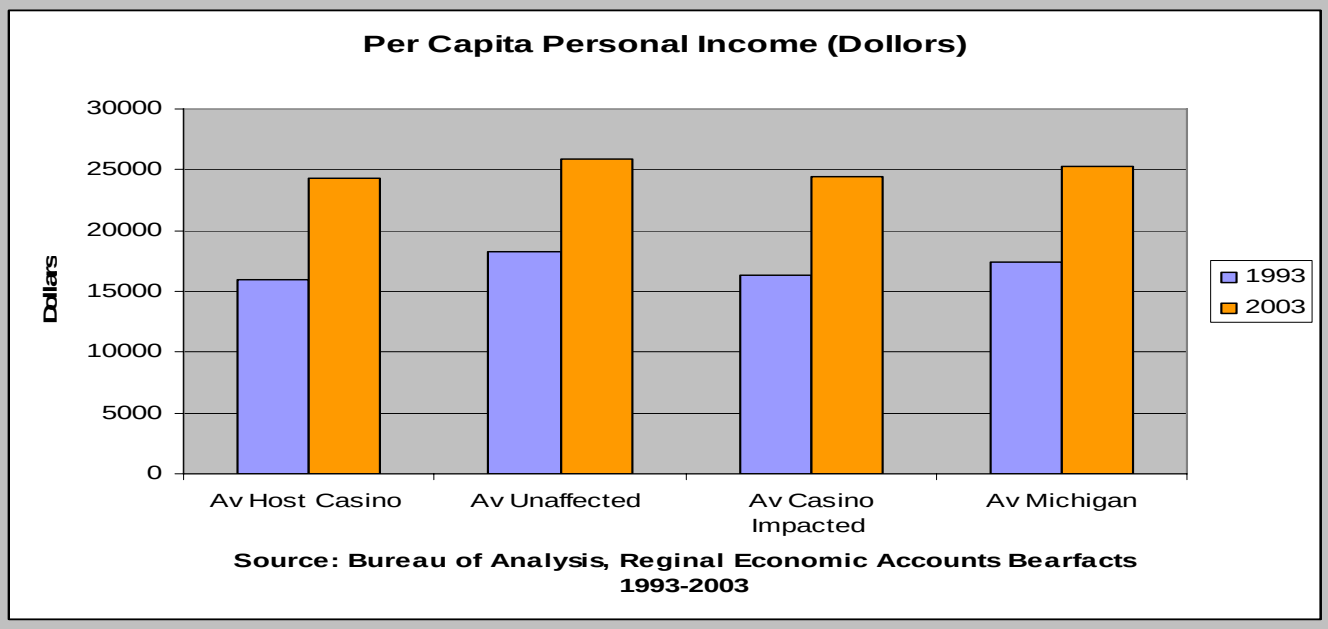


Another measure of wage impact would be to examine the percentage change for this time period on the per capita personal income. Gabe (1994) concluded in his 1994 study of rural Minnesota county gambling that the presence of a casino did not positively affect per capita personal income at the county level. The 1999 NORC study essentially came to the same conclusion that per capita income stays the same, indicating that communities reap more jobs, but not necessarily higher paying jobs. The NORC study concluded that there was more of a shift in the types and locations of work than a net improvement in the local standard of living.

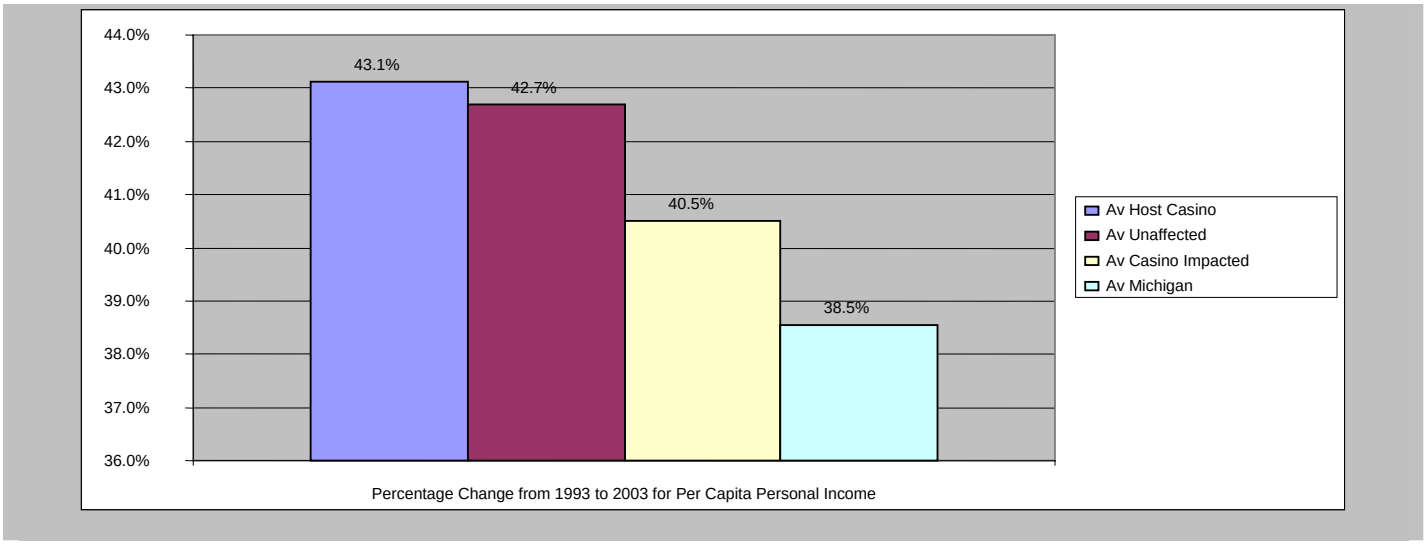
Table 20 shows that in Michigan the per capita personal income in casino counties did not experience a dramatic jump between 1993 and 2003, compared to the other three county groupings. The average percentage changes for this time period (less than 5%) of the four county groupings also are displayed on this table.

Table 20: Per Capita Personal Income in Dollars

	1993	2003
Av Host Casino	16,013	24,281
Av Unaffected	18,235	25,926
Av Casino Impacted	16,361	24,440
Av Michigan	17,401	25,320



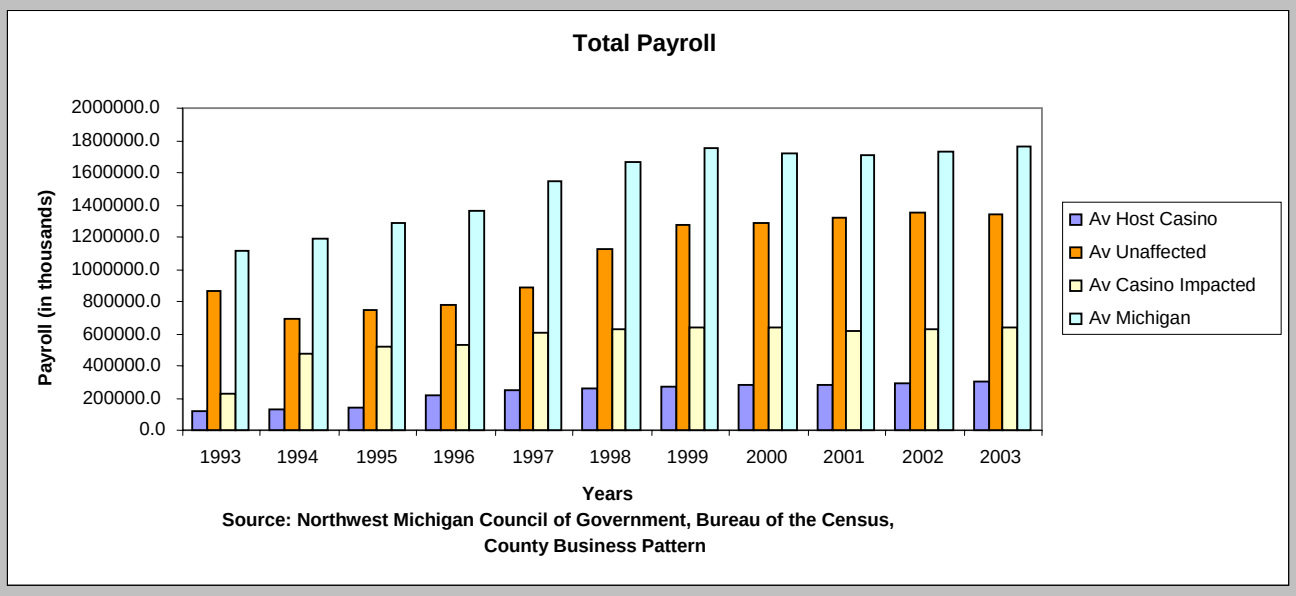
Counties	Percentage Change from 1993 to 2003 for Per Capita Personal Income
Av Host Casino	43.1%
Av Unaffected	42.7%
Av Casino Impacted	40.5%
Av Michigan	38.5%



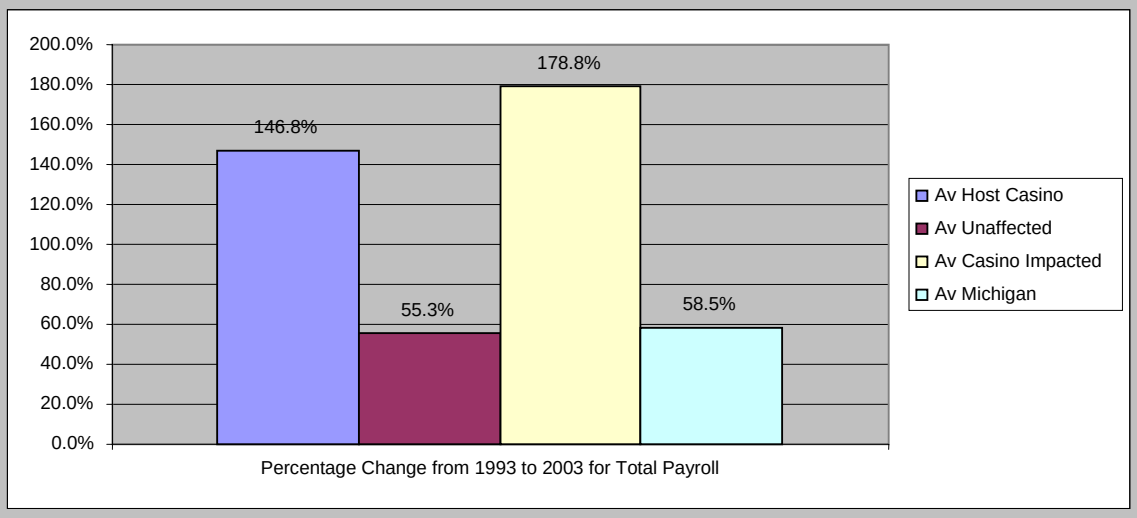
Total payroll is another economic indicator of possible job-related impacts associated with casinos. Table 21 shows a dramatic average percentage difference in total payroll in casino counties (146.8%), though casino-impacted counties actually experienced an even higher percentage change over this time period than the casino counties (178.8%).

Table 21: Total Payroll (in millions of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	122.8	129.1	141.0	216.4	244.0	259.6	272.8	277.6	286.4	294.9	303.1
Av Unaffected	866.4	687.8	748.8	781.9	890.5	1,123.8	1279.4	1,283.9	1,322.8	1,353.3	1,345.8
Av Casino Impacted	228.5	474.6	518.6	530.5	602.9	624.0	641.8	633.4	614.8	622.8	637.0
Av Michigan	1,110.9	1,194.4	1,288.5	1,360.4	1,549.3	1,665.7	1,747.4	1,716.2	1,711.4	1,729.7	1,761.0



Counties	Percentage Change from 1993 to 2003 for Total Payroll
Av Host Casino	146.8%
Av Unaffected	55.3%
Av Casino Impacted	178.8%
Av Michigan	58.5%



More detailed analysis of the wage issue is provided in Appendix A of this report. However, this descriptive data does not show a higher economic value for jobs in casino counties, and tends to support the literature findings that casinos have little impact on per capita income in host casino communities, although there was a dramatic percentage increase in the total payroll in casino counties.

Other economic issues raised in the literature which have been associated with casino introduction include (1) housing and property values, as well as (2) the impact on state lottery sales. These are the last two economic issues which will be addressed in this report before we turn to social impact issues.

III. Housing and Property Values

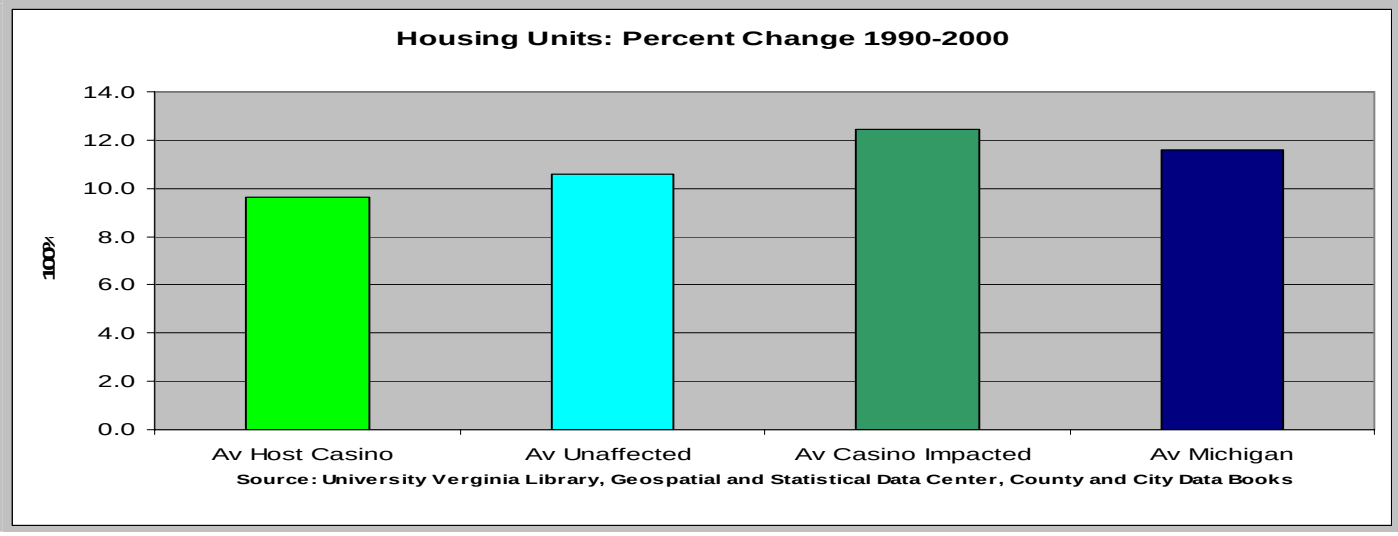
Reliable, longitudinal data is spotty in the area of housing and property values. It has been assumed by proponents of casinos that the influx of new jobs to an area will increase demand for housing and thus enhance existing property values. It also has been assumed that casinos will create demand for more low cost housing to meet the needs of lower paid casino workers (those earning under $25,000[35], which likely constitute the majority of casino employees).

To first address the housing demand issue, we collected data describing the increase in housing units between 1990 and 2000, as this U.S. Census data was the most reliable measure of housing unit changes in Michigan counties. However, Table 22 indicates that the percentage change in the number of housing units from 1990-2000 for casino counties was slightly smaller than for any of the other three county groupings.

[35] This $25,000 figure is one used most recently in the EIS for the soon-to-open tribal casino in New Buffalo, Michigan.

Table 22: Housing Units: Percent Change 1990-2000

	Housing Units: Percent change, 1990-2000
Av Host Casino	9.6
Av Unaffected	10.6
Av Casino Impacted	12.4
Av Michigan	11.6



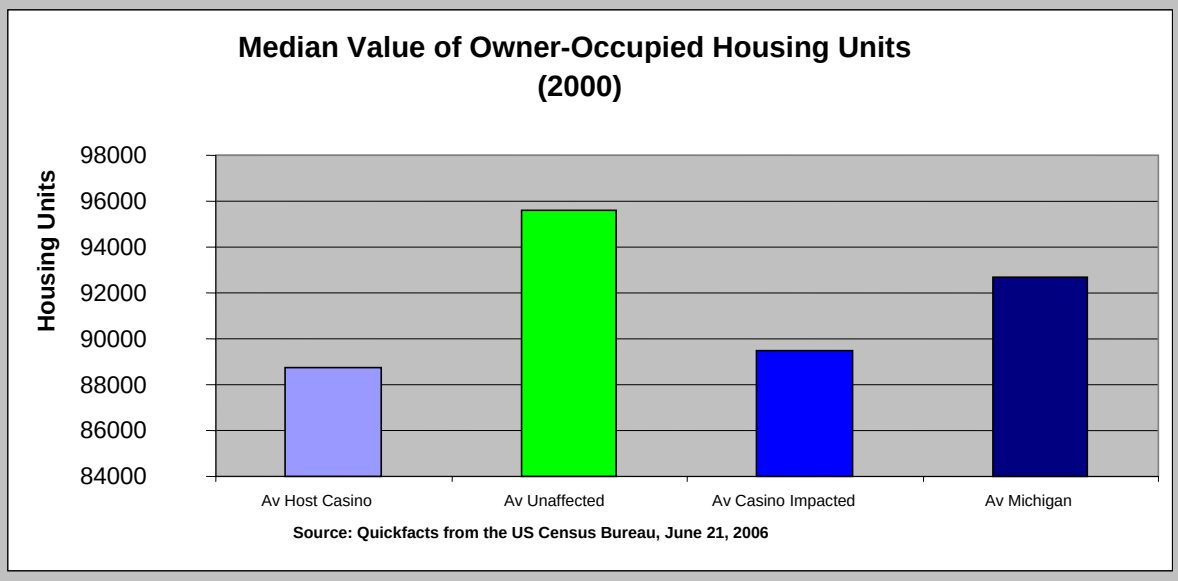
Furthermore, the housing vacancy rates in Michigan's Lower Peninsula casino counties indicate that there is not a uniform shortage of housing in all five casino counties, with Isabella (5%) and Grand Traverse (12%) counties having relatively low vacancy rates, while Manistee, Emmet, and Leelanau counties having relatively high vacancy rates ranging from 23%-29% , according to the Public School Review. Hence the projected demand for new housing projected in the literature created by the presence of a casino does not seem to be uniformly strong among Michigan's casino counties.

Other research suggests that there is a negative influence on housing values upon the introduction of a casino. A Las Vegas study indicated that the nearer a casino is to residential property, the more adversely it affects property values, at least for those houses located within a mile of the casino (Clauretie, et al.)

In terms of a casino's impact on the value of nearby housing, the median value of owner occupied units in 2000 showed casino counties having the lowest median value of all other county comparisons (see Table 23). One possible explanation for this low property value is that many of the initial tribal casinos were built in some of the poorest of Michigan's rural counties.

Table 23: Median Value of Owner-Occupied Housing Units (2000) in dollars

	2000
Av Host Casino	88,754
Av Unaffected	95,575
Av Casino Impacted	89,482
Av Michigan	92,675



However, this overall casino county median value would be even lower if we dropped 3 of these casino counties[36], which are among the top 10 highest priced housing counties in the state in 2002-2004, according to Public School Review. Furthermore, while the differences in median value of housing would be expected when comparing urban counties (included in the average statewide counties) with rural casino counties, the rural casino county median value even compares unfavorably to other unaffected rural counties after the urban counties are removed.

Another more uniform measure of property value is the Standard Equalized Valuation (SEV). As Table 24 reveals, while there was nearly a 100% change of SEV values in casino counties between 1997 and 2003[37], those same SEV percentage values for casino-impacted counties increased slightly more to 105%. While SEV values for the average state and unaffected counties increased by 61-71% respectively, there was a 30-40% greater increase in home values in casino counties in Michigan compared to these other two other county rural groupings.

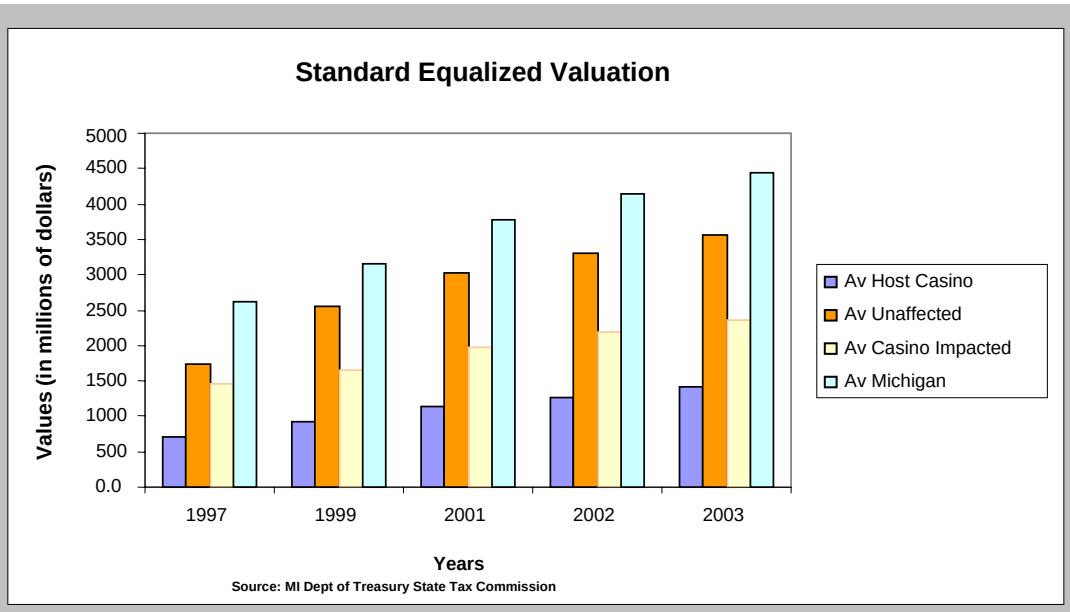
Thus, there was measurable growth in SEV property values in casino and casino-impacted counties; however, it is difficult to attribute this growth solely to the presence of a tribal casino.

Table 24: Standard Equalized Valuation (in millions of dollars)

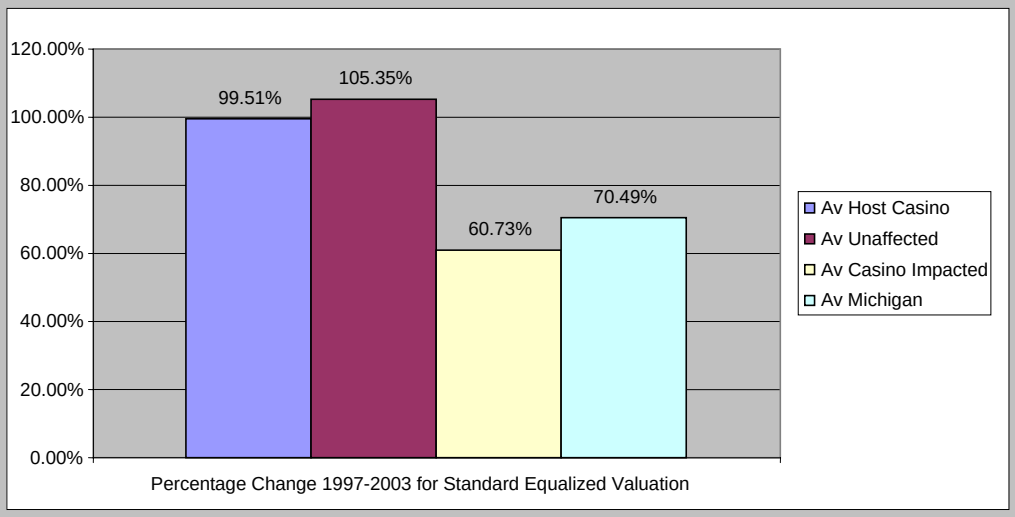
	1997	1999	2001	2002	2003
Av Host Casino	709.8	919.5	1,143.5	1,276.4	1,416.2
Av Unaffected	1,738.0	2,556.4	3,032.4	3,313.3	3,568.9
Av Casino Impacted	1,468.6	1,661.0	1,976.3	2,180.0	2,360.6
Av Michigan	2,611.4	3,144.6	3,769.8	4,141.1	4,452.1

[36] The top casino counties in terms of highest housing values include 2. Leelanau ($171,534), 5. Emmet ($134,952) and 8. Grand Traverse ($127,403).

[37] Not all years were published by the State of Michigan.



Counties	Percentage Change from 1997-2003 for Standard Equalized Valuation
Av Host Casino	99.51%
Av Unaffected	105.35%
Av Casino Impacted	60.73%
Av Michigan	70.49%



Yet another indirect comparative measure of housing values can be derived through the use of longitudinal county unemployment rates. It has been estimated that for every 1% decline in the weighted average regional unemployment rate, there is a 7% increase in home prices (Wright et al., 1993).

To develop some form of measure for this estimated housing impact, the unemployment rates for the ten original tribal casino counties between 1993 and 2003 were compared to the unemployment rates for the 16 unaffected counties for this same time period (a form of analysis we

use throughout Part Two of this report[38]). All 10 tribal casino counties experienced a decrease amounting to an average 1.8% decline in casino county unemployment rates. However, of the 16 unaffected counties, 8 counties saw either no change or an increase in their unemployment rate while the remaining 8 counties saw a decrease in their unemployment rates. The average decline in the unemployment rate for the 16 unaffected counties was merely .4% in contrast to the 1.8% unemployment decline for casino counties for this same time period (see Tables 25a and 25b).

While we cannot attribute these unemployment percentage differences solely to the presence of a tribal casino, casino counties did uniformly better in decreasing their unemployment rates, and using Wright's formula, should be more likely to see a rise in home prices than unaffected counties.

Table 25a: Percentage Change in Unemployment Rates, 1993-2003 in Michigan Casino Counties

Casino County	Percent Change
Alger	-2.4%
Baraga	-1.9%
Chippewa	-2.4%
Gogebic	-1.2%
Isabella	-0.7%
Leelanau	-0.9%
Mackinac	-3.2%
Marquette	-1%
Menominee	-1.5%
Schoolcraft	-2.8%
Average	**-1.8%**

Source: Michigan Labor Market Information- Job Rate Historical Data

[38] This county data comparison may not be a reliable unemployment measure, but it is presented to show that casino counties have decreased unemployment rates, which could have a similar housing impact to the regional unemployment estimate.

Table 25b: Percentage Change in Unemployment Rates, 1993-2003, in Unaffected Michigan Counties

Unaffected County	Percent Change
Alcona	-2%
Allegan	+0.9%
Alpena	-3.8%
Barry	-0.4%
Branch	-1.2%
Calhoun	+0.6%
Eaton	-0.6%
Hillsdale	+0.7%
Huron	-1%
Ingham	0
Iosco	-2.8%
Jackson	-0.1%
Kalamazoo	+0.8%
Muskegon	0
Ottawa	+1.1%
Saint Joseph	+1.1%
Average	**-.4%**

Source: Michigan Labor Market Information- Jobless Rate Historical Data

While this data on housing demand and values is incomplete and there are some indirect measures that show positive changes in housing values in casino counties, the Michigan county data presented in this report does not support some arguments in the literature that there is a strong connection between the presence of a casino and the value of nearby housing.

IV. State Lottery Impact

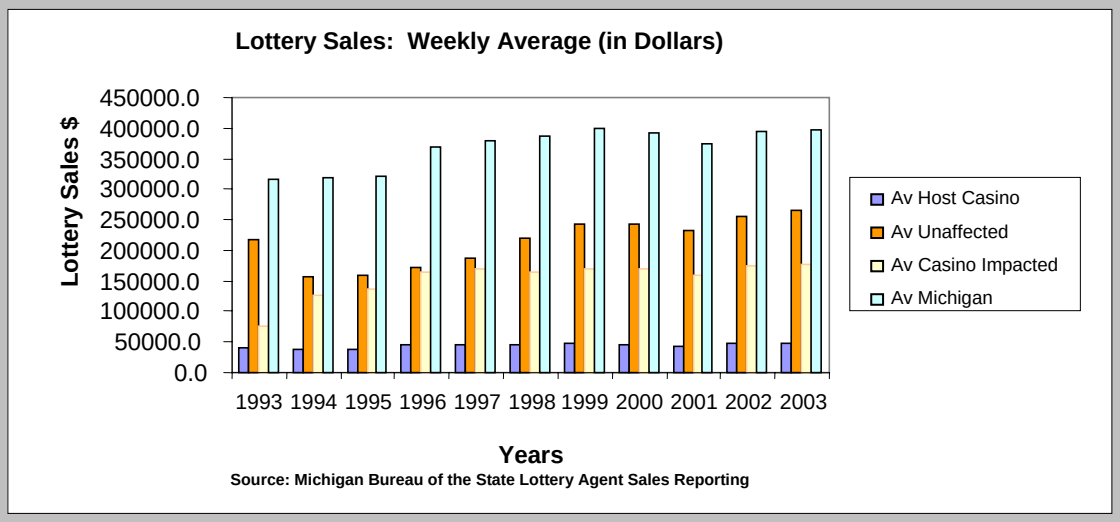
There are at least three casino studies in the literature that suggest casinos cannibalize sales from state lotteries. [39]Obviously, such a cannibalization would have a negative impact on the state budget and reliance on lottery revenue for education funding. Thus, this issue deserves examination as well.

As is shown in Table 26, the county groupings that showed the greatest percentage change in state lottery sales during this 10 year period were the casino-impacted counties, which showed a dramatic increase in sales of 137.6%. The smallest percentage change in sales (19.6%) was in the casino counties, but only about 7% less than the state county average.

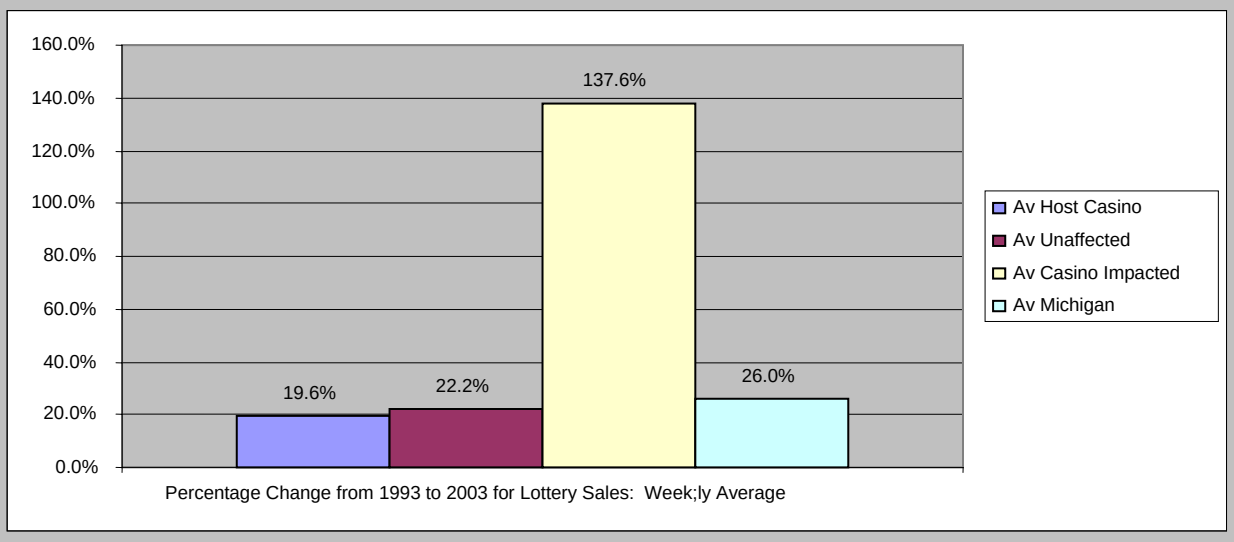
[39] Siegel and Sanders (2001), Elliot and Novin (2002), and Fink and Rork (2003).

Table 26: Lottery Sales: Weekly Average (in Dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	40,173	38,282	37,623	45,335	45,153	46,644	47,240	45,971	43,886	47,768	48,029
Av Unaffected	216,555	156,504	159,058	172,243	185,979	219,064	241,538	243,087	233,595	254,590	264,525
Av Casino Impacted	74,583	126,199	136,236	164,109	169,384	164,030	168,723	168,513	160,530	173,998	177,228
Av Michigan	315,793	318,052	322,155	370,066	380,165	386,798	398,442	390,981	374,372	395,089	397,868



Counties	Percentage Change from 1993 to 2003 for Lottery Sales: Weekly Average
Av Host Casino	19.6%
Av Unaffected	22.2%
Av Casino Impacted	137.6%
Av Michigan	26.0%



Thus, if there is a decline in lottery sales due to the presence of a casino, it is a small one according to this data. However, the dramatic rise in state lottery sales in casino-impacted counties is a curious phenomenon and raises some interesting questions. For example, has the presence of a casino dampened lottery sales in the host casino county; or conversely, has it stimulated sales in the nearby casino-impacted counties? These are questions worthy of further research.

PART ONE
General Social Impacts

The Problem Gamblers

In this report we attempt to balance the economic issues with the social issues that have been associated in the literature with the presence of a casino. A convenient bridge between the economic and social aspects of casino gambling is to examine the role of the pathological or problem gambler.

The pathological or problem gambler has been the focus of psychological studies more often than economic casino impact studies, but the impact of this gambler on the myriad issues raised about casino gambling can neither be overstated nor overlooked.

First, let us examine the economics of problem and pathological gamblers. One school of thought is that these problem and pathological gamblers are a dominant force in casino economics. Grinols and Mustard (2001) conclude that two-thirds to 80% of all gambling revenue comes from the 10% of the population that gambles most heavily. Using these figures, the costs of gambling are more concentrated rather than widespread across the general population, and thus may have an even more pronounced impact on a small segment of the Michigan population. To further put this gambling concentration in perspective, the pathological and problem gamblers are but a subset of this 10%.

The 1999 NGISC study projected that pathological and problem gamblers in the U.S. cost $5 billion a year plus $40 billion in lifetime costs associated with productivity reductions, social services, and creditor losses. In his 2002 study, Grinols cites other studies that estimate between 1/3 and 1/2 of all casino revenue is from pathological or problem gambling.

On the other end of the spectrum, studies have placed the pathological gambler as generating only 15% of the gambling industry's gross revenues, and each pathological gambler costs society around $10,550 over his or her lifetime (Hoenack and Renz, 1995). This divergence in gambling population figures highlights the gap in casino impact literature findings. However, whatever percentage or dollar figure chosen, the economic impact of these gamblers is not insignificant.

A 1999 combined patron and telephone survey by NORC found the availability of a casino within 50 miles (versus 50-250 miles) is associated with almost double the prevalence of problem and pathological gamblers. Thus, a major reason why the 50 mile casino radius was chosen for county groupings in this report was to ensure we captured the potentially important role pathological and problem gamblers play in casino impact studies.

The literature on the linkage between casino presence and pathological and problem gamblers seems to imply that proximity to a casino increases the number of such gamblers in a community. A 1998 Lexecon study, while concluding that the positive and economic impacts of gambling both on and off reservations far outweigh the negatives, also recognized that the number of compulsive gamblers both on and off reservations has grown as casino gambling has grown.

The NGISC study found a doubling of the pathological gambling rate from .9% to 2.1%, and a 2002 Nevada study by Volberg found the prevalence of pathological gambling in Nevada was 3.5% versus a national rate of 1.9%. In 2003, Volberg also found problem gamblers from minority groups increased in three states where tribal casinos and/or card rooms became more available. Welte found in a 2002 survey that those who lived within 10 miles of a casino had double the rate of problem and pathological gambling compared to those who lived outside the 10 mile radius (7.2% versus 3.1%).

Thus, there is strong evidence to believe that there is a connection between the proximity of a casino and an increase in the number of pathological gamblers – along with the social problems

associated with pathological gamblers. Volberg (1998) argued that problem gamblers are more likely than at-risk non-problem gamblers to have shoplifted, sold drugs, or engaged in other illegal activities to get money to gamble or pay gambling debts, to use alcohol, tobacco and marijuana, and to have committed crimes because of alcohol and drug use. The 1999 National Gambling Impact Study Commission associated the increasing availability of gambling with the generation of additional social problems such as crime and divorce rates.

This inclusion of the problem gambler issue is especially important for Michigan, as a 2001 survey by the Michigan Department of Community Health found that 4.5% of the adults in the state (higher than the national average) were compulsive gamblers. Thus, the social impacts of tribal casino gambling may be more pronounced when one considers that one segment of the state's population may be significantly more impacted than if these social impacts were spread equally among all population groups in the state.

We do not necessarily concur with the social consequences predicted in the literature with casino gambling and pathological and problem gamblers. However, it is important that the social issues associated with pathological gambling (particularly certain crimes) be addressed in this report from a statistical standpoint in order to better debate the merits or demerits of these casino-social ill connections. Thus, selected crime issues are examined in this report to explore whether such crimes have increased in casino counties as well as the general crime increase issue itself.

In this part of the report, we will examine four major social impacts sometimes linked in the literature to casinos:

1. Selected criminal offenses
2. Population and traffic growth
3. Education
4. Liquor sales and divorce and suicide rates

1. Crime Impact

Let us first begin with a discussion of social issues often associated with the presence of a casino and certain crime rates. The debate over the connection between crime and the presence of a casino is a long and controversial one. Casino proponents argue crime increases are merely a product of the increased number of transient patrons that frequent a casino, and the casino does not attract a criminal element to the host community. These casino defenders also argue that increased law enforcement resources in casino counties make the surrounding area even safer, and increase the ability to enforce laws and correspondingly increase the number of crimes reported that otherwise would not have been reported.

The 1999 NGISC could not reach any conclusions about the connection between gambling and crime, using an Atlantic City study. Indeed, it is difficult to prove a direct causal relationship between gambling and crime.

Nonetheless, there continues to be a widespread perception among community leaders and opponents of casino gambling that as gambling indebtedness increases, so does youth crime, forgery, credit card theft, domestic violence, child neglect, and alcohol/drug offenses, particularly among frequent gamblers. (NORC survey, 1999).

In a 2006 study, Grinols and Mustard linked crime rates in casino communities to the increase in demand for unskilled and lower-income employees, who in turn may alter the composition of the underlying work force and residents toward those who are more apt to engage in criminal activity.

Studies continue to link certain crimes with gambling. For example, the NGISC and other studies indicate possible casino links to property crime, embezzlement, prostitution, child abuse, and divorce. In the major crime category, one study concludes that rates of burglary show the highest association with casinos.

Evans and Topoleski concluded in a 2002 study that four years after a casino opens, bankruptcy rates, violent crime, auto thefts and larceny are up 10% in host casino counties. Grinols and Mustard concluded in a 2001 study that casino communities experienced increased crime rates after a lag of 3-4 years, that neighboring county data indicated casino crime spills over into border areas rather than moving from them, and that 8% of crime in casino counties in 1996 was attributable to casinos, resulting in an average annual cost of casino crime of almost $65.00 per adult per year.

While there are many crime areas to explore, this part of the report will focus on those in the previously mentioned literature that are more commonly attributed to casino gambling for which we have quality data, particularly those non-index crimes that may be associated with serious indebtedness from gambling -embezzlement, forgery and counterfeiting, and stolen property- as well as an overall non-index total of crime reports. We will use data from our casino database to examine the alleged link between gambling and drug abuse, including narcotics violations and DUIs. A look at data related to prostitution, vandalism, and motor vehicle theft will also be undertaken. [40] A more focused statistical analysis of index crime data is presented in the appendix of this report.

Accordingly, we have selected the following primarily non-index crime issues[41] to explore:

- Embezzlement
- Forgery and counterfeiting
- Stolen Property
- Total non-index crime
- Narcotics
- Driving under the influence (DUI)
- Prostitution
- Vandalism
- Motor vehicle theft (an index crime)
- Child abuse

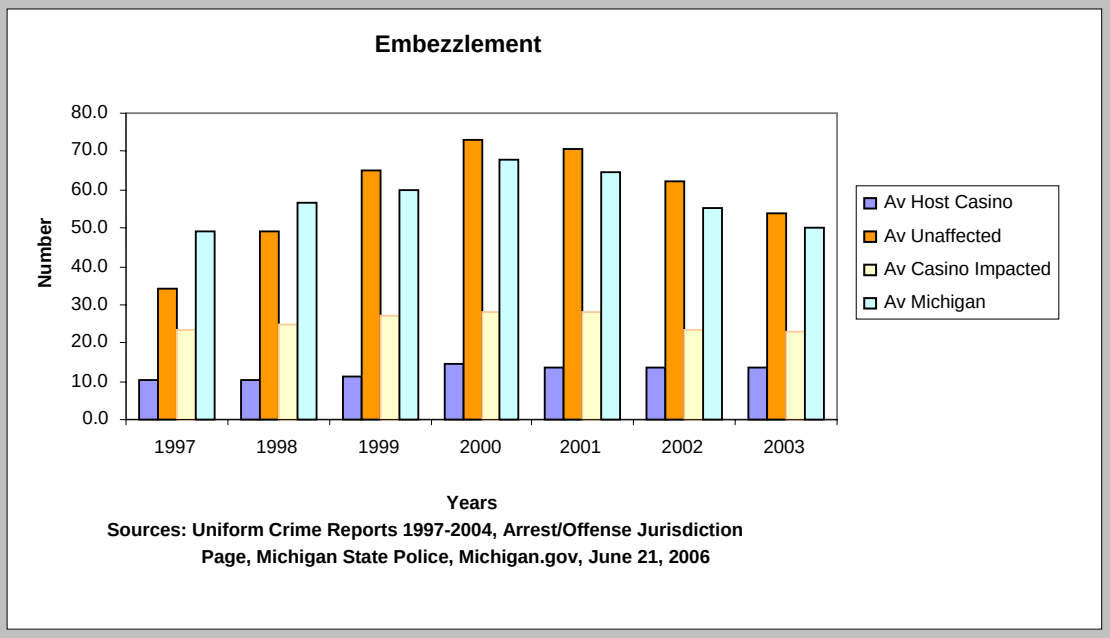
Embezzlement

Embezzlement is often associated in the literature with casino gambling because of its perceived link to gambling indebtedness. Though host casino counties did show a nearly 32% increase since 1997 (see Table 27), the largest percentage increase (57%) occurred in unaffected counties. The state county average was 2.3%.

[40] Michigan crime data is for the years 1997-2003 as data before 1997 has reliability problems.
[41] Some of these crime`s are analyzed further in the appendix using regression analysis.

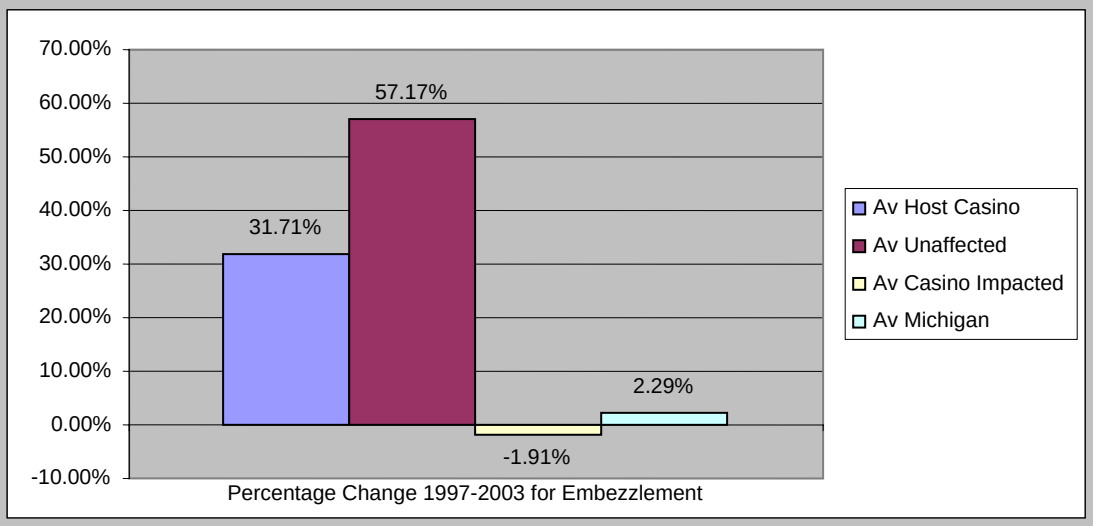
Table 27: Embezzlement Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	10.5	10.2	11.2	14.4	13.8	13.8	13.8
Av Unaffected	34.3	49.3	64.8	73.2	70.7	62.3	53.9
Av Casino Impacted	23.3	24.8	27.3	28.3	27.9	23.4	22.9
Av Michigan	49.0	56.4	59.9	68.1	64.5	55.1	50.1



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

Counties	Percentage Change from 1997-2003 for Embezzlement
Av Host Casino	31.71%
Av Unaffected	57.17%
Av Casino Impacted	-1.91%
Av Michigan	2.29%

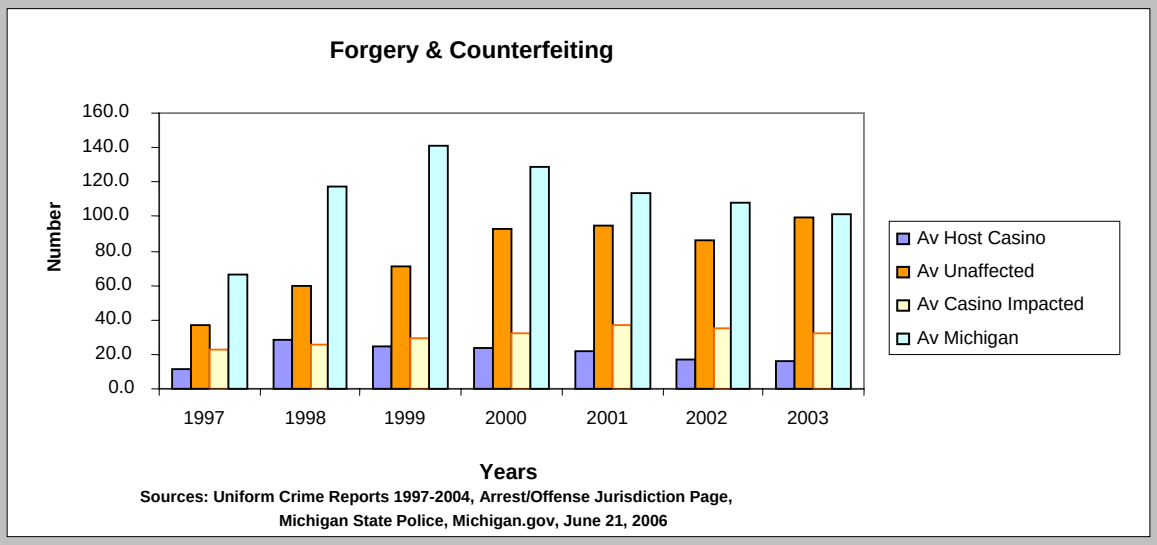


Forgery and Counterfeiting

Table 28 describes another crime often attributed to casino gambling - forgery and counterfeiting. The largest forgery and counterfeiting average percentage increase (168%) again occurred in unaffected counties, not in host casino counties (which saw a percentage increase slightly less than the state average).

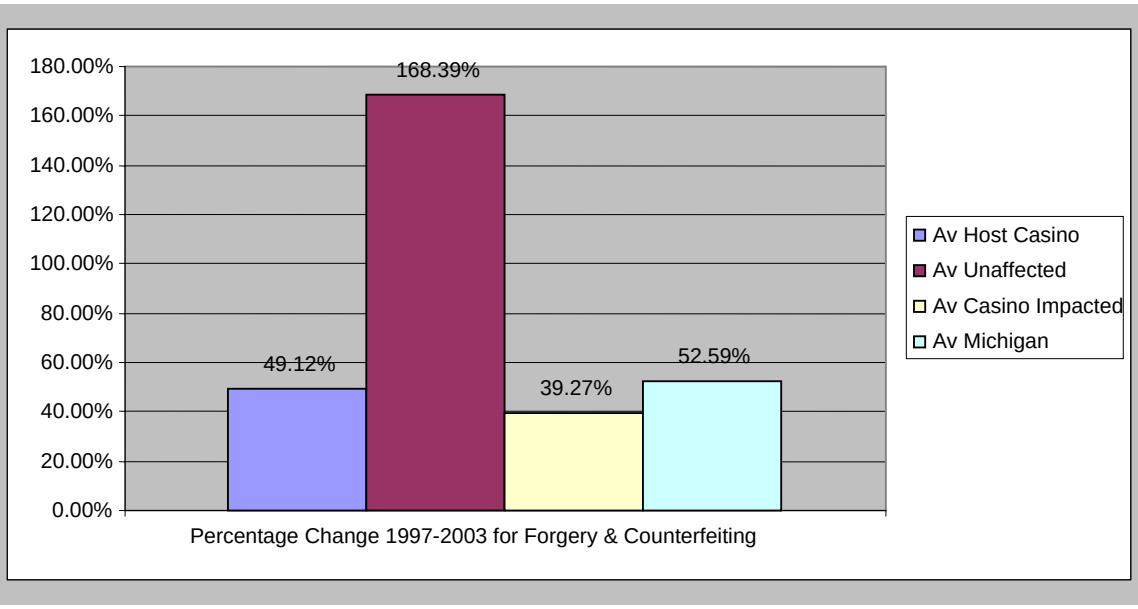
Table 28: Forgery and Counterfeiting Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	11.1	28.7	24.5	23.6	21.3	17.0	16.5
Av Unaffected	36.9	59.8	70.7	92.7	94.6	86.6	98.9
Av Casino Impacted	22.9	25.5	29.3	32.2	37.1	35.3	31.9
Av Michigan	66.2	117.2	141.2	128.9	113.7	108.4	101.0



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

Counties	Percentage Change from 1997-2003 for Forgery & Counterfeiting
Av Host Casino	49.12%
Av Unaffected	168.39%
Av Casino Impacted	39.27%
Av Michigan	52.59%



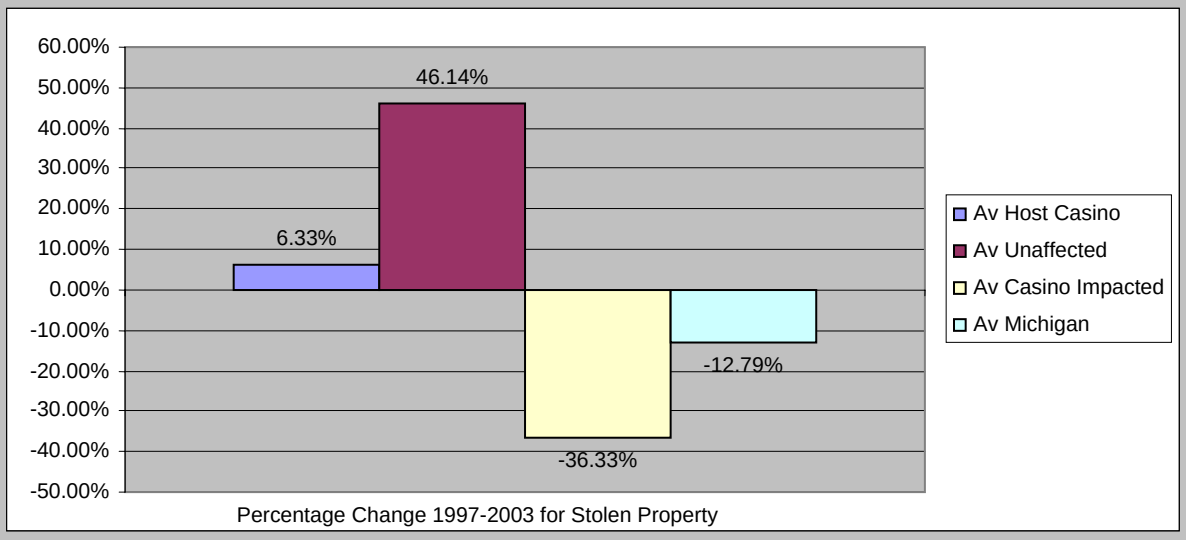
Stolen Property

Table 29 identifies another crime often attributed to gambling indebtedness - stolen property. The greatest percentage increase in stolen property occurred in unaffected counties, not host casino counties, though the host casino counties saw a 6.33% increase while the average statewide county saw a decline of nearly 13% (driven by the very large decline in casino impacted counties).

Table 29: Stolen Property Offenses

	1997	1998	1999	2001	2000	2002	2003
Av Host Casino	6.1	7.4	5.2	6.2	5.3	5.3	6.5
Av Unaffected	31.1	37.7	35.9	46.3	54.6	52.9	45.4
Av Casino Impacted	37.4	34.3	32.8	36.9	33.0	28.1	23.8
Av Michigan	76.4	75.7	73.5	80.4	80.7	71.1	66.6

Counties	Percentage Change from 1997-2003 for Stolen Property
Av Host Casino	6.33%
Av Unaffected	46.14%
Av Casino Impacted	-36.33%
Av Michigan	-12.79%



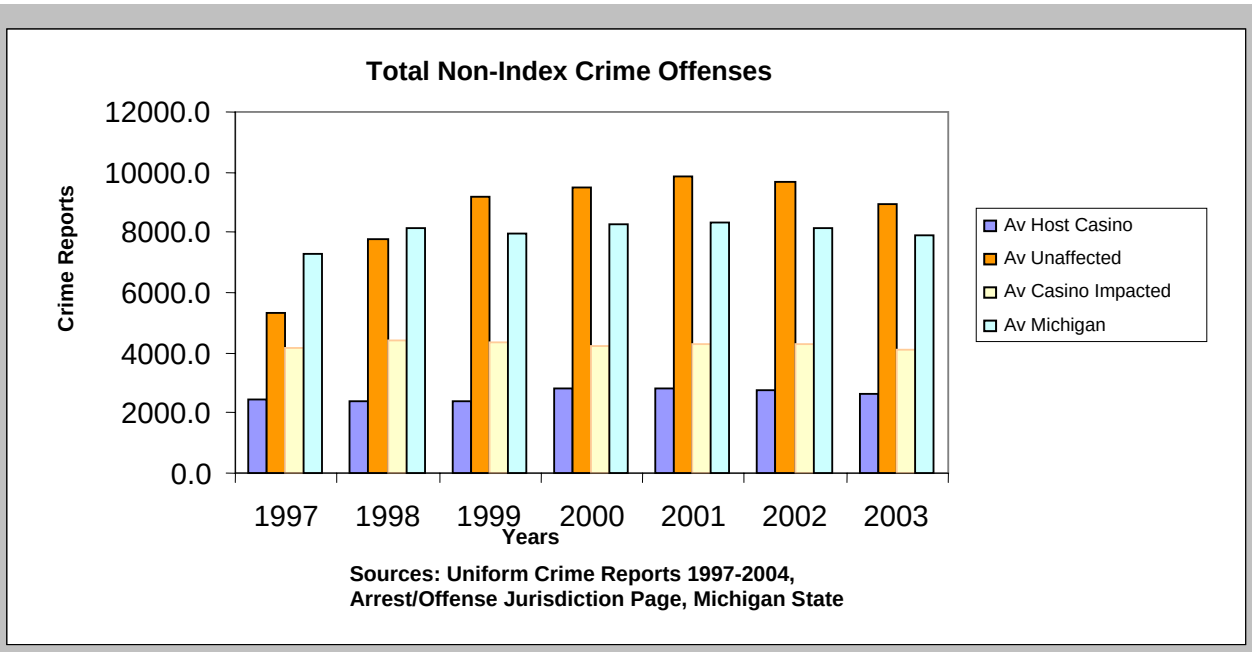
Total Non-Index Crime

Table 30 describes total non-index crime[42] in host casino counties which experienced a 8.4% increase over the 1997-2003 period in casino counties, while the average state county was 7.7%. Unaffected counties, on the other hand, increased by 66.6%.

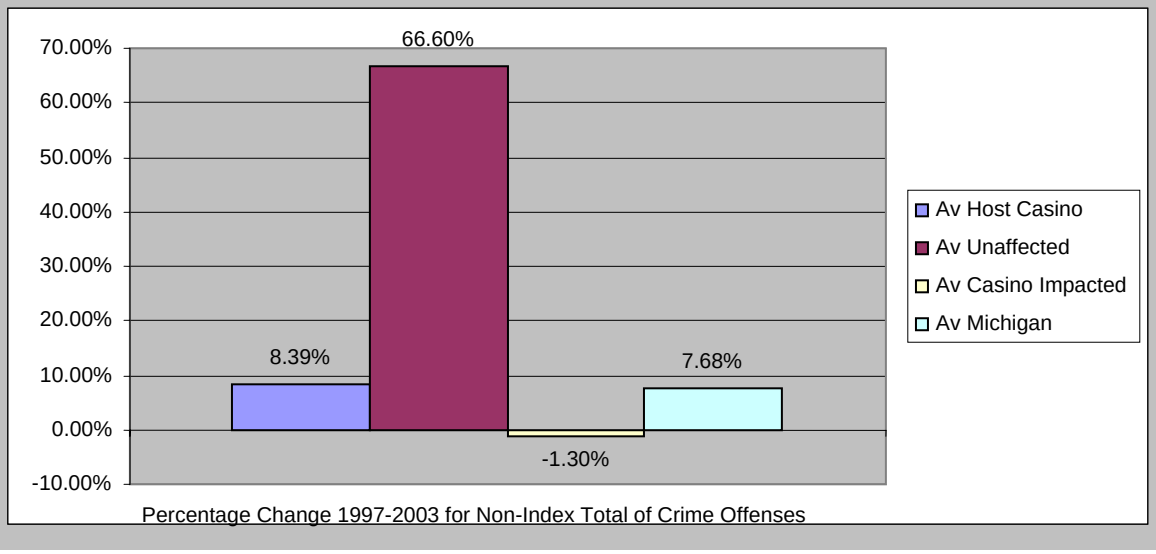
Table 30: Total Non-Index Crime Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2,443.3	2,392.8	2,405.6	2,813.7	2,796.6	2,758.9	2,648.3
Av Unaffected	5,351.7	7,783.0	9,200.2	9,488.5	9,828.5	9,695.3	8,915.8
Av Casino Impacted	4,186.2	4,395.4	4,363.4	4,199.2	4,269.1	4,257.4	4,131.9
Av Michigan	7,313.7	8,160.8	7,941.0	8,248.3	8,326.1	8,164.6	7,875.6

[42] Total non-index crime includes such offenses as negligent manslaughter, non-aggravated assault, vandalism, and all other crimes not listed as index crimes, in addition to those crimes listed in tables 27-29. There are eight serious Index Crimes: murder, rape, robbery, aggravated assault, larceny, motor vehicle theft, and arson.



Counties	Percentage Change 1997-2003 for Total Non-Index Crime Offenses
Av Host Casino	8.4%
Av Unaffected	66.6%
Av Casino Impacted	-1.3%
Av Michigan	7.7%



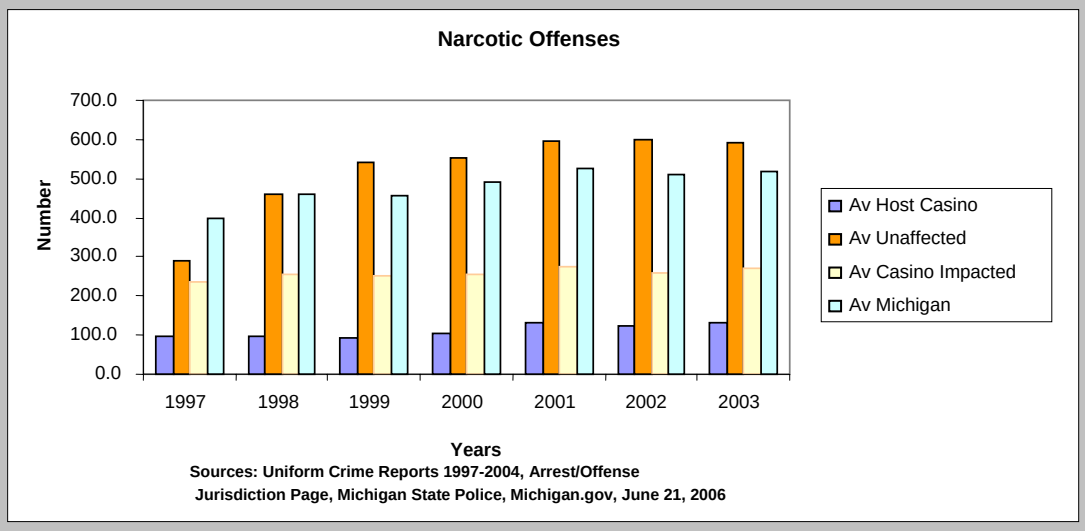
Thus, Michigan data shows casino counties had a greater percentage increase than the state average in all non-index crime categories except forgery and counterfeiting. However, the fact that unaffected counties had higher percentage increases for all of these crime categories raises into question the specific crime-casino connections alleged in casino literature projections. Thus, the linkage between specific types of crime and the presence of a casino is not as clear as past literature might suggest.

Narcotics Violations

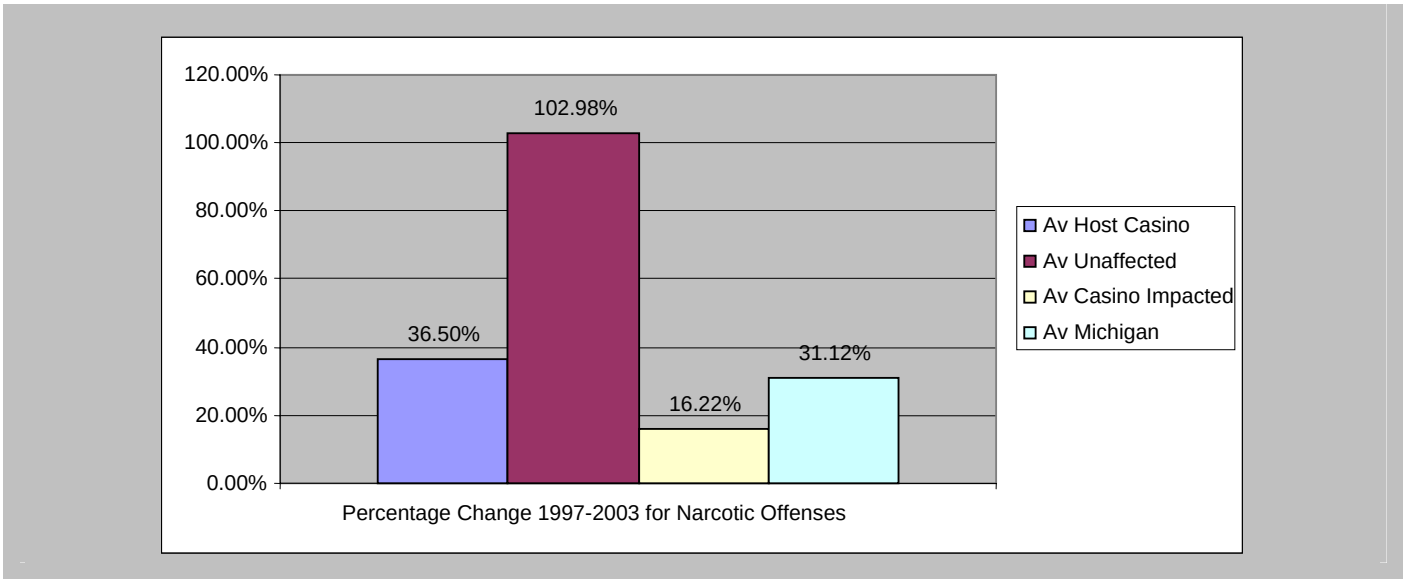
Turning to the alleged drug and alcohol linkages to the presence of a casino, Table 31 reveals that the greatest average percentage increase in narcotics violations occurred in unaffected counties (103%), not host casino counties. Narcotics violations in casino counties increased by only slightly more than in the average county.

Table 31: Narcotic Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	97.2	97.2	93.5	104.8	133.4	121.8	132.6
Av Unaffected	291.3	460.2	542.5	552.2	595.1	598.0	591.3
Av Casino Impacted	234.1	254.9	251.0	255.0	273.1	259.6	272.1
Av Michigan	396.5	461.5	456.9	492.8	524.1	509.1	519.9



Counties	Percentage Change from 1997-2003 for Narcotic Offenses
Av Host Casino	36.50%
Av Unaffected	102.98%
Av Casino Impacted	16.22%
Av Michigan	31.12%

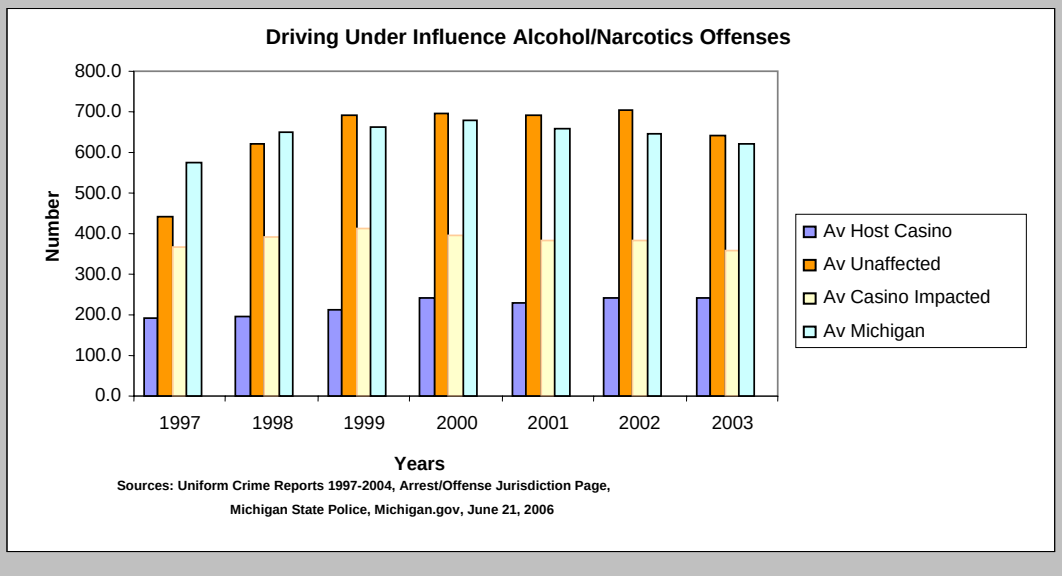


Driving Under the Influence

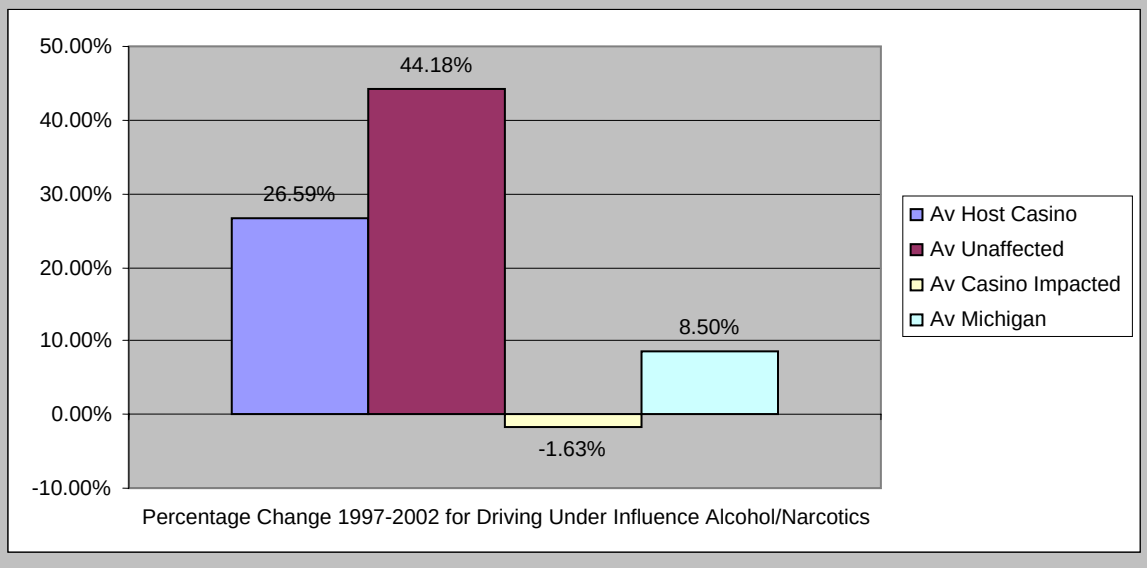
Table 32 indicates that unaffected counties experienced the greatest average percentage increase in driving under the influence crimes, though the average state county saw an 8.5% increase versus a 26.59% increase for host casino counties.

Table 32: Driving Under Influence Alcohol/Narcotics Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	190.9	195.5	212.4	241.5	230.0	239.8	241.7
Av Unaffected	443.6	621.5	693.3	696.8	690.9	704.6	639.6
Av Casino Impacted	366.2	393.7	411.5	395.5	382.4	382.9	360.3
Av Michigan	573.7	649.3	664.2	677.3	656.6	646.1	622.5



Counties	Percentage Change from 1997-2003 for Driving Under Influence Alcohol/Narcotics
Av Host Casino	26.59%
Av Unaffected	44.18%
Av Casino Impacted	-1.63%
Av Michigan	8.50%

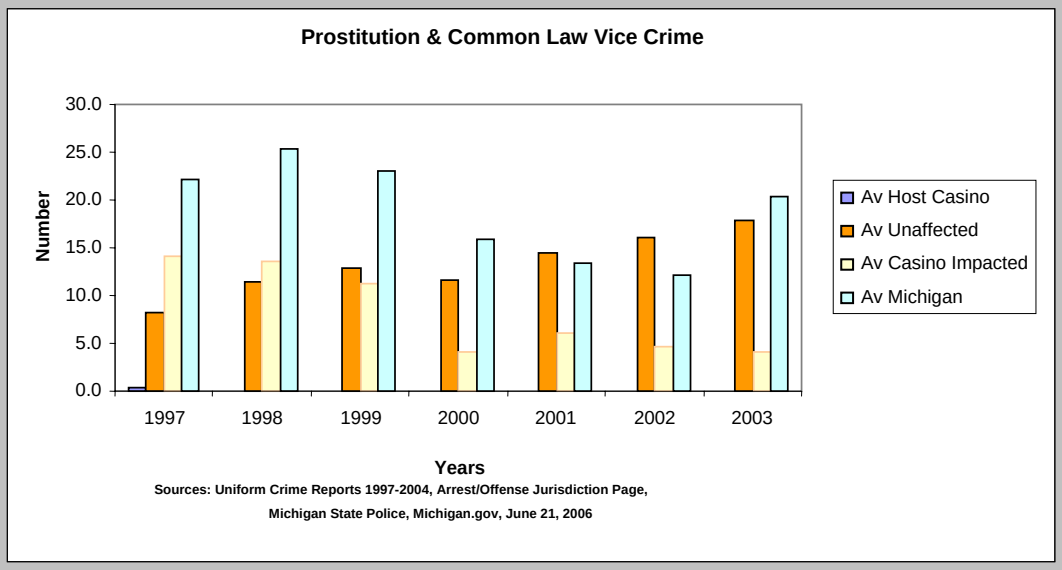


Prostitution, Vandalism and Motor Vehicle Theft

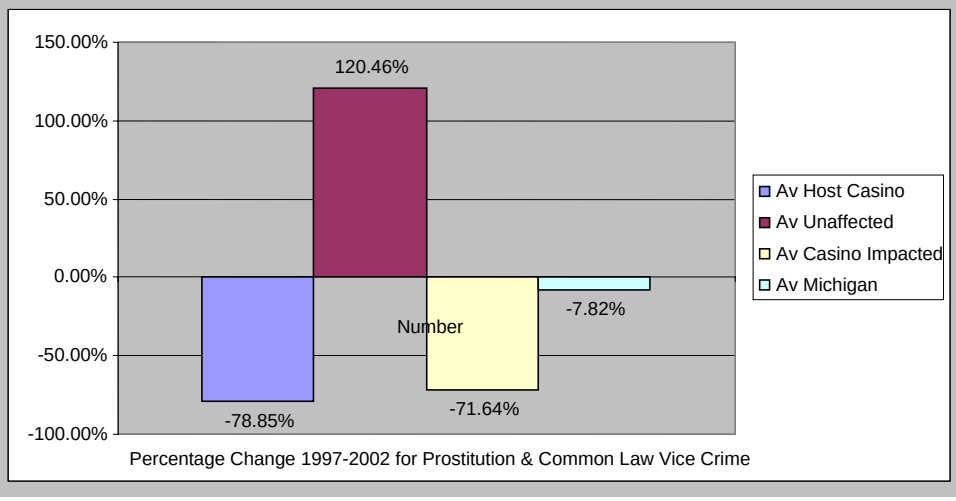
Finally, in the areas of prostitution, vandalism, and motor vehicle theft (see Tables 33-35), we find the largest average percentage declines in prostitution and common law vice crimes occurred in casino counties, while the largest percentage increases occurred in unaffected counties.

Table 33: Prostitution & Common Law Vice Crime Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	0.4	0.0	0.0	0.1	0.0	0.1	0.1
Av Unaffected	8.1	11.4	12.9	11.7	14.4	16.1	17.9
Av Casino Impacted	14.2	13.6	11.3	4.1	6.2	4.7	4.0
Av Michigan	22.2	25.3	23.0	15.9	13.4	12.2	20.4



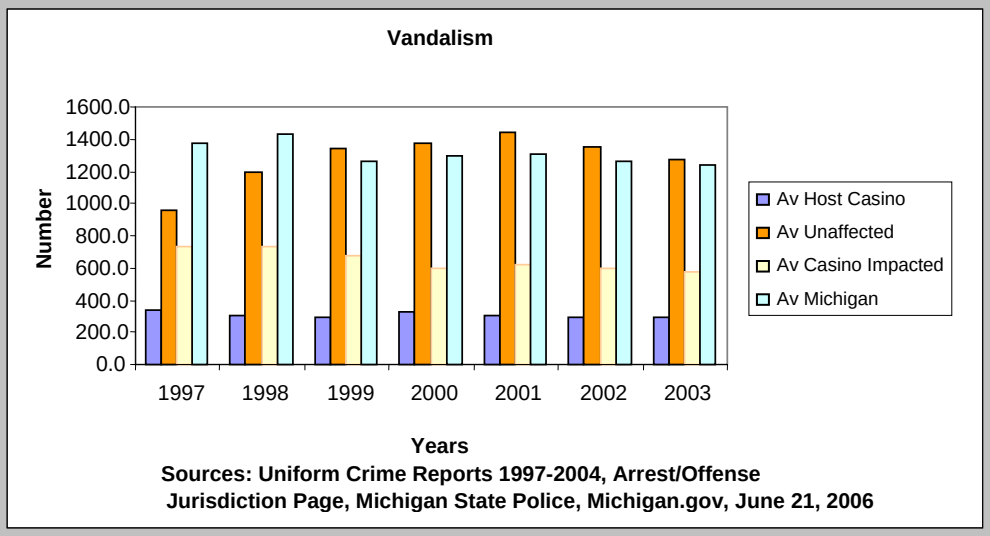
Counties	Percentage Change from 1997-2003 for Prostitution & Common Law Vice Crime
Av Host Casino	-78.85%
Av Unaffected	120.46%
Av Casino Impacted	-71.64%
Av Michigan	-7.82%



Unaffected counties also experienced the largest percentage increase for vandalism crimes (see Table 34) Host casino counties actually experienced a slightly greater percentage decline in vandalism than the average state county.

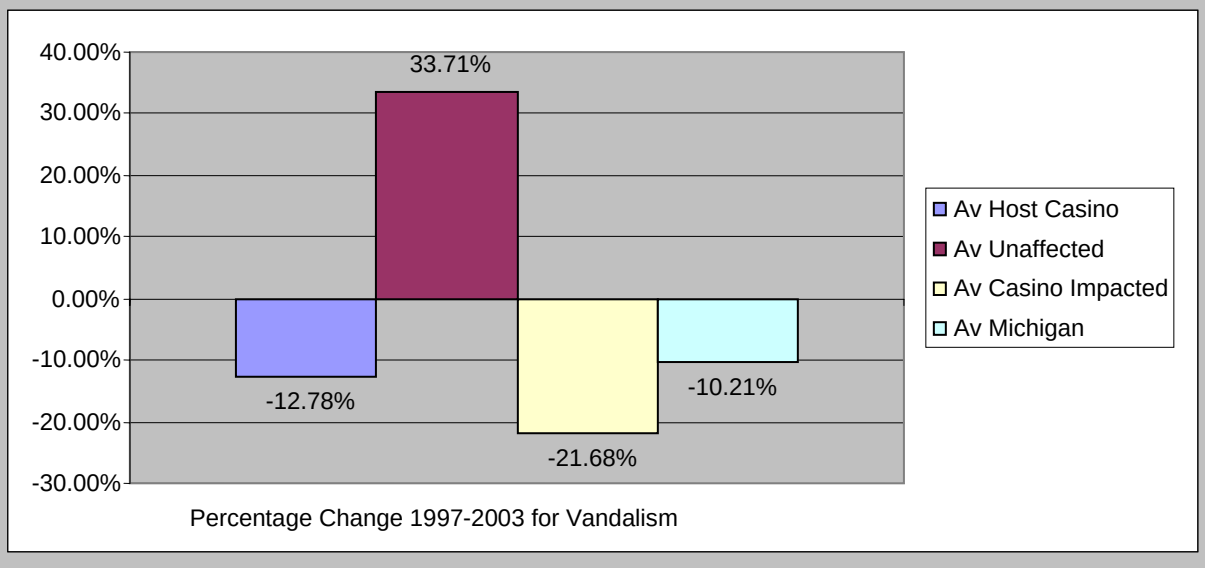
Table 34: Vandalism Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	334.4	306.8	295.7	325.5	300.7	297.4	291.6
Av Unaffected	956.4	1193.8	1346.4	1370.0	1442.8	1352.3	1278.8
Av Casino Impacted	734.9	731.1	675.1	602.6	615.6	594.7	575.5
Av Michigan	1379.5	1432.3	1259.6	1295.2	1308.9	1260.8	1238.7



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

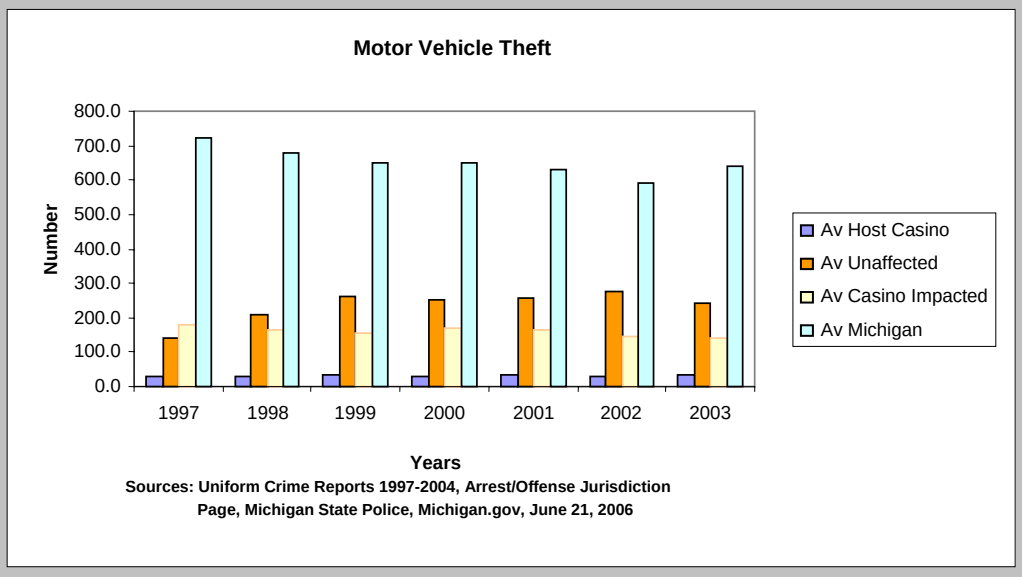
Counties	Percentage Change from 1997-2003 for Vandalism
Av Host Casino	-12.78%
Av Unaffected	33.71%
Av Casino Impacted	-21.68%
Av Michigan	-10.21%



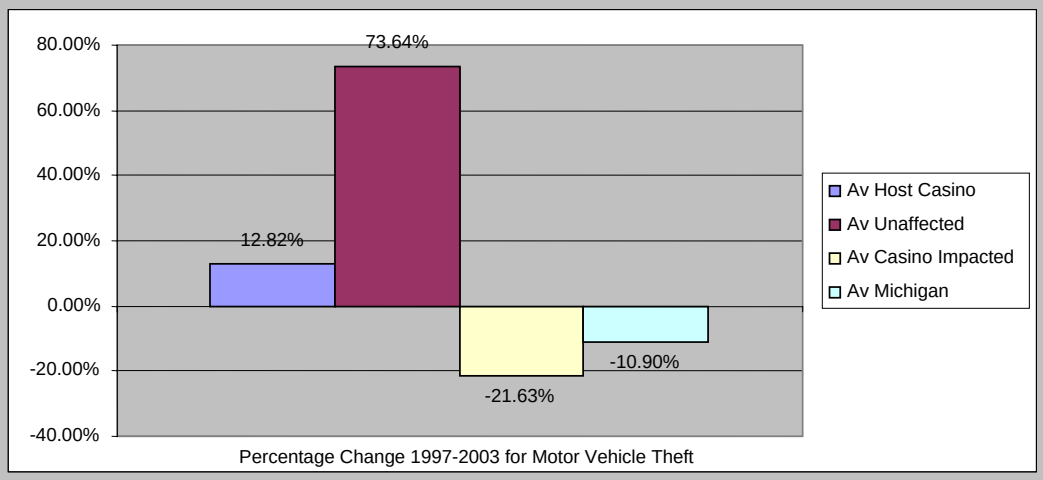
Motor vehicle theft in casino counties was up nearly 13% compared to a nearly 11% decline statewide. However, unaffected counties experienced a nearly 74% increase in such thefts during this same time period.

Table 35: Motor Vehicle Theft Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	30.5	27.2	31.9	31.3	34.3	30.2	34.5
Av Unaffected	141.0	206.2	263.7	249.8	255.6	278.6	244.8
Av Casino Impacted	180.1	164.8	156.5	168.5	166.9	143.6	141.2
Av Michigan	720.8	681.2	650.8	649.2	630.2	593.3	642.3



Counties	Percentage Change from 1997-2003 for Motor Vehicle Theft
Av Host Casino	12.82%
Av Unaffected	73.64%
Av Casino Impacted	-21.63%
Av Michigan	-10.90%

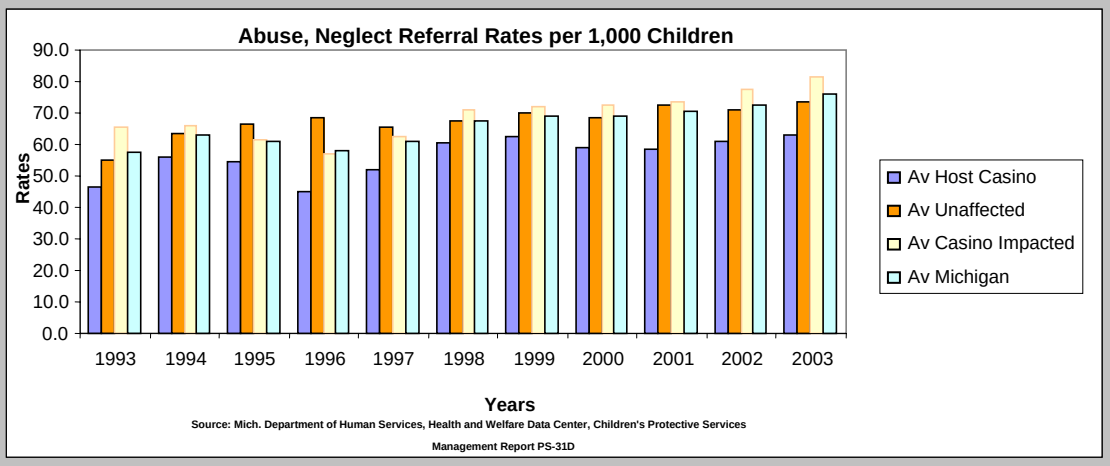


Child Neglect and Abuse

There are arguments in the literature that gambling pressures may lead to family pressures, including increased rates of child neglect and abuse. Accordingly, one would expect casino counties to experience a greater percentage increase than other county groupings for this crime. In the area of substantiated abuse/neglect rate per 1000 children, the percentage change from 1993-2003 for Michigan's casino counties was the highest among all county groupings, though only slightly higher than unaffected counties or the average state county[43] (see Table 36)

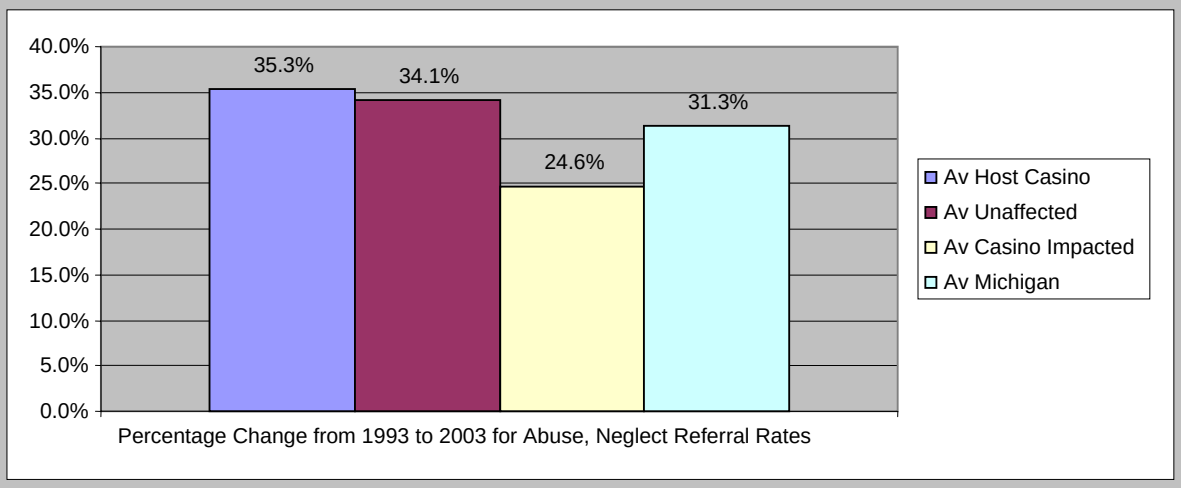
Table 36: Abuse, Neglect Referral Rates per 1,000 Children

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	46.6	56.1	54.4	44.9	51.9	60.4	62.6	58.8	58.7	61.1	63.1
Av Unaffected	54.9	63.7	66.4	68.4	65.7	67.7	69.8	68.4	72.4	70.8	73.6
Av Casino Impacted	65.3	66.0	61.4	57.1	62.5	71.0	71.8	72.7	73.6	77.4	81.4
Av Michigan	57.7	63.1	61.0	58.1	61.1	67.4	69.1	68.9	70.3	72.5	75.8



[43] The years 1993-2003 were used, as this data was based on Michigan Department of Human Services data, not the less reliable national crime data.

Counties	Percentage Change from 1993-2003 for Abuse, Neglect Referral Rates
Av Host Casino	35.3%
Av Unaffected	34.1%
Av Casino Impacted	24.6%
Av Michigan	31.3%



While there are a variety of reasons for differences in child abuse rates between county groups besides the presence of a casino, this slight percentage difference between host counties and unaffected counties does not support theories that there is a close relationship between the presence of a casino and a significant increase in child abuse/neglect.

What conclusions can be drawn from the data in these crime areas? There does not seem to be a clear linkage between particular crimes associated in the literature with the presence of a casino and Michigan's casino counties. Overall, unaffected counties, for whatever reason, seem to have experienced a larger average percentage increase in certain crimes than the casino counties themselves. The literature suggests there is a time lag in crime increases after a casino first opens, which may be masked in the time frame selected for this study. Accordingly, we will re-examine most of these same crime issues for the full ten year period with a more precise comparison of unaffected versus host casino counties in the crime area in Part Two of this report.

Law Enforcement Resources

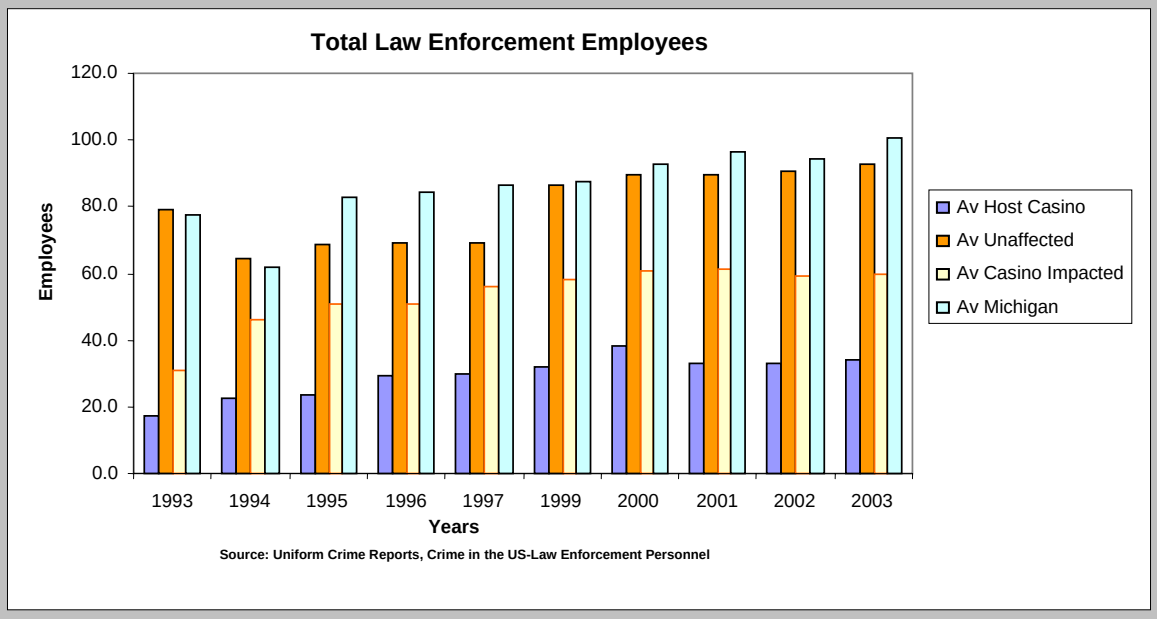
There is an argument that the deterrent effect of enhanced law enforcement capabilities may actually decrease crime in casino counties versus counties with fewer law enforcement officers, despite the larger influx of gambling patrons. Table 37 shows the dramatic percentage increase in the total number of law enforcement employees in casino counties versus other county grouping that could indeed increase crime reporting and enforcement[44] which, in turn, also could act as a deterrent to future crimes.

[44] Or conversely, that casino areas are safer and increased crime rates are due to better law enforcement with more officers on duty.

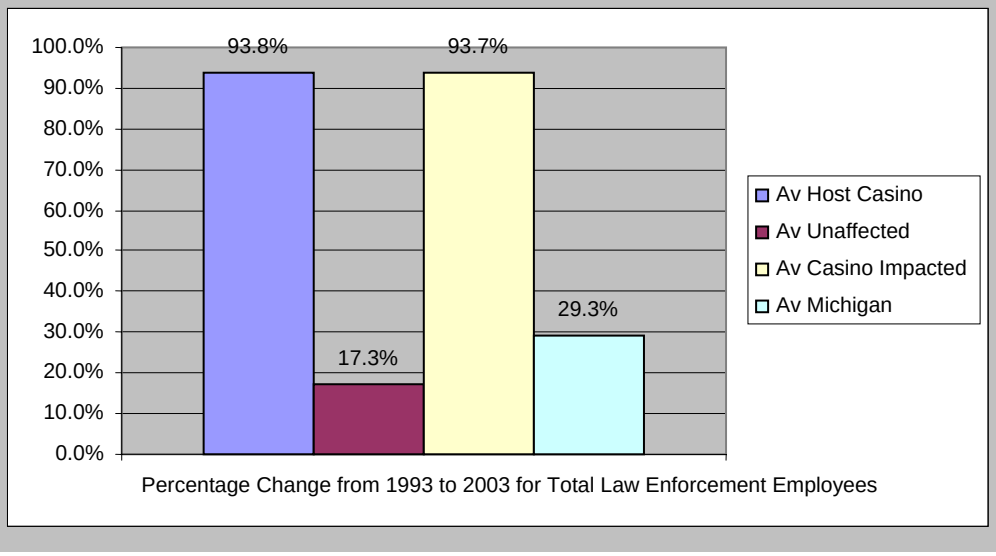
However, there was nearly an identical percentage increase in the total number of law enforcement employees in casino impacted counties as well. Thus, the increased "deterrent" effect of increased law enforcement resources could be one reason for the larger increase in crime in unaffected counties described previously.

Table 37: Total Law Enforcement Employees

	1993	1994	1995	1996	1997	1999	2000	2001	2002	2003
Av Host Casino	17.5	22.6	23.8	29.5	30.1	32.1	38.5	33.2	32.9	33.9
Av Unaffected	79.2	64.6	68.7	69.2	69.3	86.7	89.4	89.8	90.8	92.8
Av Casino Impacted	31.0	46.3	50.8	51.0	56.0	58.0	60.5	61.3	59.1	60.0
Av Michigan	77.7	61.6	82.9	84.6	86.3	87.5	92.7	96.5	94.4	100.5



Counties	Percentage Change from 1993 to 2003 for Total Law Enforcement Employees
Av Host Casino	93.8%
Av Unaffected	17.3%
Av Casino Impacted	93.7%
Av Michigan	29.3%



However, it also should be remembered that these increased law enforcement capabilities are an additional economic cost of casinos as well as an increased security asset, so this security benefit also has its economic tradeoffs.

Court Filings

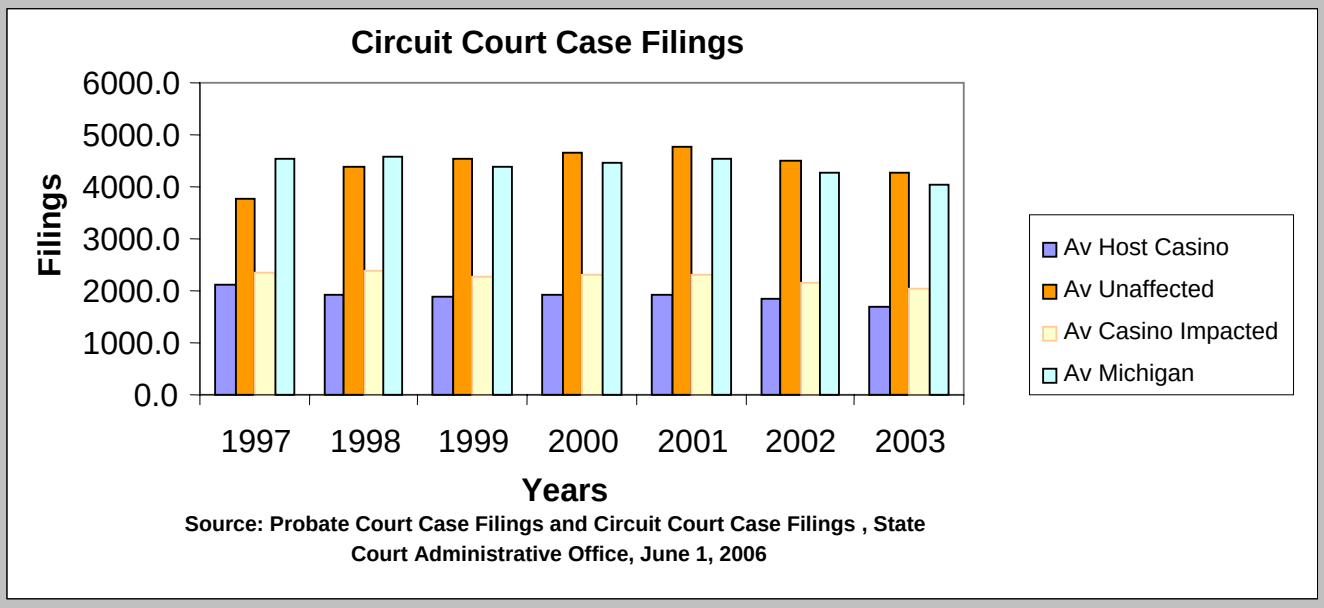
Tables 37 and 38 remind us that court filings and the impact on courts are another economic cost associated with increased law enforcement capabilities.

In previous casino impact studies conducted by the editor and author of this report, judges and prosecutors alike in host casino counties alleged that their caseloads had increased substantially because of the presence of a casino. While there appears to be anecdotal or single year information to support this allegation, a longitudinal look at the Michigan experience is more useful.

One measure of this increased pressure on county courts would be increased court filings. One would expect to see court filings increase at a greater rate, all things being equal, in casino counties with increased law enforcement and if there is indeed an increase in casino-related crime. Table 38 indicates that, for the years 1997-2003, the percentage change in court filings for more serious crimes and cases in circuit courts in casino counties actually decreased. In fact, casino counties experienced the largest decrease in circuit court filings of all four county groups. Only in unaffected counties did we find an increase in circuit court case filings.

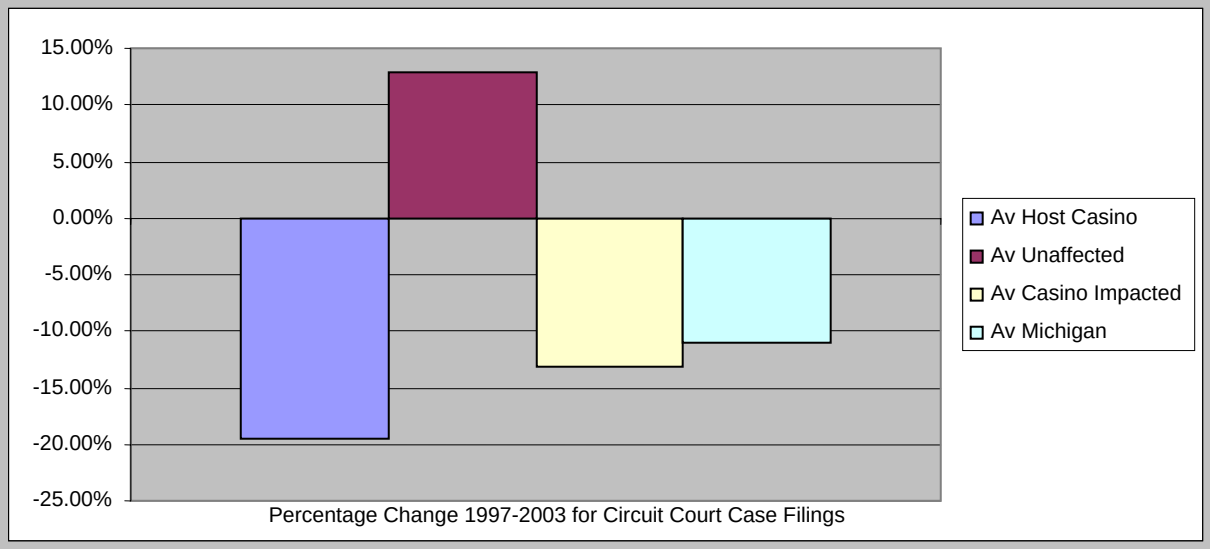
Table 38: Circuit Court Case Filings

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2104.9	1910.3	1902.2	1926.8	1941.5	1844.1	1692.8
Av Unaffected	3782.0	4402.6	4522.1	4654.4	4786.9	4505.8	4266.9
Av Casino Impacted	2343.4	2370.8	2253.7	2311.9	2296.2	2170.6	2035.3
Av Michigan	4543.6	4584.6	4399.2	4447.1	4547.4	4284.3	4046.9



Source: Probate Court Case Filings and Circuit Court Case Filings , State Court Administrative Office, June 1, 2006

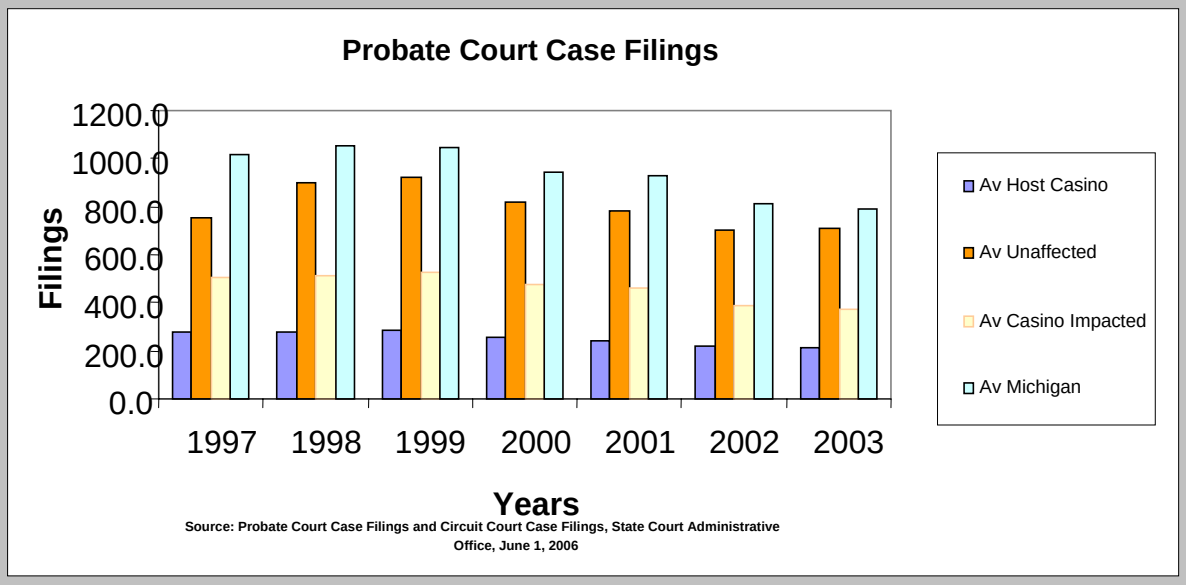
Counties	Percentage Change 1997-2003 for Circuit Court Case Filings
Av Host Casino	-19.58%
Av Unaffected	12.82%
Av Casino Impacted	-13.15%
Av Michigan	-10.93%



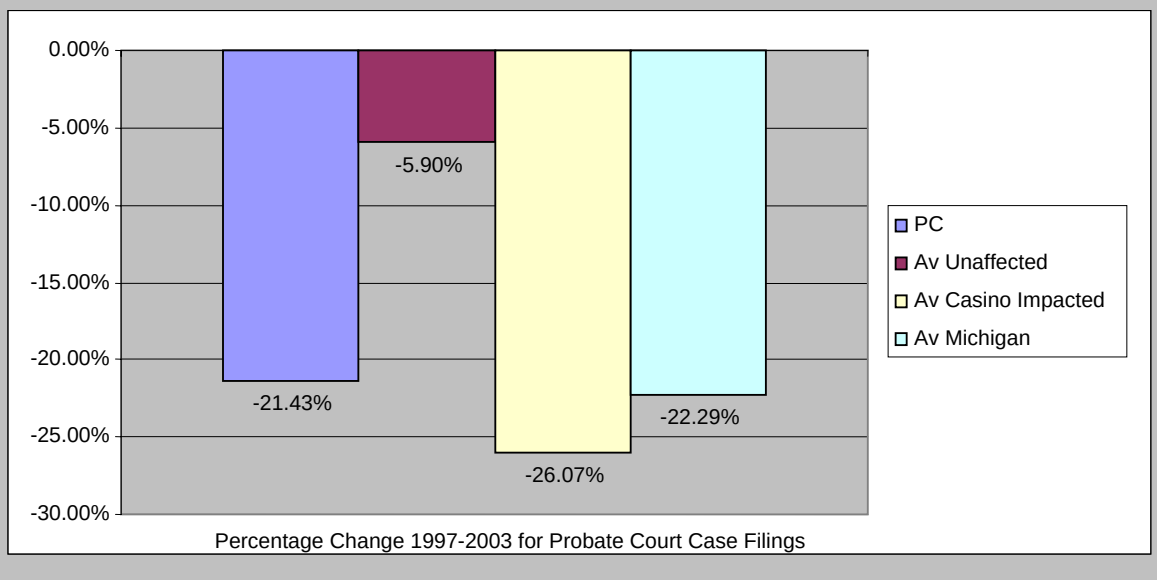
In Table 39, we look at probate court filings, which include juvenile jurisdiction and other child welfare issues. We see here as well that probate court filings declined the least not in host casino counties but in unaffected counties during this report period. While all four county groupings showed declines in probate court filings, casino counties declined at about the same rate as the state county average.

Table 39: Probate Court Case Filings

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	274.7	279.6	283.6	254.5	243.3	218.6	215.8
Av Unaffected	752.2	897.5	922.6	817.0	782.0	702.0	707.8
Av Casino Impacted	506.9	514.6	528.6	473.7	459.5	386.6	374.8
Av Michigan	1016.6	1054.1	1049.1	947.5	930.7	812.0	790.0



Counties	Percentage Change from 1997-2003 for Probate Court Case Filings
Av Host Casino	-21.43%
Av Unaffected	-5.90%
Av Casino Impacted	-26.07%
Av Michigan	-22.29%



Contrary to literature and anecdotal projections that these courts may be experiencing increased costs due to increased workloads from casino related legal issues, the data shows that the percentage change in both circuit and probate court filings for casino counties was actually declining from 1997-2003. Unaffected counties (not casino counties) experienced an increase or the slightest decrease in circuit and probate (juvenile) court case filings, another interesting result worthy of further research.

District court filings (for lesser offenses than those filed in circuit courts) were not collected because of the difficulty in collecting data for courts whose jurisdictional boundaries were not as clear as the two county courts chosen. However, this data is worthy of future research to supplement the data of circuit and probate courts and better determine if court caseloads are growing in this other court docket.

Thus, while law enforcement resources have increased significantly in casino counties, the impact on circuit and probate courts has not increased as would be expected by some research reports.

In summary, while links to specific crimes from the presence of a tribal casino in Michigan have not been established and the increased law enforcement presence in casino counties is a confounding factor in this analysis, it appears that there has been increased crime in county casinos over the past 10 years in Michigan, but the reason(s) for this crime increase is not yet clear.

2. Population and Traffic

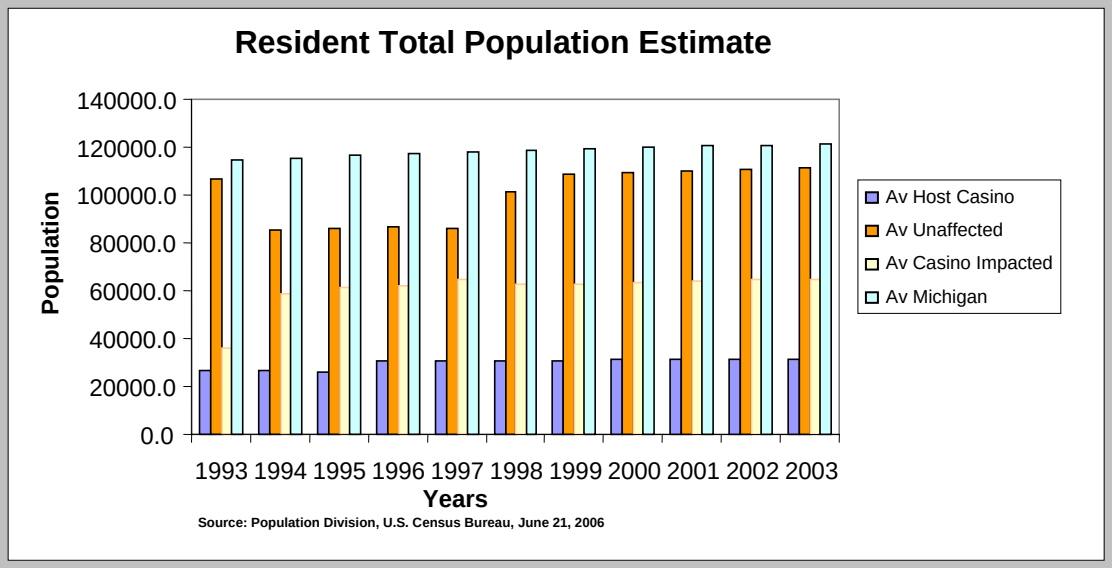
Another issue affecting crime rates according to some researchers is the increased population resulting from the opening of the casino – a projected product of new casino job creation and increased business opportunities – as well as the resulting increased traffic from both thousands of new patrons and new casino employees going to work.

What has been the Michigan experience concerning population change from 1993-2003? Table 40 indicates that the average percentage change of population for this time period was greatest not in casino counties (as some research had projected) but rather in casino impacted counties, though casino counties did see a percentage change that was nearly four times the average state county.

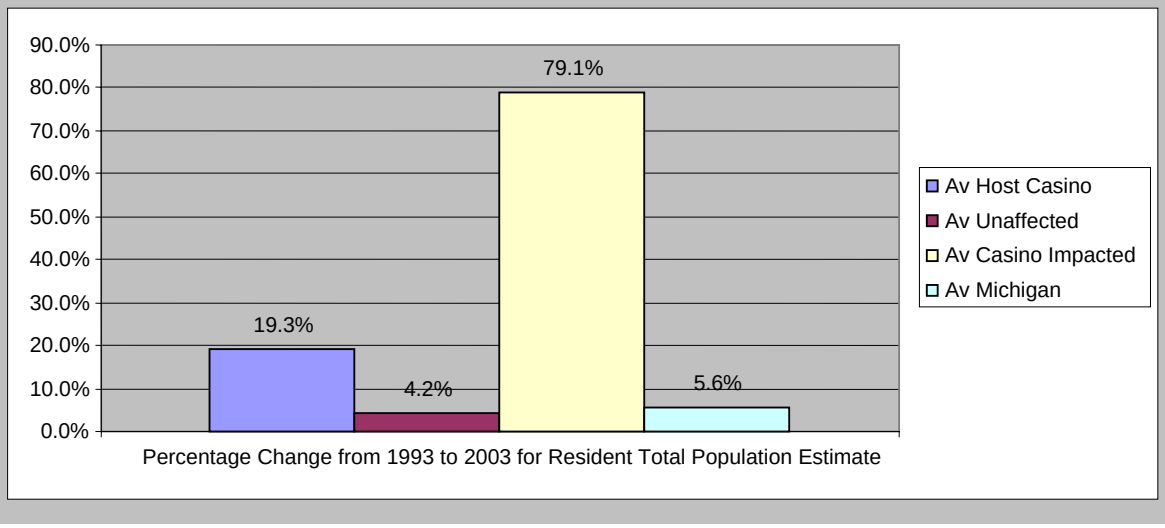
Thus, if population is a factor in increased crime rates, casino-impacted counties should be experiencing this impact to a greater extent since they have experienced a 79% increase in population versus a 19% increase in casino counties.

Table 40: Resident Total Population Estimate

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	26,514	26,613	26,275	30,436	30,719	30,484	30,814	31,079	31,336	31,471	31,637
Av Unaffected	106,912	85,004	85,733	86,546	85,969	101,646	108,779	109,603	110,200	110,778	111,423
Av Casino Impacted	36,213	58,591	61,381	61,813	64,584	62,790	62,858	63,506	63,939	64,420	64,846
Av Michigan	114,941	115,635	116,581	117,574	118,181	118,650	119,242	119,953	120,514	120,956	121,423



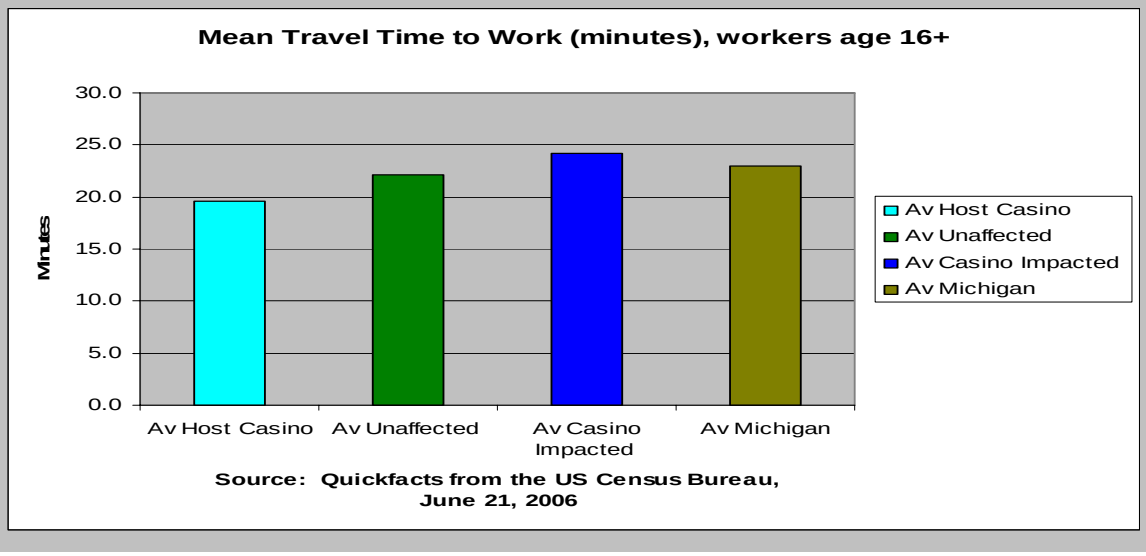
	Percentage Change from 1993 to 2003 for Resident Total Population Estimate
Av Host Casino	19.3%
Av Unaffected	4.2%
Av Casino Impacted	79.1%
Av Michigan	5.6%



Unfortunately, in the equally controversial area of casino-impacted traffic, the availability of good longitudinal data is a problem. What we do know from 2000 U.S. Census data, which recorded the mean travel time to work for workers 16 and over, is that the mean travel time for residents in casino counties is less than all other county groupings, even the state county average. However, the difference is not large enough to suggest that a large number of casino workers are commuting to the casino from casino-impacted counties and consequentially contributing to traffic congestion. This data does suggest that casino county employment pools are more stable, with fewer workers traveling long distances to work than in other county groupings (see Table 41).

Table 41: Mean Travel Time to Work (minutes), workers age 16+ in 2000

	Mean travel time to work (minutes), workers age 16+
Counties	**2000**
Av Host Casino	19.6
Av Unaffected	22.2
Av Casino Impacted	24.1
Av Michigan	23.0



The lack of longitudinal road count data established at key casino entry routes makes further traffic observations more anecdotal than factual. However, it is a common complaint in the early period of casino openings that traffic congestion is a problem due to overburdening road traffic limits that are already near capacity.

A look at Michigan Department of Transportation data for the largest tribal casino in Michigan indicates that traffic congestion has stabilized and even declined in some of the major routes to the Soaring Eagle Casino and Resort in Mount Pleasant. For example, traffic counts for M-20 which leads from Mount Pleasant to the casino shows an actual decline from 23,400 cars in 1997 to 18,300 in 2003. Whether this is the result of alternative traffic patterns or a decline as the casino has matured (1997 was the first full year of casino expansion operation in Mount Pleasant), it appears that at least for the state's largest tribal casino, the traffic congestion issues are beginning to be addressed or have stabilized after several years of casino operation.

Crime increases in casino counties are often attributed to the surge of new casino patrons, many of whom may differ economically from the existing community population and may be more inclined to commit certain crimes. A more in depth study of gambling patrons at Michigan casinos would be a useful addition to the CMU database.

Education Impact

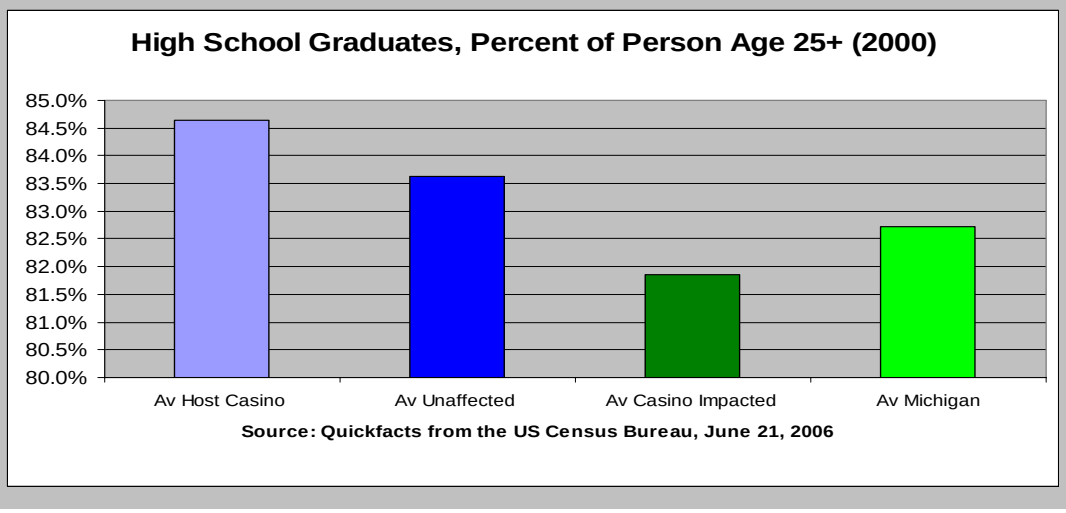
Another social issue with economic implications as well is the supposition in some research that casinos create a robust local labor market for low-skilled workers; thus increasing the opportunity cost of attending schools and enticing young adults to leave school and enter the labor market. These researchers argue that the casino presence will sharply lower levels of high school enrollment and completion as well as college entrance rates, despite efforts by tribes to use casino profits to improve educational opportunities for its members (Evans & Kim, 2005).

It has also been observed in at least one state – Mississippi – that there were phenomenal demographic, economic, and educational changes when gambling was legalized (Anglin, 2001). How does Michigan data describe the impact of tribal casinos on high school graduation rates and changes in school demographics in casino counties?

Table 42 indicates that casino counties had the largest percentage increase of high school graduates ages 25 and over in the year 2000, although the percentage differences were small among the four county groups.

Table 42: High School Graduates, Percent of Persons Age 25+

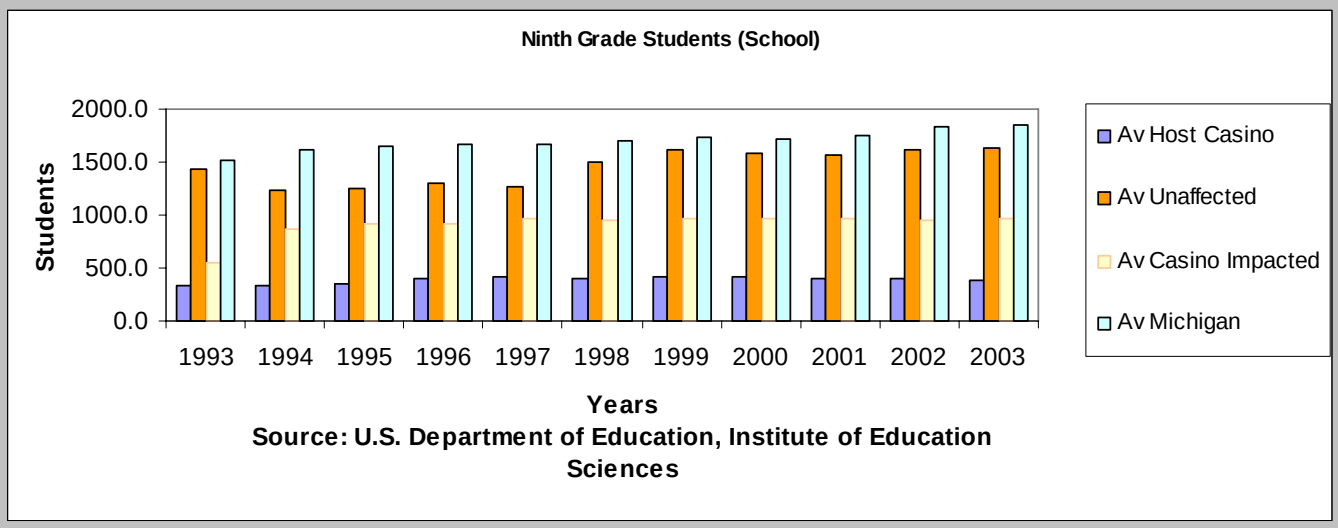
	High school graduates, Percent of Persons age 25+
	2000
Av Host Casino	84.6%
Av Unaffected	83.6%
Av Casino Impacted	81.9%
Av Michigan	82.7%



Reviewing the number of students enrolled in high school during the 1993-2003 period in Tables 43-46, the percentage increase in the number of students enrolled in ninth to twelfth grades in casino counties did not differ significantly from those in unaffected counties, though casino-impacted counties did see substantially larger percentage increases during this same time period.

Table 43: Ninth Grade Students (School)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	334	340	343	408	414	407	421	416	396	400	391
Av Unaffected	1,426	1,235	1250	1,297	1,262	1,505	1,617	1,585	1,569	1,611	1,632
Av Casino Impacted	544	864	910	920	967	957	968	963	963	951	974
Av Michigan	1,516	1,619	1646	1,664	1,660	1,696	1,731	1,719	1,748	1,841	1,843



Counties	Percentage Change from 1993-2003 for Ninth Grade Students (School)
Av Host Casino	16.90%
Av Unaffected	14.46%
Av Casino Impacted	78.94%
Av Michigan	21.62%

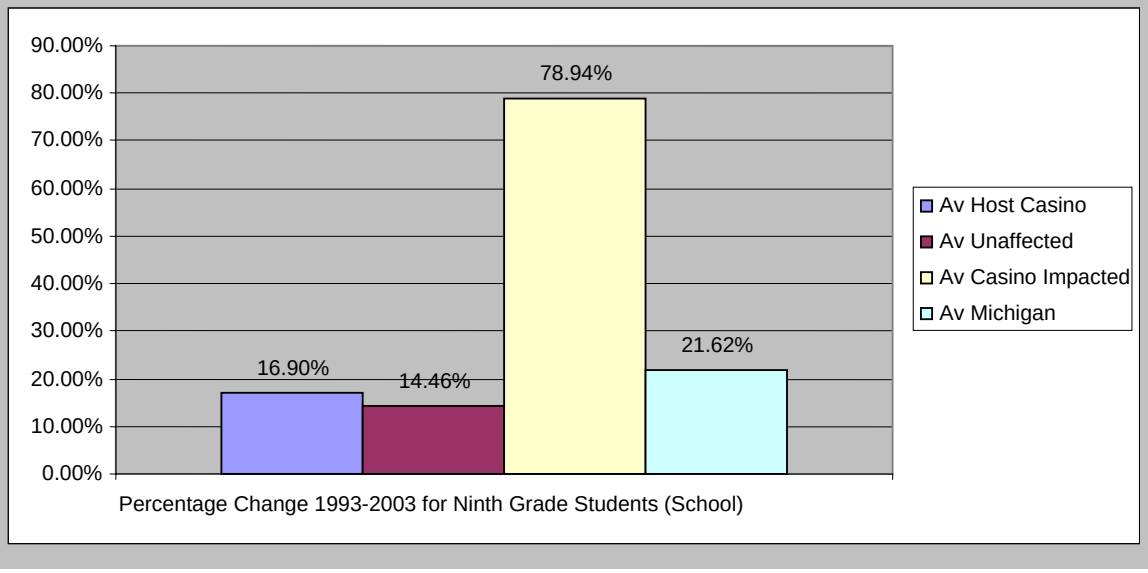
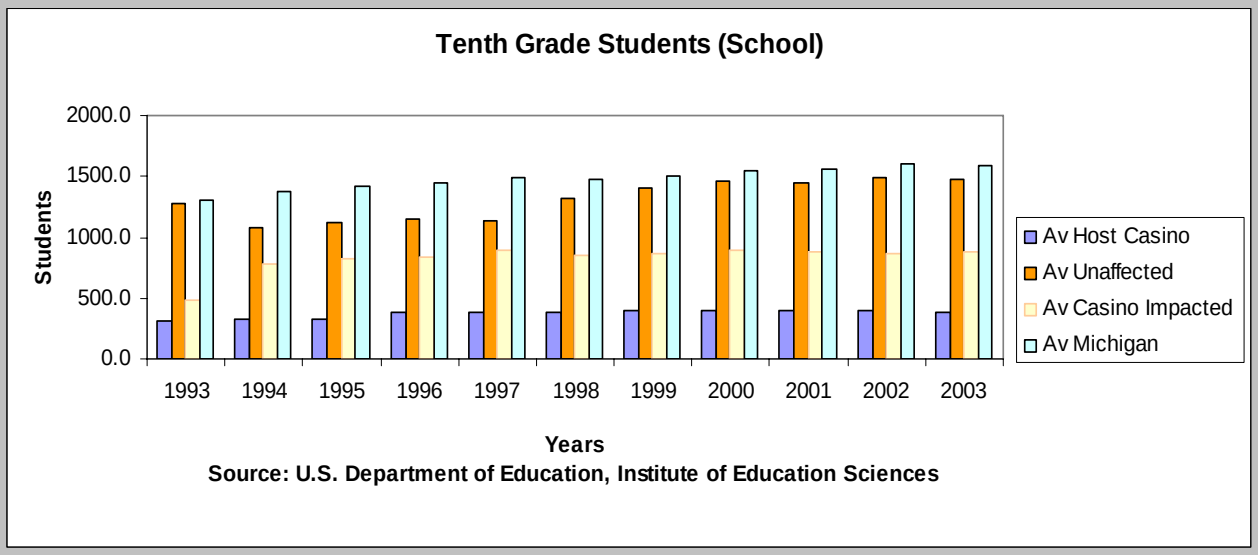


Table 44: Tenth Grade Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	311	323.7	324	386	387	385	396	399	395	390	382
Av Unaffected	1,273	1,076.6	1,124	1,142	1,137	1,314	1,400	1,462	1,447	1,489	1,482
Av Casino Impacted	485	781.7	826	836	892	857	865	889	882	867	876
Av Michigan	1,312	1,382.4	1,415	1,448	1,489	1,474	1,498	1,552	1,558	1,602	1,590



Counties	Percentage Change from 1993 to 2003 for Tenth Grade Students (School)
Av Host Casino	22.8%
Av Unaffected	16.4%
Av Casino Impacted	80.6%
Av Michigan	21.2%

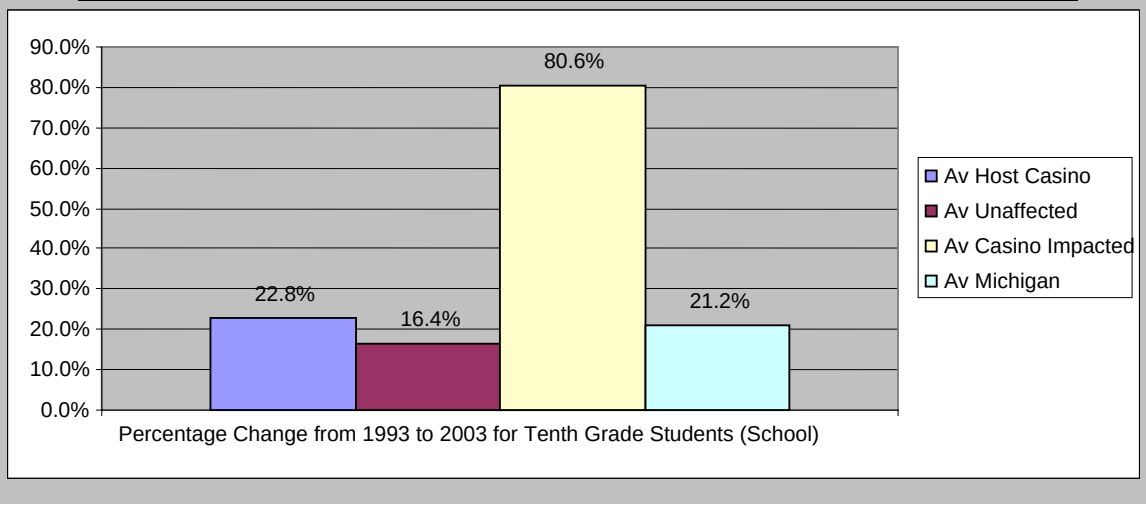
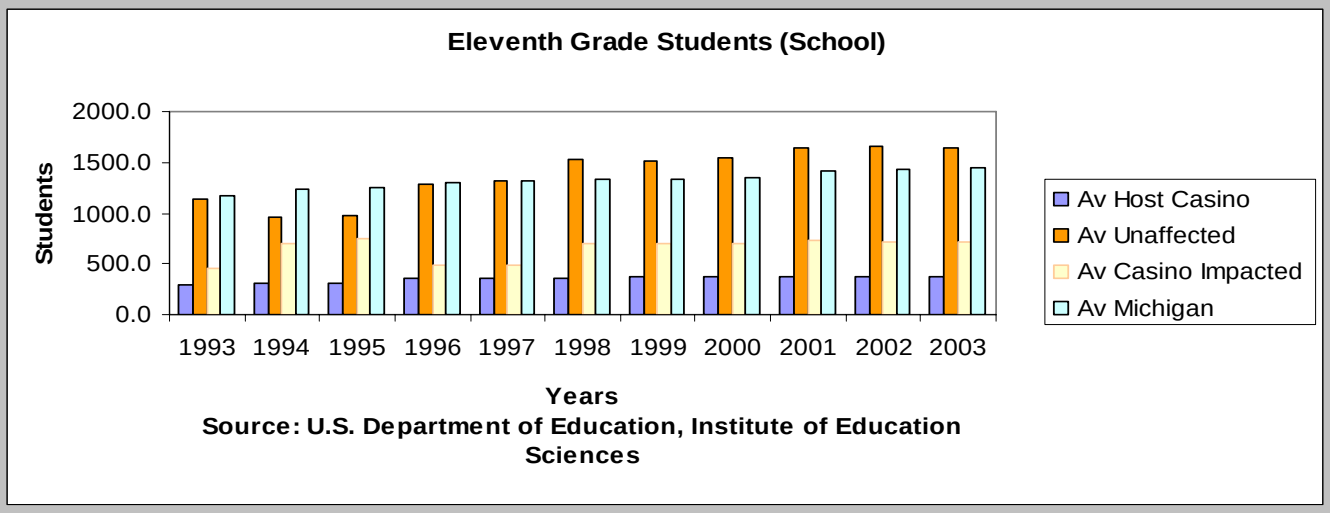


Table 45: Eleventh Grade Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	299	302	306	366	364	361	368	370	372	381	366
Av Unaffected	1,140	958	970	1,015	1,007	1,201	1,245	1,262	1,352	1,380	1,372
Av Casino Impacted	450	699	751	774	817	785	783	795	822	808	811
Av Michigan	1,177	1,237	1,250	1,295	1,316	1,341	1,326	1,346	1,411	1,438	1,440



Counties	Percentage Change from 1993 to 2003 for Eleventh Grade Students (School)
Av Host Casino	22.7%
Av Unaffected	20.3%
Av Casino Impacted	80.3%
Av Michigan	22.3%

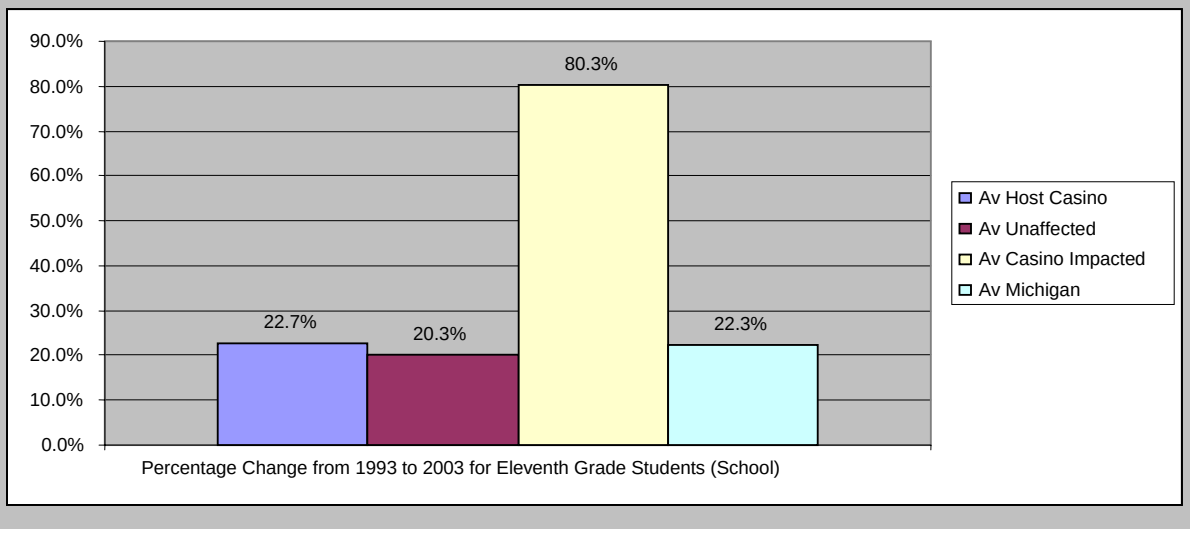
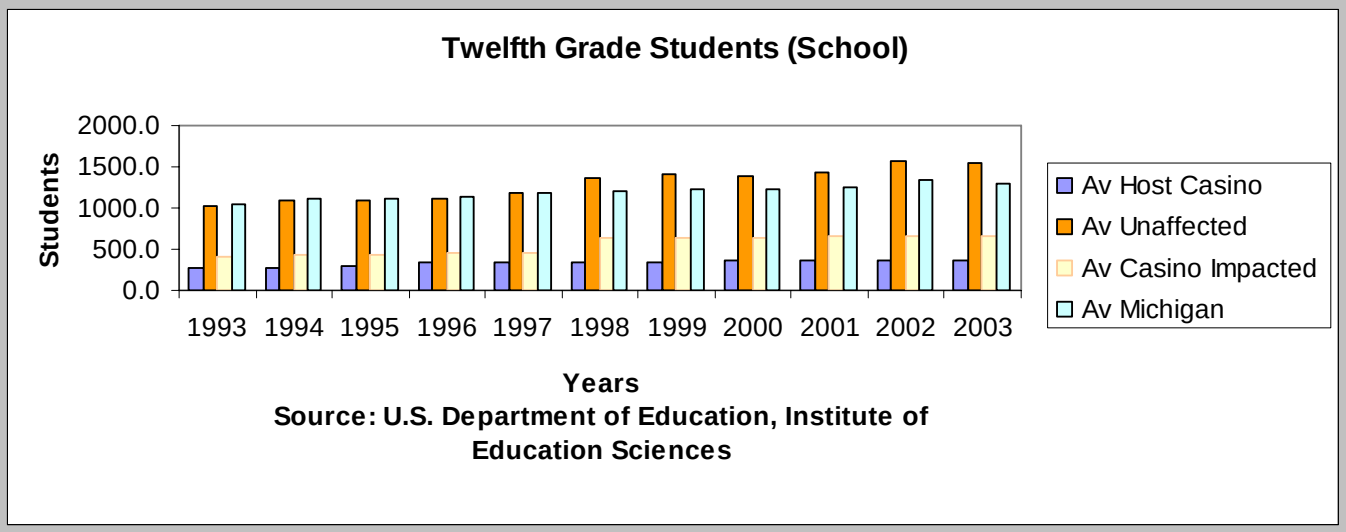
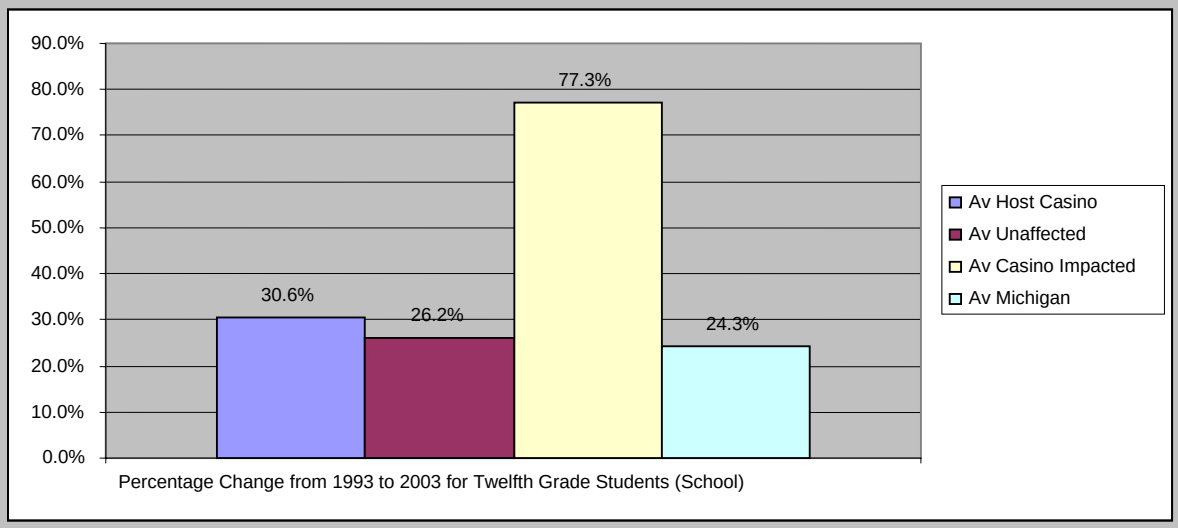


Table 46: Twelfth Grade Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	284	280	286	349	349	342	351	356	358	368	371
Av Unaffected	1,018	867	863	882	914	1,079	1,156	1,148	1,187	1,318	1,285
Av Casino Impacted	418	645	667	686	738	710	723	716	727	747	742
Av Michigan	1,050	1,114	1,110	1,136	1,184	1,201	1,224	1,219	1,242	1,330	1,305



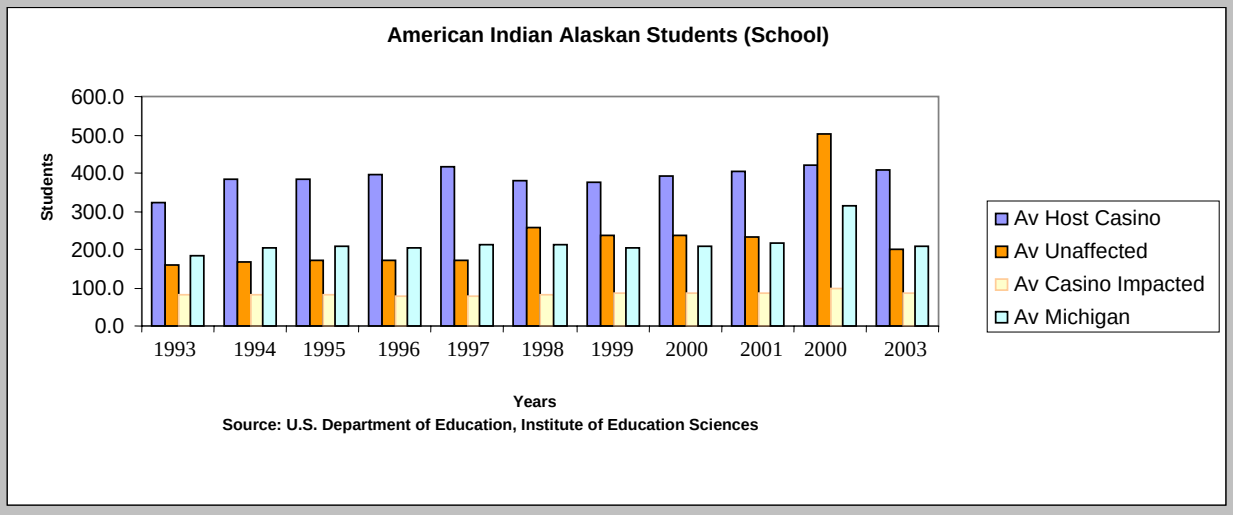
Counties	Percentage Change from 1993 to 2003 for Twelfth Grade Students (School)
Av Host Casino	30.6%
Av Unaffected	26.2%
Av Casino Impacted	77.3%
Av Michigan	24.3%



It does not appear from this data that there is a strong link between the presence of a casino and an "attractive nuisance" in the form of a casino employer, which would hinder graduation. In terms of the impact of casinos on school demographics, two measures were examined in Michigan: racial and economic diversity. As to the racial diversity in the casino counties, the 2000 U.S. Department of Education estimates that these counties already were more diverse in terms of the total number of American Indians[45] than all of the other county groupings (see the first section of Table 47).

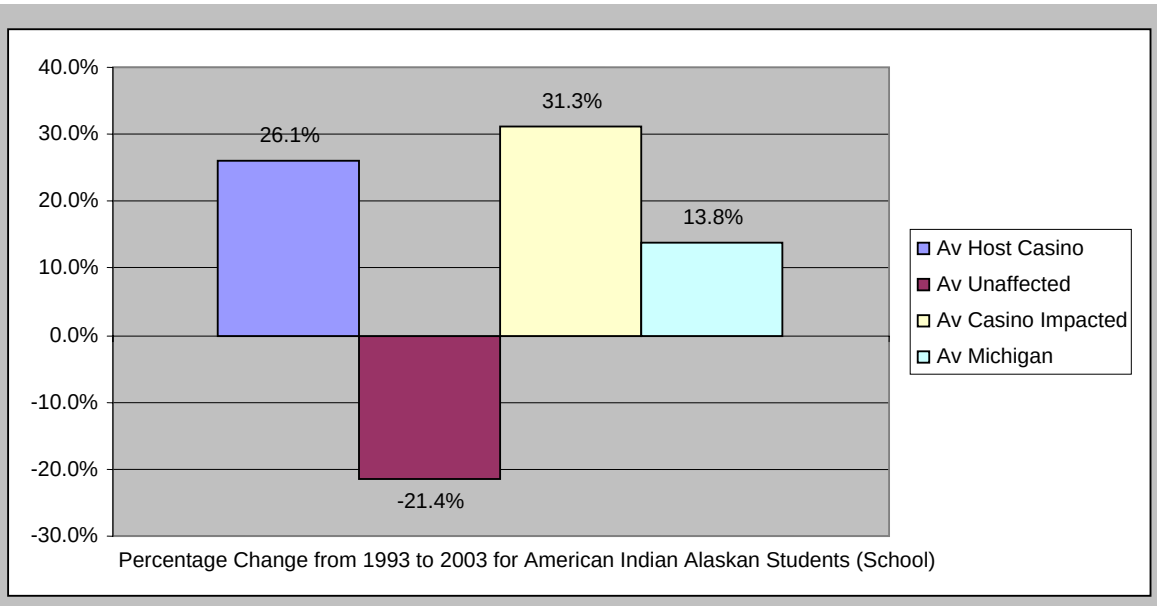
Table 47: American Indian Alaskan Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	324.1	384.7	385.3	394.6	415.8	378.1	374.1	390.2	405.1	418.5	408.6
Av Unaffected	158.3	87.2	87.4	91.0	89.3	115.6	121.0	119.9	121.4	423.8	124.4
Av Casino Impacted	82.2	136.2	144.9	139.1	138.6	127.0	120.8	122.2	120.4	124.6	108.0
Av Michigan	183.9	204.2	206.2	205.1	210.8	210.6	205.8	209.2	215.1	315.4	209.4



Counties	Percentage Change from 1993 to 2003 for American Indian Alaskan Students (School)
Av Host Casino	26.1%
Av Unaffected	-21.4%
Av Casino Impacted	31.3%
Av Michigan	13.8%

[45] We are assuming Alaskan Natives are not a significant population in Michigan.



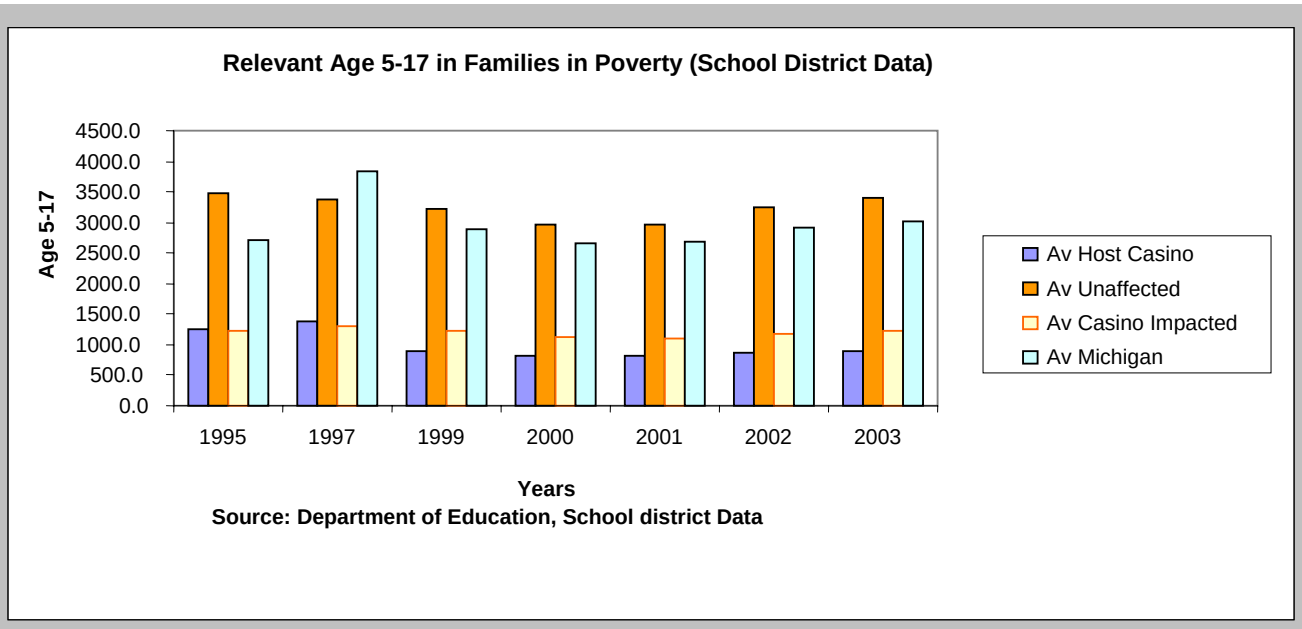
In terms of percentage change from 1993 to 2003 (the second portion of Table 47), casino counties experienced a positive 26.1% demographic change versus a 21.4% decline in unaffected counties. Casino counties also experienced about twice the percentage change of the average state county for native populations.

Examining economic diversity in schools for the 1995-2003 time period[46], we see in Table 48 that in host casino counties the percentage change in the number of children aged 5-17 in families living in poverty declined more than any other county grouping, Furthermore, the number of children receiving free and reduced price lunches during the 1999-2003 time period.[47] (see Table 49) showed the smallest percentage increase of all the other county groupings.

Table 48: Relevant Age 5-17 in Families in Poverty (School District Data)

	1995	1997	1999	2000	2001	2002	2003
Av Host Casino	1263.7	1385.7	907.5	830.5	826.8	857.0	906.8
Av Unaffected	3120.7	2732.4	2311.8	2118.3	2125.1	2336.6	2460.5
Av Casino Impacted	1793.4	2065.6	1523.9	1386.4	1366.6	1463.5	1517.7
Av Michigan	2716.6	3836.9	2892.9	2653.5	2680.6	2908.7	3023.5

[46] Comparative data was not available for the years 1993-94 and 1996.
[47] Comparative data was not available for the years 1993-1998.



Counties	Percentage Change 95-03 for Relevant Age 5-17 in Families in Poverty (School District Data)
Av Host Casino	-28.24%
Av Unaffected	-21.16%
Av Casino Impacted	-15.37%
Av Michigan	11.30%

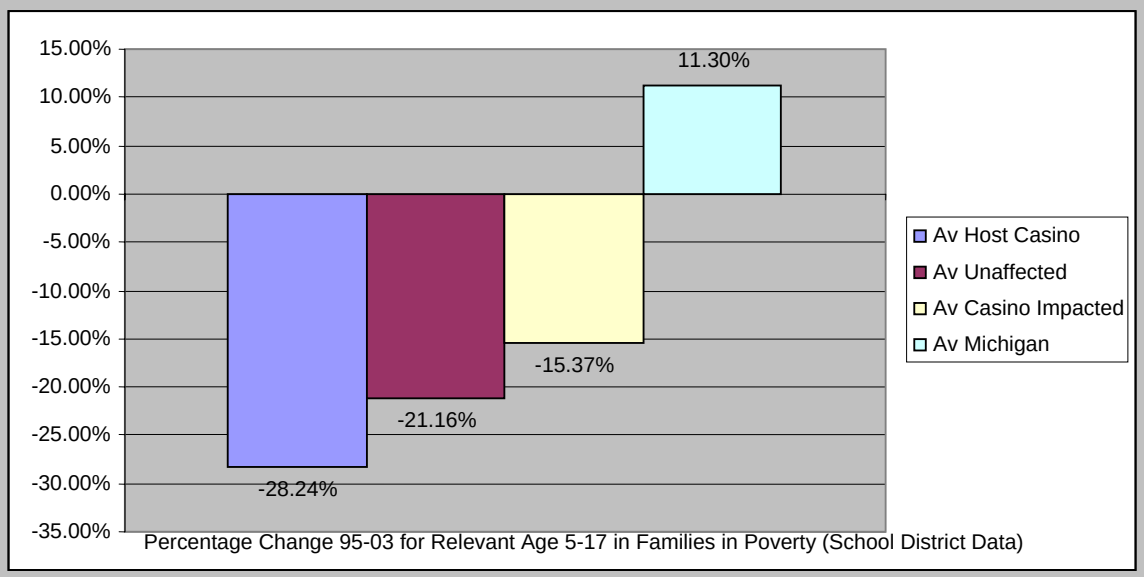
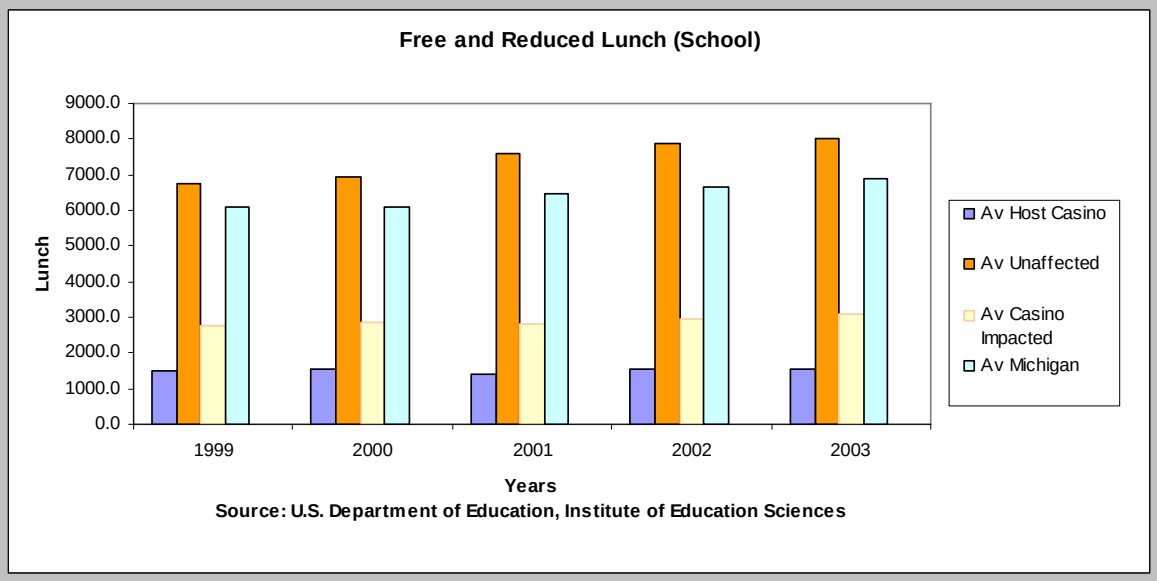
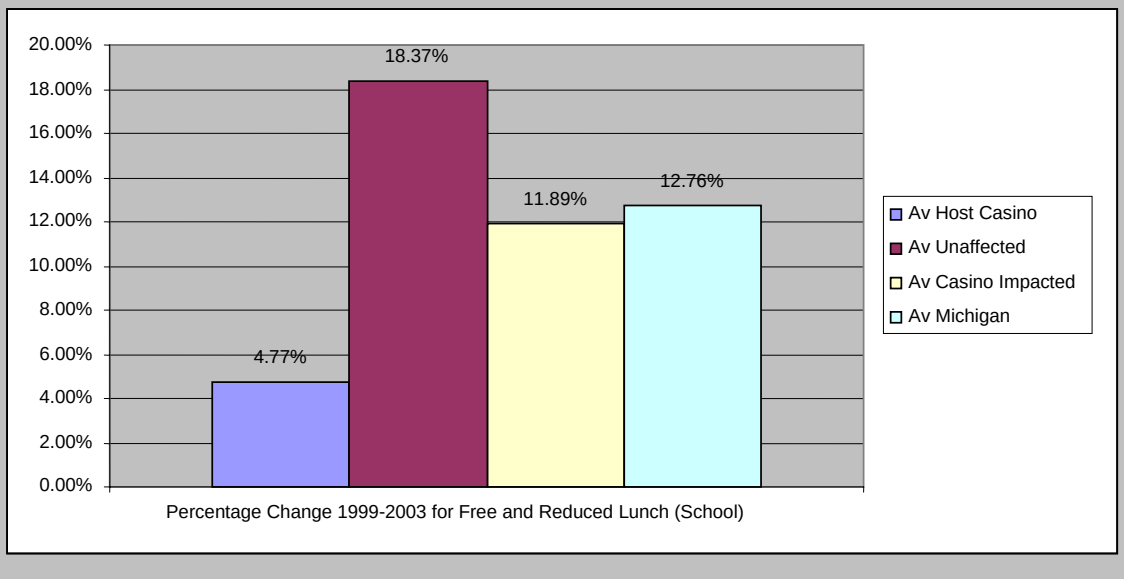


Table 49: Free and Reduced Lunch (School)

	1999	2000	2001	2002	2003
Av Host Casino	1490.2	1549.3	1406.8	1538.5	1561.4
Av Unaffected	5236.3	5377.4	5857.1	6123.2	6198.4
Av Casino Impacted	3270.7	3341.8	3385.8	3531.5	3659.7
Av Michigan	6094.7	6072.8	6469.8	6664.1	6872.6



Counties	Percentage Change from 1999-2003 for Free and Reduced Lunch (School)
Av Host Casino	4.77%
Av Unaffected	18.37%
Av Casino Impacted	11.89%
Av Michigan	12.76%



Thus, this Michigan data would not support projections in the literature that casinos play a significant role in decreasing high school graduation rates nor that schools near casinos experienced significant student demographic or economic challenges associated with casino employees.

4. Liquor and Divorce Issues

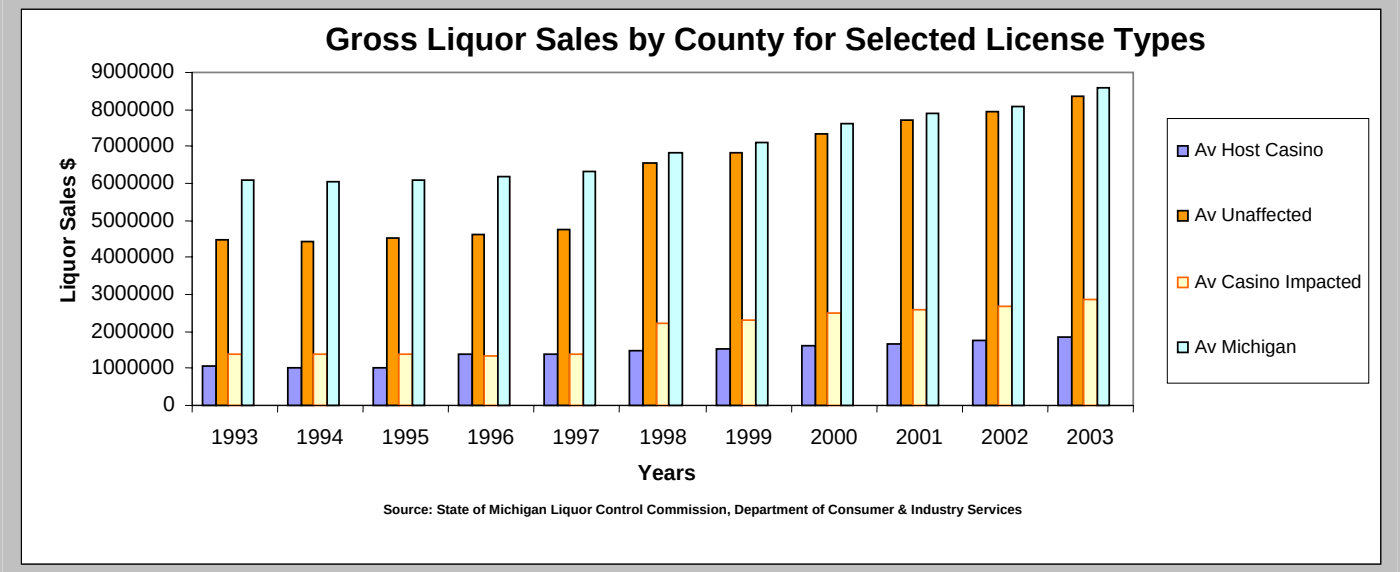
The last two social issues are perhaps the most difficult to directly associate with the presence of a casino. Nonetheless, they are raised in the literature or by casino opponents sufficiently often to merit a look at whether the data in Michigan's casino counties supports this relationship, albeit indirectly.

Liquor Sales

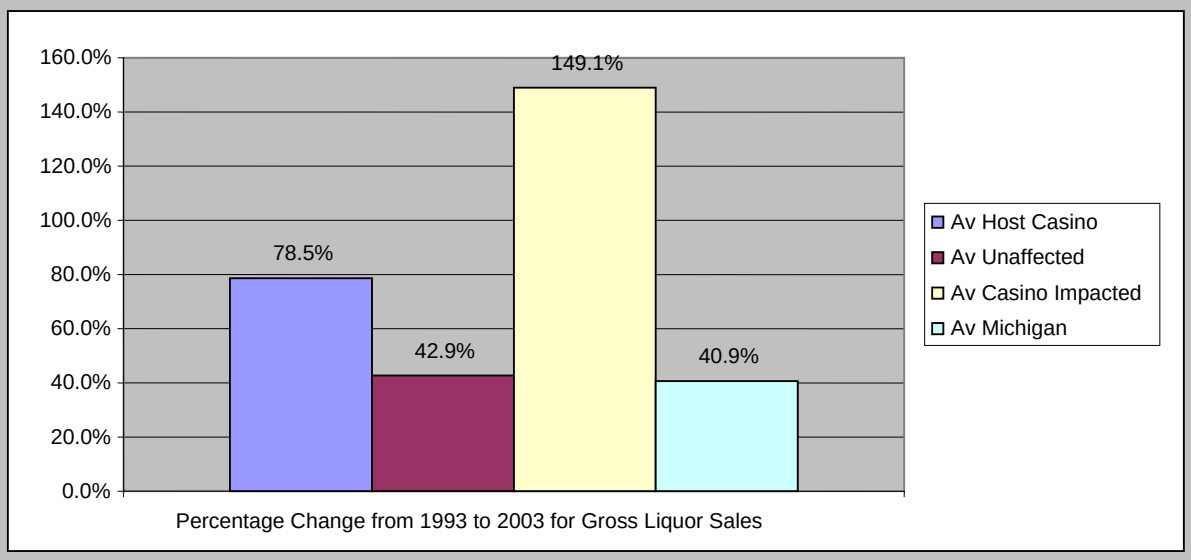
Table 50 presents the percentage change between 1993 and 2003 in gross liquor sales for selected license types as recorded by the state of Michigan. The liquor connection to casinos has been associated with the increased availability of liquor at many of these casinos, which in turn may have increased liquor consumption in the host casino counties. This table indicates that while the percentage change in liquor sales for casino counties (78.5%) is nearly double the average change in counties statewide, significantly higher percentage increases in liquor sales were recorded in casino impacted counties (149.1%).

Table 50: Gross Liquor Sales by County for Selected License Types (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	1,046.6	1,019.3	1,018.3	1,374.5	1,378.2	1,469.6	1,542.7	1,637.2	1,678.0	1,759.8	1,868.1
Av Unaffected	4,473.9	3,253.7	3,311.8	3,368.5	3,532.0	4,498.1	5,133.6	5,561.5	5,870.7	6,065.0	6,394.2
Av Casino Impacted	1,397.8	2,414.6	2,579.1	2,600.0	2,717.5	2,814.1	2,839.4	3,050.8	3,190.7	3,296.1	3,482.1
Av Michigan	6,084.1	6,035.7	6,105.5	6,197.1	6,316.1	6,834.8	7,095.8	7,624.1	7,905.8	8,099.5	8,570.0



Counties	Percentage Change from 1993 to 2003 for Gross Liquor Sales
Av Host Casino	78.5%
Av Unaffected	42.9%
Av Casino Impacted	149.1%
Av Michigan	40.9%



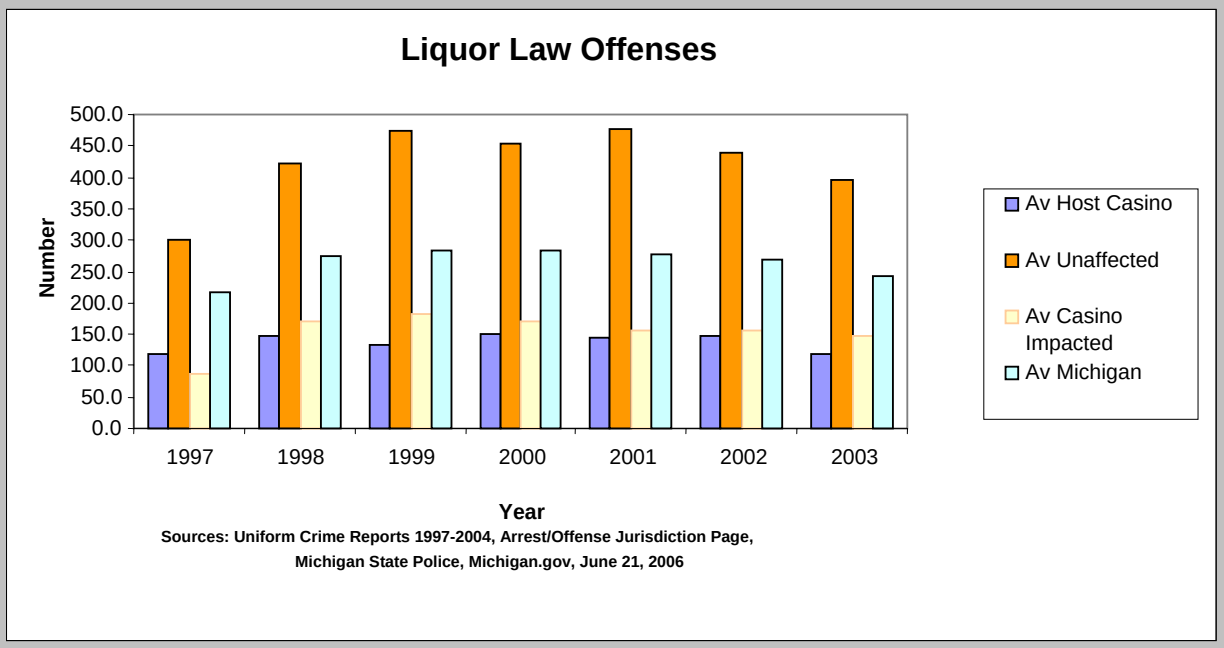
Liquor-related Law Violations

Looking at liquor related crimes in casino counties, we previously indicated (in Table 32 in Part One of this report) that the percentage change in liquor law related crimes (i.e. DUI) in casino impacted counties was greater than in host casino counties.

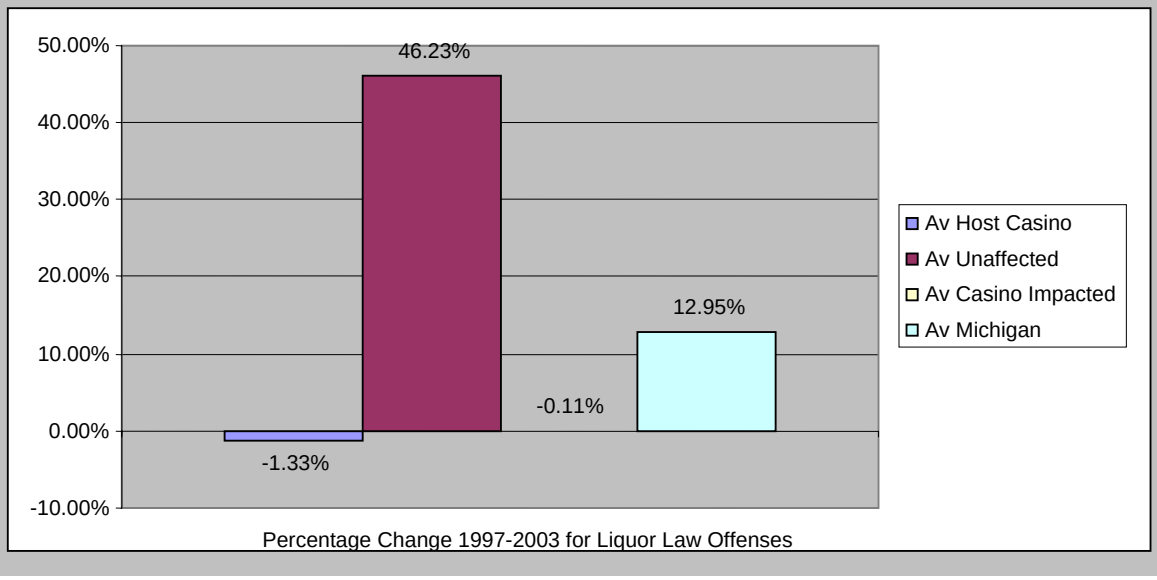
In addition, liquor law crimes actually declined in casino counties between 1997 and 2003 while increasing in unaffected and statewide county groupings (see Table 51). Thus, the Michigan data does not reflect a link between increased liquor consumption and liquor-related crime increases in host casino counties as projected in many casino gambling studies and reports.

Table 51: Liquor Law Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	119.3	146.6	133.9	148.8	144.6	147.0	117.7
Av Unaffected	257.0	370.1	438.5	430.2	457.2	424.9	375.8
Av Casino Impacted	152.8	179.6	193.1	177.7	161.0	161.4	152.6
Av Michigan	215.4	274.5	283.5	283.6	278.6	267.4	243.3



Counties	Percentage Change from 1997-2003 for Liquor Law Offenses
Av Host Casino	-1.33%
Av Unaffected	46.23%
Av Casino Impacted	-0.11%
Av Michigan	12.95%



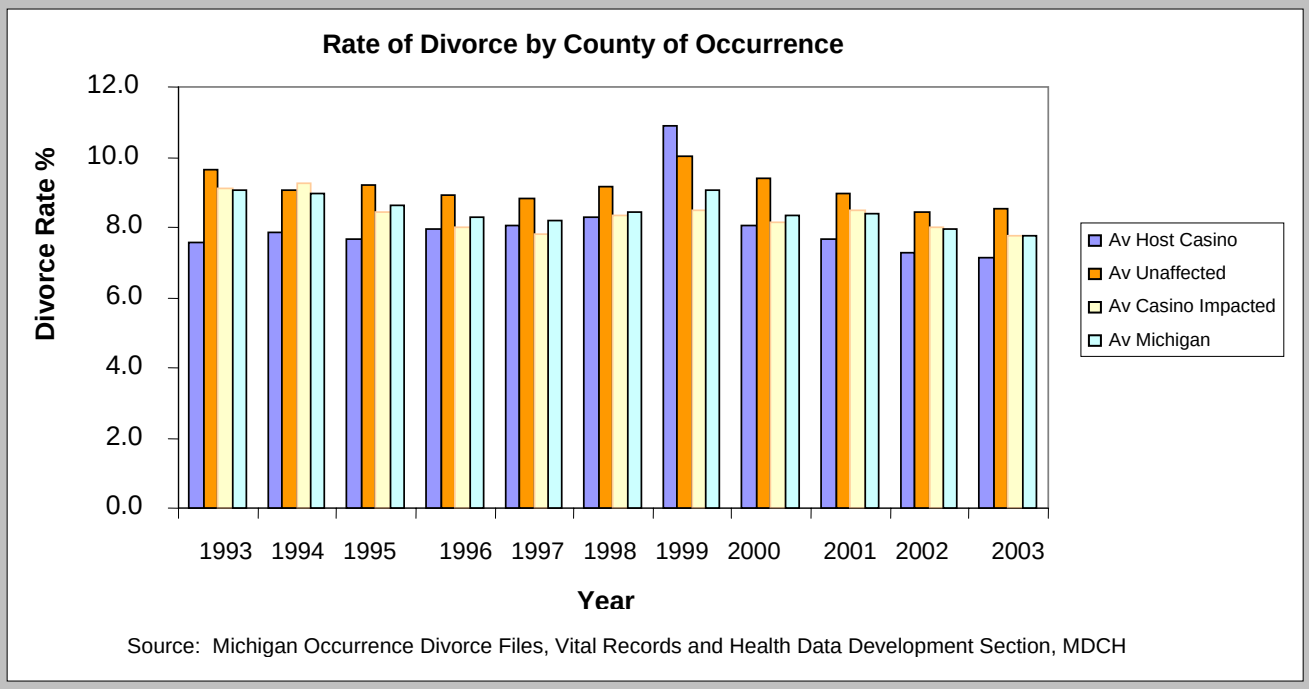
Divorce

Finally, we examine rates of divorce in casino counties. While the percentage change in the rate of divorces from 1993-2003 declined by 6% in casino counties, the rate of decline in the other

three county groupings was more than double the casino county average. While we see a smaller decline rate in casino counties, we are left with the problem of proving any causal relationship between divorce rates and the presence of a casino because of the causal complexity of the divorce issue, as well as the lack of distinct county grouping differences.

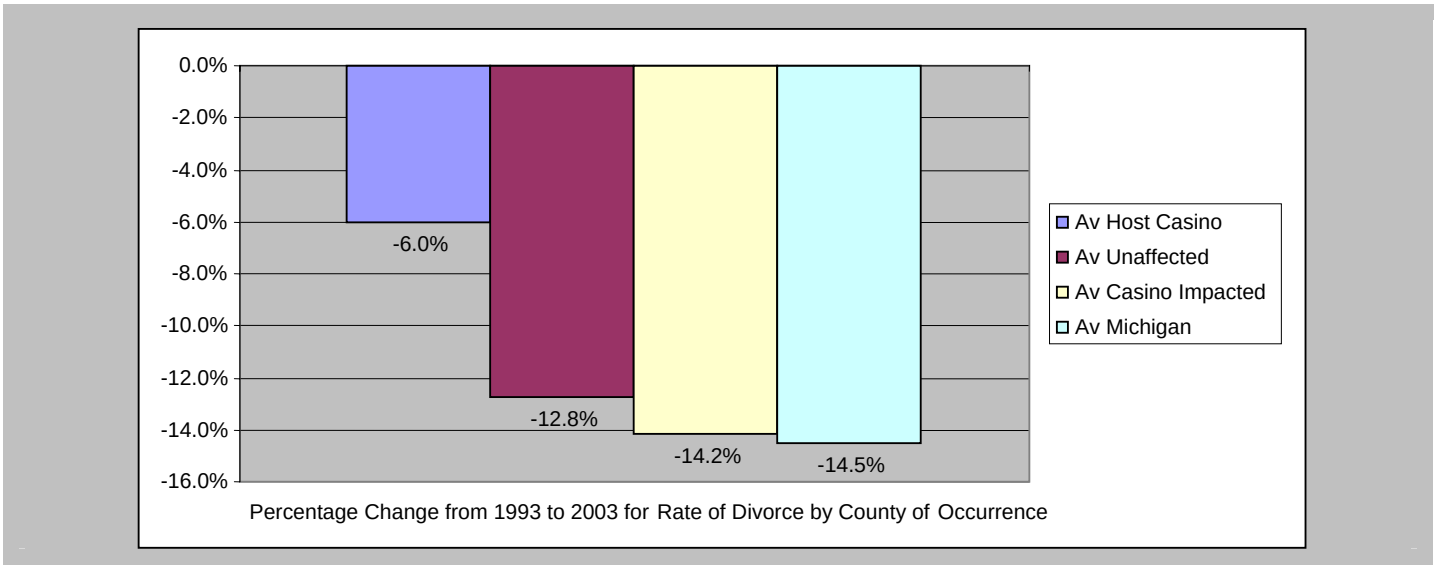
Table 52: Rates of Divorce by County of Occurrence

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	7.6	7.8	7.7	7.9	8.1	8.3	10.9	8.0	7.7	7.3	7.1
Av Unaffected	9.6	9.2	9.3	9.0	8.8	8.9	9.9	9.3	9.2	8.3	8.4
Av Casino Impacted	9.1	9.2	8.5	8.1	8.0	8.4	8.5	8.2	8.4	8.1	7.8
Av Michigan	9.1	8.9	8.6	8.3	8.2	8.4	9.1	8.3	8.4	7.9	7.8



Source: Michigan Occurrence Divorce Files, Vital Records and Health Data Development Section, MDCH

Counties	Percentage Change from 1993 to 2003 for Rate of Divorce by County of Occurrence
Av Host Casino	-6.0%
Av Unaffected	-12.8%
Av Casino Impacted	-14.2%
Av Michigan	-14.5%



Conclusions from Part One

With the likely opening of many new tribal casinos within the next two years, the expansion of tribal casino operations in Michigan continues. What will this continued casino expansion mean to Michigan?

Joe Sowmick, spokesman for the Saginaw Chippewa tribe (which operates the largest tribal casino in the state) and son of former Chief Arnold Sowmick, made this observation with the April 26, 2007 announcement of the opening of a casino on the Seganing reservation in Standish (Arenac county), "In this case, you look at economic development opportunities, and nothing has worked for the tribe like gaming."

With this report, it is hoped that proponents and opponents alike will look at this data and assess if what has been good for the tribes continues to be good for the non-tribal communities in the state. These findings will be helpful when the state addresses the issue of renegotiating the original 1993 casino compacts.

PART TWO

TRIBAL CASINO DATA FOR 26 MICHIGAN IMPACTED AND UNIMPACTED COUNTIES

INTRODUCTION AND METHODOLOGY FOR PART TWO

In Part Two of this report, a more focused comparison will be undertaken to measure the impact of tribal casinos on selected Michigan counties. As described in Part One of this report, some research indicates there may be a time lag in casino impacts in such areas as bankruptcy and crime rates. This time lag is difficult to discern since the analysis in Part One permits counties to be moved from one category to another as new tribal casinos opened in 1996 and 1998, (as well as when new casinos opened in Indiana and Canada).

The changing county categories also reduce the amount of time each county's experience in a county grouping is reviewed. For example , the experience of three casino counties had only 5 years of analysis as host casino counties, and the list of unaffected casino counties dropped dramatically (from 35 to 16) during this same period as new casinos opened both within and outside the state during this time period.

This part of the report provides an opportunity to provide a different type of analysis; namely, to compare two constant sets of counties over this same 1993-2003 time period. Specifically, only 26 of Michigan's 83 counties will be examined: ten counties which have hosted casinos from 1993-2003, and 16 counties which have remained unaffected by any casinos for this same time period (i.e. no casino has been located within 50 miles of any portion of this county from 1993-2003). See Table A-13 in Appendix A, which identifies with asterisks the counties included in these two categories.

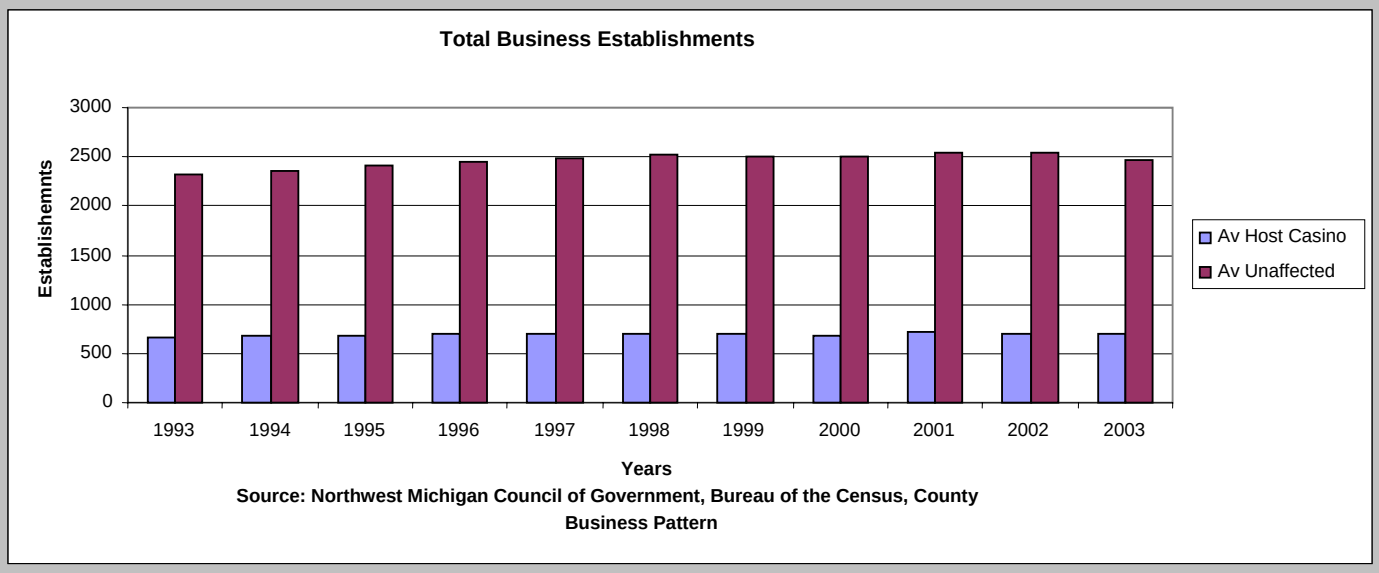
What follows is a review of many of the same variables examined in Part One, but only comparing two subset county groupings (casino counties and unaffected counties) for this same time period.

Economic Comparisons

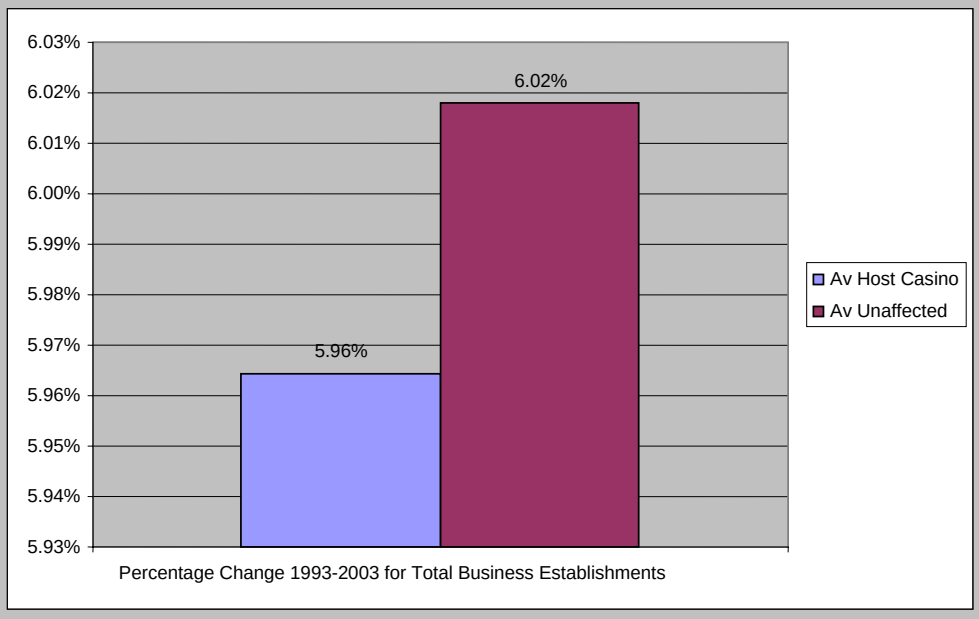
Comparing the total number of business establishment in the 10 original casino counties with the 16 counties that have been unaffected by casinos between 1993-2003 in Table 1.2, we find the overall percentage difference to be largely indistinguishable. Both groups of counties experienced the same approximate 6% growth during this period. Unlike the Part One comparisons of all counties, casino counties did not experience a major business establishment growth pattern among the ten original casino counties. In fact, there was actually a decrease in establishments from 1998-2000 and from 2001-2003, suggesting a maturing and more stable growth pattern after the first five years of growth when the casinos first opened.

Table 1.2: Total Business Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	667.3	675.5	684.5	694.8	704.2	704.8	696.8	688.6	711.2	706.2	707.1
Av Unaffected	2325.3	2362.2	2412.9	2448.9	2493.2	2512.6	2510.4	2507.8	2536.4	2530.7	2465.3



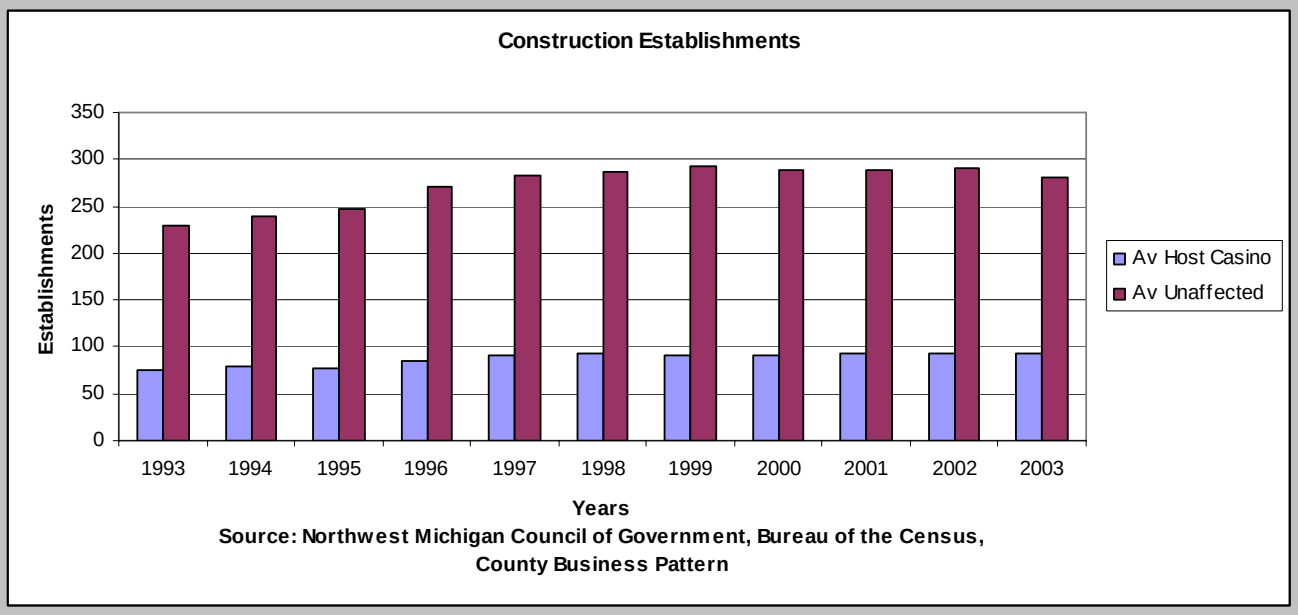
Counties	Percentage Change from 1993 to 2003 for Total Business Establishments
Av Host Casino	5.96%
Av Unaffected	6.02%



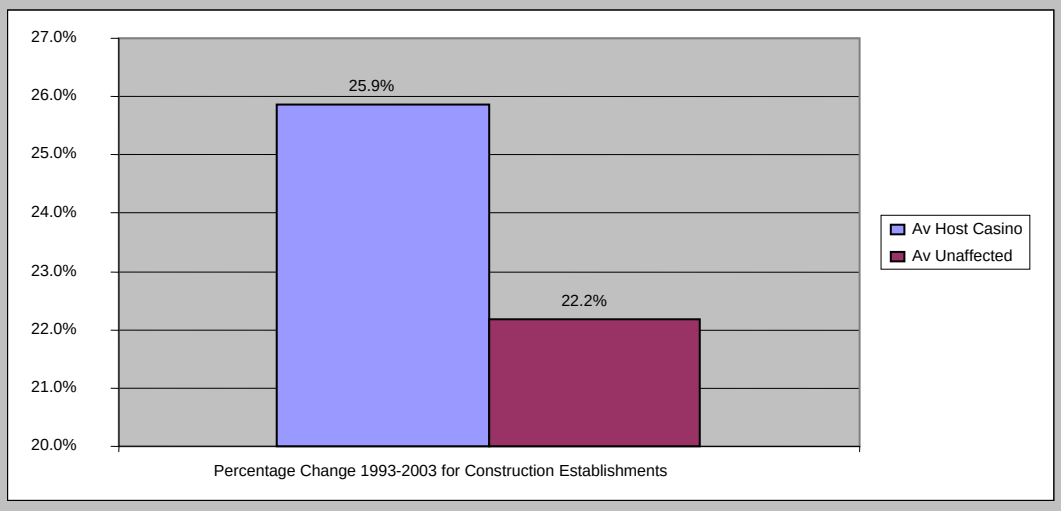
Similarly, the number of construction establishments emerging from the casino and unaffected counties did not demonstrate an appreciable difference, as casino counties experienced only a 3.7% greater growth rate than unaffected counties (See Table 2.2). The construction establishment growth pattern in casino counties which was seen in Part One does not appear in this more focused casino-unaffected county comparison.

Table 2.2: Construction Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	74.6	78.6	78.1	85.6	90.8	92.7	91.1	90.8	92.0	93.7	93.9
Av Unaffected	229.6	239.1	248.1	270.4	282.0	286.6	293.5	289.4	288.9	290.6	280.6



Counties	Percentage Change from 1993-2003 for Construction Establishments
Av Host Casino	25.9%
Av Unaffected	22.2%

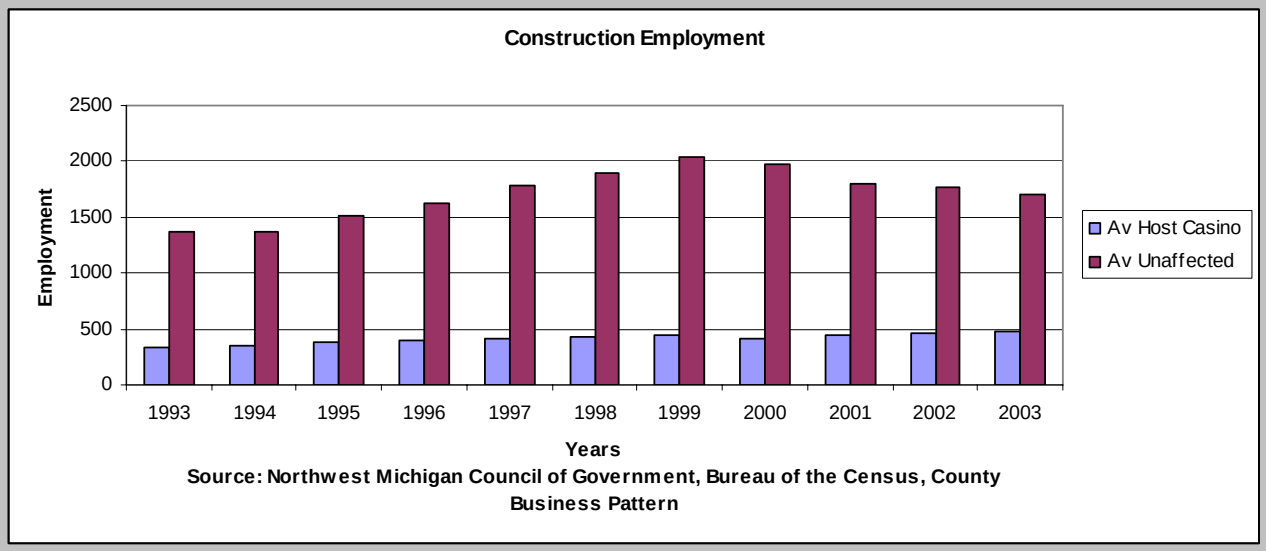


However, construction employment and payroll figures do show casino counties experiencing an 18% and 29% greater growth than unaffected counties, consistent with data in the

first section of this report indicating significant growth at least in the existing construction industry. (See Tables 3.2 and 4.2)

Table 3.2: Construction Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	336.1	351.8	380.7	399.0	411.4	422.4	446.5	418.6	439.3	455.8	478.6
Av Unaffected	1369.8	1362.4	1512.1	1626.9	1781.1	1887.2	2032.7	1971.0	1798.3	1770.5	1704.0



Counties	Percentage Change from 1993-2003 for Construction Employment
Av Host Casino	42.4%
Av Unaffected	24.4%

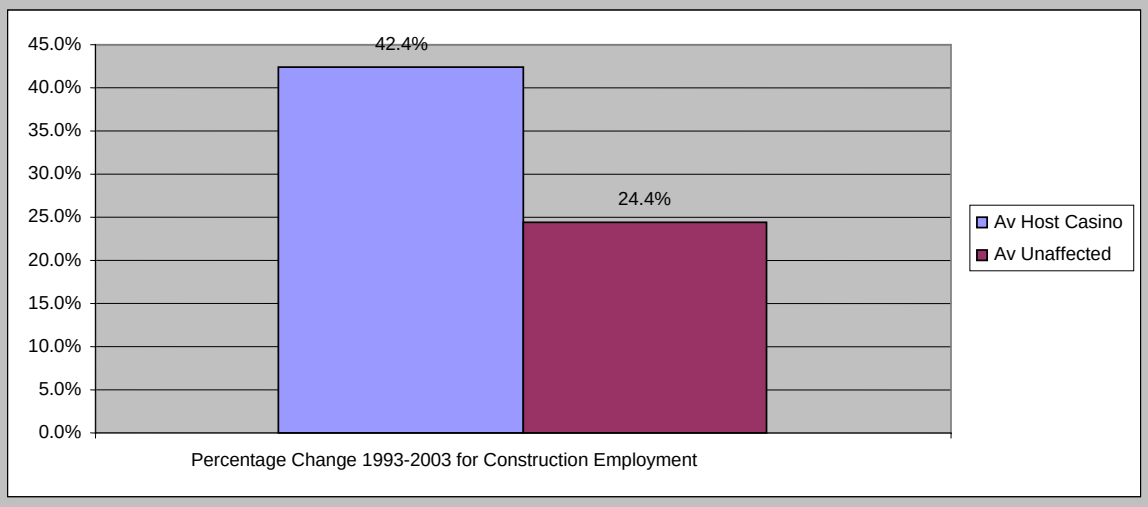
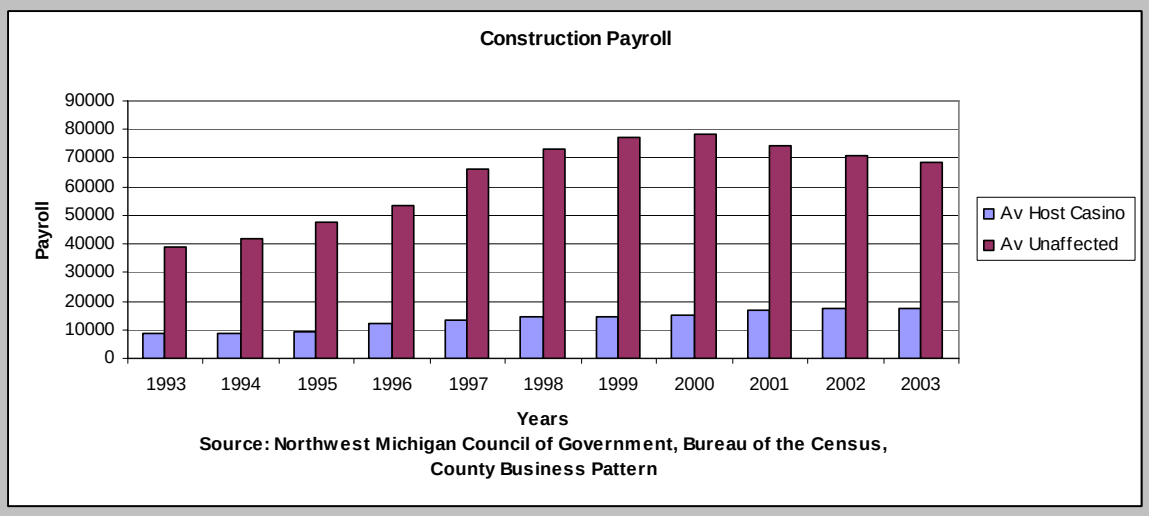
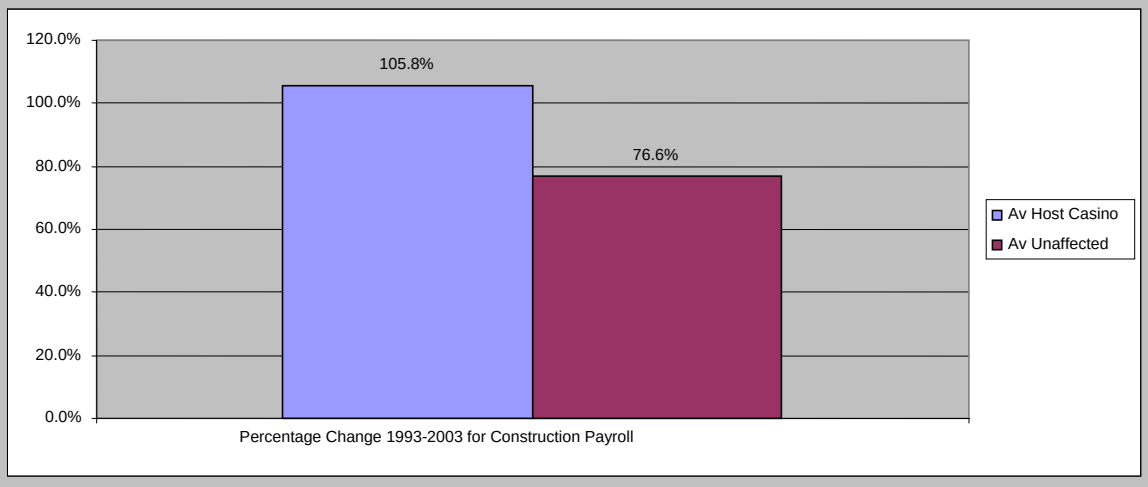


Table 4.2: Construction Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	8,501.1	8,947.7	9,536.1	11,978.8	13,631.7	14,247.5	14,547.3	14,877.8	17,098.2	17,308.6	17,495.6
Av Unaffected	38,682.8	41,985.2	47,791.2	53,566.4	66,357.9	73,447.9	77,019.1	78,302.1	74,253.9	70,995.1	68,319.6



Counties	Percentage Change from 1993-2003 for Construction Payroll
Av Host Casino	105.8%
Av Unaffected	76.6%



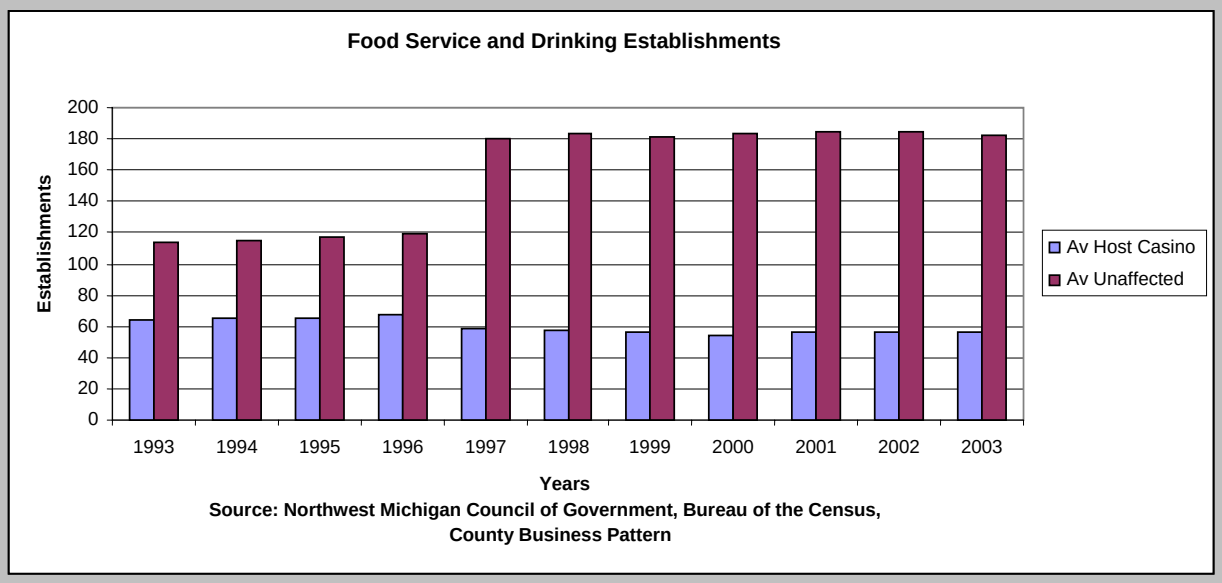
Turning to the industries most associated in the literature with the presence of casinos as opposed to constructing a new edifice, we first examine the food and drinking establishment data. You will recall that host casino counties in Part One of this report showed a 9.3% increase in the number of food and drinking establishments, while unaffected counties showed a nearly 19% decrease over this ten year period.

The data in this more focused comparison indicates a reverse outcome, with the casino counties experiencing a decline after 1996 while the unaffected counties experienced relatively steady growth, especially after 1996 (See Table 5.2). One possible explanation for this curious reversal may be the large number of Upper Peninsula counties in the casino county category, which are relatively small casinos in rather small and economically challenged counties.

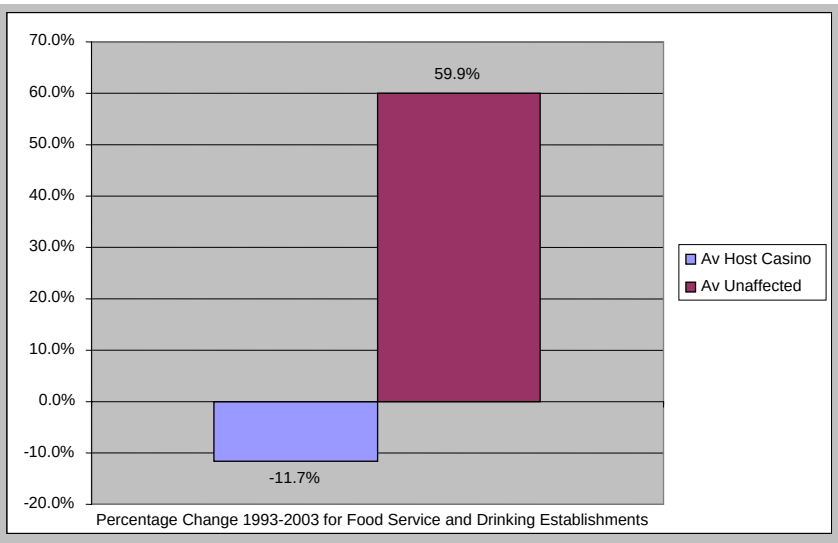
However, the decline in both the percentage change and average number of total food and drinking establishments follows the pattern in the construction industry that new establishments over time do not necessarily experience the growth seen when new and larger casinos in 1996 and 1998 were included in the analysis.

Table 5.2: Food Service and Drinking Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	64.3	65.3	65.4	67.8	58.7	57.7	56.1	54.2	56.3	56.7	56.8
Av Unaffected	113.9	114.7	117.1	119.3	179.9	183.1	181.6	183.1	184.5	184.8	182.1



Counties	Percentage Change from 1993-2003 for Food Service and Drinking Establishments
Av Host Casino	-11.7%
Av Unaffected	59.9%

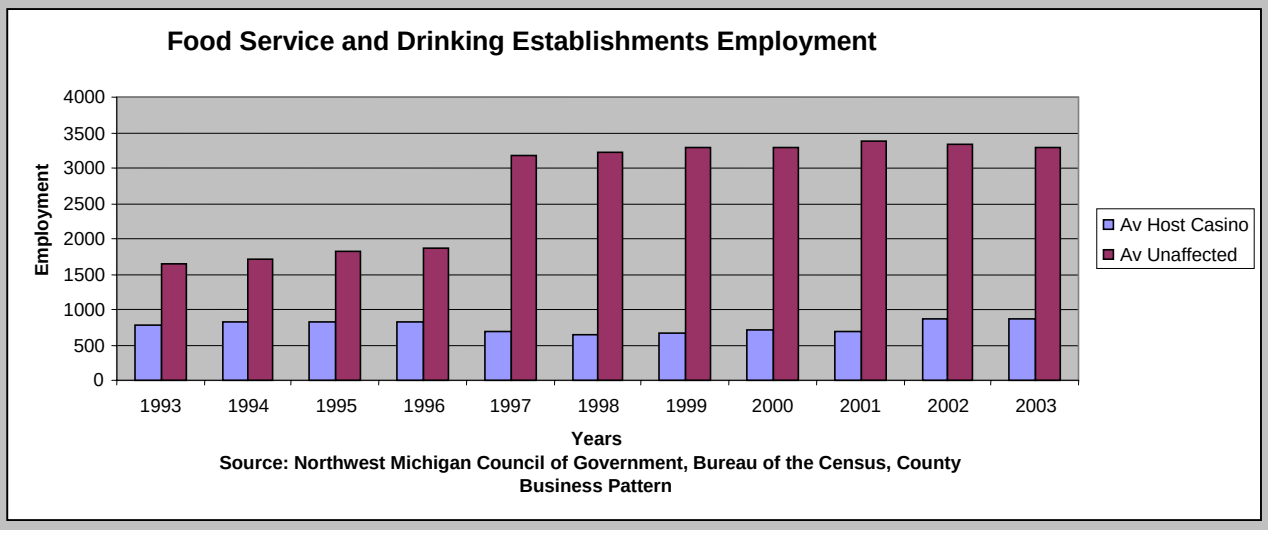


We also see a reverse growth pattern from Part One for food and drinking establishment employment and payroll for casino and unaffected counties. Host casino counties did experience a 13.5% increase in employment (Table 6.2) and a nearly 75% increase in payroll (Table 7.2), but these percentage changes pale in comparison to increases of 100% and 163% increase in unaffected counties for food and drinking establishments employment and payroll.

Curiously, 1997 was a key year when unaffected counties experienced a large increase in the food and drinking establishment employment and payroll categories while host casino counties experienced a decline in the same categories. However, there was some missing data for this year that might account for part or all of this anomaly.

Table 6.2: Food Service and Drinking Establishments Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	767.4	816.8	813.3	815.4	680.9	650.5	671.1	715.7	686.6	867.2	870.7
Av Unaffected	1640.8	1713.8	1827.3	1868.2	3174.3	3224.9	3282.8	3284.4	3380.1	3329.9	3285.7



Counties	Percentage Change from 1993-2003 for Food Service and Drinking Establishments Payroll
Av Host Casino	13.5%
Av Unaffected	100.2%

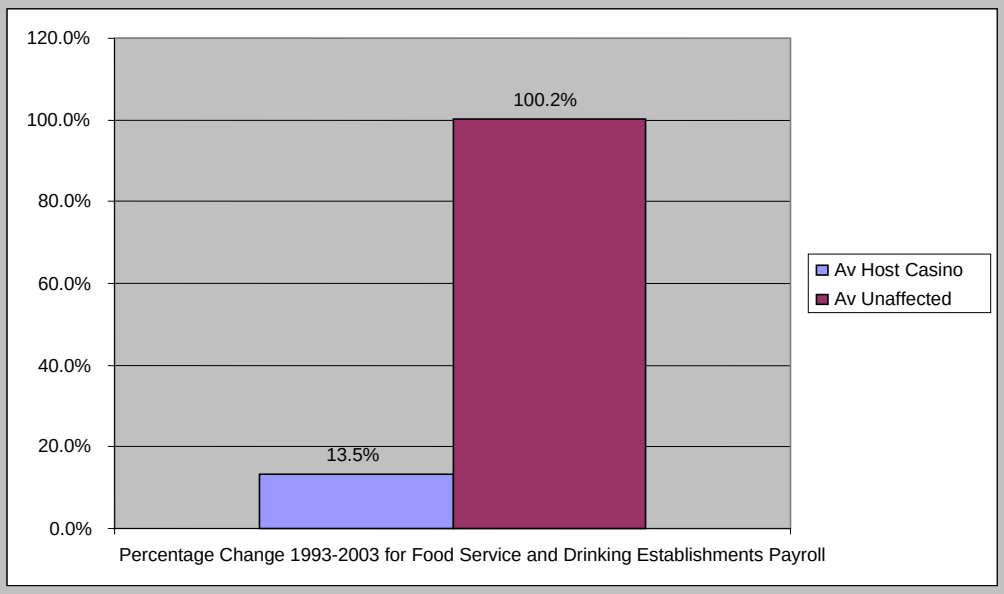
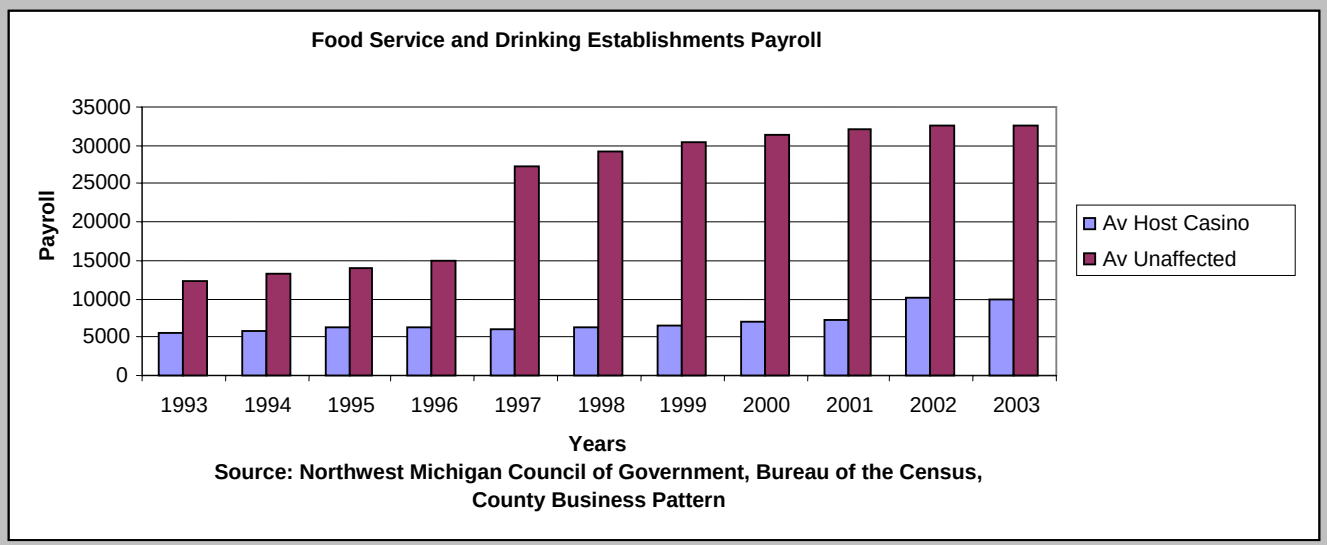
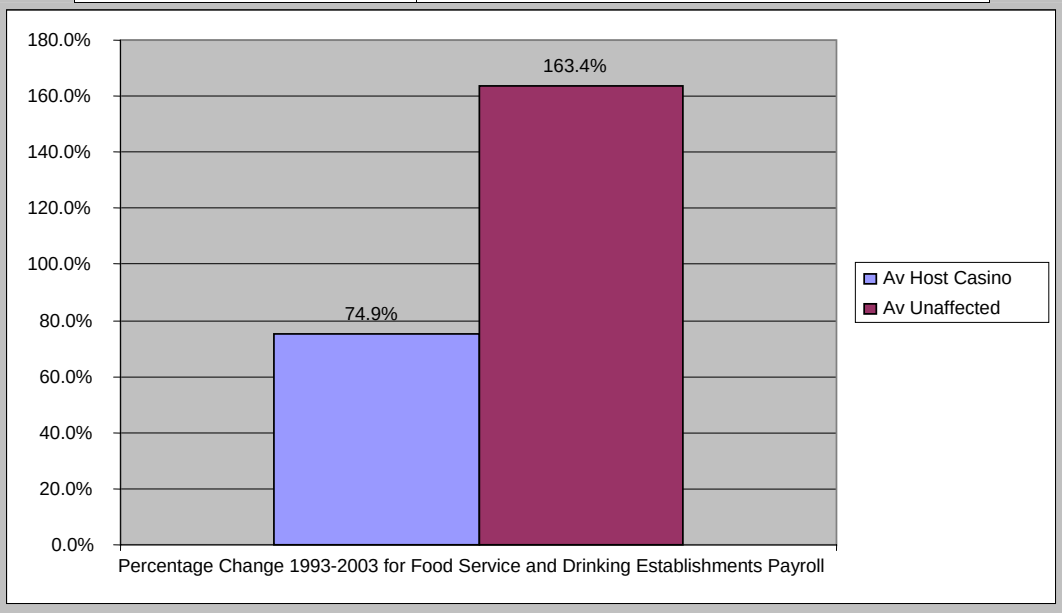


Table 7.2: Food Service and Drinking Places Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	5,623.3	5,910.1	6,166.4	6,366.0	6,136.3	6,215.5	6,511.6	6,893.8	7,228.8	10,022.7	9,836.8
Av Unaffected	12,346.9	13,275.6	14,051.8	14,900.7	27,296.1	29,134.1	30,309.0	31,281.4	32,188.8	32,689.4	32,521.5



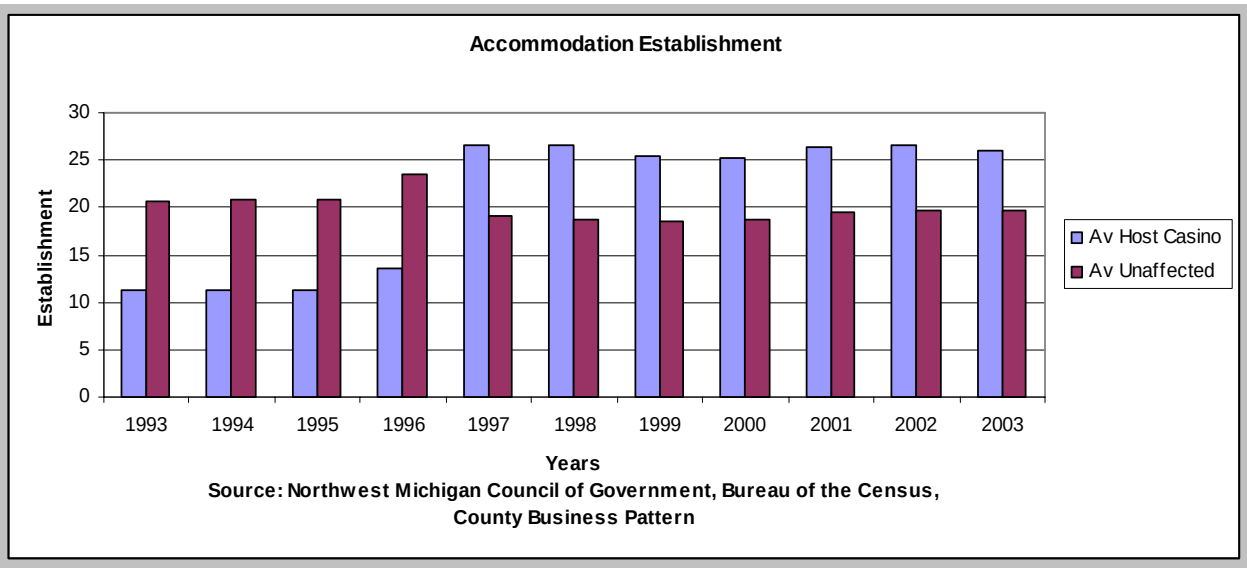
Counties	Percentage Change from 1993-2003 for Food Service and Drinking Establishments Payroll
Av Host Casino	74.9%
Av Unaffected	163.4%



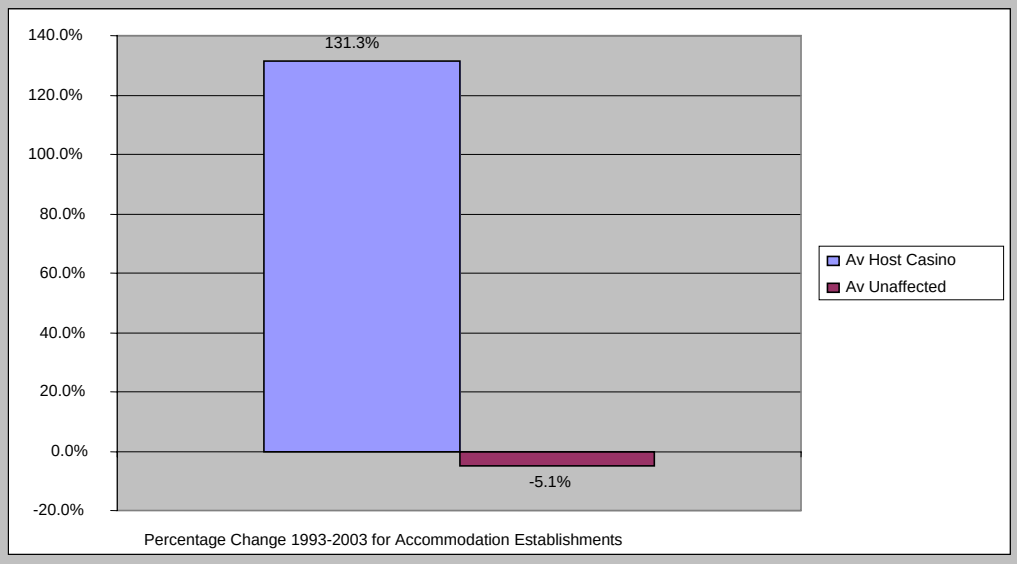
Accommodation establishment growth, however, is consistent with the findings in Part One of this report. The number of accommodation establishments grew from an average of 11.2 establishments to 25.9 in 2003, while unaffected counties experienced a slight decline from 20.7 to 19.6 (see Table 8.2). The percentage change difference is misleading because of the small number of establishments involved in each category.

Table 8.2: Accommodation Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	11.2	11.3	11.2	13.5	26.6	26.5	25.5	25.2	26.3	26.6	25.9
Av Unaffected	20.7	20.9	20.8	23.5	19.1	18.7	18.6	18.8	19.4	19.6	19.6



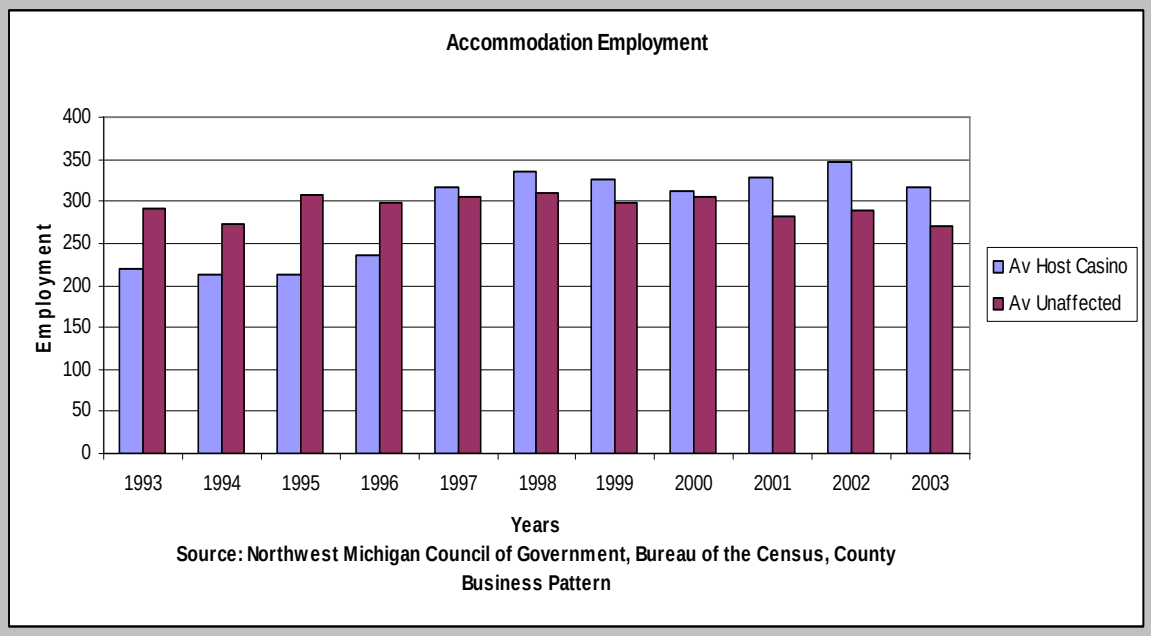
Counties	Percentage Change from 1993-2003 for Accommodation Establishments
Av Host Casino	131.3%
Av Unaffected	-5.1%



Similarly, host casino counties showed a dramatic increase in accommodation employment (Table 9.2) over unaffected counties and also an increase (albeit a much smaller 6% increase) in payroll (Table 10.2). It would seem from this data, which is consistent with the findings in Part One, that the accommodation industry has indeed experienced significant growth in counties which host a tribal casino.

Table 9.2: Accommodation Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	220.7	213.7	212.4	234.7	315.8	334.2	325.2	312.8	328.7	346.6	316.4
Av Unaffected	290.5	271.9	306.4	299.3	304.3	309.3	297.6	304.9	281.6	290.0	270.4



Source: Northwest Michigan Council of Government, Bureau of the Census, County Business Pattern

Counties	Percentage Change from 1993-2003 for Accommodation Employment
Av Host Casino	43.4%
Av Unaffected	-6.9%

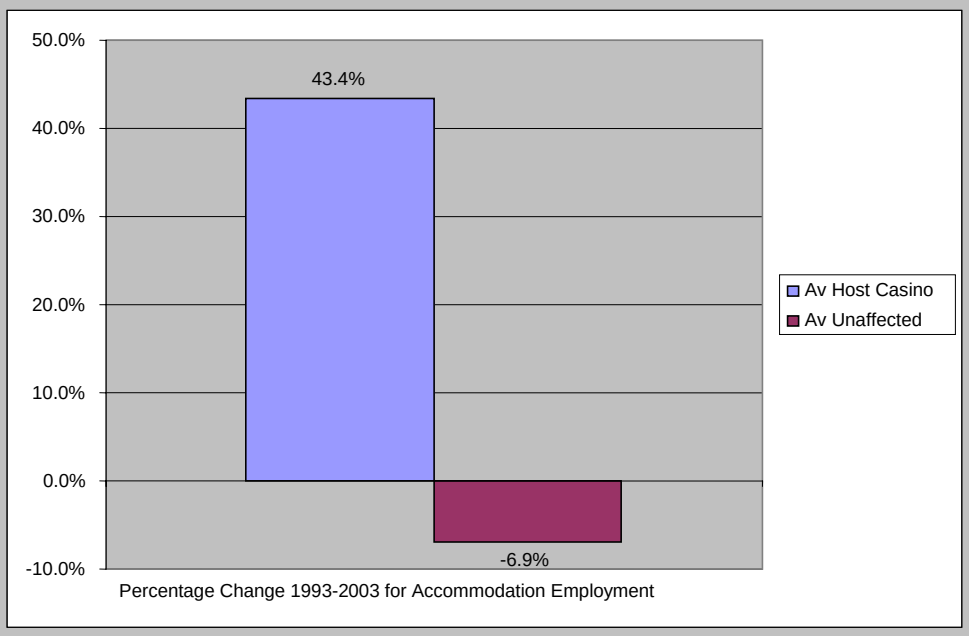
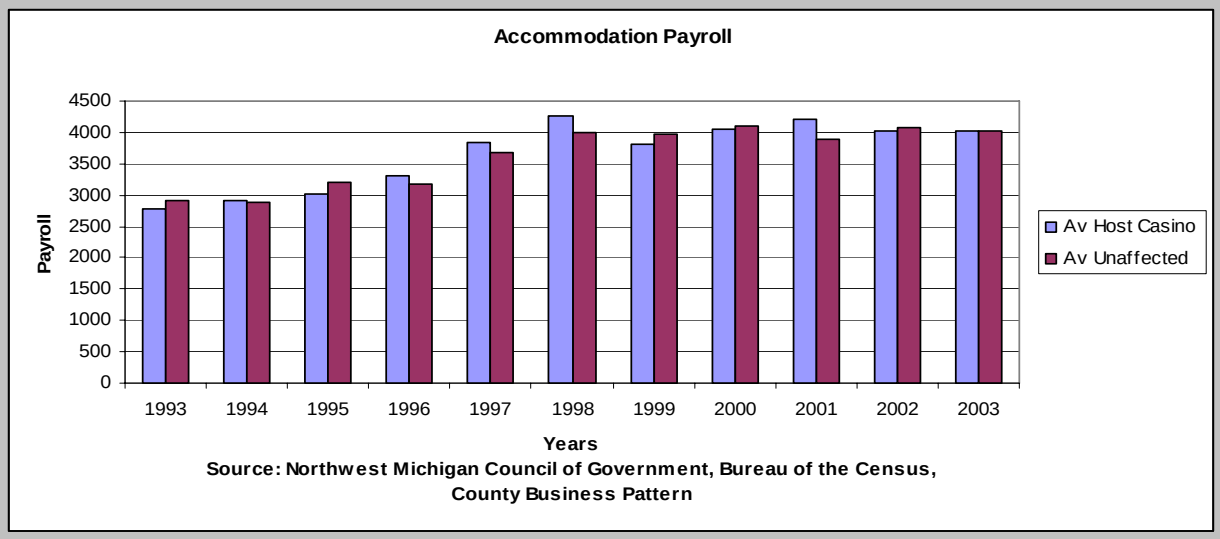
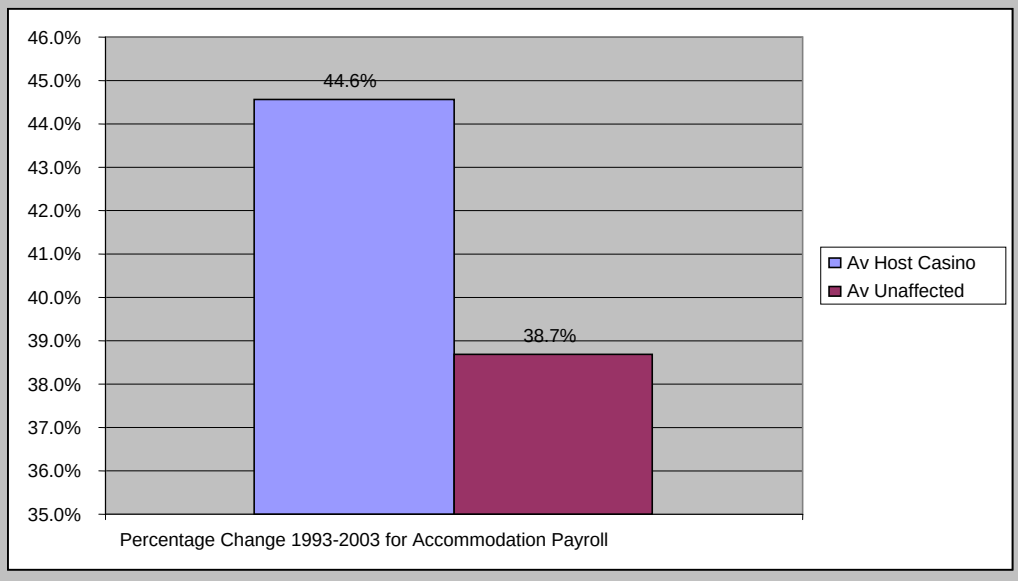


Table 10.2: Accommodation Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2,788.2	2,907.4	3,004.6	3,321.9	3,842.8	4,259.3	3,817.6	4,054.6	4,202.3	4,034.7	4,031.0
Av Unaffected	2,904.2	2,884.9	3,194.4	3,169.5	3,684.2	3,997.1	3,981.8	4,107.0	3,896.3	4,066.8	4,027.4



Counties	Percentage Change from 1993-2003 for Accommodation Payroll
Av Host Casino	44.6%
Av Unaffected	38.7%

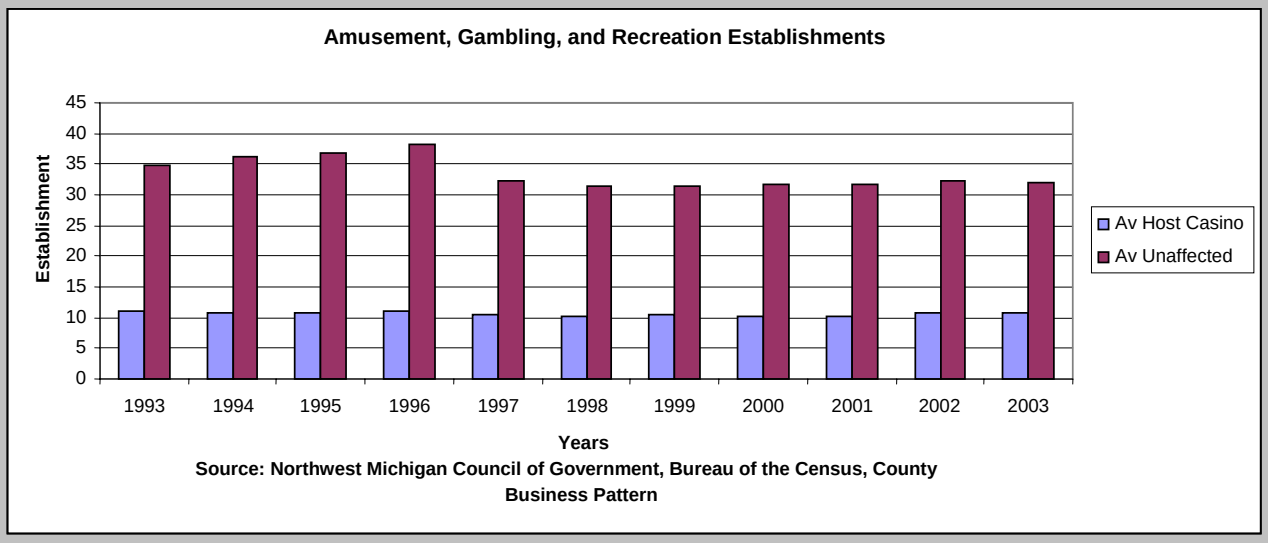


The amusement, gambling, and recreation industry (hereinafter referred to as the amusement industry) in this part of the report shows a pattern somewhat similar to that in Part One, where this industry does not fare as well compared to growth in the other two industries previously examined.

The number of amusement establishments declined slightly in both casino and unaffected counties (Table 11.2), while employment (Table 12.2) and payroll (Table 13.2) also experienced dramatic declines in casino counties.

Table 11.2: Amusement, Gambling, and Recreation Establishments

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	11.0	10.7	10.7	10.9	10.4	10.2	10.5	10.3	10.2	10.8	10.7
Av Unaffected	34.9	36.3	36.8	38.3	32.3	31.3	31.4	31.7	31.6	32.2	32.0



Counties	Percentage Change from 1993-2003 for Amusement, Gambling, and Recreation Establishments
Av Host Casino	-2.7%
Av Unaffected	-8.2%

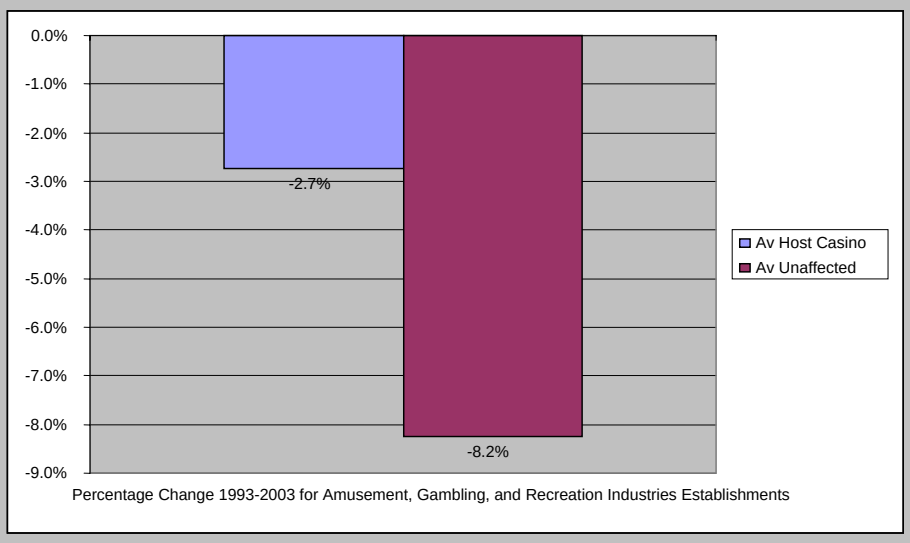
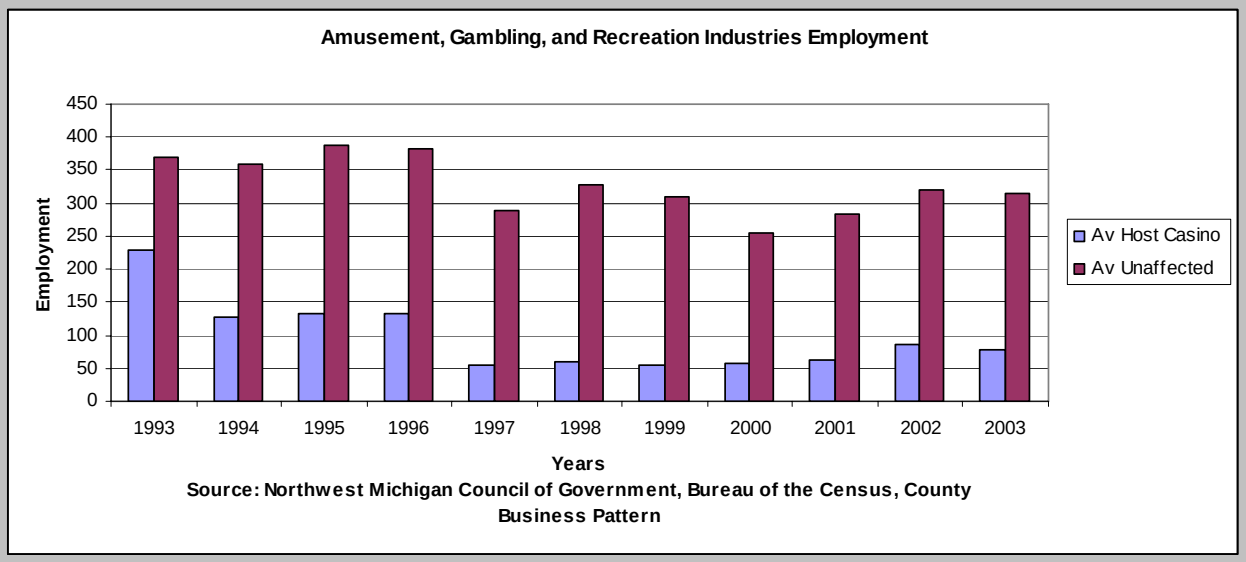


Table 12.2: Amusement, Gambling and Recreation Industries Employment

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	227.8	127.5	132.6	133.1	54.7	59.4	54.8	58.2	61.5	84.7	77.5
Av Unaffected	368.8	358.1	387.1	383.3	288.4	327.3	309.6	255.3	282.3	320.8	314.3



Counties	Percentage Change from 1993-2003 for Amusement, Gambling and Recreation Industries Employment
Av Host Casino	-66.0%
Av Unaffected	-14.8%

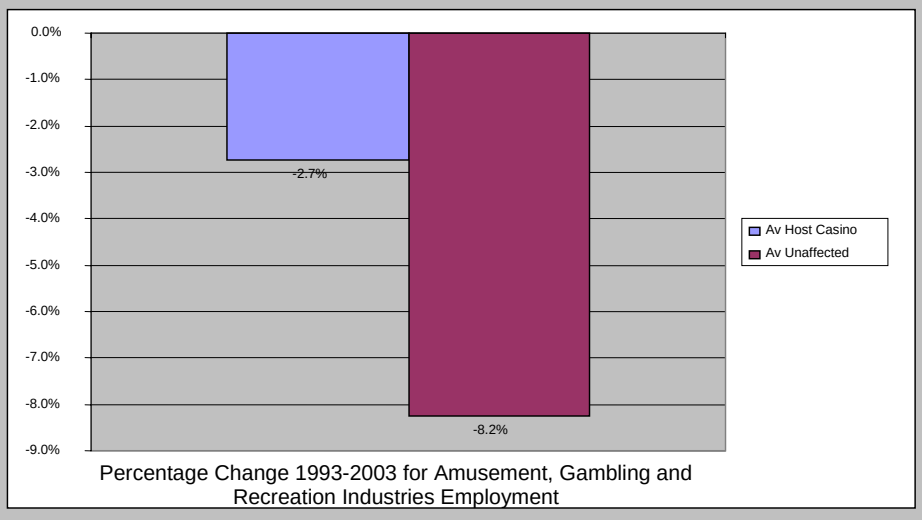
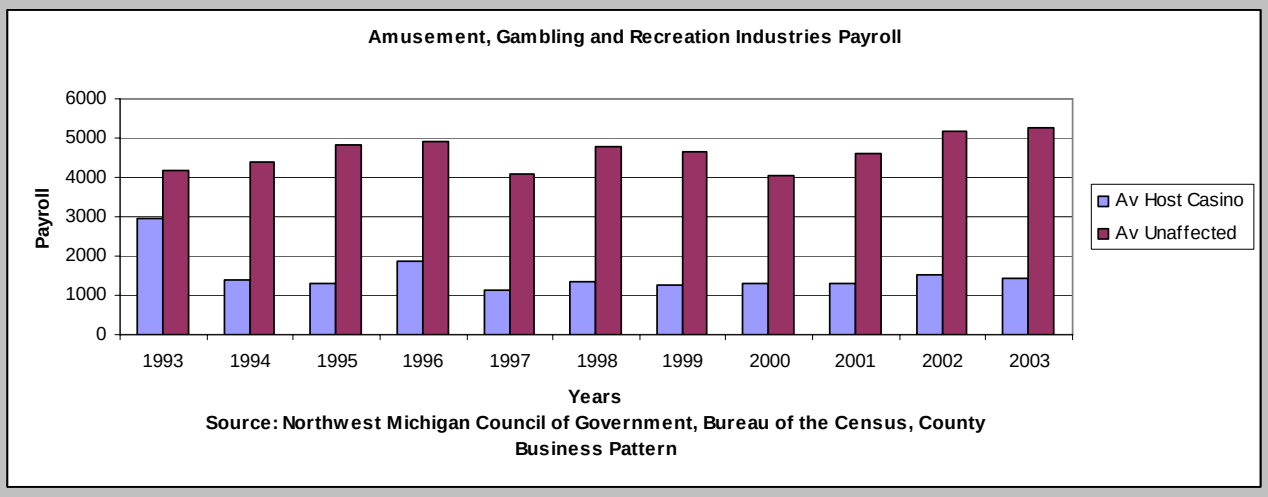
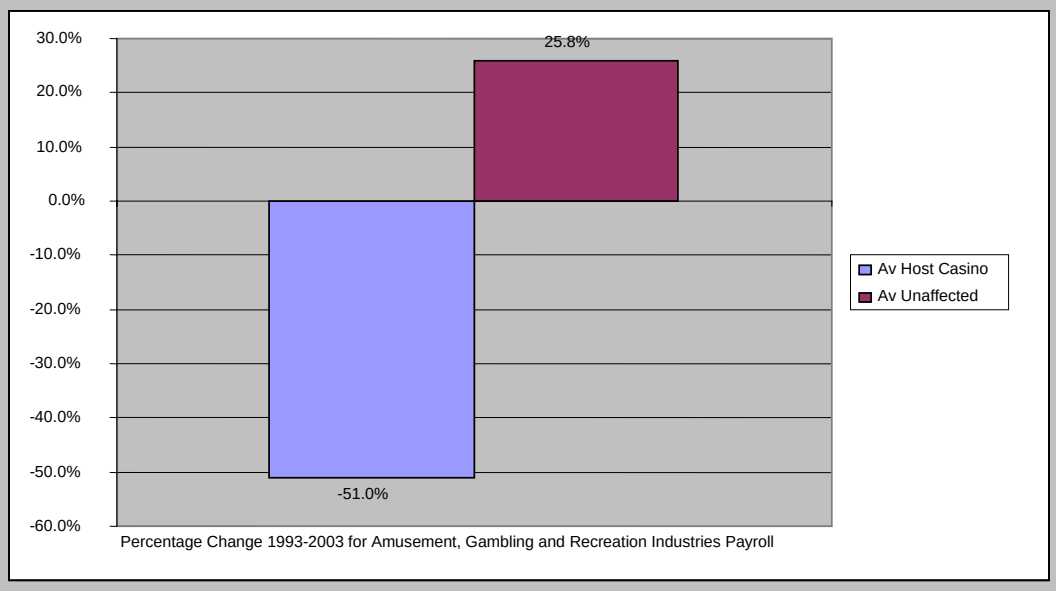


Table 13.2: Amusement, Gambling and Recreation Industries Payroll (in thousands of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2,963.2	1,407.2	1,296.0	1,863.1	1,138.3	1,364.0	1,249.6	1,306.5	1,302.4	1,517.4	2,963.2
Av Unaffected	4,182.5	4,378.9	4,823.3	4,928.1	4,074.8	4,765.2	4,631.4	4,028.6	4,599.0	5,155.3	4,182.5



Counties	Percentage Change from 1993-2003 for Amusement, Gambling and Recreation Industries Payroll
Av Host Casino	-51.0%
Av Unaffected	25.8%



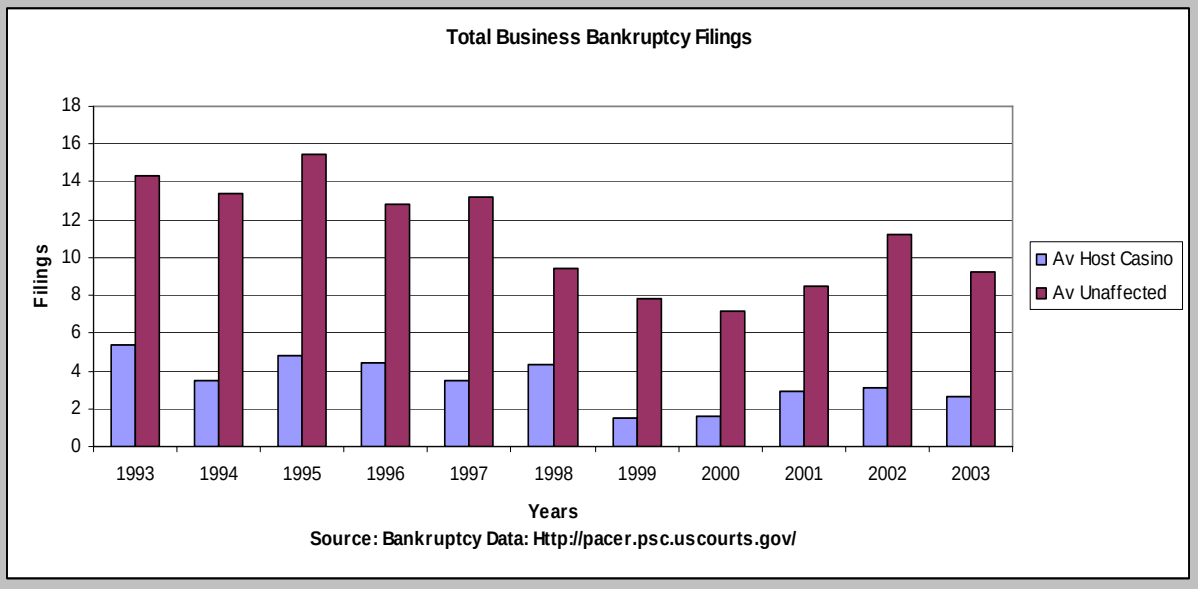
Thus, our findings in Parts One and Two are consistent in terms of the comparative economic weakness of the amusement business versus other casino associated businesses in casino counties in Michigan during this time period.

Bankruptcy

In terms of bankruptcy filings, we find a similar pattern to Part One. Total business bankruptcy filings are down but the actual number differential between casino and unaffected counties is small- casino counties down from 5.4 to 2.6 and unaffected counties down from 14.3 to 9.3 (see Table 14.2)[48].

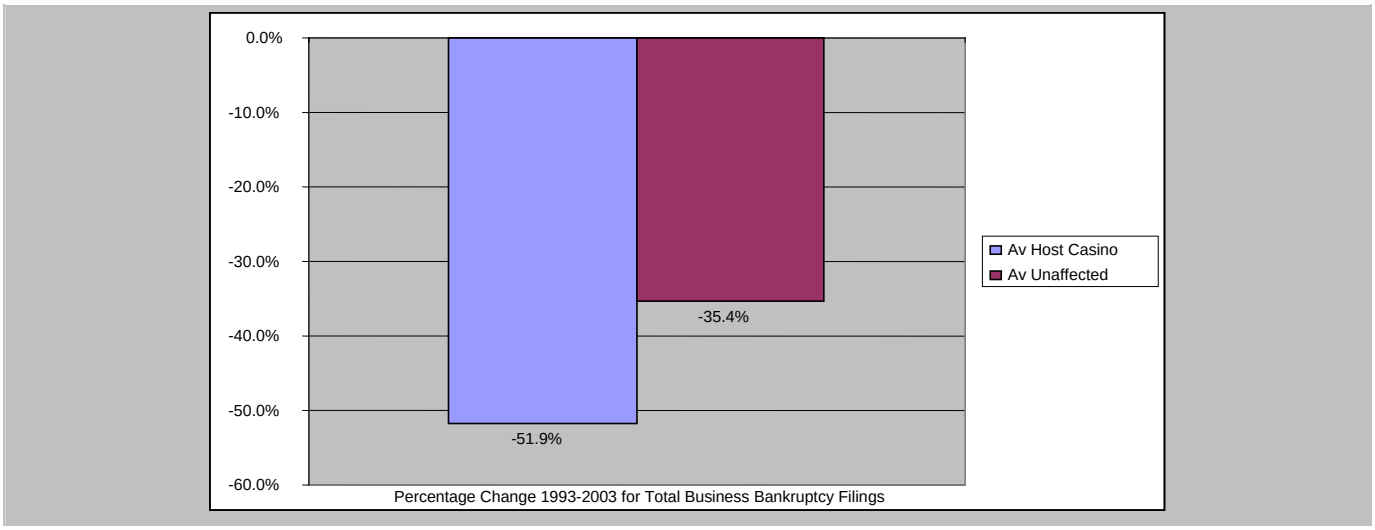
Table 14.2: Total Business Bankruptcy Filings

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	5.4	3.5	4.8	4.4	3.5	4.3	1.5	1.6	2.9	3.1	2.6
Av Unaffected	14.3	13.4	15.4	12.8	13.2	9.4	7.8	7.2	8.5	11.2	9.3



Counties	Percentage Change from 1993-2003 for Total Business Bankruptcy Filings
Av Host Casino	-51.9%
Av Unaffected	-35.4%

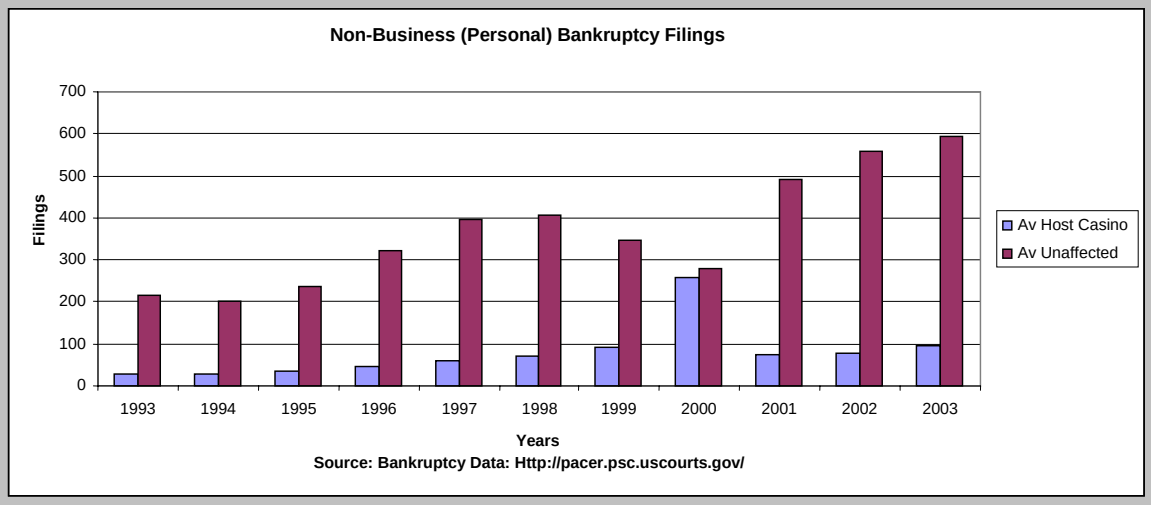
[48] The percentage change is deceptive because of these small numbers.



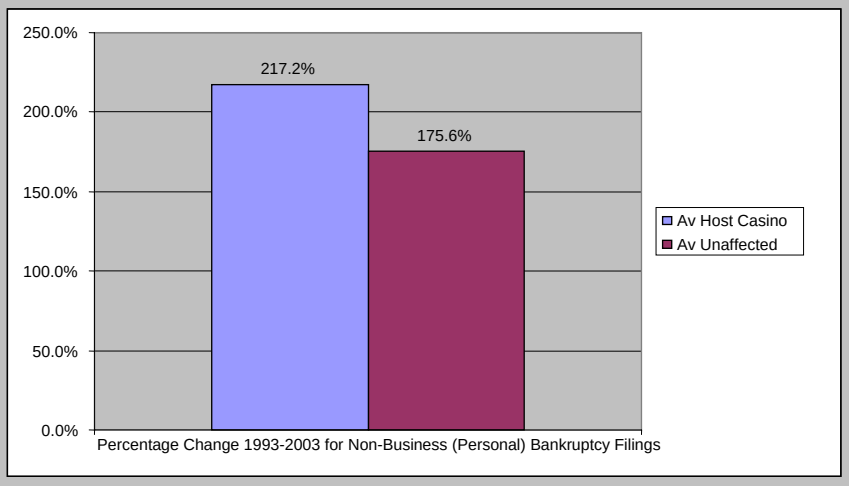
Similarly, as indicated in Table 15.2, personal bankruptcy filings increased at a greater percentage in casino counties (217.2%) than unaffected counties (175.6%), though the difference is less dramatic than in Part One. Again, even this individual bankruptcy data is inconclusive in terms of the impact of a casino on business bankruptcy filings, as, unlike business bankruptcy filings, the bulk of individual filings could indeed be individuals and not small, unincorporated businesses. The latter also could be indicative of problem gambler issues, but that is an issue left for future research and beyond the scope of this report.

Table 15.2: Non-Business (Personal) Bankruptcy Filings

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	29.6	27.5	34.7	44.9	58.5	70.6	92.1	257.6	72.7	79.0	93.9
Av Unaffected	216.1	201.1	235.7	320.4	394.4	406.9	346.6	280.9	492.9	559.1	595.7



Counties	Percentage Change from 1993-2003 for Non-Business (Personal) Bankruptcy Filings
Av Host Casino	217.2%
Av Unaffected	175.6%

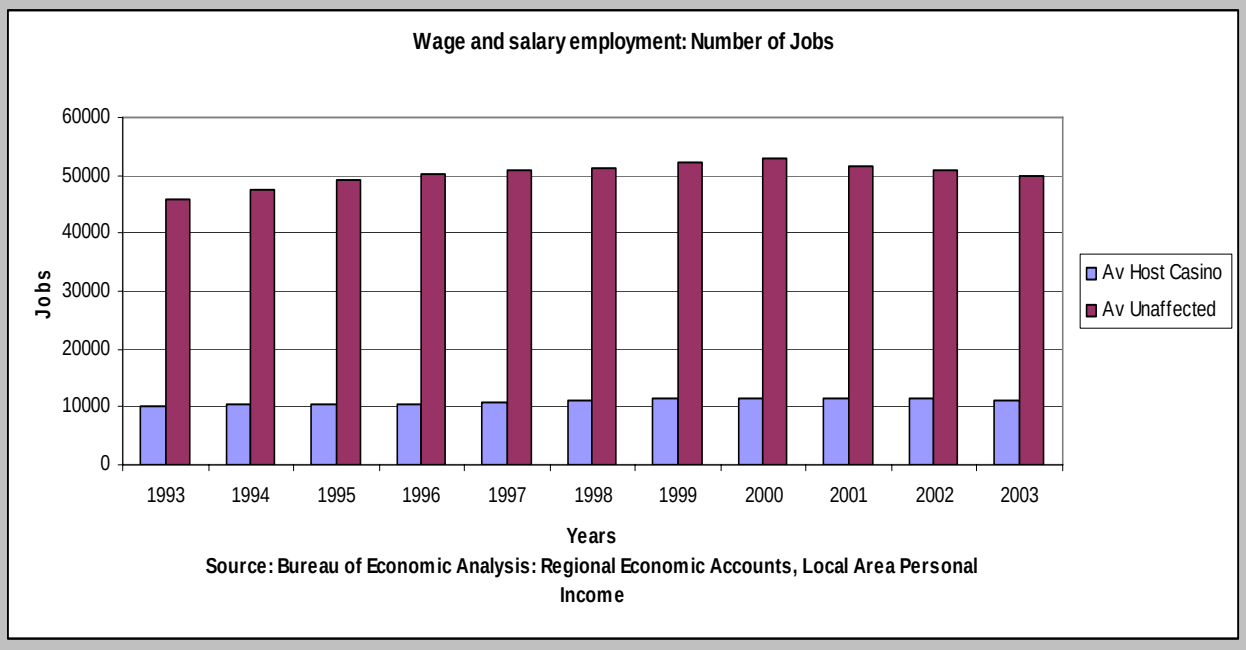


Jobs and Wages

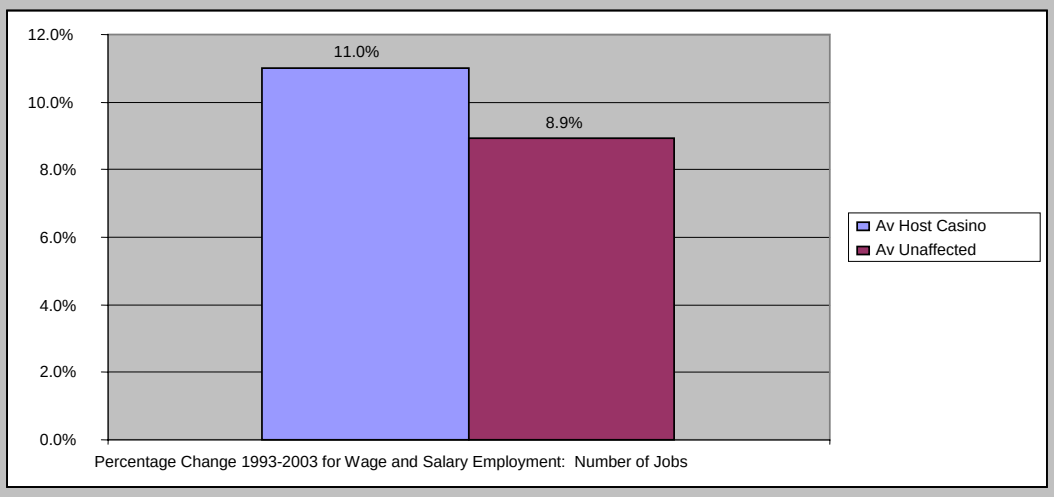
In terms of the impact of a casino on job creation, Table 16.2 shows the growth rate of jobs in casino counties was almost 2 percentage points higher (11% versus 8.9%) for this period than in unaffected counties. Again, one reason for this smaller increase in job creation may be the number of small Upper Peninsula counties in this 10 county host casino category.

Table 16.2: Wage and Salary Employment - Number of Jobs

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	10,143.9	10,529.3	10,590.3	10,606.9	10,826.4	11,007.6	11,321.2	11,587.9	11,510.8	11,363.0	11,261.5
Av Unaffected	45,910.7	47,444.1	49,323.1	50,083.1	50,782.9	51,152.3	52,319.9	52,858.8	51,625.9	50,745.2	50,008.3



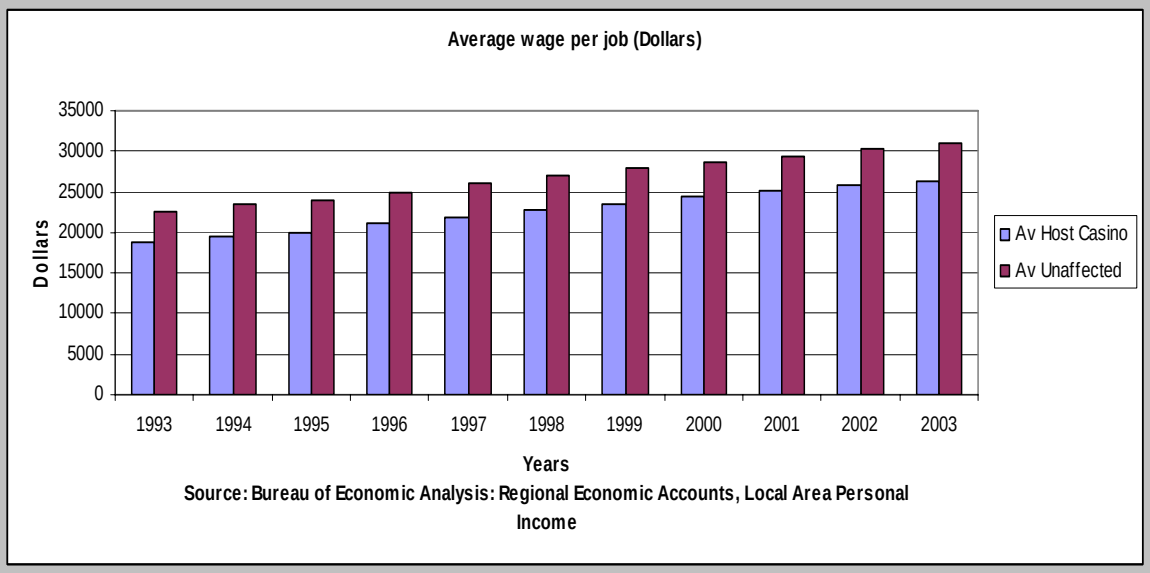
Counties	Percentage Change from 1993-2003 for Wage and Salary Employment: Number of Jobs
Av Host Casino	11.0%
Av Unaffected	8.9%



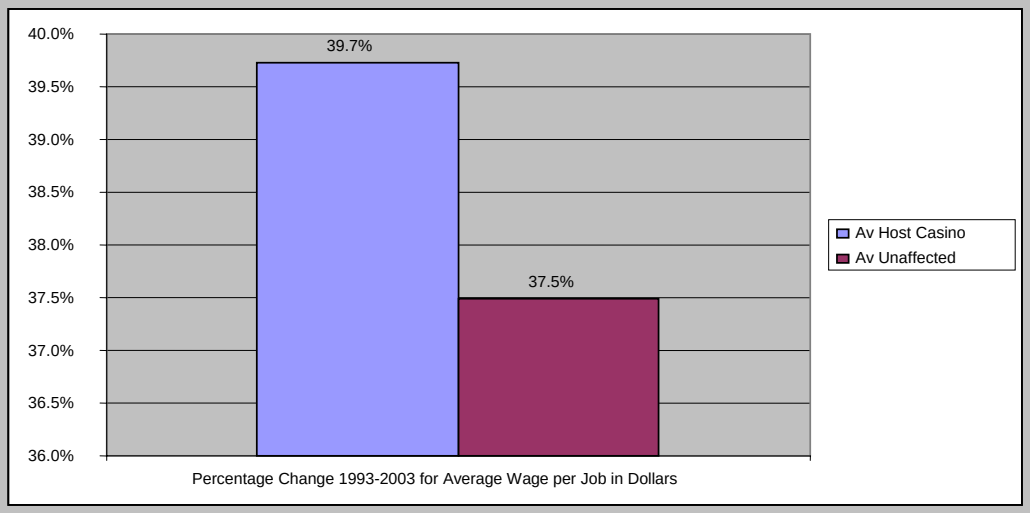
The average wage per job data in this part shows a small percentage difference between casino and unaffected counties, similar to the findings in Part One of this report (See Table 17.2).

Table 17.2: Average Wage per Job in Dollars

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	18,909.3	19,434.8	19,901.4	21,131.8	21,799.1	22,718.3	23,571.1	24,317.9	25,085.0	25,728.1	26,420.6
Av Unaffected	22,624.7	23,428.8	24,014.4	24,937.9	26,035.4	27,072.7	27,878.1	28,769.4	29,279.4	30,282.5	31,106.0



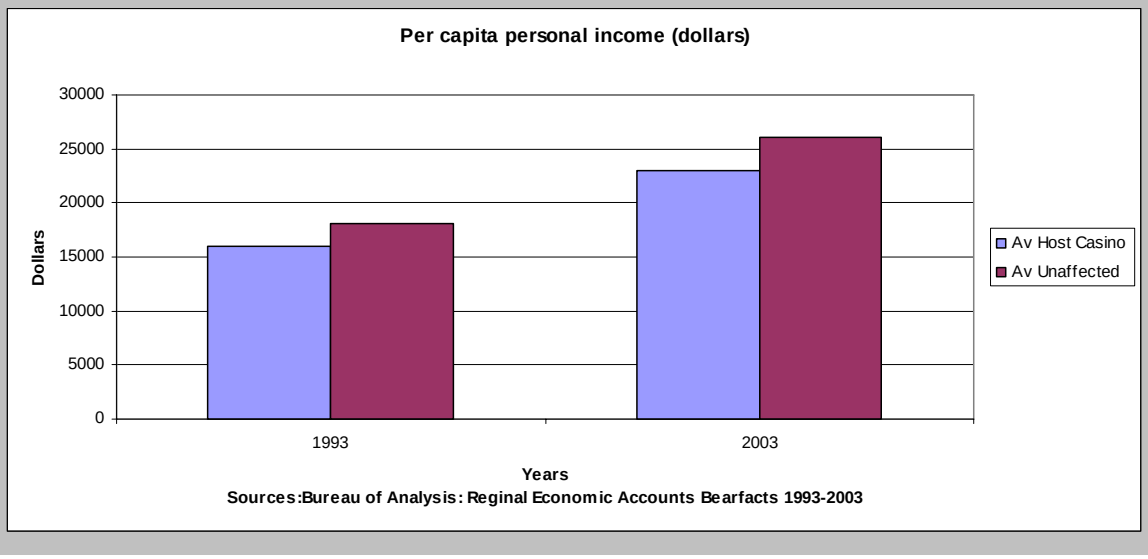
Counties	Percentage Change from 1993-2003 for Average Wage per Job in Dollars
Av Host Casino	39.7%
Av Unaffected	37.5%



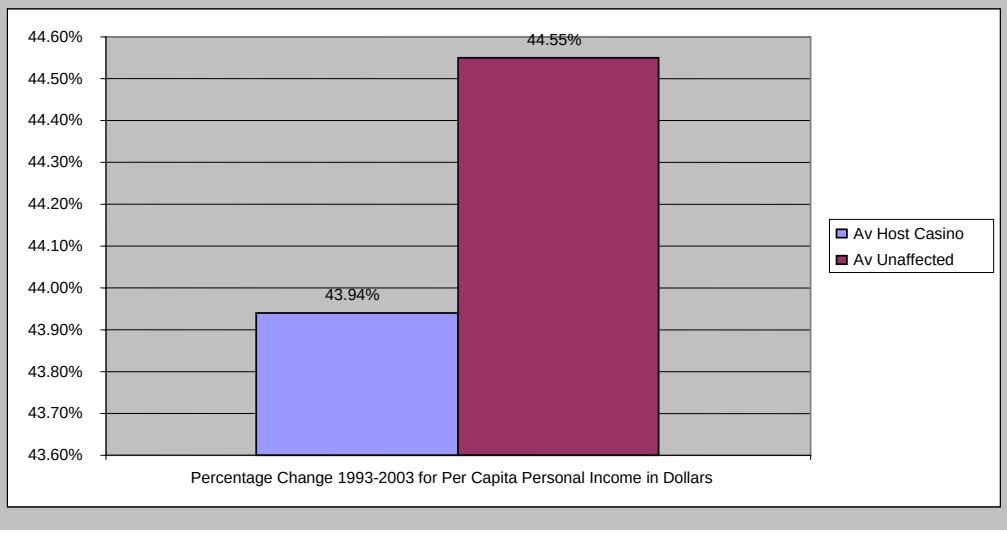
As Table 18.2 indicates, there also was not an appreciable percentage difference in the per capita personal income between casino and unaffected counties.

Table 18.2: Per Capita Personal Income in Dollars

	1993	2003
Av Host Casino	16,013.0	23,049.1
Av Unaffected	18,041.7	26,079.2



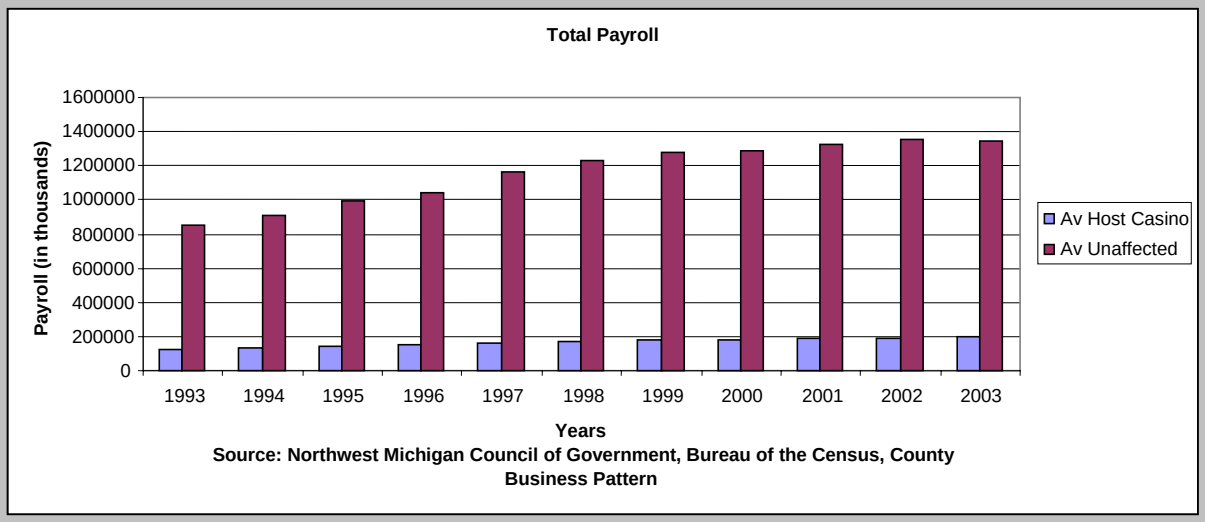
Counties	Percentage Change from 1993-2003 for Per Capital Personal Income in Dollars
Av Host Casino	43.94%
Av Unaffected	44.55%



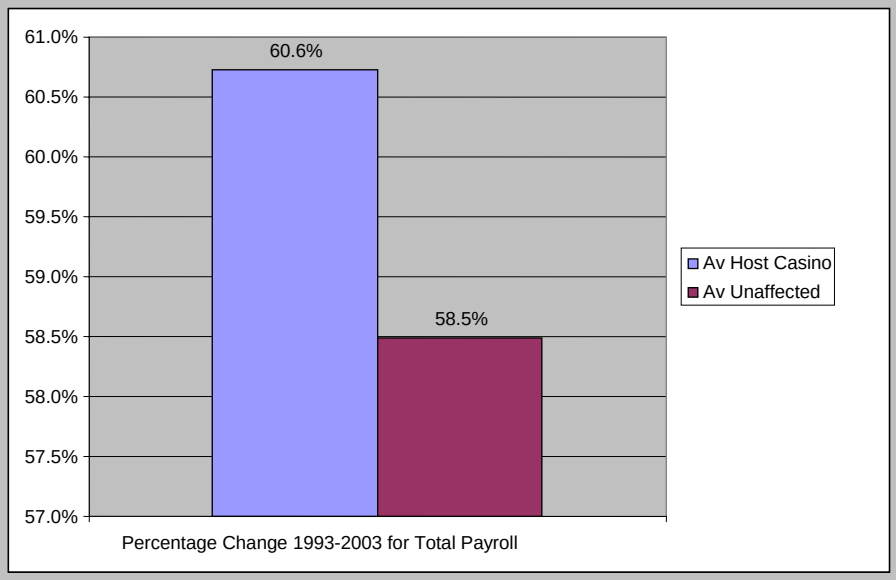
In terms of total payroll, the percentage difference between casino and unaffected counties is only 2.2 % (Table 19.2), unlike the dramatic differences we found in Part One of nearly 147%.

Table 19.2: Total Payroll (in millions of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	122.8	129.1	141.0	147.9	162.2	171.3	177.0	182.4	185.7	190.8	197.3
Av Un-affected	848.7	911.1	994.1	1,041.1	1,167.9	1,231.1	1,279.4	1,283.9	1,322.8	1,353.3	1,345.8



Counties	Percentage Change from 1993-2003 for Total Payroll
Av Host Casino	60.6%
Av Unaffected	58.5%



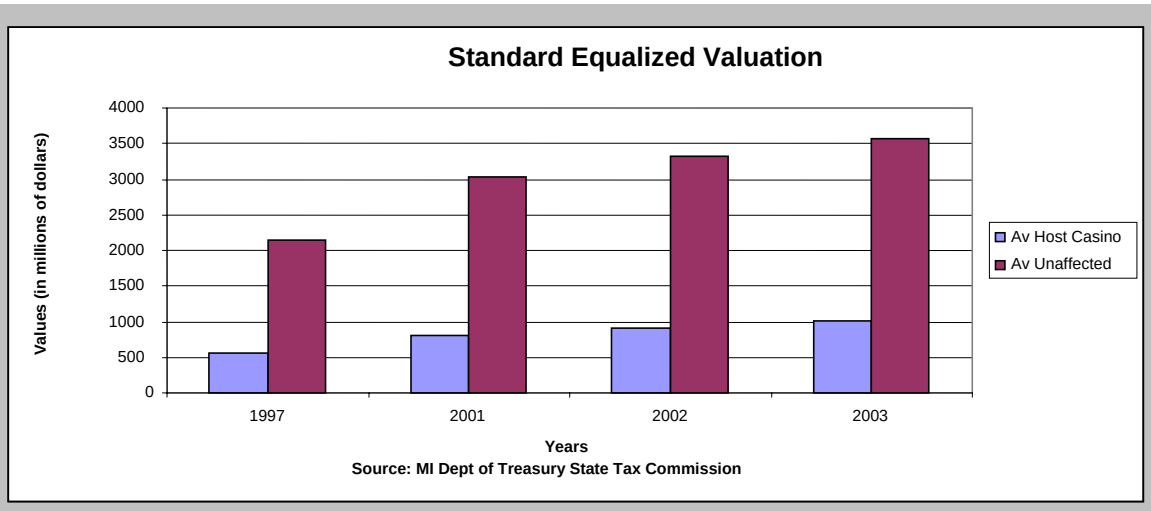
Thus, overall there is a positive economic impact in terms of the percentage increase in the jobs and wages in casino counties, but these differences are rather small for these 26 county comparisons.

Property Values

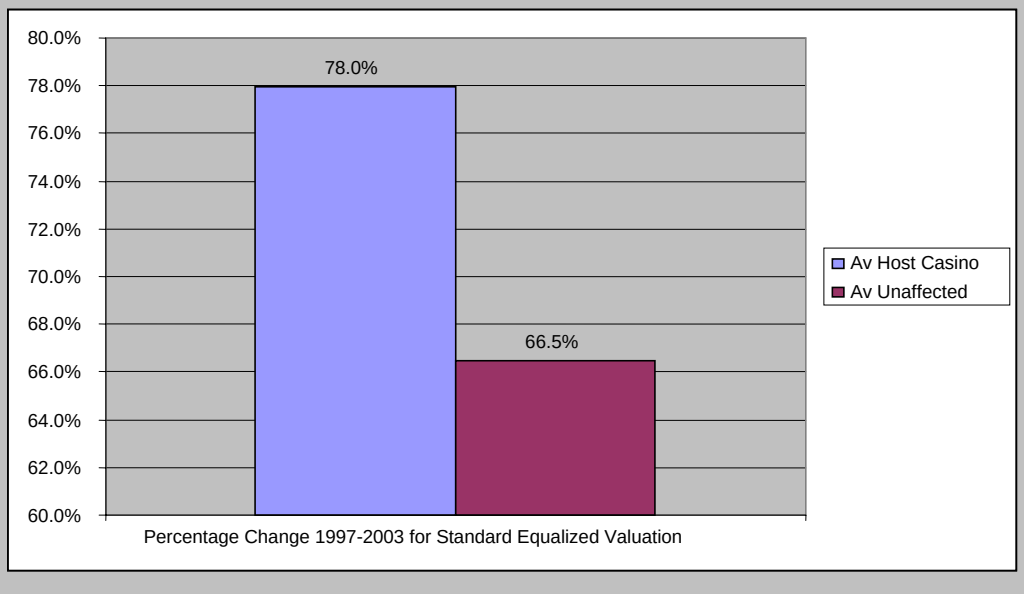
The SEV differences in this part show a more positive percentage change in casino counties (78%) than unaffected counties (66.5%) in Table 20.2, unlike the findings in Part One, which saw unaffected counties showing a 105.35% SEV change versus a 99.51% change in casino counties.

Table 20.2: Standard Equalized Valuation (in millions of dollars)

	1997	1999	2001	2002	2003
Av Host Casino	563.4	813.0	899.8	1,002.7	813.0
Av Unaffected	2,143.7	3,032.4	3,313.3	3,568.9	3,032.4



Counties	Percentage Change from 1997-2003 for Standard Equalized Valuation
Av Host Casino	78.0%
Av Unaffected	66.5%



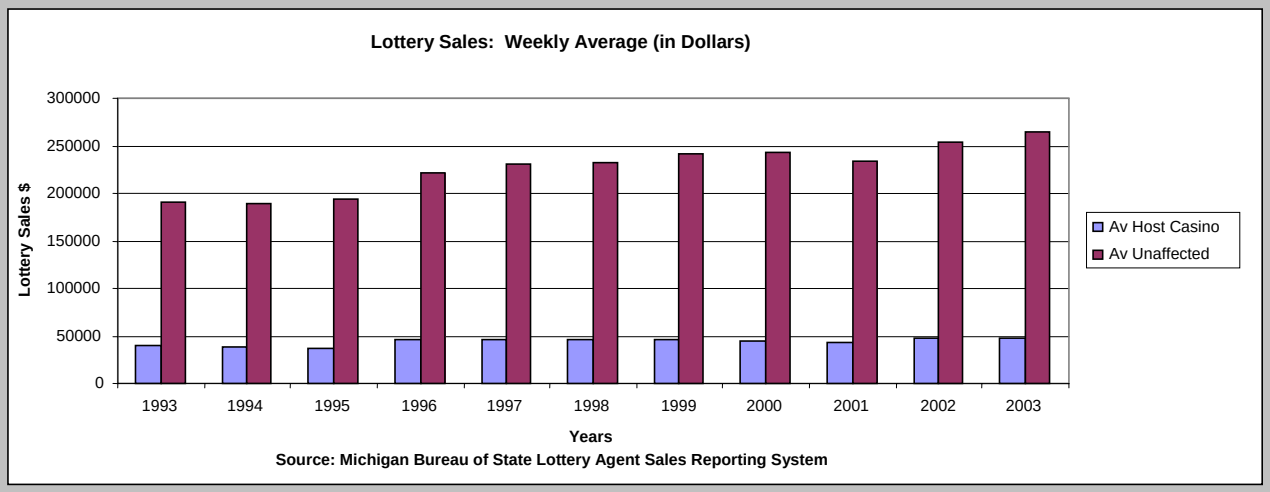
While these percentage changes are by themselves not meaningful in terms of proving a casino impact, they do indicate the more rapid growth in property values in casino counties that we saw in Part One.

Lottery Sales

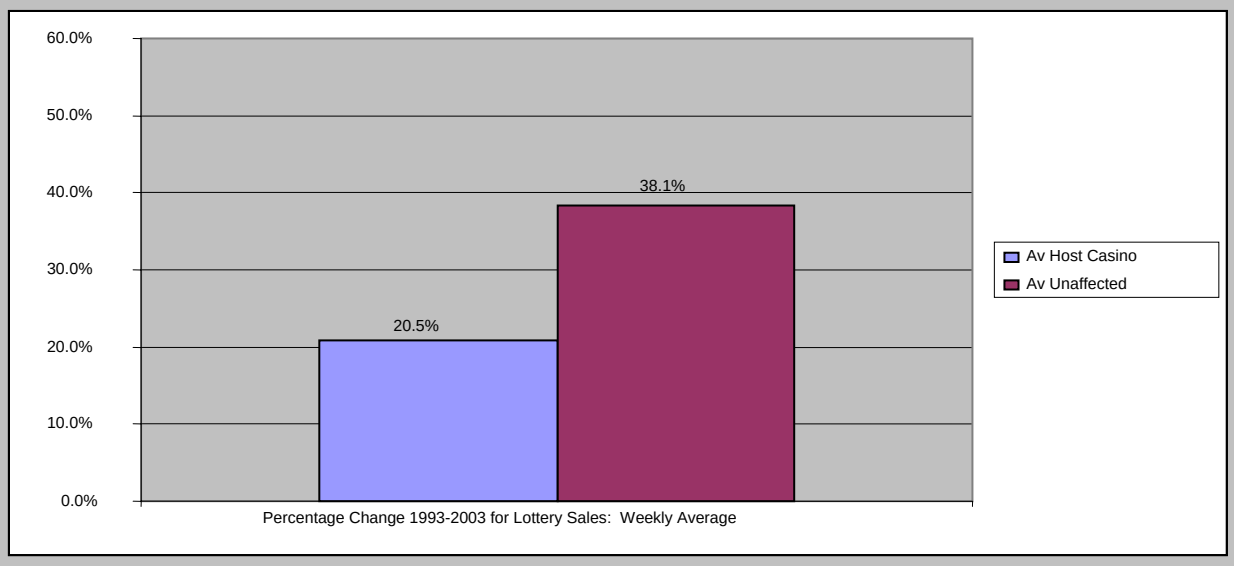
Turning to the lottery sales comparisons in Table 21.2, lottery sales increased by nearly 106% in casino counties versus nearly 77% in unaffected counties. This data contrasts with the findings in Part One that unaffected counties experienced a slightly greater increase in lottery sales (22.2%) compared to the sales in casino counties (19.6%).

Table 21.2: Lottery Sales: Weekly Average (in dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	40,173	38,282	37,623	46,596	46,422	45,453	45,838	44,712	43,141	47,586	48,397
Av Unaffected	191,472	189,768	193,250	221,472	230,746	232,350	241,537	243,087	233,595	254,590	264,524



Counties	Percentage Change from 1993-2003 for Lottery Sales: Weekly Average
Av Host Casino	20.5%
Av Unaffected	38.1%



Conclusions:

It would appear in this Part Two analysis of the economic impacts of tribal casinos that there is statistical support for findings of significant increased economic growth (as measured by percentage change) in host casino counties in Part One for the following areas:

1. Construction employment and payroll
2. Food service employment
3. New accommodation establishments and employment

In addition, this part supports the findings in Part One that

1. The amusement industry in casino counties has not fared as well economically as other specific establishments explored in this report.
2. The data is inconclusive in terms of the linkage between bankruptcy filings and the presence of a casino.
3. The job creation and wage comparisons between casino and unaffected counties show casino county growth but they are relatively more modest in the Part Two analysis.
4. The SEV data indicates a more positive difference in property values (SEV) in casino versus unaffected counties.
5. The lottery sales data is inconclusive in terms of the impact that a casino has on county lottery sales, though Part Two data suggests a greater growth of sales in casino counties versus unaffected counties, contrary to the findings in Part One.

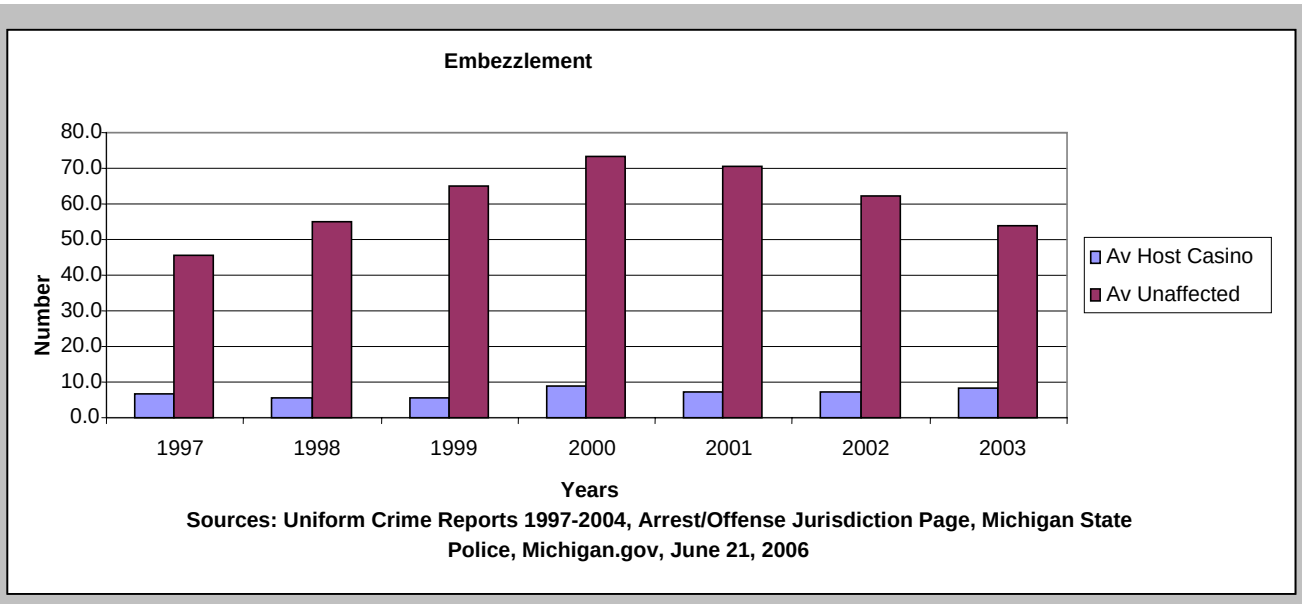
Social Impacts

Crime

What follows is a comparison of many of the criminal offense statistics in casino and casino impacted counties in the areas of crime, which were also examined for the entire state in Part One. The first casino crime associated variable - embezzlement- was found to have increased more in unaffected counties than casino counties from 1997-2003. The data in Table 22.2 indicates a reversal from Part One, as casino counties experienced a percentage increase of 24.6% while unaffected counties experienced only a 17.9%. (Again caution must be taken as the raw average numbers in the tables are small, and the erratic nature of these small numbers makes the choice of year comparisons important).

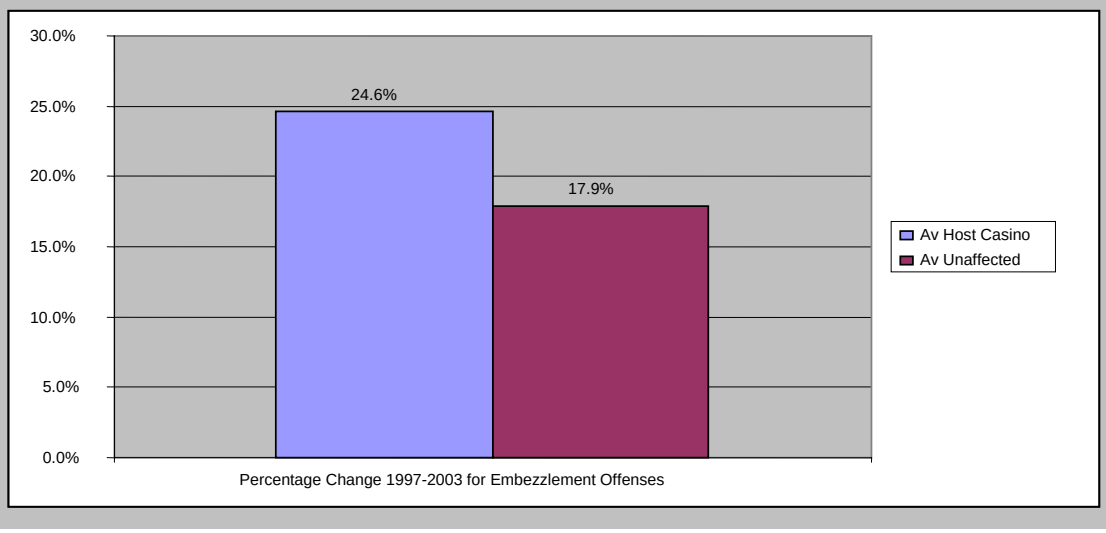
Table 22.2: Embezzlement Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	6.5	5.7	5.4	8.7	7.2	7.1	8.1
Av Unaffected	45.8	54.8	64.8	73.2	70.7	62.3	53.9



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

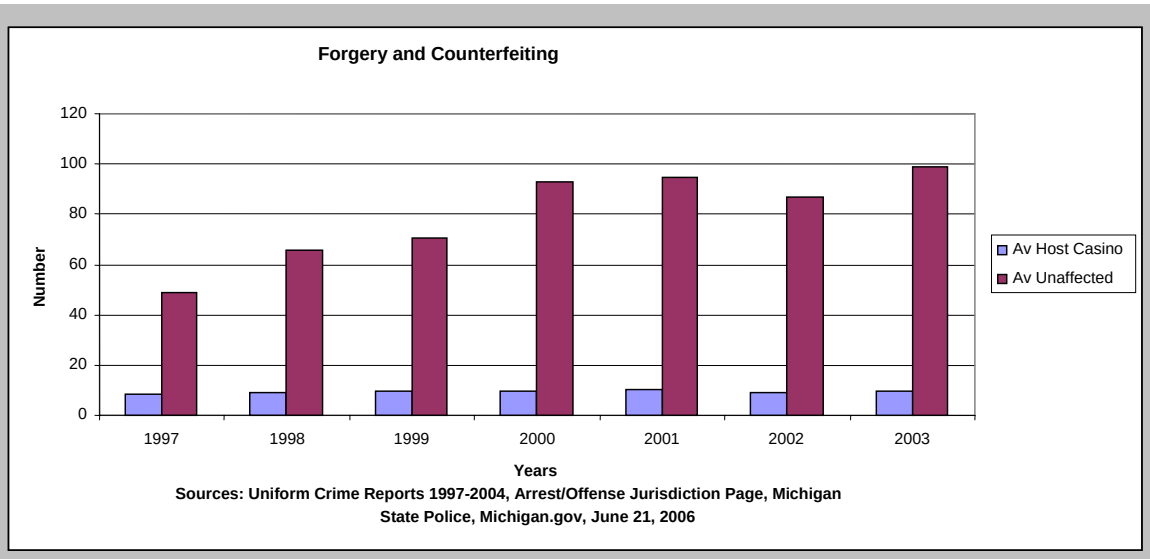
Counties	Percentage Change from 1997-2003 for Embezzlement Offenses
Av Host Casino	24.6%
Av Unaffected	17.9%



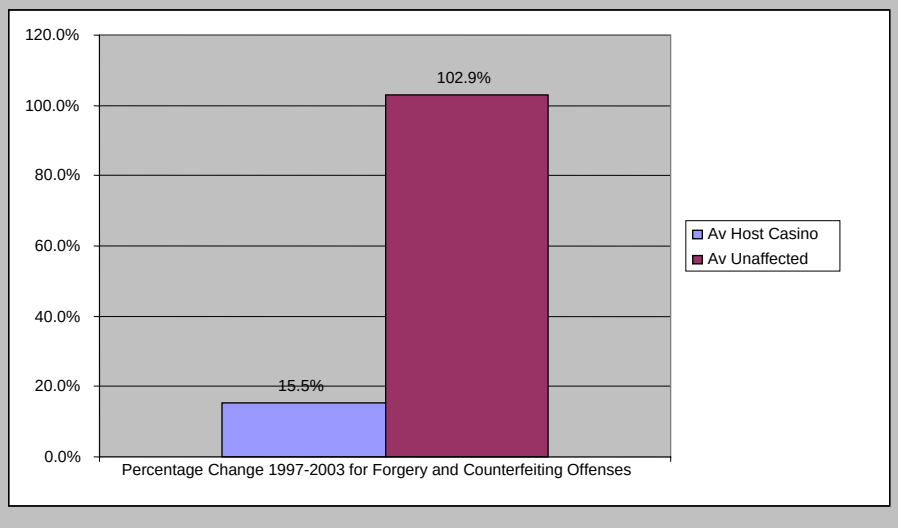
For the forgery and counterfeiting offenses, the results are consistent with the data in Part One indicating that unaffected counties experienced a much greater percentage increase in these crimes than casino counties (see Table 23.2).

Table 23.2: Forgery and Counterfeiting Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	8.4	9.2	9.6	9.5	10.0	9.2	9.7
Av Unaffected	48.8	65.5	70.7	92.7	94.6	86.6	98.9



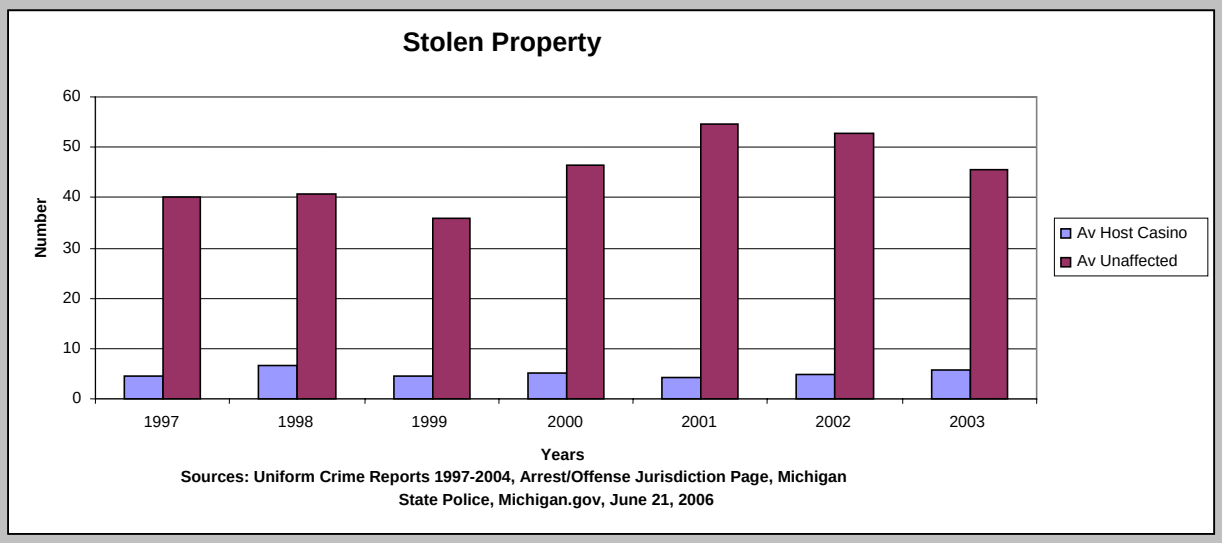
Counties	Percentage Change from 1997-2003 for Forgery and Counterfeiting Offenses
Av Host Casino	15.5%
Av Unaffected	102.9%



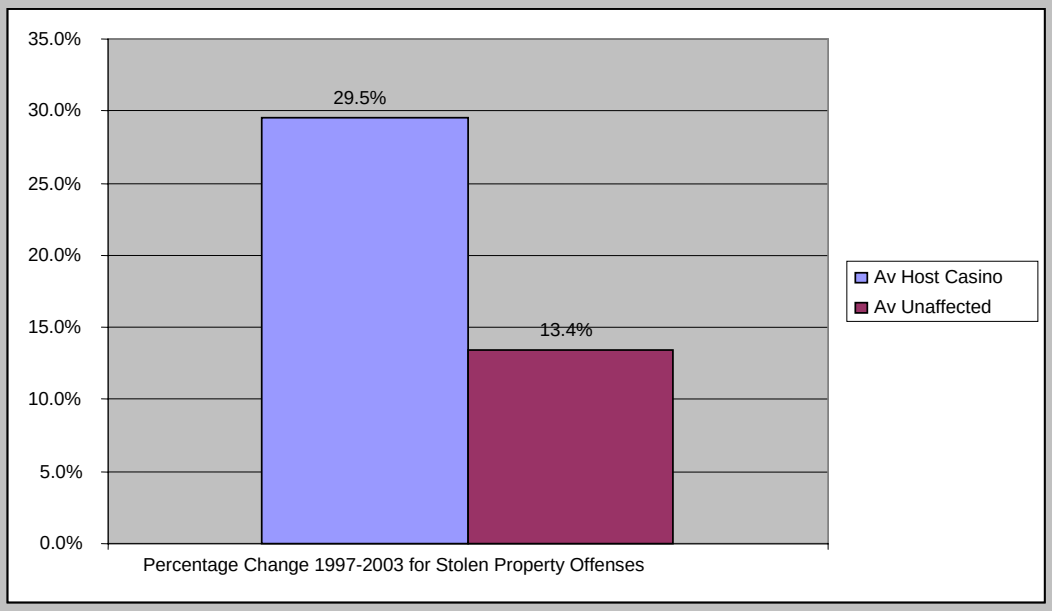
In terms of stolen property offenses, the percentages seem dramatic in terms of comparing increased stolen property crimes in casino counties versus unaffected counties in Table 24.2. The actual average number difference is not appreciable, unlike the findings in Part One where unaffected counties faced a 46% increase versus only a 6% increase in casino counties.

Table 24.2: Stolen Property Offenses

	1997	1998	1999	2001	2000	2002	2003
Av Host Casino	4.4	6.6	4.4	5.1	4.1	4.9	5.7
Av Unaffected	40.1	40.6	35.9	46.3	54.6	52.9	45.4



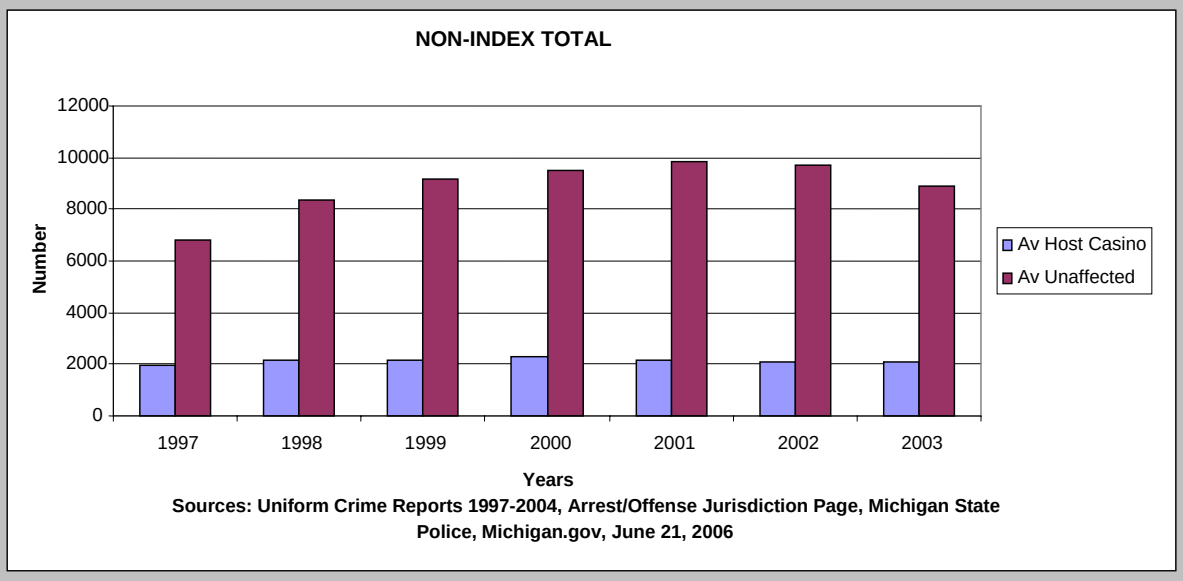
Counties	Percentage Change from 1997-2003 for Stolen Property Offenses
Av Host Casino	29.5%
Av Unaffected	13.4%



For total non-index crime, we found in Part Two (which excludes the 1996 and 1998 casinos and many counties that became impacted counties after 1993) that unaffected counties experienced a 42.6% increase in such crimes versus only an 8.6% increase in casino counties (Table 25.2). This finding is similar to the pattern in Part One (66.6% versus 8.4%).

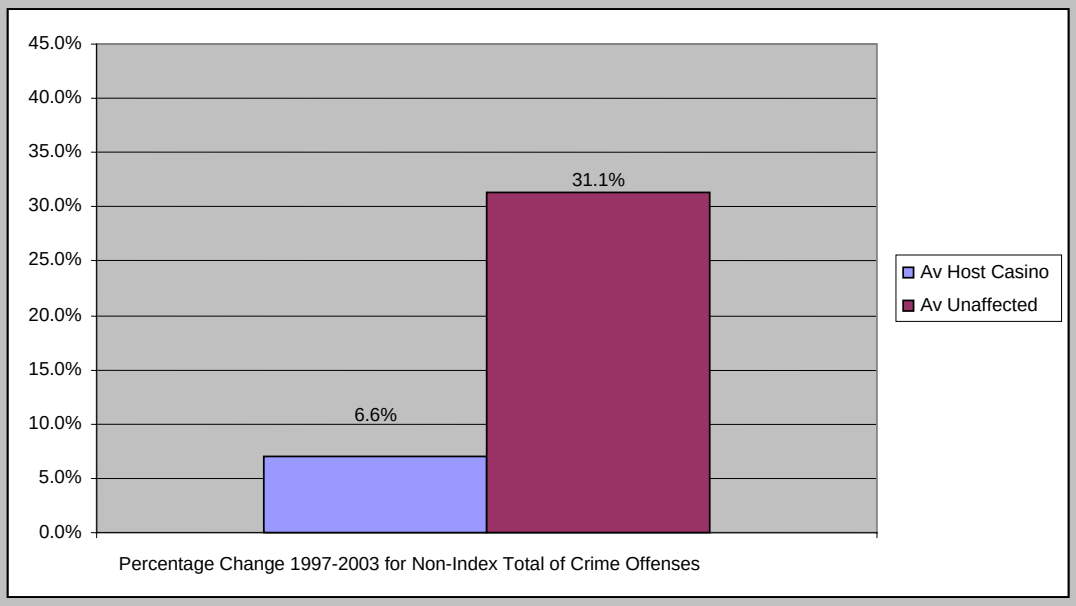
Table 25.2: Non-Index Total of Crime Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	1937.8	2172.0	2167.4	2313.7	2140.5	2104.6	2066.0
Av Unaffected	6793.0	8391.2	9200.2	9488.5	9828.5	9695.3	8915.8



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

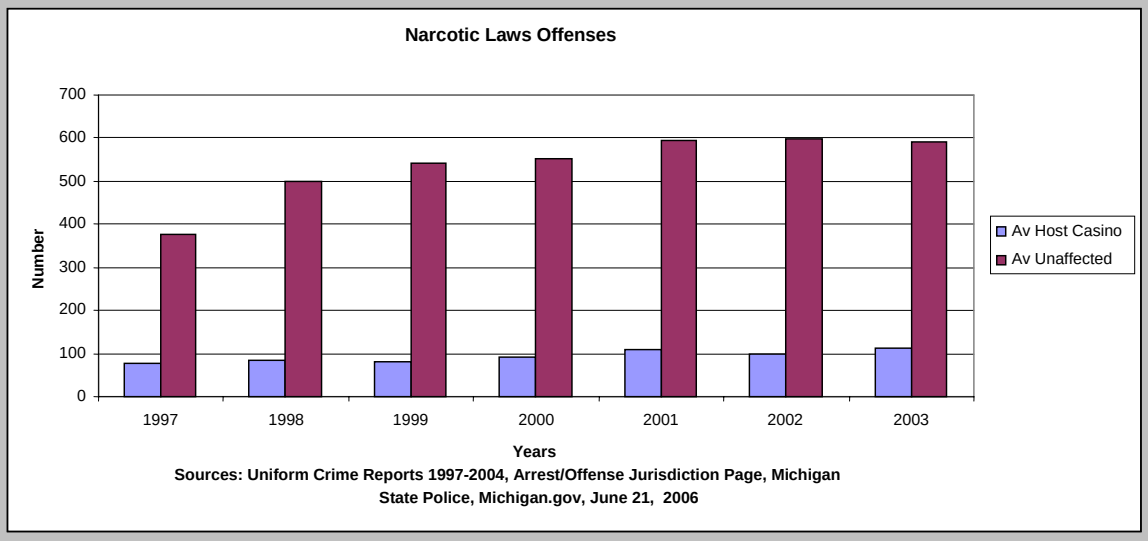
Counties	Percentage Change from 1997-2003 for Non-Index Total of Crime Offenses
Av Host Casino	6.6%
Av Unaffected	31.1%



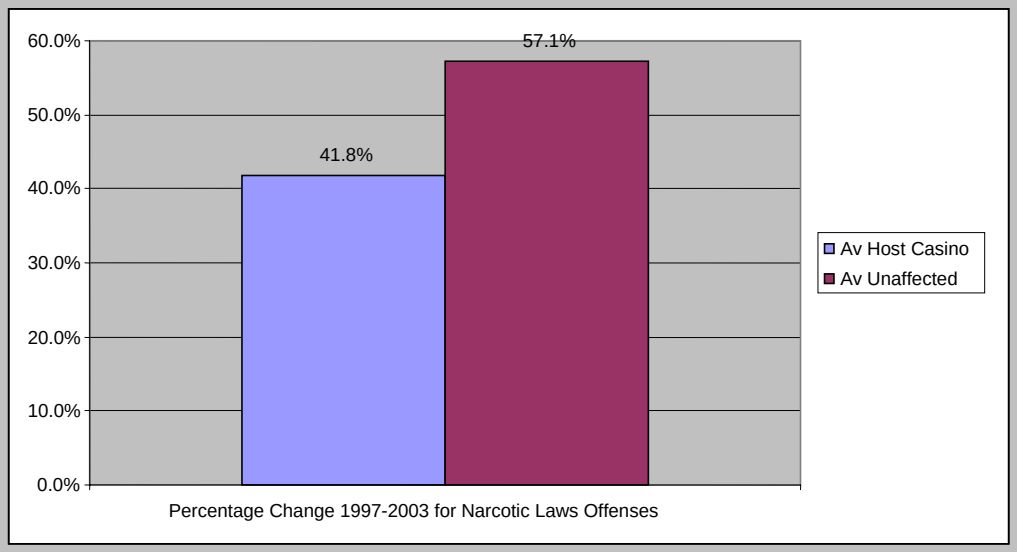
The narcotics crime data in Table 26.2 is consistent with the data in Part One, with unaffected counties experiencing a larger percentage increase in such crimes compared to casino counties.

Table 26.2: Narcotic Laws Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	79.0	82.8	79.2	90.7	110.5	97.7	112.0
Av Unaffected	376.4	500.1	542.5	552.2	595.1	598.0	591.3



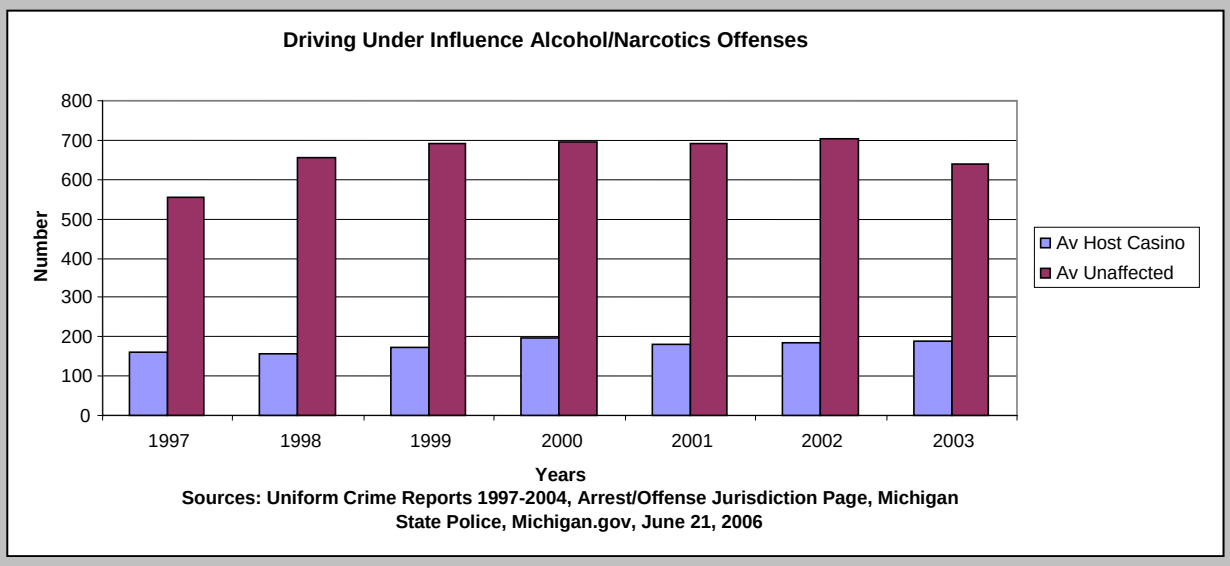
Counties	Percentage Change from 1997-2003 for Narcotic Laws Offenses
Av Host Casino	41.8%
Av Unaffected	57.1%



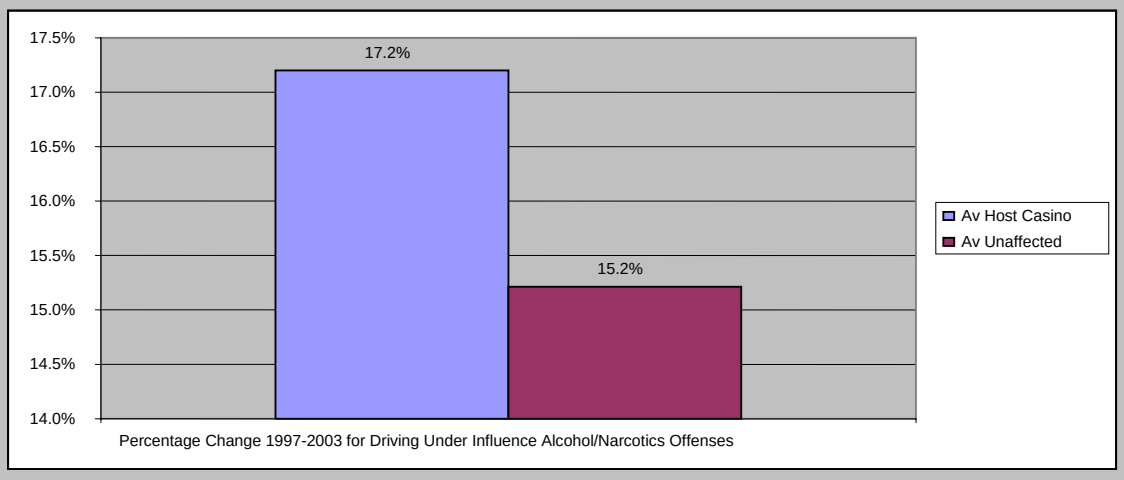
Driving under the influence crimes shown in Table 27.2 experienced only a slightly higher increase (by 2%) in casino counties, while Part One found unaffected counties experiencing a 44% increase versus a 27% increase for casino counties in this crime category. Thus, there was not a significant increase in such crimes in casino counties versus unaffected counties as the literature would have projected.

Table 27.2: Driving Under Influence Alcohol/Narcotics Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	190.9	195.5	212.4	241.5	230.0	239.8	241.7
Av Unaffected	443.6	621.5	693.3	696.8	690.9	704.6	639.6



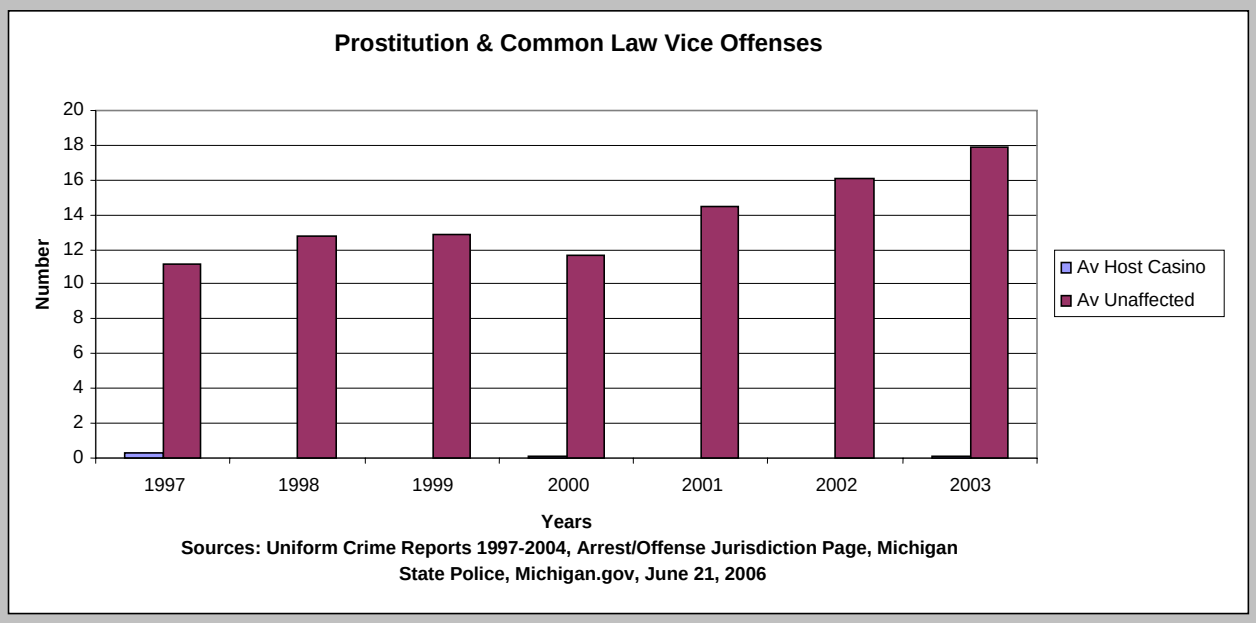
Counties	Percentage Change from 1997-2003 for Driving Under Influence Alcohol/Narcotics Offenses
Av Host Casino	17.2%
Av Unaffected	15.2%



Consistent with the data in Part One, prostitution and common vice offense in unaffected counties experienced an increase, while such crimes were nearly non-existent in casino counties (see Table 28.2).

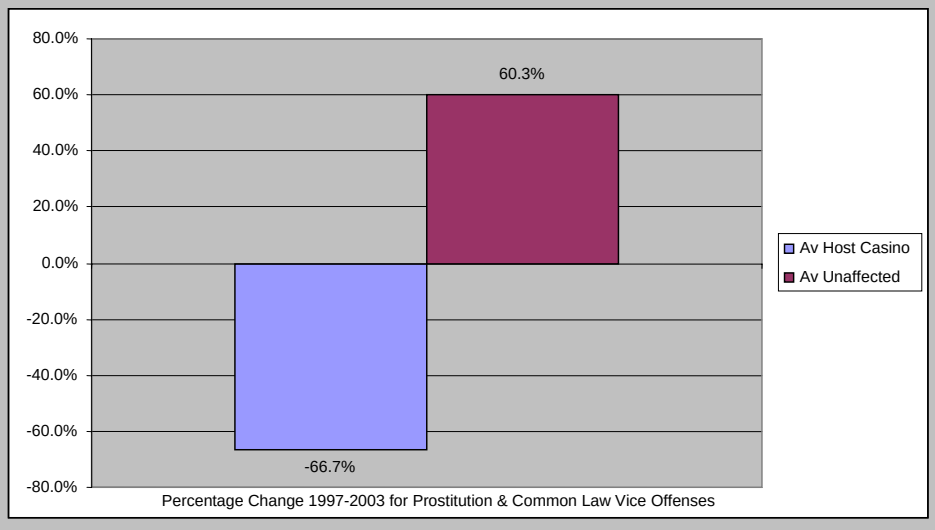
Table 28.2: Prostitution & Common Law Vice Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	0.3	0.0	0.0	0.1	0.0	0.0	0.1
Av Unaffected	11.2	12.8	12.9	11.7	14.4	16.1	17.9



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

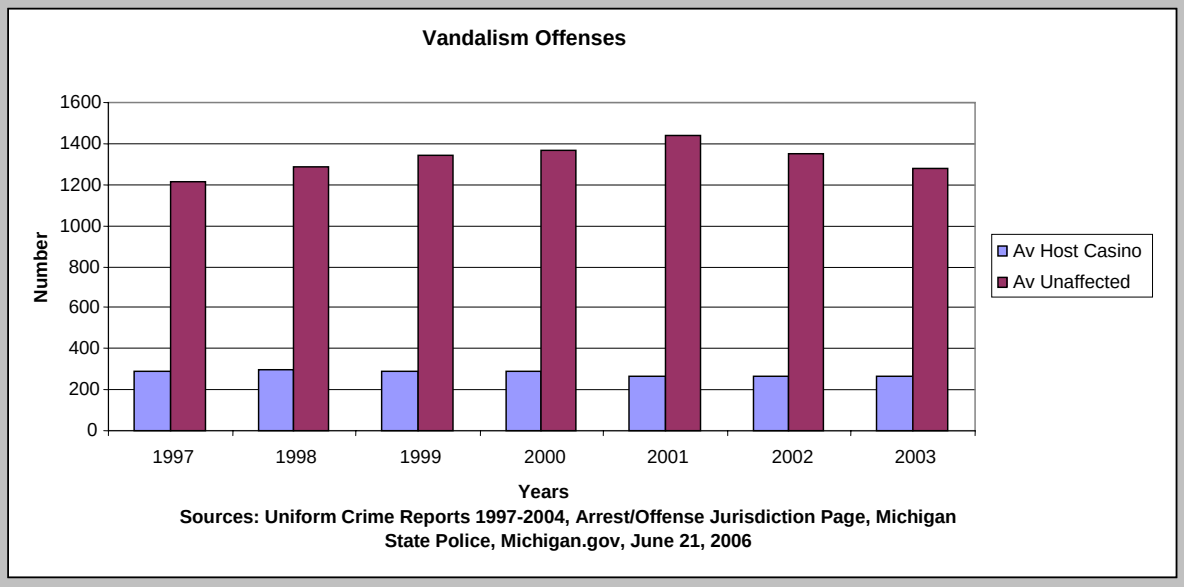
Counties	Percentage Change from 1997-2003 for Prostitution & Common Law Vice Offenses
Av Host Casino	-66.7%
Av Unaffected	60.3%



Vandalism in both Part One and Part Two increased in affected counties but decreased in casino counties (see Table 29.2).

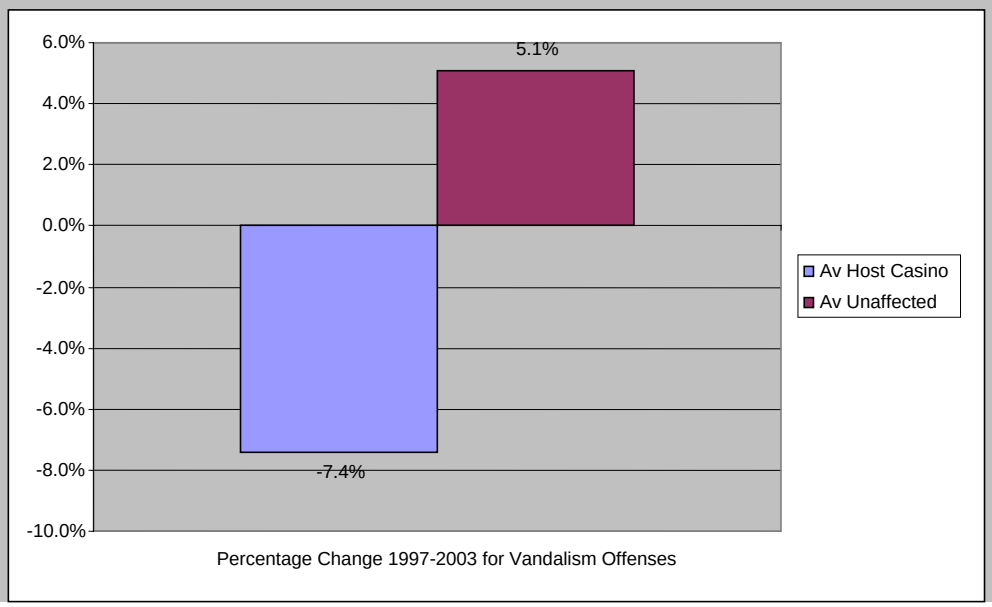
Table 29.2: Vandalism from Crime Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	287.5	300.3	286.8	291.3	261.8	264.5	266.2
Av Unaffected	1,217.1	1,289.4	1,346.4	1,370.0	1,442.8	1,352.3	1,278.8



Sources: Uniform Crime Reports 1997-2004, Arrest/Offense Jurisdiction Page, Michigan State Police, Michigan.gov, June 21, 2006

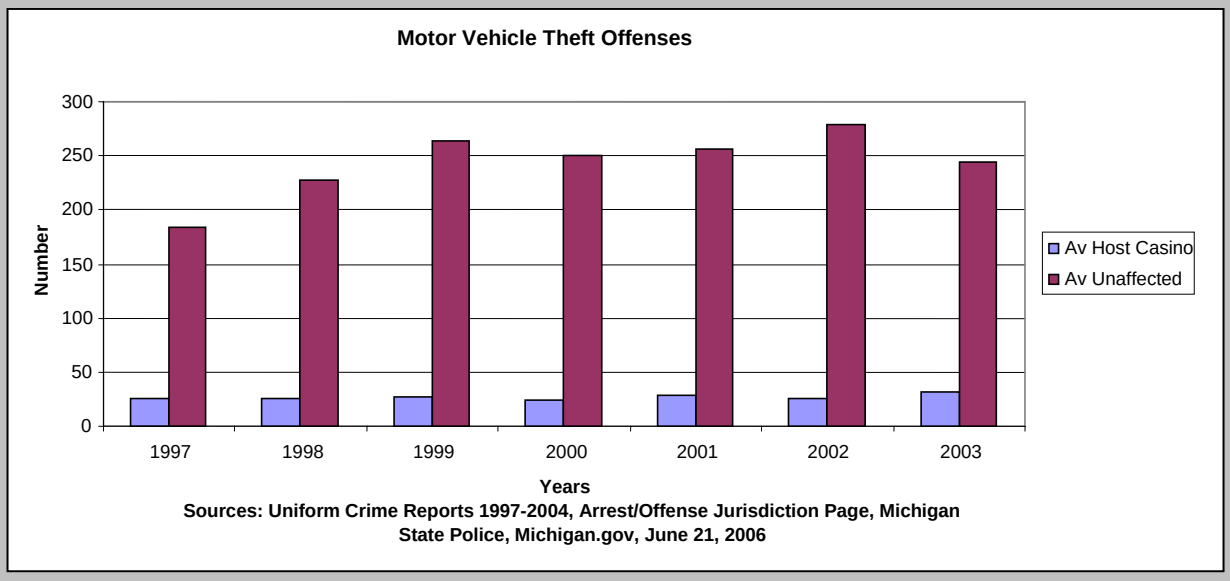
Counties	Percentage Change from 1997-2003 for Vandalism Offenses
Av Host Casino	-7.4%
Av Unaffected	5.1%



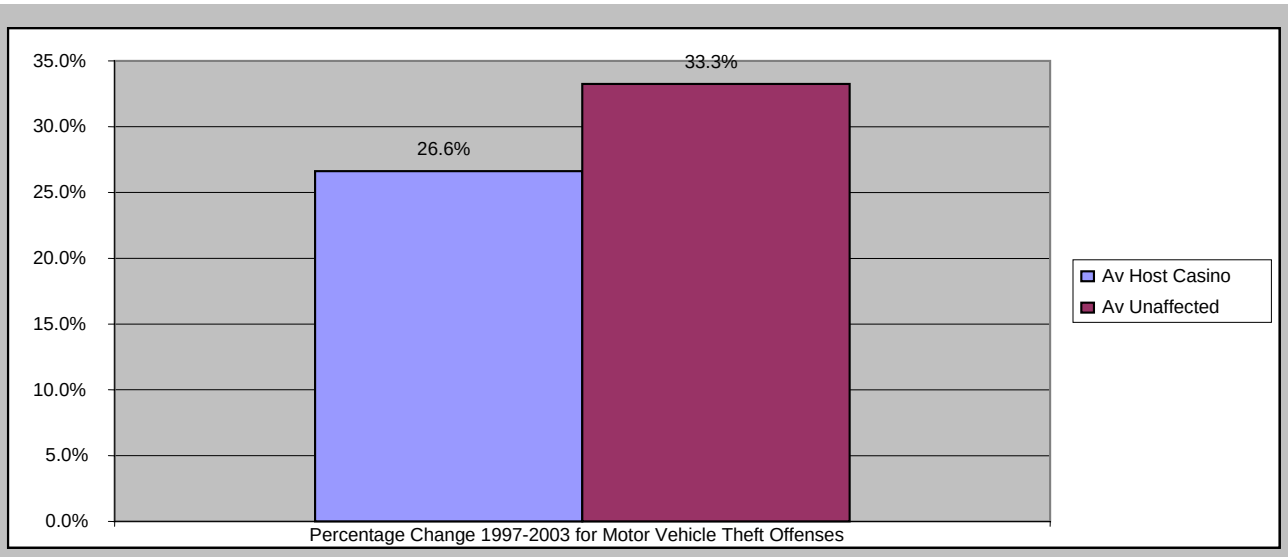
Motor vehicle thefts increased at a smaller percentage rate in casino counties than in unaffected counties in this analysis, similar to the data in Part One of this report, although the differences between these two county comparisons were less in this part of the report (see Table 30.2).

Table 30.2: Motor Vehicle Theft Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	25.2	25.3	27.3	24.7	27.9	25.8	31.9
Av Unaffected	183.6	227.1	263.7	249.8	255.6	278.6	244.8



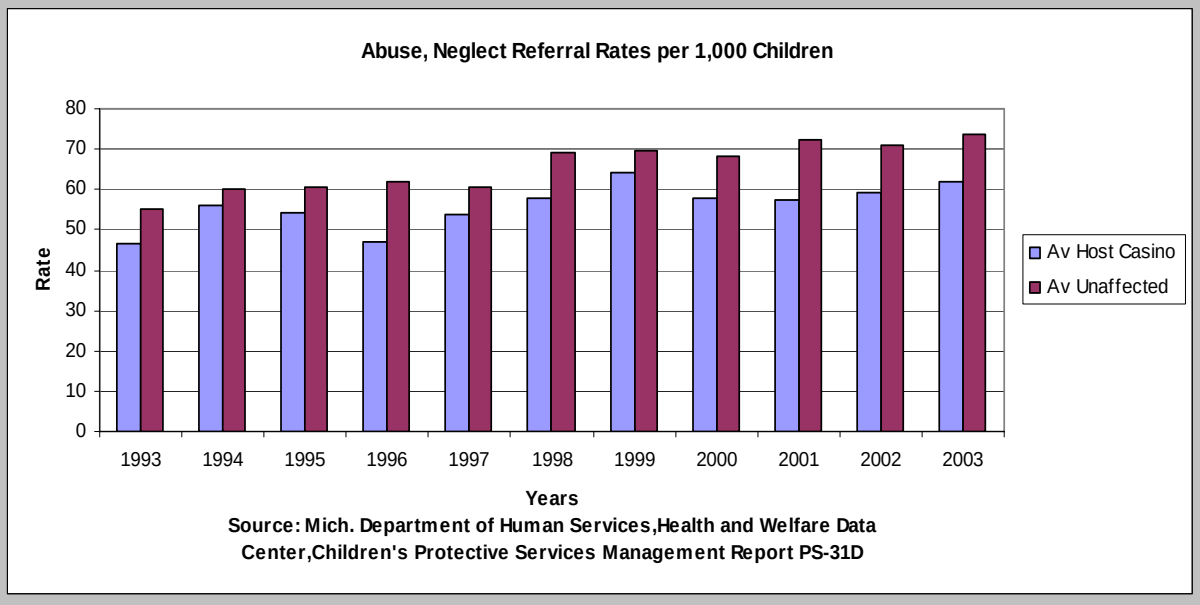
Counties	Percentage Change from 1997-2003 for Motor Vehicle Theft Offenses
Av Host Casino	26.6%
Av Unaffected	33.3%



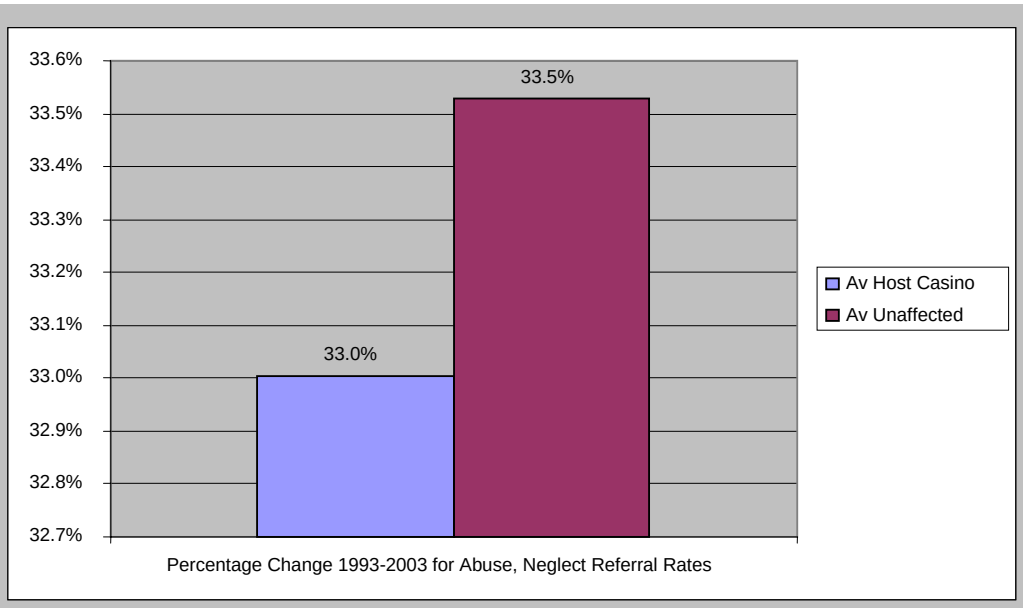
Similar to our findings in Part One, the data in Table 31.2 indicates no significant difference in the percentage increase in abuse and neglect referral rates per 1,000 children in casino counties versus unaffected counties.

Table 31.2: Abuse, Neglect Referral Rates per 1,000 Children

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	46.6	56.1	54.4	47.1	53.6	57.9	64.0	57.9	57.6	59.1	62.0
Av Unaffected	55.1	60.1	60.6	62.1	60.6	69.2	69.8	68.4	72.4	70.8	73.6



Counties	Percentage Change from 1993-2003 for Abuse, Neglect Referral Rates
Av Host Casino	33.0%
Av Unaffected	33.5%



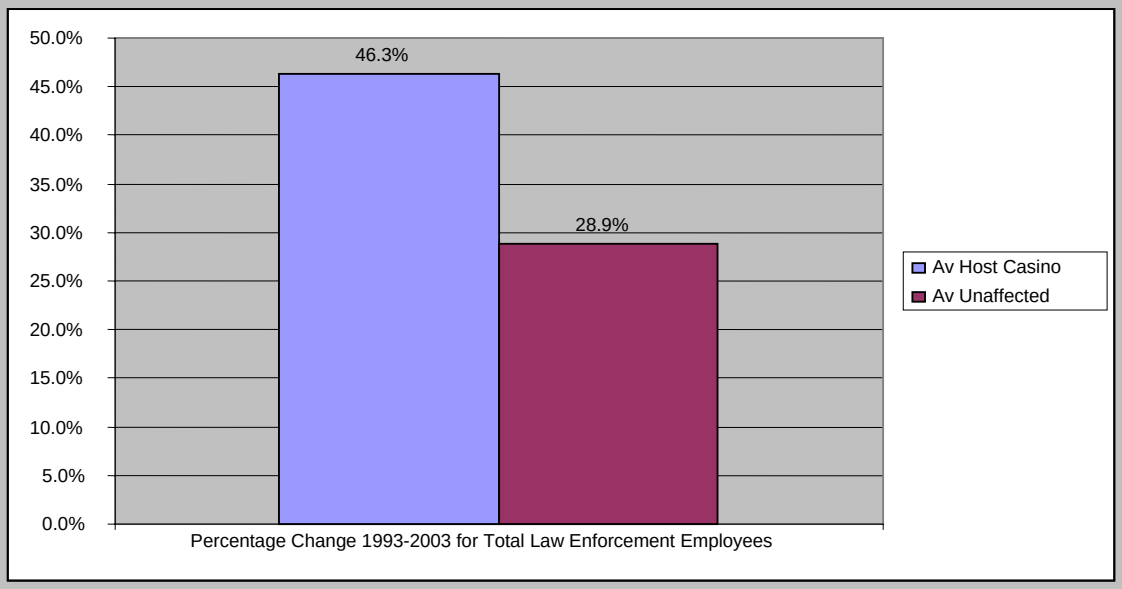
Law Enforcement Resources

The growth rate in the number of law enforcement employees in casino counties was greater than in unaffected counties by a 46% to 29% margin, a smaller margin than in Part One (94%-17%) but still a considerable added cost and crime deterrence factor for casino counties (see Table 32.2). This difference in law enforcement resources may in part account for the crime differences, in terms of the deterrent effects of an increased number of law enforcement officers.

Table 32.2: Total Law Enforcement Employees

	1993	1994	1995	1996	1997	1999	2000	2001	2002	2003
Av Host Casino	17.5	22.6	23.8	29.5	30.1	32.1	38.5	33.2	32.9	33.9
Av Unaffected	79.2	64.6	68.7	69.2	69.3	86.7	89.4	89.8	90.8	92.8

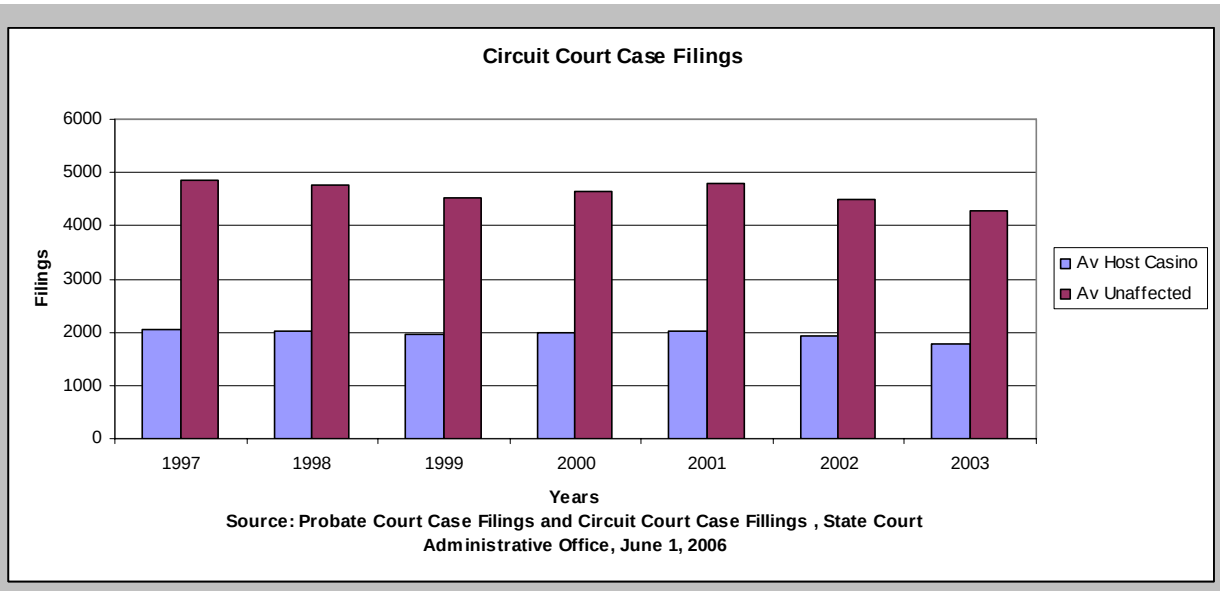
Counties	Percentage Change from 1993-2003 for Total Law Enforcement Employees
Av Host Casino	46.3%
Av Unaffected	28.9%



In terms of the impact of casinos on court resources, the data in Table 33.2 indicates circuit court filings decreased even more in casino counties than unaffected counties. Furthermore, Table 34.2 indicates a similar greater decline in probate court filings for casino counties than unaffected counties. This data does not support the arguments made that the presence of a casino per se increases the burdens on these two county courts.

Table 33.2: Circuit Court Case Filings

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	2104.9	1910.3	1902.2	1926.8	1941.5	1844.1	1692.8
Av Unaffected	3782.0	4402.6	4522.1	4654.4	4786.9	4505.8	4266.9



Counties	Percentage Change from 1997-2003 for Circuit Court Case Filings
Av Host Casino	-14.4%
Av Unaffected	-12.1%

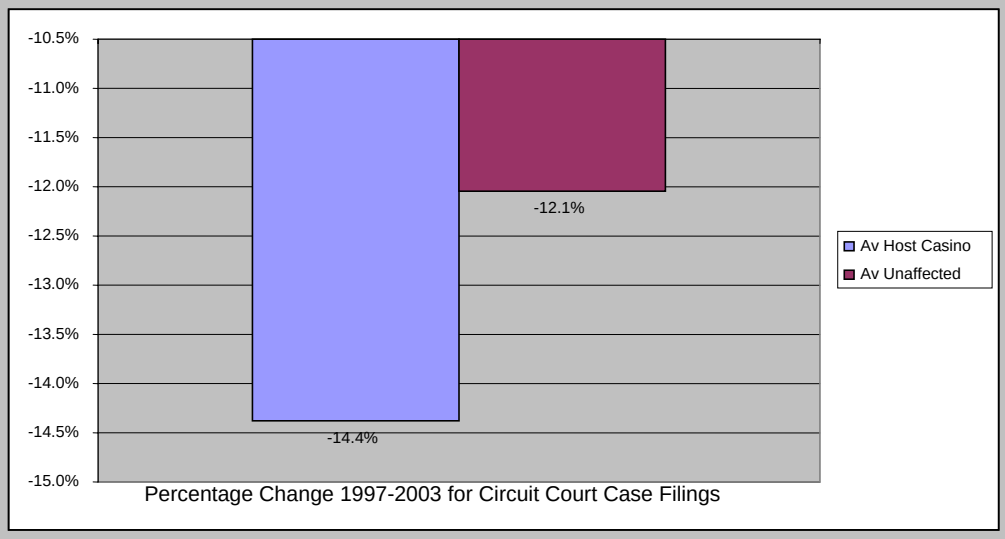
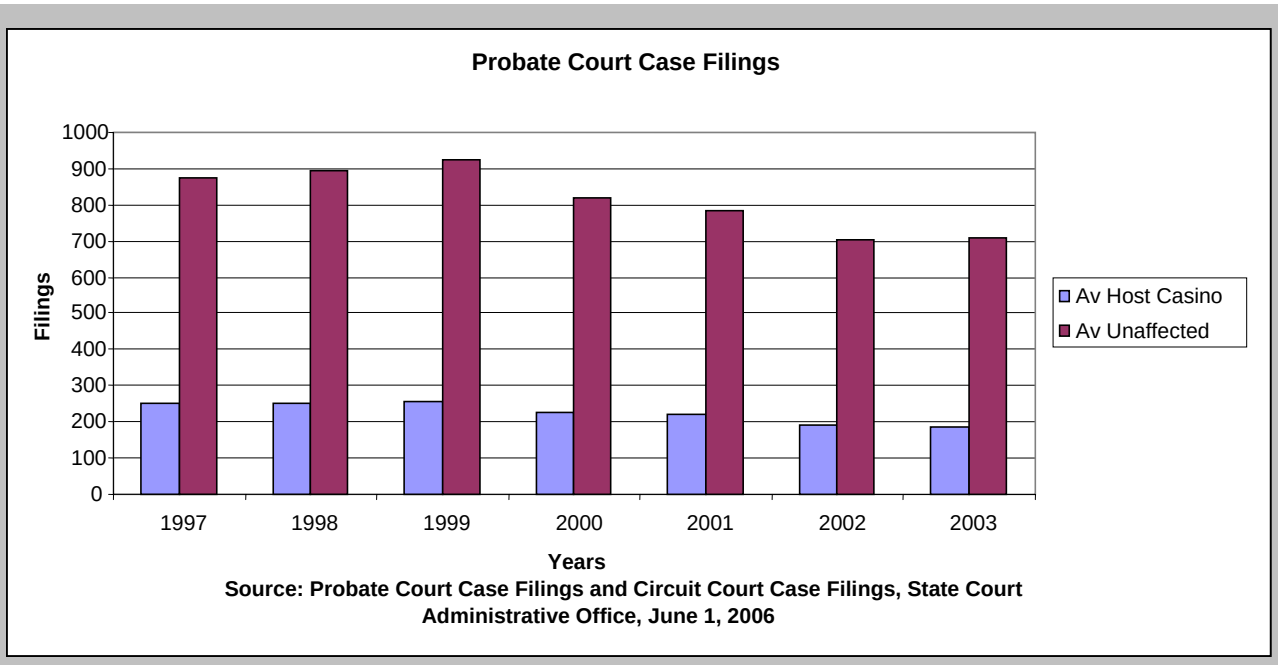


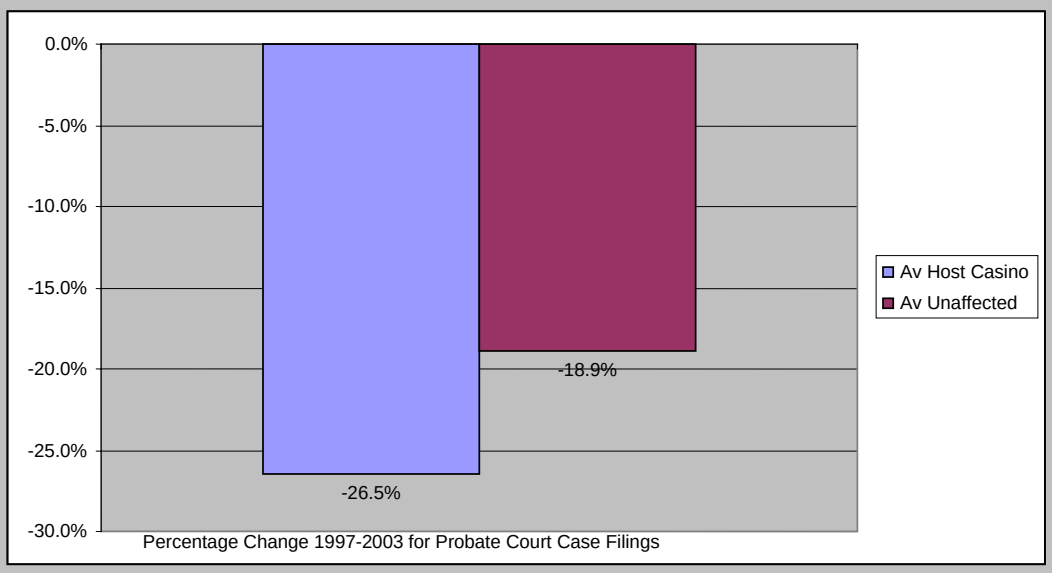
Table 34.2: Probate Court Case Filings

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	250.6	251.4	253.9	225.0	220.9	189.8	184.3
Av Unaffected	872.3	892.8	922.6	817.0	782.0	702.0	707.8



Source: Probate Court Case Filings and Circuit Court Case Filings, State Court Administrative Office, June 1, 2006

Counties	Percentage Change from 1997-2003 for Probate Court Case Filings
Av Host Casino	-26.5%
Av Unaffected	-18.9%

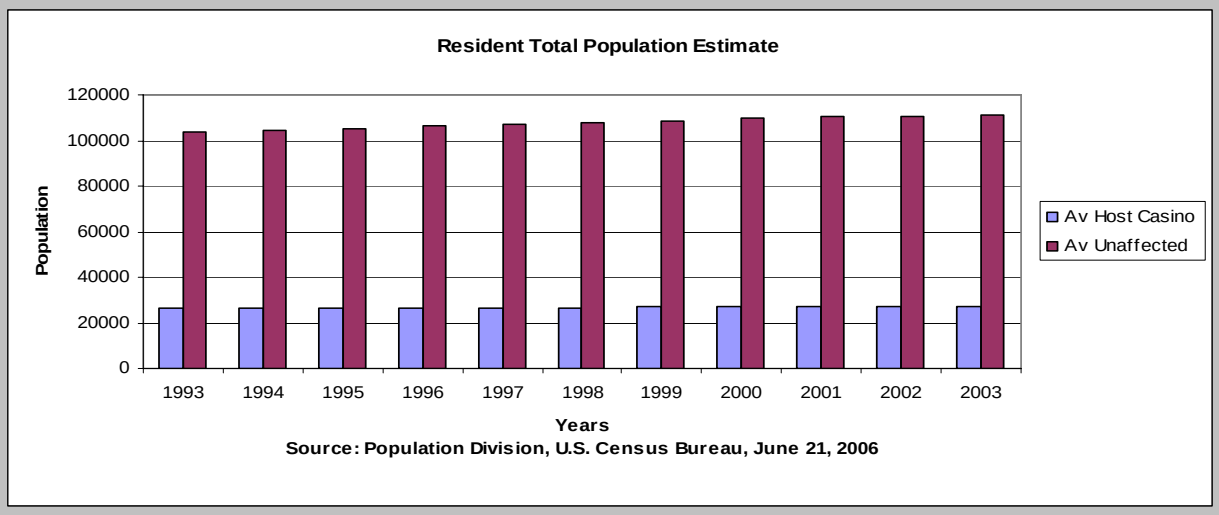


Population

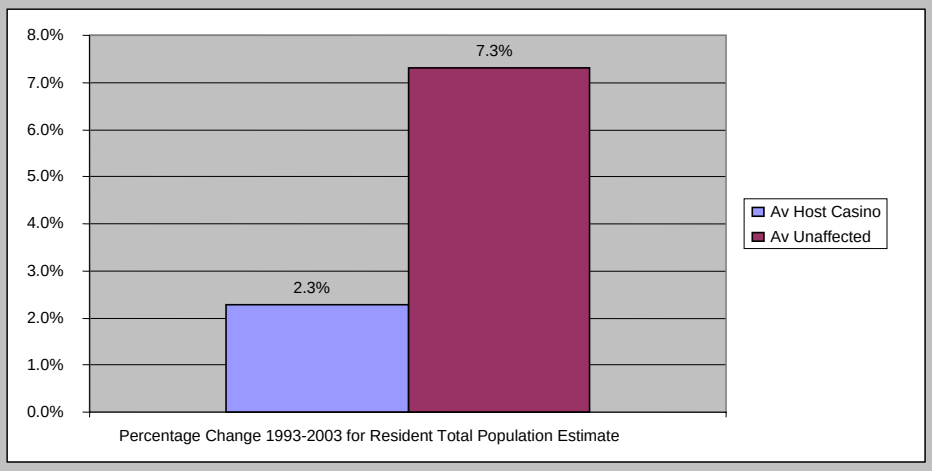
Population growth in unaffected counties grew at nearly a 5% higher rate than in casino counties (Table 35.2). This data is the reverse of the findings in Part One where casino counties outgrew unaffected counties by a 19.3% to 4.2% difference. Again, the predominance of small Upper Peninsula counties and exclusion of the other Lower Peninsula counties may account for this difference.

Table 35.2: Resident Total Population Estimate

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	26,514	26,613	26,275	26,205	26,414	26,668	26,877	26,985	27,051	27,050	27,121
Av Unaffected	103,835	104,444	105,321	106,404	107,300	107,981	108,779	109,603	110,200	110,777	111,423



Counties	Percentage Change from 1993-2003 for Resident Total Population Estimate
Av Host Casino	2.3%
Av Unaffected	7.3%



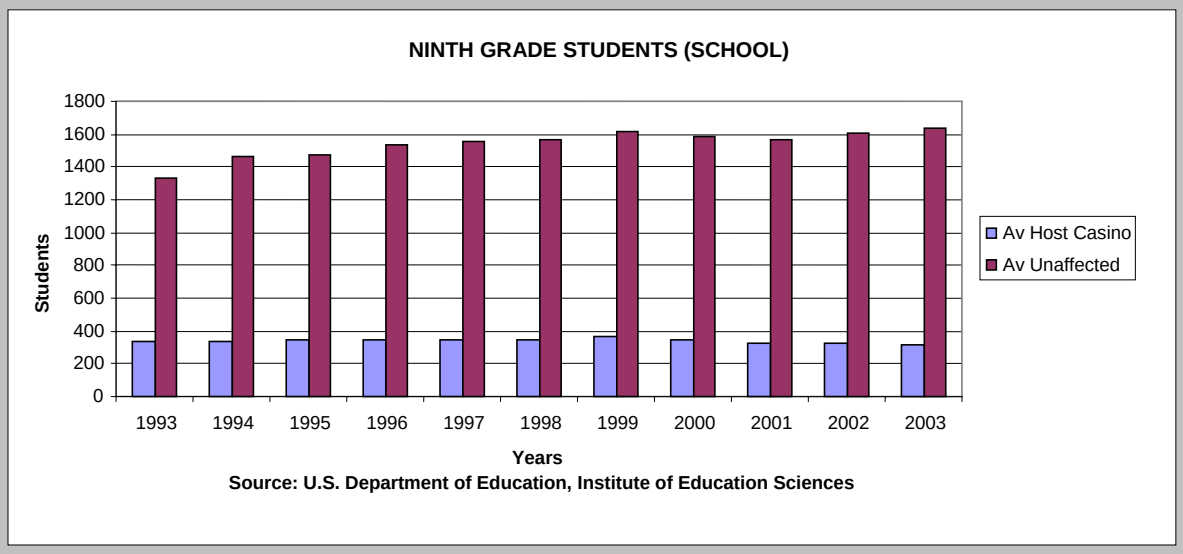
Education

Unlike the findings in Part One dealing with the comparative number of students in high school (grades 9-12), the data on Tables 36.2-39.2 indicate that from grades 9-11 casino counties saw a decline in their student enrollment while unaffected counties experienced percentage increases ranging from 22-27%. In the twelfth grade, casino counties experienced a 1.9% increase while unaffected counties experienced a corresponding 34.2% increase. While Part One data did

not see such a major difference between these two county categories, the Part Two data does give credence to the argument that casino counties may be experiencing in decline in graduation rates, assuming it is not merely a general population decline issue for the Upper Peninsula. However, much more research needs to be done to investigate whether this school enrollment decline can be tied to the presence of a tribal casino.

Table 36.2: Ninth Grade Students (School)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	334.2	340.0	342.8	347.2	347.2	344.5	361.9	349.8	324.7	329.4	315.3
Av Unaffected	1,334.0	1,466.8	1,478.4	1,537.4	1,551.3	1,566.9	1,617.1	1,584.8	1,568.6	1,611.1	1,632.4



Counties	Percentage Change from 1993-2003 for Ninth Grade Students (School)
Av Host Casino	-5.7%
Av Unaffected	22.4%

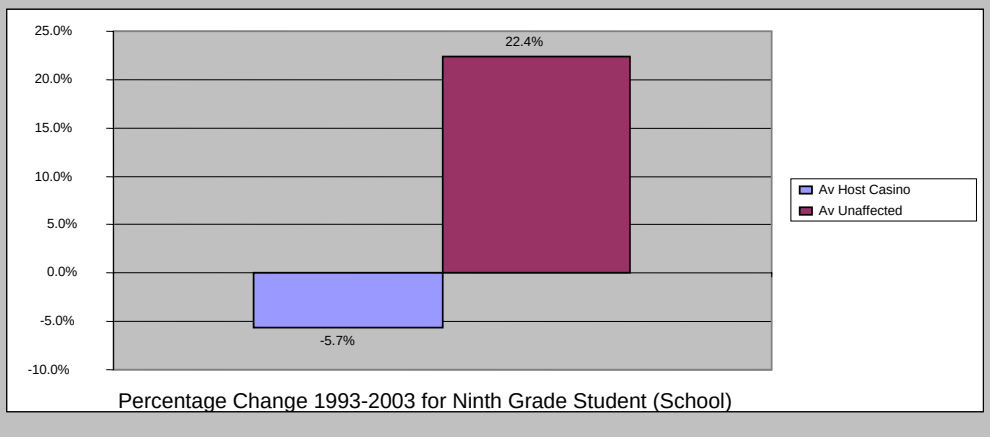
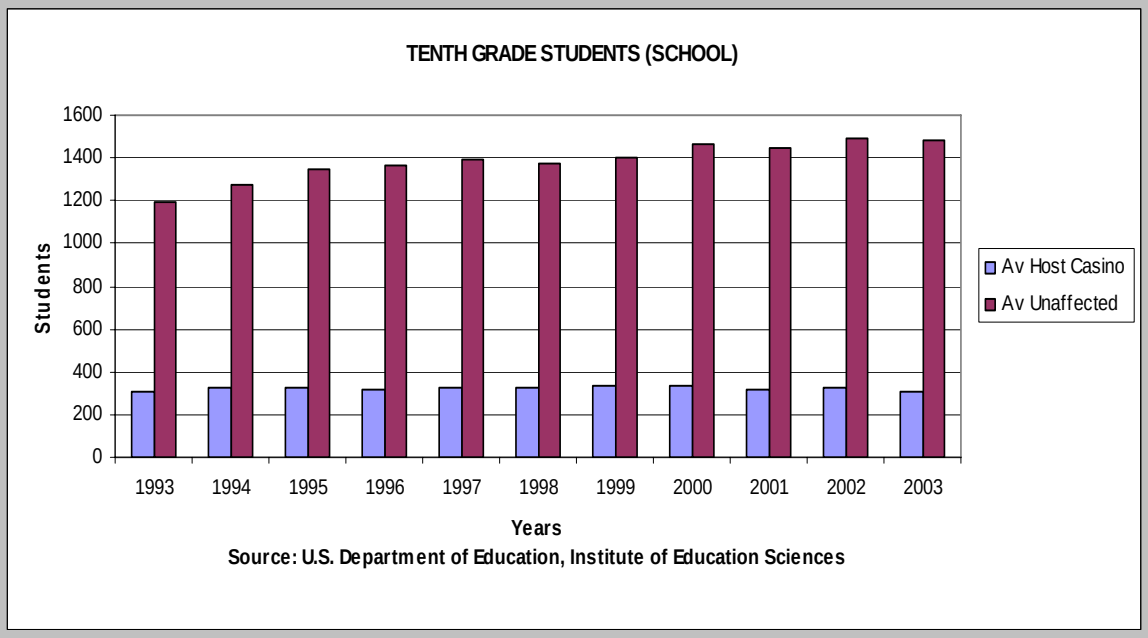


Table 37.2: Tenth Grade Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	311.2	323.7	324.0	319.1	325.1	324.8	332.4	335.4	319.4	322.5	302.9
Av Unaffected	1,190.1	1,278.3	1,347.2	1,363.8	1,387.9	1,369.6	1,400.1	1,462.4	1,446.9	1,488.9	1,482.3



Counties	Percentage Change from 1993-2003 for Tenth Grade Students (School)
Av Host Casino	-2.7%
Av Unaffected	24.5%

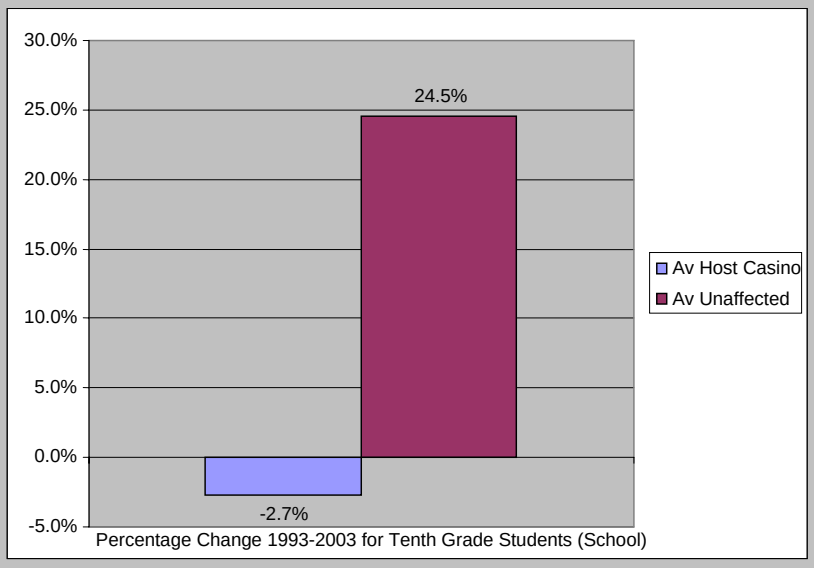
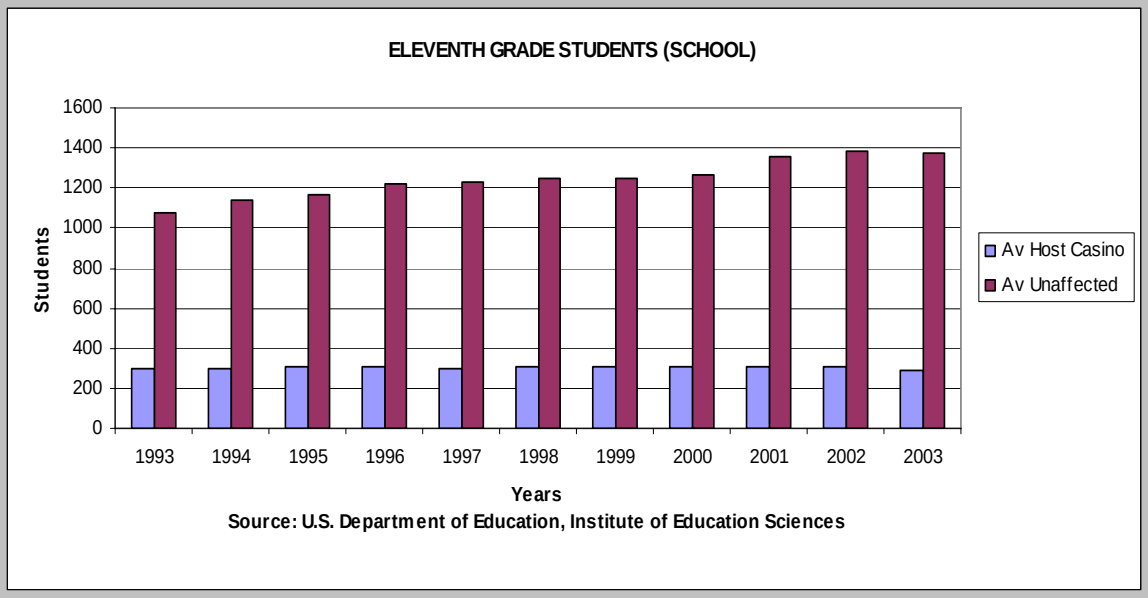


Table 38.2: Eleventh Grade Students (School)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	298.7	301.6	306.3	305.8	302.1	305.6	310.6	302.9	308.9	309.1	292.6
Av Unaffected	1077.8	1141.4	1162.4	1217.6	1228.4	1251.0	1244.7	1262.3	1352.3	1379.8	1371.9



Counties	Percentage Change from 1993-2003 for Eleventh Grade Students (School)
Av Host Casino	**-2.0%**
Av Unaffected	**27.3%**

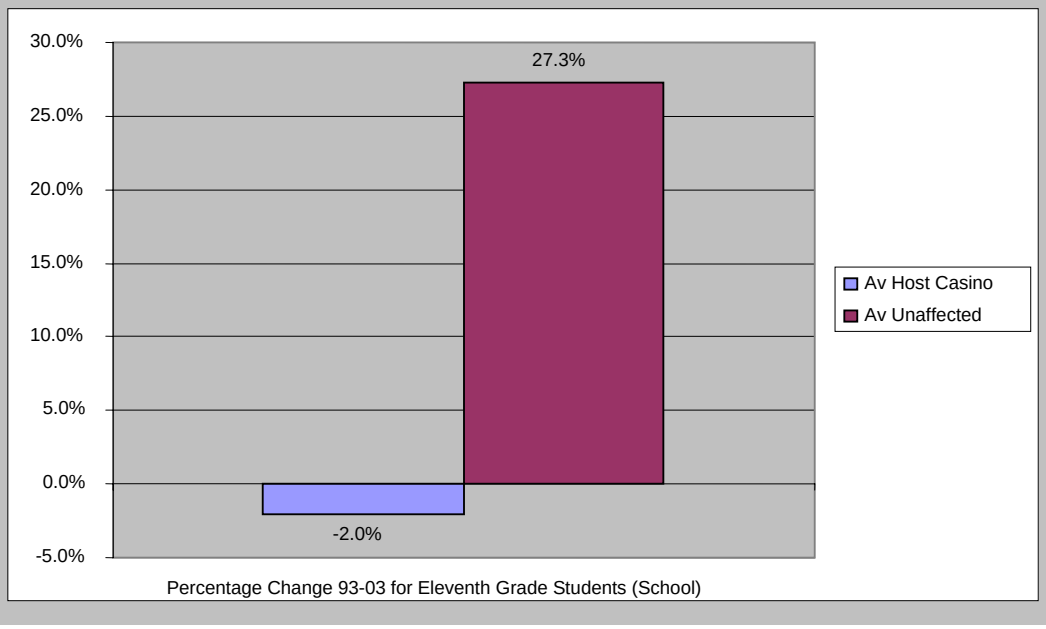
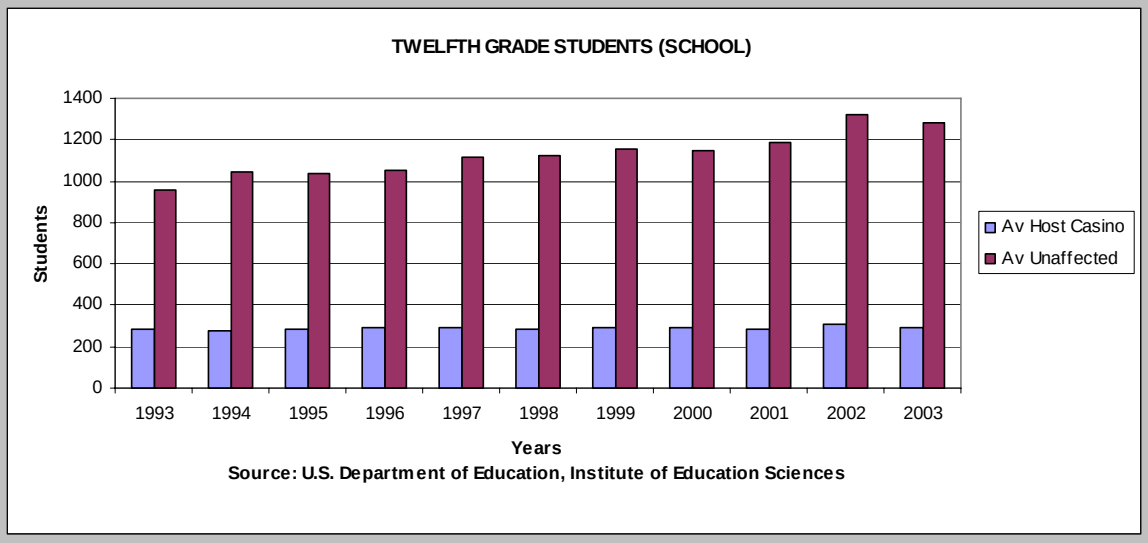
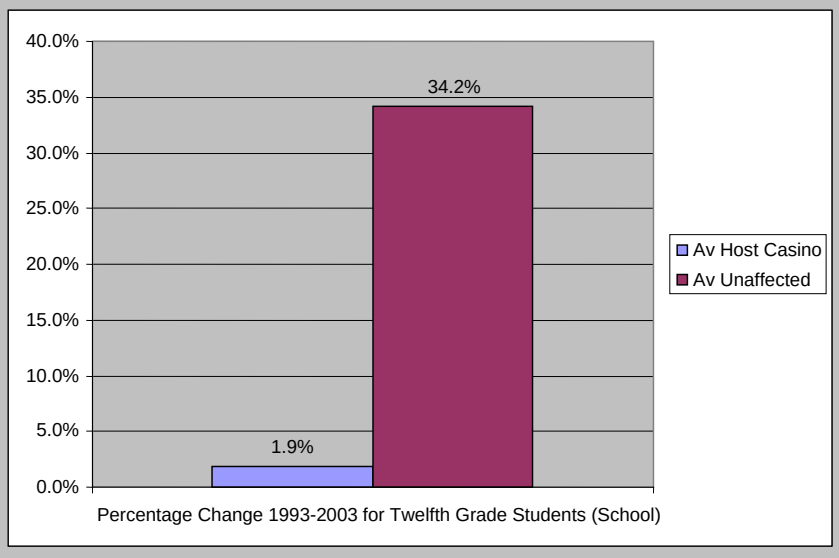


Table 30.2: Twelfth Grade Students (School)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	283.8	280.2	285.6	290.7	291.8	288.4	292.6	292.0	284.5	308.1	289.2
Av Unaffected	957.6	1041.5	1033.6	1053.3	1114.0	1121.9	1156.3	1148.0	1186.7	1317.9	1285.2



Counties	Percentage Change from 1993-2003 for Twelfth Grade Students (School)
Av Host Casino	1.9%
Av Unaffected	34.2%

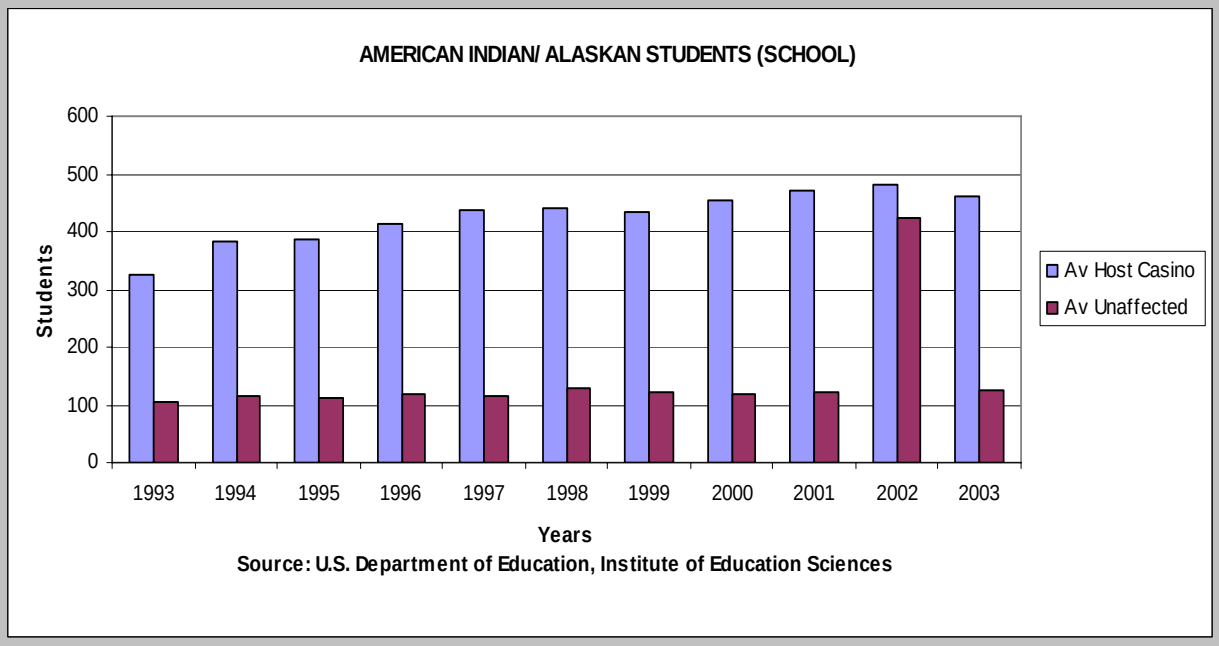


In terms of differences in the American Indian diversity in casino counties versus unaffected counties, both Part One and Part Two of this report describes students in casino counties as being much more diverse than in unaffected counties, though Part Two shows a 20 increase in

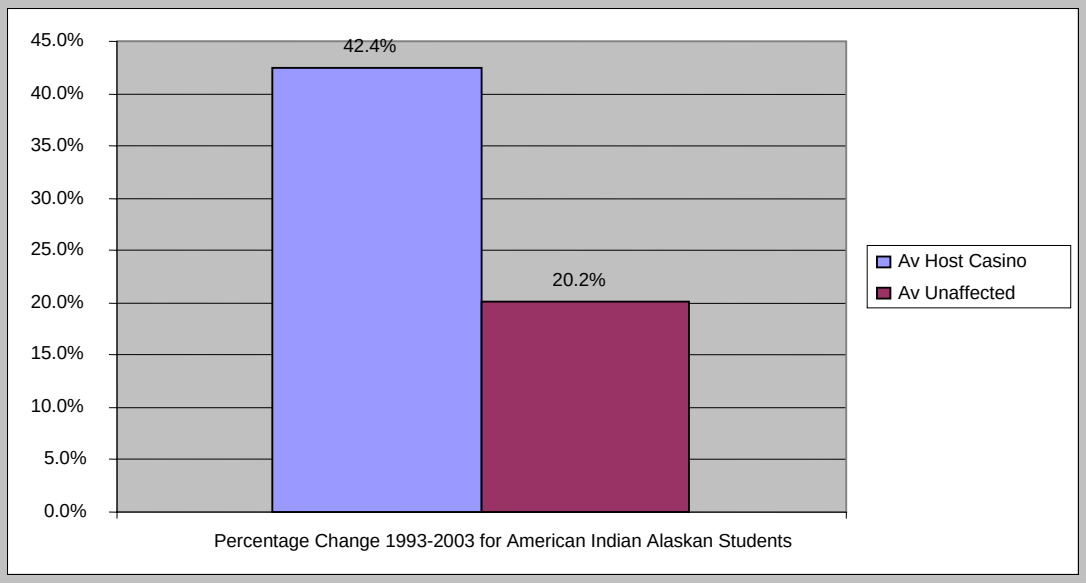
diversity in unaffected counties (see Table 40.2) while Part One indicates there has been a 21% decline in this larger subset of unaffected counties.

Table 40.2: American Indian Alaskan Students

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	324.1	384.7	385.3	414.0	438.3	441.8	435.1	454.3	471.1	482.1	461.5
Av Unaffected	103.6	113.6	113.1	117.6	115.1	127.1	121.0	119.9	121.4	423.8	124.4



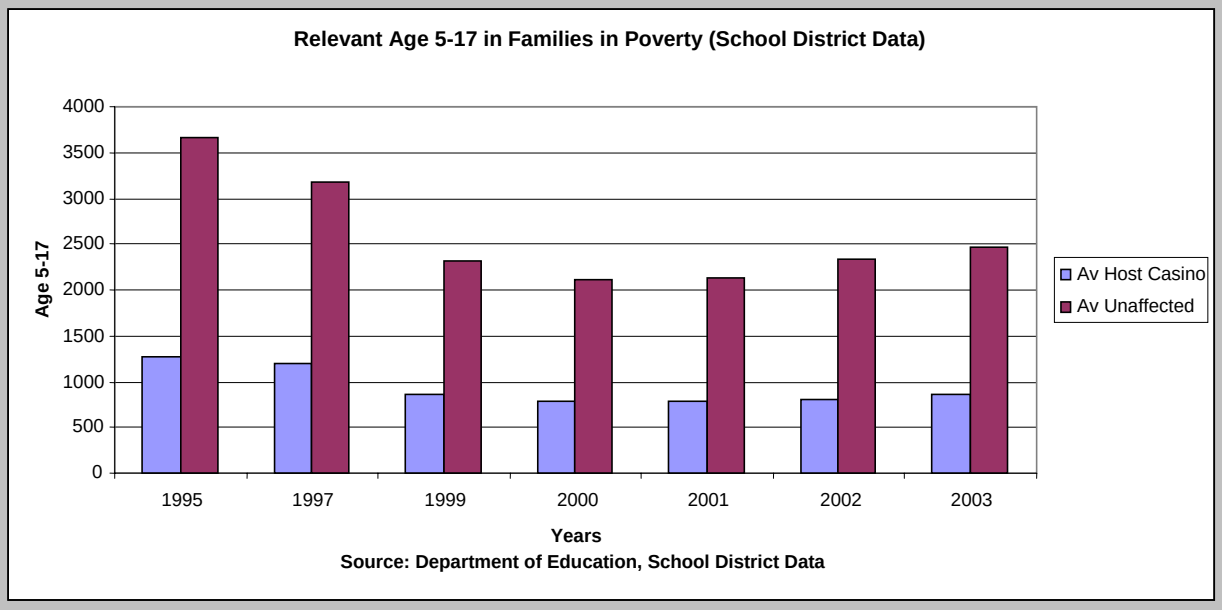
Counties	Percentage Change from 1993-2003 for American Indian Alaskan Students
Av Host Casino	42.4%
Av Unaffected	20.2%



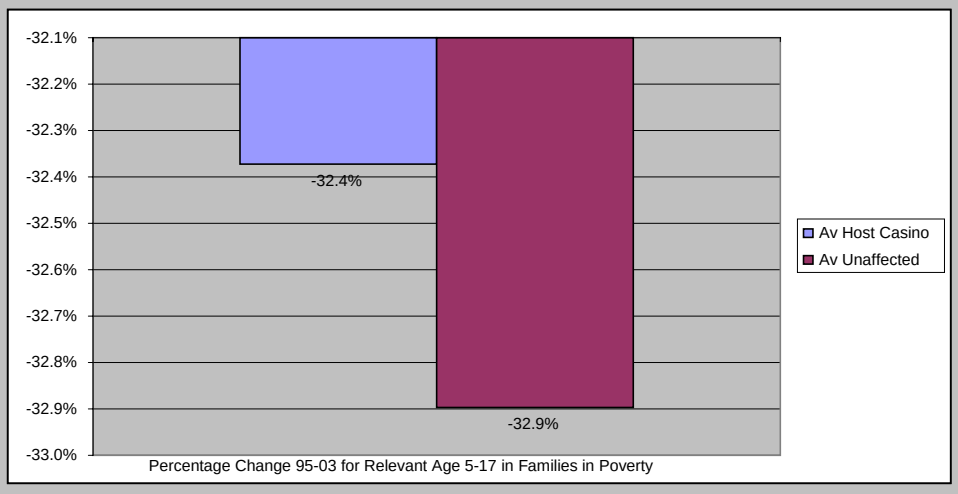
While Table 41.2 indicates that the economic diversity (defined here in terms of families in poverty) of casino counties versus unaffected counties has declined at about the same rate for the 1995-2003 period. Part One indicates that decline to be 28% in casino counties and 21% in unaffected counties. Under either scenario, casino counties do not appear to have been adversely impacted in terms of the economic well-being of their students' families.

Table 41.2: Relevant Age 5-17 in Families in Poverty (School District Data)

	1995	1997	1999	2000	2001	2002	2003
Av Host Casino	1,264	1,198	865	786	784	811	855
Av Unaffected	3,667	3,186	2,312	2,118	2,125	2,337	2,461



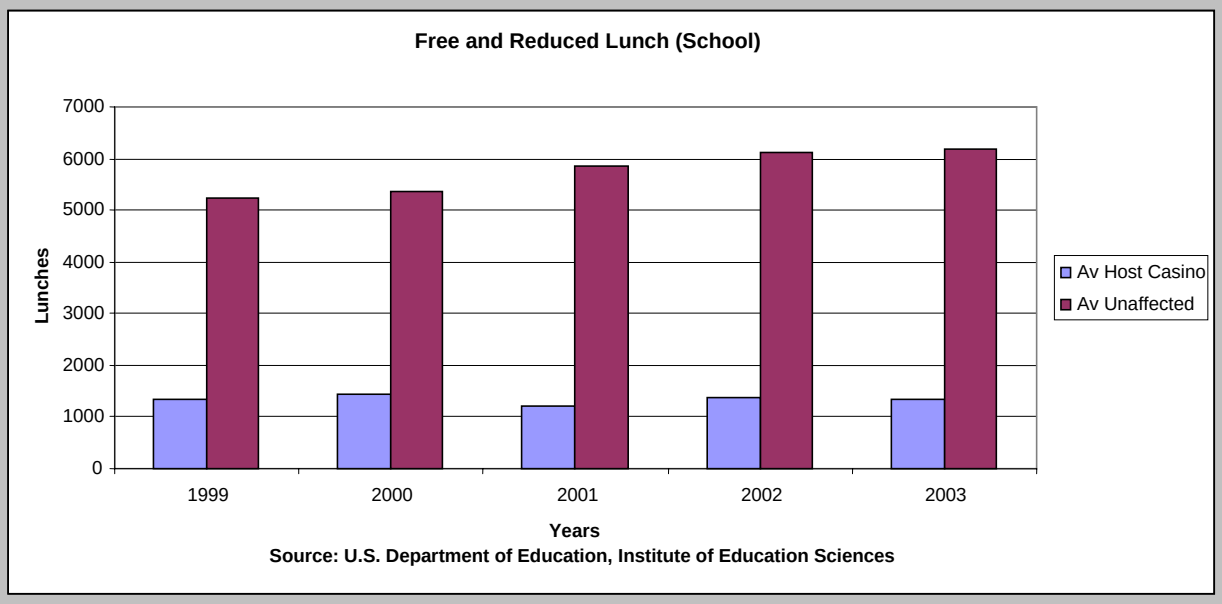
Counties	Percentage Change from 1995-2003 for Relevant Age 5-17 in Families in Poverty
Av Host Casino	-32.4%
Av Unaffected	-32.9%



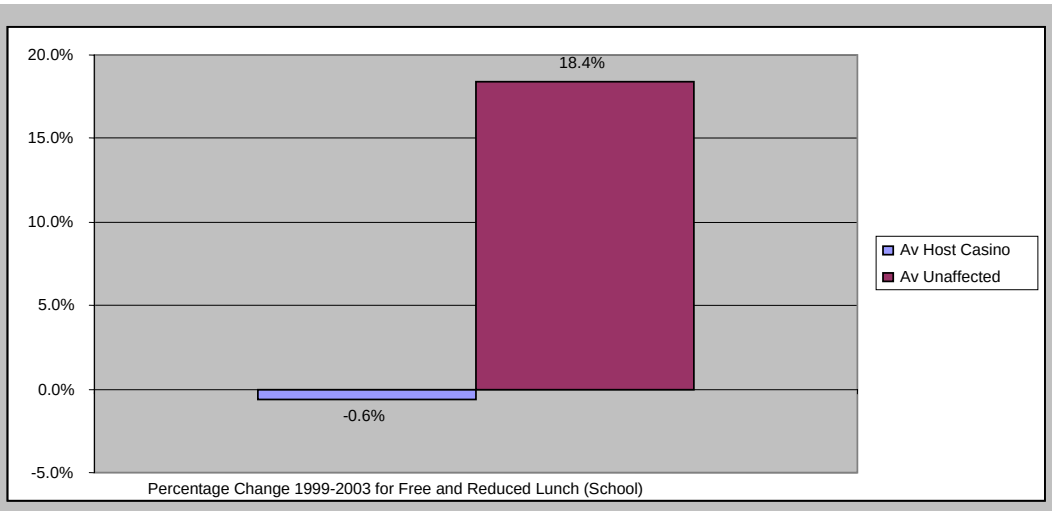
Similarly, unaffected counties experienced an increase (18.4%) in the number of free and reduced price lunches, a sign of economic family distress, while casino counties actually experienced a very slight decline in this program. Part One found unaffected counties experienced a 18.37% increase while casino counties experienced only a 4.77% increase. In either scenario, the school districts in casino counties educated a fewer number of students from economically distressed families from 1999-2003, while unaffected counties experienced an increases in the actual number of such students.(See Table 42.2).

Table 42.2: Free and Reduced Lunch (School)

	1999	2000	2001	2002	2003
Av Host Casino	1344.3	1434.4	1214.9	1362.0	1336.3
Av Unaffected	5236.3	5377.4	5857.1	6123.2	6198.4



Counties	Percentage Change from 1999-2003 for Free and Reduced Lunch (School)
Av Host Casino	-0.6%
Av Unaffected	18.4%

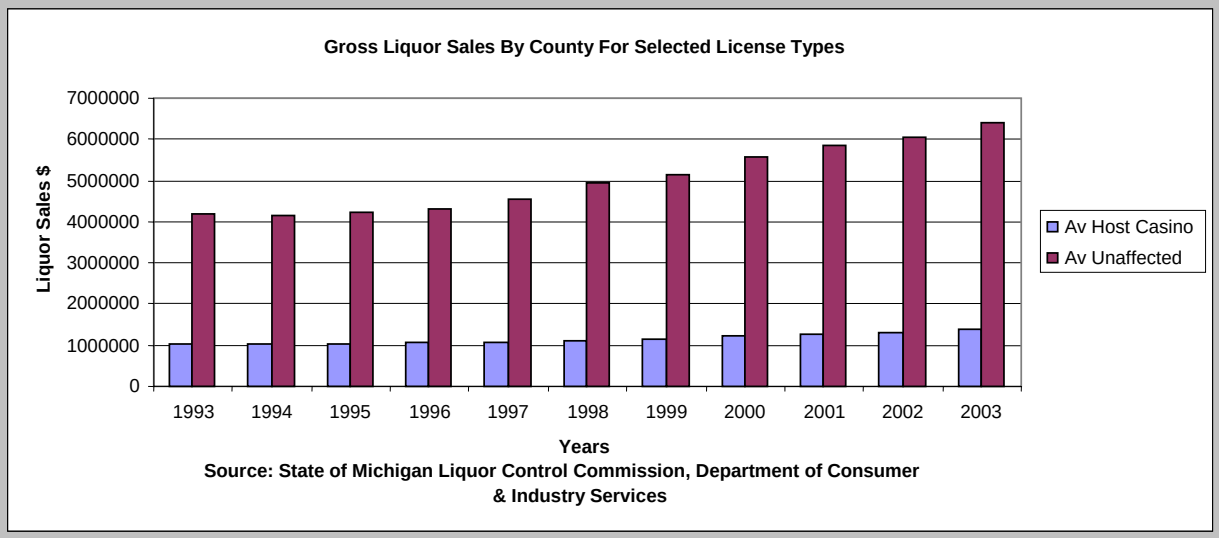


Liquor Sales and Offenses

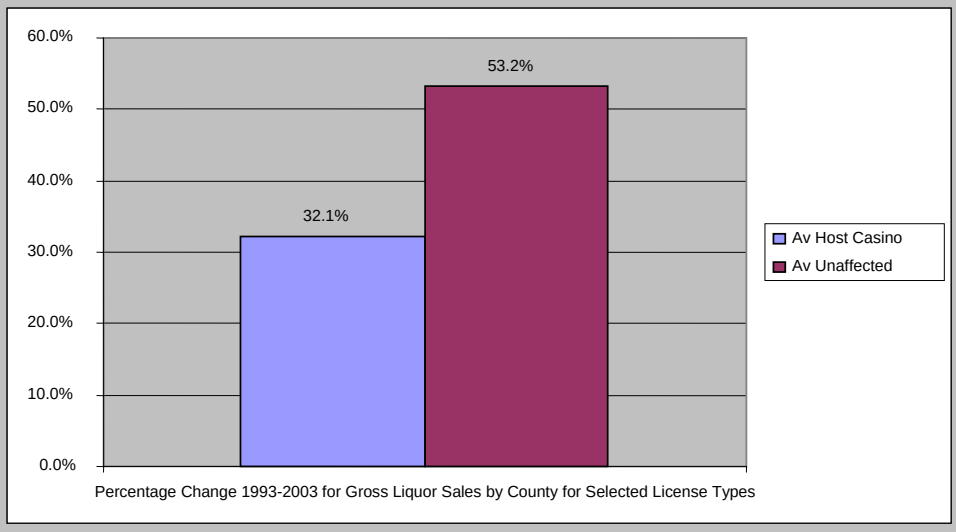
Gross liquor sales in Part One of this report increased in casino counties by 78.5% from 1993-2003 in casino counties but only 42.9% in unaffected counties. Table 43.2 indicates a reverse pattern for Part Two- casino counties increased liquor sales by 32.1% while unaffected counties saw their sales increase by 53.2%. It is unclear what the relationship is between liquor sales and the presence of a tribal casino based on this conflicting data.

Table 43.2: Gross Liquor Sales by County for Selected License Types (in millions of dollars)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	1.05	1.02	1.02	1.05	1.06	1.11	1.16	1.22	1.25	1.31	1.38
Av Unaffected	4.17	4.17	4.25	4.32	4.53	4.93	5.13	5.56	5.87	6.07	6.39



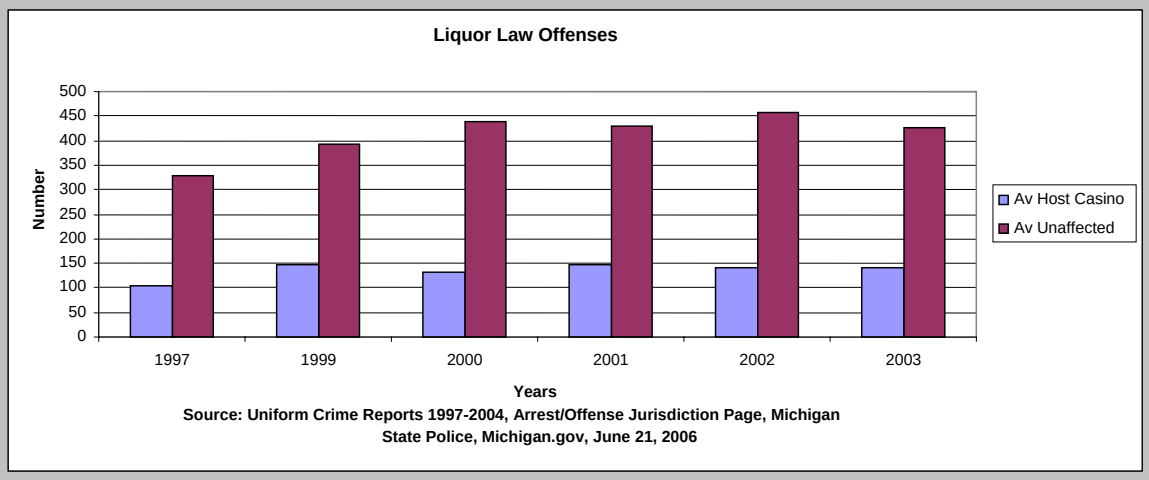
Counties	Percentage Change from 1993-2003 for Gross Liquor Sales by County for Selected License Types
Av Host Casino	32.1%
Av Unaffected	53.2%



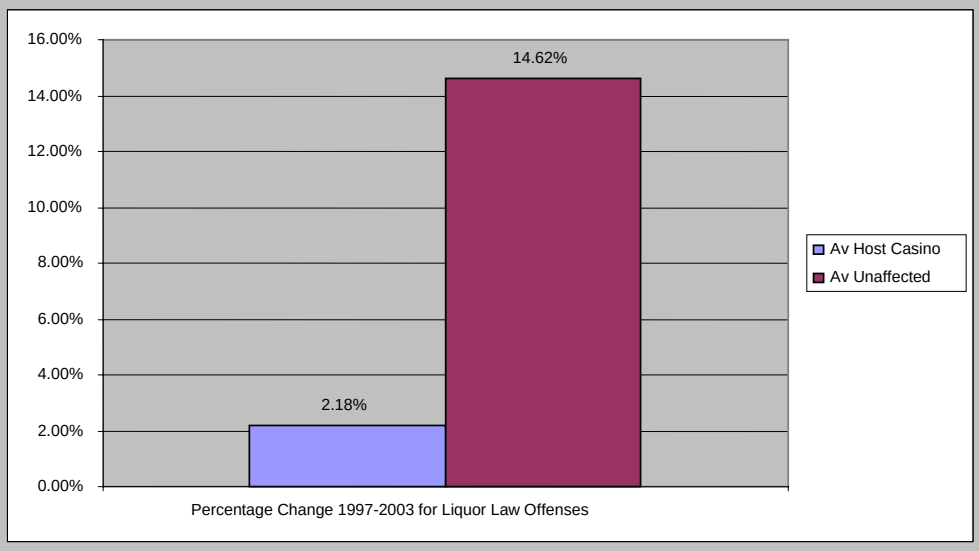
While the percentages differ in Parts One and Two of this report as they relate to liquor law crimes in casino and unaffected counties, both parts of this report indicate that liquor law crimes increased by a greater percentage in unaffected counties than they did in casino counties (see Table 44.2), complicating any tie between liquor related crime and the presence of a casino.

Table 44.2: Liquor Law Offenses

	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	105.3	148.2	132.8	148.1	140.1	139.8	107.6
Av Unaffected	327.9	393.9	438.5	430.2	457.2	424.9	375.8



Counties	Percentage Change from 1997-2003 for Liquor Law Offenses
Av Host Casino	2.18%
Av Unaffected	14.62%

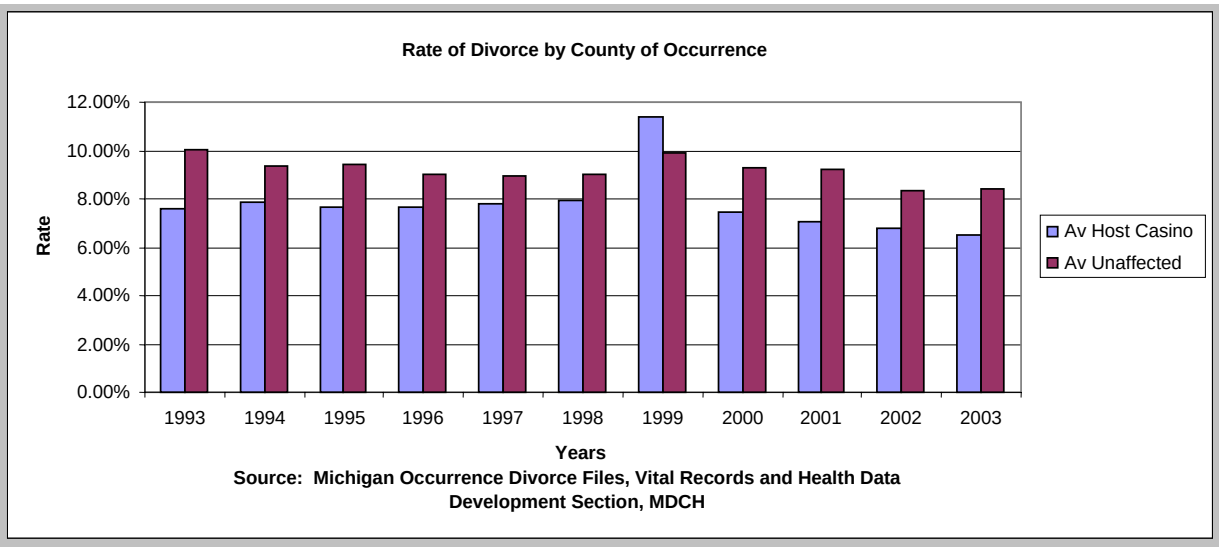


Divorce Rates

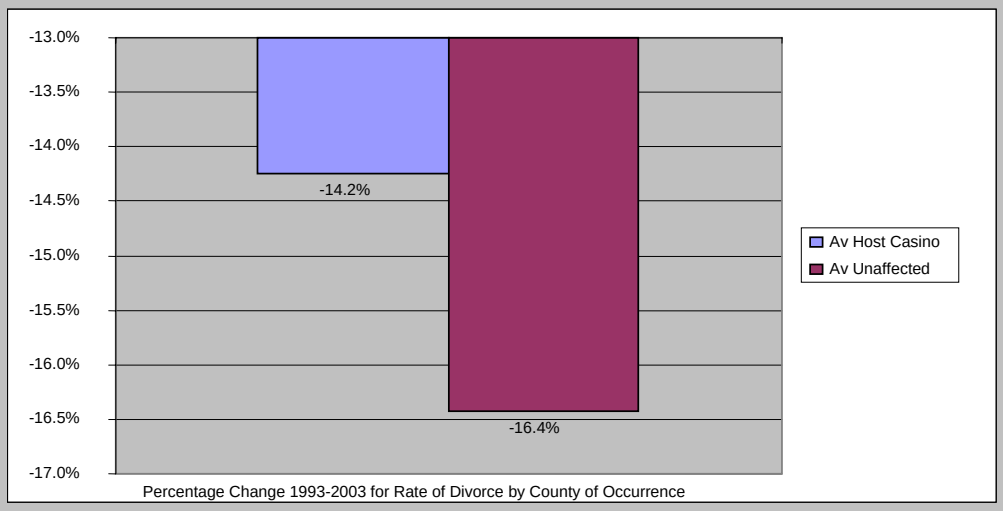
Finally, we examine divorce rates in casino and unaffected counties. Table 45.2 indicates, as does the data in Part One, that the percentage decline in rate of divorce was slightly greater in unaffected counties than it was in casino counties. However, the range of percentage change in Parts One and Two comparisons could be attributable to a variety of factors unrelated to the presence of a casino and is therefore only presented for statistical comparison purposes.

Table 45.2: Rate of Divorce by County of Occurrence

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Av Host Casino	7.58%	7.84%	7.68%	7.66%	7.77%	7.91%	11.42%	7.45%	7.08%	6.79%	6.50%
Av Unaffected	10.05%	9.38%	9.42%	9.02%	8.92%	8.99%	9.88%	9.27%	9.22%	8.32%	8.40%



Counties	Percentage Change from 1993-2003 for Rate of Divorce by County of Occurrence
Av Host Casino	-14.2%
Av Unaffected	-16.4%



Conclusions for Part Two

The results of this 26 county analysis are largely in accordance with the findings in Part One. Some interesting results and comparisons were noted in the following areas:

Economic

- The accommodations industry was the only one of four business establishments examined that had clear and substantial overall growth in casino counties compared to unaffected counties.

- While the number of jobs increased at a greater percentage rate in casino counties, the average wage per job in unaffected counties was almost $5,000 more than in casino counties in 2003.
- The SEV for property in casino counties increased at a greater percentage rate than in unaffected counties.
- Lottery sales in casino counties increased at a greater percentage rate than in unaffected counties (106% versus 77%)

Social

- There was a larger percentage increase in casino counties versus unaffected counties for the following casino-associated crimes: embezzlement, stolen property, and DUI, though the actual average numbers are small.
- There was a large percentage decline in case filings in casino counties in both circuit and probate courts.
- The population in unaffected counties increased at a greater percentage rate than in casino counties.
- There was a decline in public school enrollment for grades 9-11 in casino counties, while there was a 20-27% increase in such enrollment in unaffected counties.
- Public schools in casino counties appear to be serving a declining number of students from poor families.
- Liquor sales and liquor-related crimes increased at a greater percentage rate in unaffected counties than in casino counties.

Future Issues and Questions

Questions of particular interest in Part Two of the report that are worthy of further research include:

- Is there a linkage between the contrasting increases of law enforcement resources in casino and casino-impacted counties as opposed to unaffected counties and higher crime rates in unaffected counties?
- Why was there a decline in high school enrollment in the 10 original casino counties versus the findings in Part One of no significant difference in enrollment in all casino counties?
- What are the reasons for the differences in population growth in casino counties between Parts One and Two of this report?
- Is there a flattening of economic growth in casino counties after the first few years of casino operation?
- Is there more index crime (not generally associated in the literature with casino gambling) in casino counties than in other county groupings? (See the Appendix A where Dr. Falls and Dr. Thompson place more emphasis in their analysis on index crimes).

It might be useful to conduct Part Two of this study again in 2009 and do a fifteen year longitudinal study, which would permit a full 10 year examination of all of the currently operating tribal casinos in Michigan. This additional study would allow us to include the Lower Peninsula Petoskey and Manistee casinos in our casino study to determine the impact of their

inclusion on our Part Two numbers as well as make a more complete examination of the casino "lag" impacts (in bankruptcy, crime, etc.) suggested in the literature.

APPENDIX A

Tribal casino impacts on wages and crime (2000-2003): A Regression Analysis

Note to the Readers

It should be noted that the results in this appendix prepared by Dr. Thompson and Dr. Falls are presented to demonstrate how statistical methods can be used to determine the relative impact of several influences on a variable of interest. For example, wages are affected by a number of factors - worker education levels, local labor market conditions, etc. - other than just the presence of a casino.

For purposes of data comparison in this report, the categorization of counties used in this appendix is slightly different from that for Parts One and Two. In addition, depending on the data availability and other factors, the analyses in this section use different time periods; some use the full 11 years, some just 1997-2003, and some are restricted to 2000-2003.

Executive Summary
the impact of tribal casinos on selected employment and crime-related issues (2000-2003).

83 County Comparison of Means

Initially, a simple comparison of the mean values of different variables was carried out for the full 83-county sample using the 2000-2003 period, during which no counties changed classification. Wayne County was treated as a casino county because it had three operating casinos since 1999, although none of them were classified as tribal casinos but rather were highly regulated commercial casinos. The comparison showed that in casino counties:

- The average wage per job ($39,944) was over 15% higher than nearby counties and over 30% higher than in unaffected counties.
- The proportion of the over-25 population with high school diplomas was about 10% lower in casino counties (79.6%) than in the other two types, and the proportion with bachelor's degrees (18.4%) was almost 30% lower than in nearby counties and about 8% lower than in unaffected counties.
- The unemployment rate was almost a full percentage point higher in casino counties (6.44%) than in the other two types, while the proportion of the population in accommodations, food, and drink occupations was roughly the same for each county type (between 8.2% and 8.9%).
- The crime rates examined, which included total index crimes and some of the individual components of index crimes (burglaries, larcenies, and auto thefts), along with domestic and family-related crimes, were all significantly (1.5 times to over 4 times) higher in counties with casinos.
- The divorce rate was lower in the casino counties (6.44%) than in the other two county categories (7.58% and 8.3%).

80 County Comparison of Means

The picture changed somewhat when the large urban southeastern counties of Wayne (a casino county) and Macomb and Oakland (nearby counties) were removed from the sample.

- Average wages per job became lower in the casino counties ($26,716) than in either nearby counties ($28,142) or unaffected counties ($30,592); wages in the three omitted urban counties were clearly quite high.
- The high school graduate percentage rose substantially for casino counties, becoming larger than for the other two types, whose percentages stayed about the same. Dropping the three counties had a similar effect on relative college graduation rates.
- Crime rates generally remained the highest in casino counties, but the gap between those counties and the other two groupings narrowed.

Caution must be exercised when attempting to draw causal conclusions based solely on comparisons of means. For that reason, regression analysis was used to estimate the relative influences of a number of factors on a variable of interest. For example, average wage levels depend

on many factors, such as the educational attainment of the workforce, demographic influences, and perhaps the presence of a casino in or near a particular county. Regression analysis was performed on a subset of the socioeconomic variables discussed above (average wages and some crime measures), with other variables serving as potential influences.

83 County Regression Analysis

In the full 83 county sample regressions we found that

- in most cases the presence of a casino significantly reduced the average annual county wage. This reduction ranged from approximately $1200 to $1900 with an average decrease of about $1500. The wage in unaffected counties was about $800 higher than the overall average. Educational attainment had a significantly positive effect on the average county wage. The results also suggest that the higher the percentage of employment in service related fields like accommodation, food service, or recreation the lower the average county wage, but this effect is quite small.

- Counties in the unaffected group experienced lower crime rates across the board, except for the case of prostitution and common law vice crimes, for which casino counties had the lowest rates.

80 County Regression Analysis

In the regressions for the 80-county sample we generally found

- similar impacts of the presence of a casino on average wages, but also that there was no difference between the wage in unaffected counties and the average wage in the other two types combined. This suggests that being more than 50 miles from a casino has no effect on the average wage in the county.

- With respect to crime, being 50 miles or more away from a casino reduced all crime rates, but having a casino in the county as opposed to merely nearby didn't seem to make any difference. The number of uniformed police officers was positively associated with higher crime rates, which may seem a bit unusual at first, but is probably explained by the issue of causality: more crime will lead to increases in the number of police, rather than more police causing higher crime.

The results of this initial statistical analysis for the period 2000-2003 demonstrate some clear differences among the three county types in both the full 83 county sample and after Wayne, Macomb, and Oakland counties are omitted. Casino counties appear to have lower wages (based on the regression results), higher unemployment rates, and for most types of crime, higher crime rates.

Analysis of Average Wage and Crime-Related Issues: 2000-2003
Overview and Analysis

This appendix describes the data, provides a comparison of averages across the three county categories used, and reports the results of regression analyses on a subset of the variables of interest.

The data used in this section of the report came from a variety of sources included in the CMU data base, the majority of which are available on the internet. The primary source is U.S. government agencies such as the Bureau of the Census and the Department of Commerce, while other data is taken from various Michigan-specific sources, including the Michigan departments of Human Services and Community Health, the Office of the State Demographer, and the Northwest Michigan Council of Governments. Data for over 100 different variables were used for this appendix.

As in other parts of this report, counties were placed into three groupings based on the proximity of a casino to a particular county. The categories were counties with a casino ("Casino" counties—14 in all in 2003 counting Wayne County), counties with some portion within a 50-mile radius of a casino ("Near" (impacted) counties—45 in 2003), and all others ("None" (un-impacted) counties—24 in 2003). As new casinos opened over the test period 1993-2003, counties were shifted into the newly appropriate category. A list of the counties in each group in 2003 is at the end of this section in Table 67.[1]

The investigators selected the period 1993-2003 as the main test period for the study, but whenever possible data covering the period 1990-2005 was collected. Thus, data for the main test period consists of 11 annual observations (where available) on each of Michigan's 83 counties, for a total of 913 observations; variables for which fewer years of data were available will have fewer observations. Data for some of the variables was available only for a subset of the period, such as the crime data, for which a new data series (not comparable to earlier years) was started in 1997.

In the simple comparison of average values for the three county categories, the averages were based only on 2000-2003 data because doing so allowed for the maintenance of the same county groupings; no counties changed category during that period. Table 66 at the end of this section provides summary statistics for the variables used along with a list of the abbreviations of the variable names.

One issue that confronted investigators doing this study was how to treat the Detroit metropolitan area. The three counties of Macomb, Oakland, and Wayne together account for 41.3% of Michigan's average population over the period 1993-2003. These are the most highly urbanized of Michigan's counties and have many other characteristics that make them different from all other Michigan counties. In addition, Wayne County has three commercial (non tribal land) casinos. Thus, casinos are present but they make up a smaller portion of the county economy than do tribal casinos, which are located in more rural areas.

Rather than make a decision either to include or exclude these three urban counties from this analysis, the authors present the analysis in both ways: first, with all Michigan counties included (the 83 county sample) and then with Macomb, Oakland, and Wayne counties excluded (the 80 county sample).[2] When the three are included, Wayne appears as a Casino county and Macomb and

[1] It should be noted that for this analysis, if only a very small portion of a county was within the 50 radius of a casino, the county was still considered unaffected or "none". Also, Canadian and Indiana casinos were not considered by the authors in determining which counties were casino impacted.

[2] In Parts One and Two of this report, Kent County was also excluded from all but the statewide county comparisons as it is the home of the second largest city in the state and thus also a unique urban county.

Oakland as Near (impacted) counties. Presenting the statistical results in this fashion will also allow comparisons that illustrate the impact of these counties on the analysis. The next section presents the same type of discussion for the smaller set of counties. After the two county sets are discussed separately, a comparison of the results is presented.

Two analyses are presented for each set of counties. First, a comparison of mean values among the three county types is presented for some key variables. It is important to understand that one cannot infer any degree of causality from such a comparison. For example, one should not conclude that a higher average value for casino counties than for non-casino counties means that the presence of a casino is the sole factor explaining the higher value. Nevertheless, a comparison of the means across county types provides some basic information.

A better method of determining the relative contributions of a number of explanatory factors to the differences between county types is regression analysis. Some of the variables discussed in the simple comparison of means and some additional variables were selected for regression analyses. Within each of the two county samples (83 and 80), the results of the regression analyses are presented after the simple comparison of means.

ALL 83 MICHIGAN COUNTIES

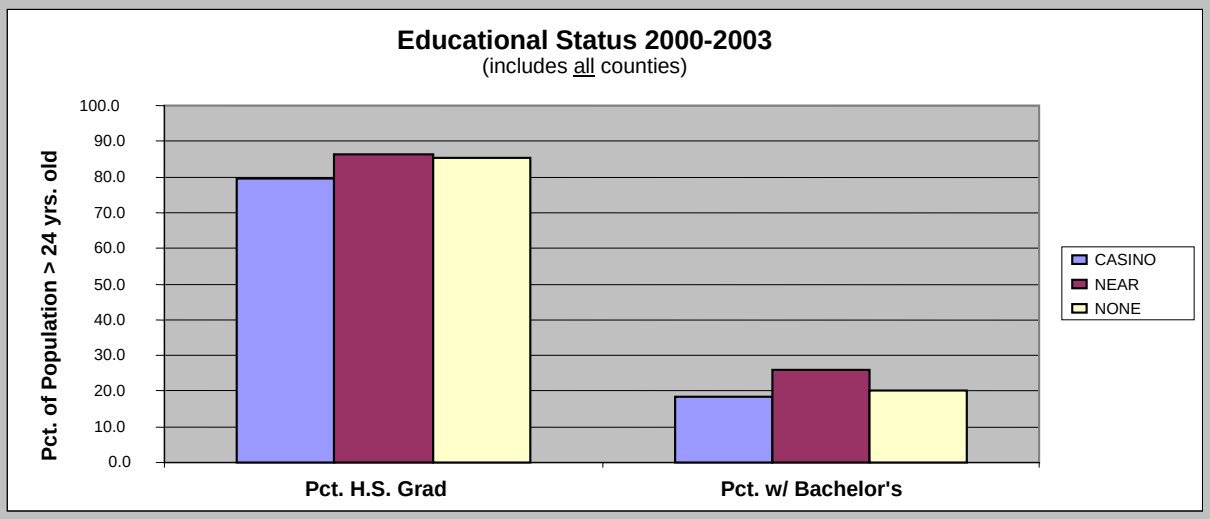
Simple Comparative Analysis of Means

In this section the comparisons of means across county groups (Casino, Near, and None) are displayed graphically. The broad categories of variables for which this simple comparative analysis of means was performed are Educational Status, Economic Measures, Property Crimes, and Domestic Problems. Each of these is considered in turn. Wherever possible the averages presented are weighted averages, with the weights being county populations. The reason for using weighted averages is to properly reflect the importance of larger counties in the calculation; it would not be appropriate to give, for example, the unemployment rates of Kent and Luce counties the same weights. As discussed above, the averages presented covered only the 2000-2003 period.

Educational Status

Educational status variables are the percentage of adults who have graduated from high school and the percentage of adults with a bachelor's degree or more. As explored in Part One of this report, it has been theorized that the presence of a casino has a negative influence on education graduation rates. As seen from the graph, there are no substantial differences across county groups. For each measure of educational attainment, the Near counties have a slightly larger proportion than the other two groups, and the Casino counties have the lowest proportion.

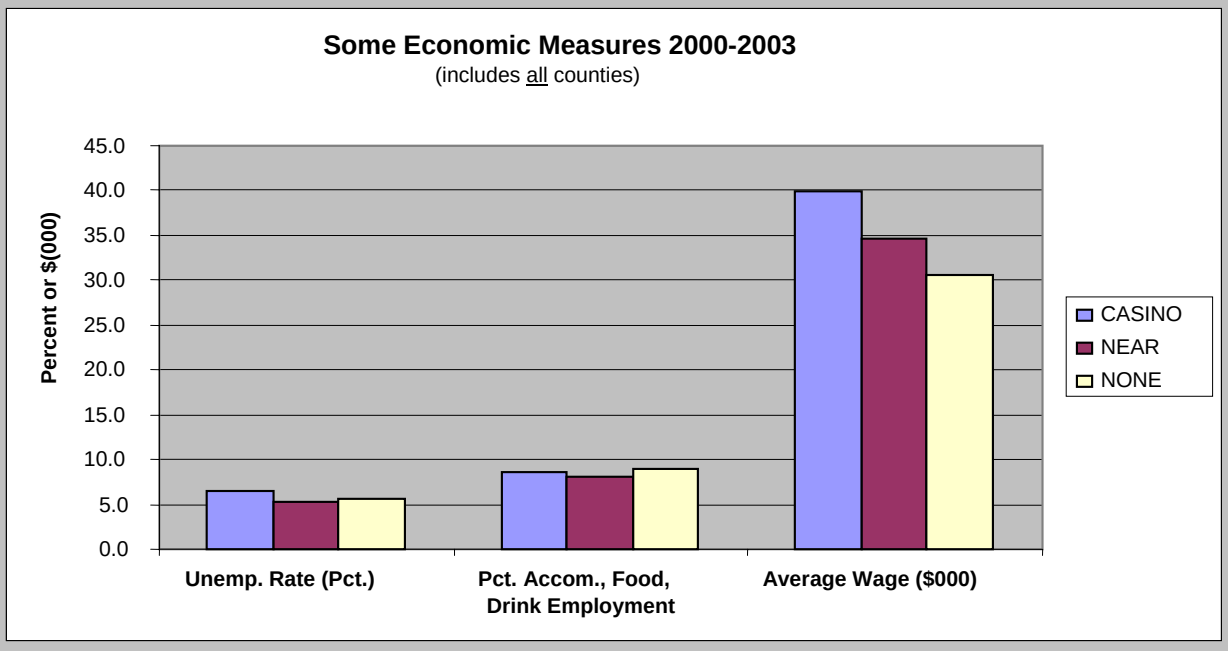
Table A-1: Education Status 2000-2003



Some Economic Measures

The economic measures examined include the unemployment rate, the average wage per job, and the proportion of workers in the accommodations and food and drink sectors; issues first explored in Part One of this report.

Table A-2: Some Economic Measures 2000-2003



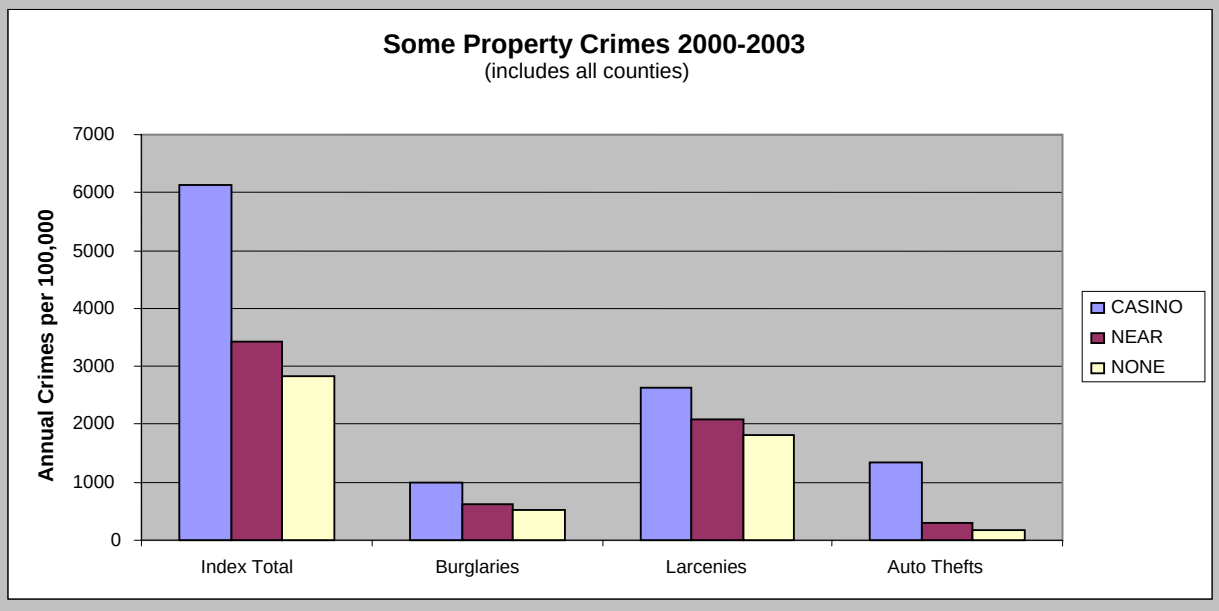
As shown in the graph above, Casino counties had a marginally higher unemployment rate over the 2000-2003 period, but the differences across the three county types were quite small. The biggest difference is seen in the figures for average wage per job, a measure that for the Casino counties was much higher than for Near counties, which in turn had a higher wage per job than the None counties. Differences in the percentages of employees in the accommodations and food and drink sectors were negligible across county types.

Crime

Some of the statistical literature on the impacts of casinos, and many of the opinions expressed about them, suggest that the presence of a casino in or near a particular county will result in higher crime rates in the county. Opponents of casinos often suggest that they will lead to more crime. In this section the incidences of several different types of crimes are compared across the three county types.

The graph below (Some Property Crimes 2000-2003) presents the mean rates of burglaries, larcenies, and auto thefts in the different county groupings, along with an overall measure of serious crimes (murder, other violent crimes, and the property crimes shown separately in the graph) known as the "index total."

Table A-3: Some Property Crimes 2000-2003

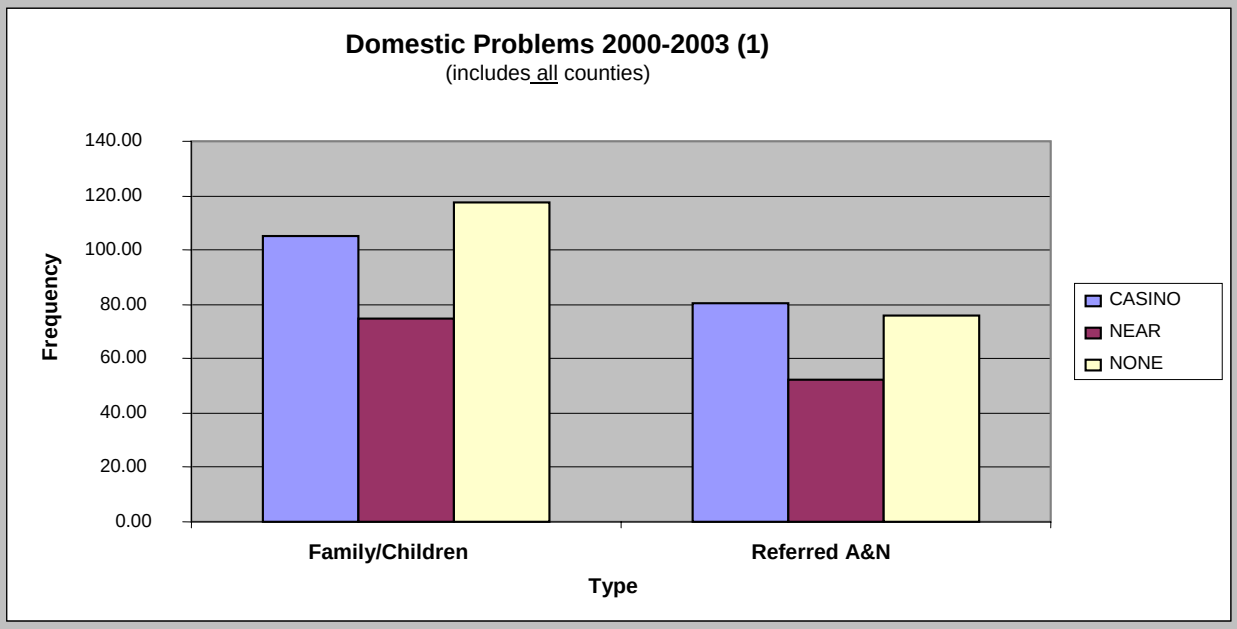


As can be seen clearly from the graph, counties with casinos have the highest rates of these crimes, while the None counties have the lowest rates. Note that the data are expressed as crime *rates* per 100,000 of population, so that the differences shown cannot be due simply to having populous counties in the Casino and Near categories.

Domestic Crimes and Other Problems

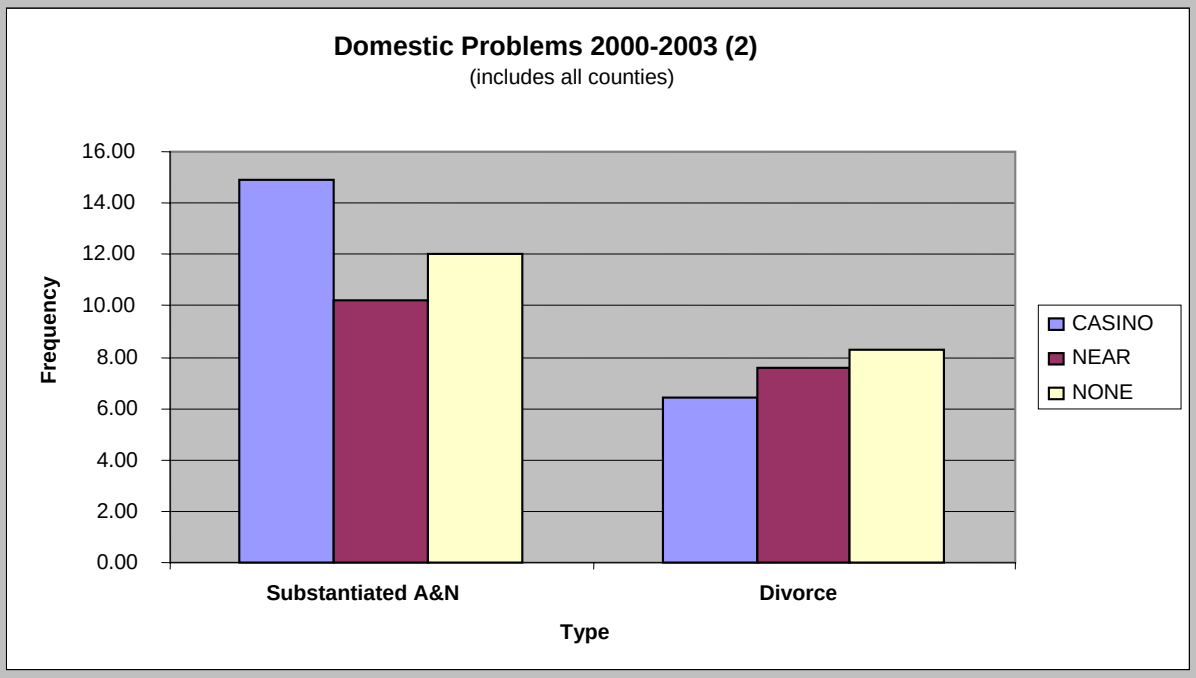
The presence of casinos is said by some to be linked to higher rates of domestic problems. In this section a simple comparison of means is presented for four measures: family and children crimes (defined as "unlawful nonviolent acts by a family member or legal guardian which threaten the physical, mental, or economic well-being or morals of another family member and which are not classifiable as other offenses, such as Assault or Sex Offenses"); referred abuse and neglect cases; substantiated abuse and neglect cases; and divorce rates.

Table A-4: Domestic Problems 2000-2003



As seen in the graphs above and below, the results are mixed. While casino counties had the highest rates of both referred and substantiated abuse and neglect cases, those same counties had the lowest divorce rates and a medium value for family and children crimes. The divorce comparison is particularly interesting, since some studies have suggested that casinos cause higher divorce rates as a result of increasing the number of problem gamblers.

Table A-5: Domestic Problems 2000-2003 (2)



Regression Analysis

Regression analysis allows the investigator to examine the extent to which a variable of interest (or dependent variable) is affected by other factors (or the independent variables). Differences in the variable of interest across counties can be caused by changes in any number of other factors, and random variation is also present.

For the present project, our unit of observation is a county-year. That is, we have (for most variables) data from all 83 counties in Michigan over the 11-year period 1993-2003. Thus, there are 913 (83 times 11) observations for each of the variables. Crime data were only available from 1997 on, so that the crime regressions were based on 581 observations. Analysts typically examine two or more different combinations of independent variables, such as different demographic variables, and the present analysis follows that approach.

The dependent variables included in this analysis are the average wage per job and several crime rates. These were selected for this project because, as noted in Part One of this report, the economic and crime-related effects of a casino are often in the forefront of controversies over the desirability of a casino. Many more dependent variables could be tested but such analysis is beyond the scope of this initial report.

Even though regression analysis is a more sophisticated way to analyze the causes of differences across different observation units, such as the counties used in this report, one must always take care in concluding that a statistical association necessarily demonstrates that changes in one variable *cause* changes in another. Causality can often be much more difficult to establish with confidence; analysts generally rely on other information, such as a theoretical reasons for expecting causality to run in a particular direction.

This section contains a general discussion of the key results of our inquiry. For interested readers, more detail, including some of the more technical statistical aspects of the results, is presented in tables at the end of this report. In the discussion that follows, the abbreviations we used for the variables appear in parentheses so that the interested reader can interpret this discussion in light of these statistical tables. Also appearing at the end of the report is a table (A-12) presenting the abbreviations and descriptions of the variables.

Regressions: Average wage per job

To examine the impact of Native American casinos on a measure of county economic conditions using regression analysis, we chose to analyze the determinants of the average county wage. The economics literature suggests this average wage should be dependent on certain demographic characteristics of the population and the industry mix in the county. The most commonly used demographic attributes are the ethnic, gender, and age compositions of the county and the educational attainment of county residents.

In our analysis the average county wage (AWPB) is measured as total annual payroll in the county divided by total employment. Thus it measures average annual wage per job, not per person. In our study we have included the determinants suggested by the literature along with a measure of county population growth (POPGROW), a variable indicating whether the county is a Casino county (CASYES) and a second casino-related variable that indicates whether a county is a None county (CASAFF3). The two indicators of educational attainment (used alternatively but not simultaneously) are the percentage of the population with at least a high school diploma (HSG) and the percentage of the population with at least a bachelors' degree (BD). Our measures of the gender, ethnic and age profile of the county were the percent male (PCTM), the percent white (PCTW) and the percent of the population between twenty five and sixty four years of age (AGEPROF), respectively. One indicator of the industry mix in the county is the sum of employment in the accommodation and food service and drinking place industries, divided by total county employment (IM1). An alternative measure is the employment in these two types of establishments plus amusement, gambling, and recreation employment divided by total county employment (IM2).

With all Michigan counties included we found that in most cases the presence of a Native American casino significantly reduced the average county wage. This reduction ranged from approximately $1200 to $1900 per year with an average decrease of about $1500 per year, depending on exactly which other variables were included. This estimated reduction represents about 5% of the $31,370 average annual wage per job across the entire state over the 1993-2003 period. In the minority of cases where this variable (CASYES) did not have a statistically significant impact on the average wage per job, the other casino related variable (CASAFF3) did; its impact was positive with an average value of approximately $800. That is, counties that neither had a casino nor were within fifty miles of one had an annual wage roughly $800 (about 2.6%) higher than other counties.

We also found that educational attainment, whether measured by the proportion of the population that were high-school graduates or by the proportion with at least a bachelor's degree, had a strongly positive effect on the average county wage, as would be expected. Our results also suggest that a higher percentage of employment in service-related fields like accommodation, food service, or recreation, leads to a lower average county wage, but the effect is so minor (a small fraction of 1% of the average overall wage per job) that it is economically insignificant despite its statistical significance.

Regressions: Some crime measures

We used several different measures of crime as dependent variables in the regressions concerning crime, all expressed as the number of crimes per hundred thousand population. These were burglaries (BURPHT), larcenies (LARPHT), motor vehicle theft (MVTPHT), prostitution and common law vice (PCLVPHT), sex offenses (SOPHT), and family and children crimes (FCPHT). In addition, we looked at some composite crime measures, also expressed as a rate per hundred thousand population: total index crimes (ITPHT), which includes murder, non-negligent manslaughter, rape, aggravated assault, robbery, burglary, larceny, motor vehicle theft, and arson; total non index crimes (NITPHT), which includes negligent manslaughter, non-aggravated assault, forgery & counterfeiting, fraud, embezzlement, stolen property, vandalism, weapons, prostitution & common law vice, sex offenses, narcotic laws, gambling, family & children, driving under the influence of alcohol/narcotics, liquor laws, disorderly conduct, and all others; and violent crimes (VIOLPHT), consisting of murder, non-negligent manslaughter, rape, and aggravated assault.

The independent variables for the crime regressions were suggested by some of the economics literature on crime, including articles by Gazel, Rickman, and Thompson (2001) and Levitt (2004). These variables include population growth (POPGROW), the unemployment rate (UNEMRT), the number of uniformed police officers (OFF), the CASYES and CASAFF3 variables discussed in the previous section, and controls for the age, sex, and racial characteristics of the population.

In the regressions including all counties, the variable that consistently had an impact across all of the crimes/crime groupings was CASAFF3, which denotes whether a county is a None county. The results for this independent variable indicate that counties further than 50 miles from a casino had substantially lower rates for all nine crime types, generally by 50% or more. The CASYES variable, which denotes the presence of a casino in a county, showed a statistically significant impact on only two crimes. Counties with casinos had substantially lower rates of prostitution and common law vice crimes, but had much higher rates of family and children crimes. The unemployment rate had a statistically significant but not very large positive impact on burglaries and prostitution and common law vice crimes; a higher unemployment rate led to marginally higher rates for these two crimes. The number of uniformed police officers in a county tended to be associated with slightly higher rates of motor vehicle theft and prostitution and common law vice, and with lower rates for the non-index total and for sex offenses. Although statistically significant, these impacts were very small, and for motor vehicle theft and prostitution and common law vice the impact is somewhat counterintuitive: more uniformed officers are associated with higher crime, all else equal. But this is a good example of why care must be exercised in inferring causal relationships from regression results—it might very well be that higher rates of auto thefts and morals crimes lead to greater public calls for more police, thus resulting in the seemingly unusual connection between police numbers and crime numbers.

There was one unusual result that was consistent across all of the crime types examined. It is often stated that high crime rates, particularly for violent and property crimes, are caused in part by having a larger proportion of the population in the young adult age group, especially in the proportion of the population accounted for by young males. (For purposes of this study, young adults were those in the 20-34 age range.) Our results show a consistently negative and statistically significant relationship between the proportion of the population between the ages of 20 and 34 (or the proportion that is male and in that age range) and all of the crime types examined. On the other hand, these estimated impacts were all rather small despite their statistical significance.

ALL MICHIGAN COUNTIES EXCEPT MACOMB, OAKLAND, AND WAYNE (80 Counties)

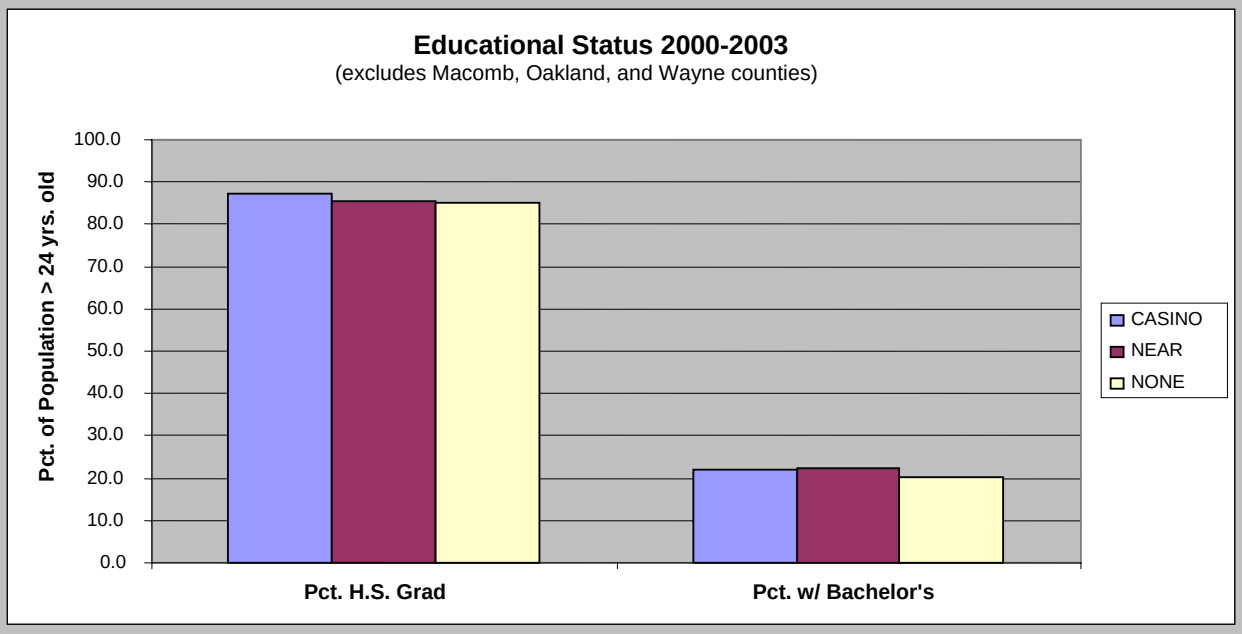
In this section we report the results of the same comparative analyses of means and regression analyses performed for all Michigan counties, with the difference being that, for reasons discussed above, Macomb, Oakland, and Wayne counties have been omitted. The results are presented for the remaining 80 Michigan counties.

Simple Comparative Analysis of Means

Educational Status

Educational status variables are the proportion of adults who have graduated from high school and the proportion of adults with a bachelor's degree or more. As seen from the graph, there do not appear to be significant differences among the three county types when the Wayne,Oakland, Macomb areas are left out of the analysis.

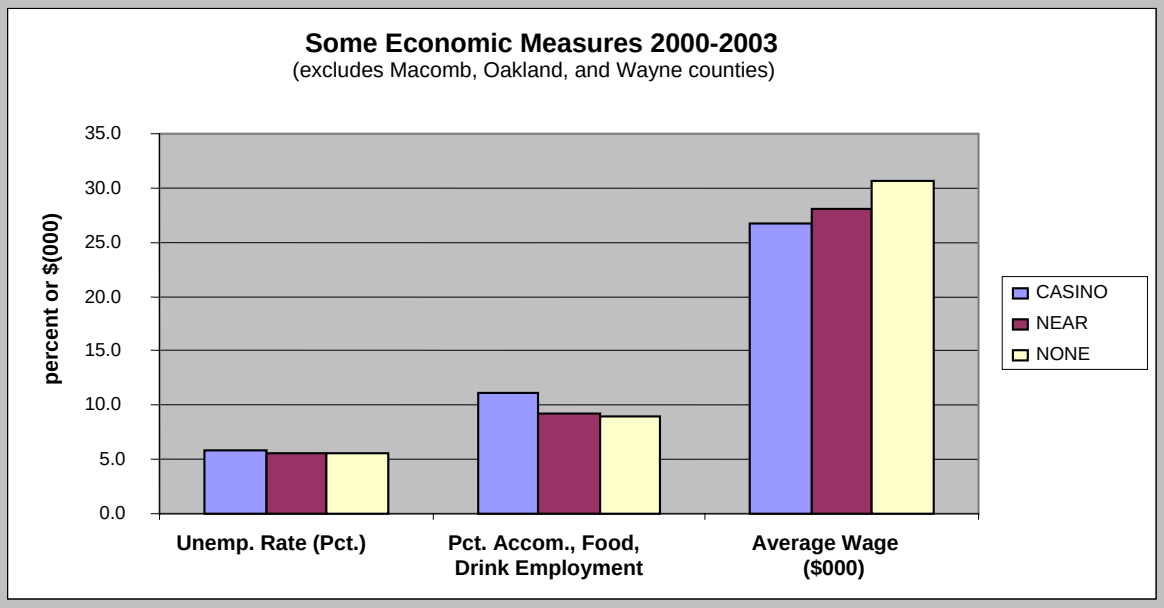
Table A-6: Educational Status 2000-2003



Some Economic Measures

The economic measures examined include the unemployment rate, the average wage per job, and the proportion of workers in the accommodations and food and drink sectors. As shown in the graph below, casino counties had a marginally higher unemployment rate over the 2000-2003 period, but the differences across the three county types were quite small. The proportions of employees in the accommodations and food and drink sectors were slightly higher for casino counties. The biggest difference is seen in the figures for average wage per job; casino counties' wage per job was just under $4,000 less per year than wages in None counties, and about $1,400 less than in Near counties.

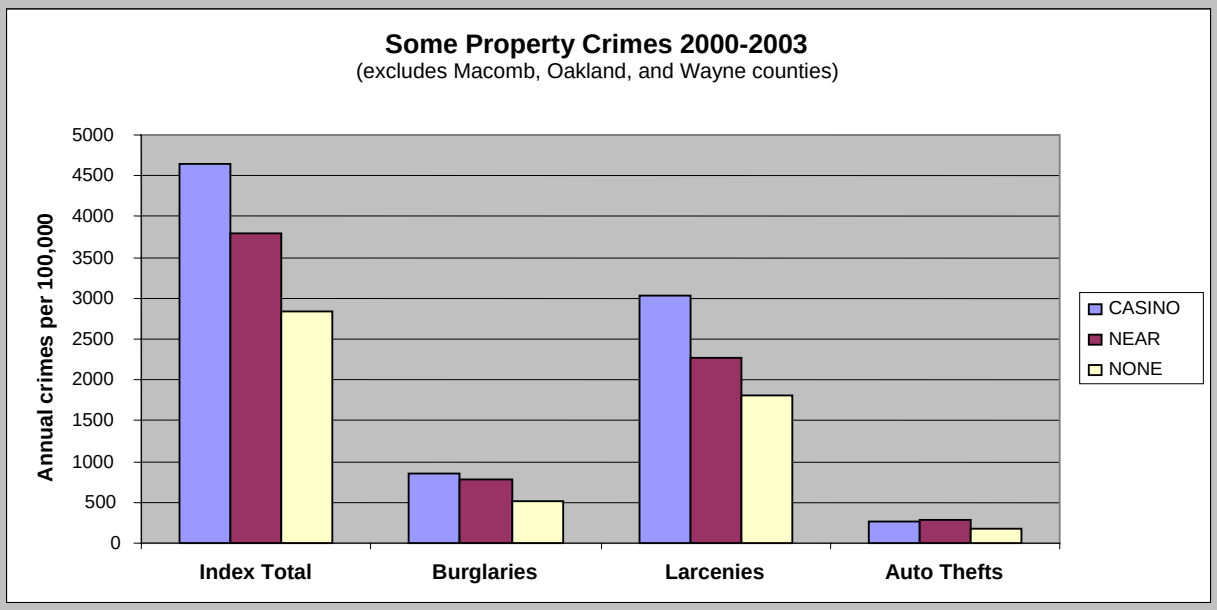
Table A-7: Some Economic Measures 2000-2003



Crime

The graph below (Some Property Crimes 2000-2003) presents the mean rates of burglaries, larcenies, and auto thefts in the different county groupings, along with an overall measure of serious crimes (murder, other violent crimes, and the property crimes shown separately in the graph) known as the "index total."

Table A-8: Some Property Crimes 2000-2003



As the graph shows, Casino counties have significantly higher index total and larceny rates than either the Near or None county types, and slightly higher burglary rates. For auto theft, Casino and Near counties have the higher rates than None counties.

Domestic Crimes and Other Problems

The following two graphs show that Casino counties had clearly higher rates of family and children crimes and substantiated abuse and neglect cases than either of the other two county types. In each of those two domestic problem categories, the lowest rates were found in Near casino counties, and counties of the None type had slightly higher rates than in the Near casino counties. Differences among county types for referred abuse and neglect cases and in divorce rates were not significant.

Table A-9: Domestic Problems 2000-2003

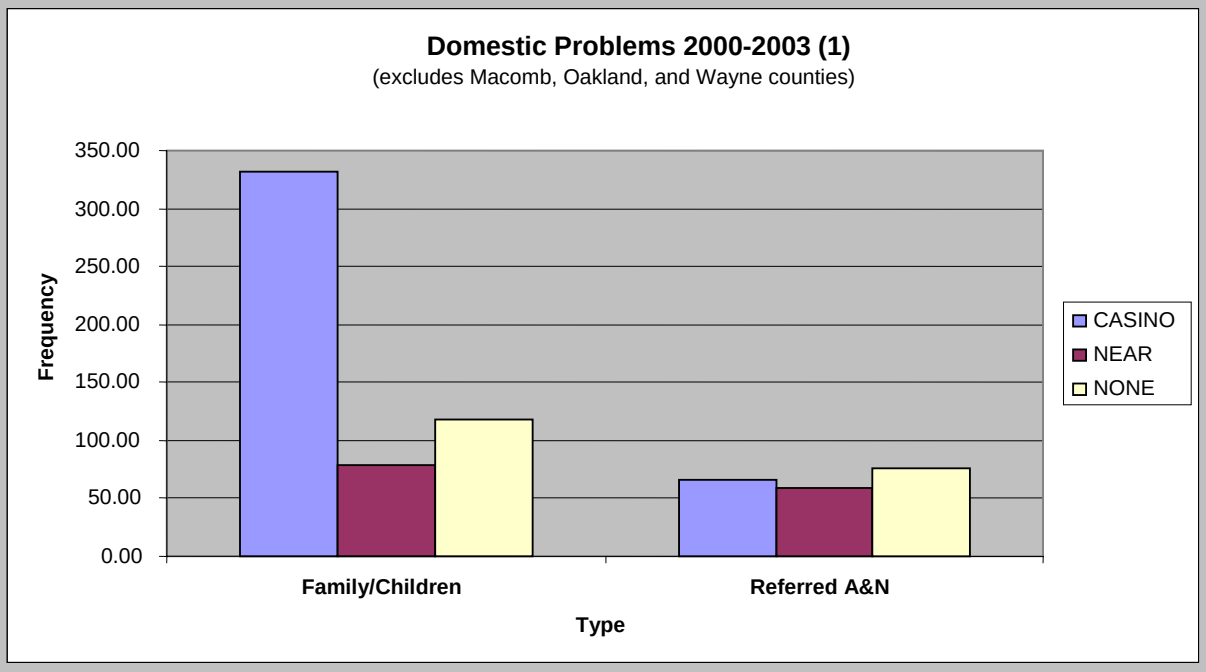
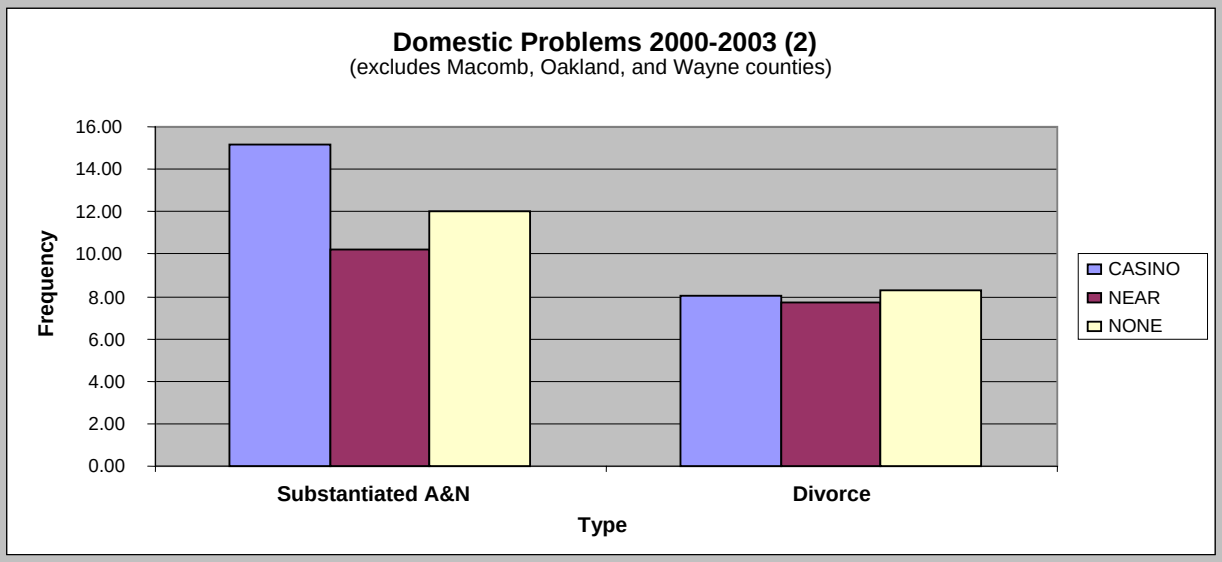


Table A-10: Domestic Problems 2000-2003 (2)



Regression Analysis
(80 Counties)

In this section the results of regression analyses of the 80 county sample are presented. The same methods as well as the same dependent and independent variables were used, and the same caveats apply.

Regressions: Average wage per job

In this set of results we found that Casino counties had an average annual wage per job that was between $1100 and $1900 lower, with a mean of $1500 lower. In addition, there was no statistically significant difference in annual wages in the None counties. This suggests that being more than 50 miles away from a casino has no effect on the average wage in the county.

Other independent variables performed largely as one would expect: populations with higher proportions of college and high school graduates had higher wages, and those with higher proportions of jobs concentrated in lodging, eating, drinking, and recreational establishments had lower (but just barely lower) wages. Two slightly unusual results were seen, as well. In some of the specifications of the wage regressions, the proportion of the population that is white (PCTW) and the proportion that is male (PCTM) both reduced the average annual wage per job in a county; one would instead expect (based on findings in other labor markets) wages to be higher where there are relatively more whites and more males. Despite their statistical significance, however, these effects were economically small. For example, each percentage point increase in the percentage of the population that is male (e.g., from 50% to 51%) was associated with a decrease in the average county wage of about $425, as compared to the average wage of about $25,000.

Regressions: Some crime measures

Although the results were not uniform across all nine crime types, in general the following statements can be made regarding the regression analyses of crime for the 80-county subset. Higher crime rates were associated with higher unemployment rates, higher numbers of uniformed officers (but the causality may run from higher crime to higher numbers of police rather than the reverse), having a casino in or within 50 miles of the county, and a lower proportion of the population aged 20-34 years. This last result is somewhat counterintuitive, since those ages are generally thought to make up the prime crime age range.

COMPARISON OF RESULTS: 83-county sample vs. 80-county sample

Simple Comparison of Means

In this discussion the reader should keep in mind that Wayne County is considered to be a Casino county and Macomb and Oakland are Near counties in the 83-county ("full") sample. Therefore, the removal of these three will change the data for those two categories, but not for the third county category (None). The Table below consolidates the information from the graphs in previous sections to allow a comparison of the mean values for different county types for each of the samples. Since the "None" values are the same in each sample, that column appears only once in the table.

Table A-11: Comparison of Means: Full Sample vs. 80 County Sample 2000-2003

	Full sample		Both Samples	80 county sample	
Variable	Casino	Near	None	Casino	Near
Average Annual Wage	$ 39,944	$ 34,541	$ 30,592	$ 26,716	$ 28,142
Unemployment rate	6.44%	5.30%	5.60%	5.79%	5.60%
Pct. employed in Accom., Food, Drink	8.68%	8.17%	8.90%	11.10%	9.19%
Pct. Over age 25, HS grad.	79.60%	86.25%	85.24%	87.41%	85.35%
Pct. over age 25, Bachelor's degree	18.41%	25.79%	20.11%	21.88%	22.19%
Crimes per 100,000 population:					
Index Total	6,143	3,428	2,833	4,644	3,792
Burglaries	999	631	514	860	773
Larcenies	2,630	2,080	1,813	3,030	2,278
Auto Thefts	1,335	304	172	261	278
Family/Children crimes	104.9	74.5	117.5	331.4	78.8
Referred Abuse and Neglect	80.51	52.44	75.82	66.67	59.56
Substantiated Abuse and Neglect	14.93	10.25	12.04	15.19	10.19
Divorce rate	6.44	7.58	8.30	8.06	7.71

The biggest difference in the results when comparing the full sample to the 80-county sample can be seen in the average wage per job. In the full sample, the Casino counties had the highest wages. With Macomb and Oakland (Near counties), and Wayne (a Casino county) removed, Casino counties had the *lowest* wages. This should not be very surprising, given that higher-paid manufacturing jobs, even though their numbers are declining, are concentrated in these three counties. The pattern of unemployment rates differed little between the two samples; the rate was slightly higher in the full sample for Casino counties and slightly lower for Near counties. The percentages of the population employed in the accommodations, food, and drink sectors were lower in the full sample for both the Casino and Near county types, an unsurprising result given that the 80 counties in the smaller sample have economies that depend relatively more on the tourism industry apart from casinos.

Interestingly, even though wages are high in Wayne county, the 80 county sample had *higher* proportions of high school and college graduates in Casino counties than did the full sample. On the other hand, the Near counties had higher proportions of high school and college graduates in the full sample than in the 80 county sample.

The comparisons of the various crime rates in the two samples vary according to which crimes are considered. Casino counties have a 32% higher rate of index crimes in the full sample but Near counties have a 10% lower rate. Burglaries in Casino counties occur at higher rates but larcenies at lower rates in the full sample than in the 80 county sample, while in the Near counties both of these crime rates are lower in the full sample. The biggest difference in crime rates is for auto thefts in Casino counties—the rate is over five times higher in the full sample.

With respect to domestic problems, Casino counties in the 80 county sample had a family/children crime rate over three times larger than in the full sample, which results from this rate being quite low in Wayne County. This rate was only slightly higher in the Near counties in the smaller sample. The referred abuse and neglect rate was 21% higher in the full sample for Casino counties but 12% lower in the Near counties. Substantiated abuse and neglect rates were very similar for Casino counties and for Near counties. Finally, divorce rates in Casino counties were 20% lower in the full sample but roughly the same in Near counties.

Regression Analyses: Average Wage per Job

In the full sample regressions we found that in most cases the presence of a casino significantly reduced the average annual county wage. This reduction ranged from approximately $1200 to $1900 with an average decrease of about $1500. In the minority of cases where this variable was not statistically significant, the variable indicating whether a county was in the None category was significantly positive with an average value of approximately $800, meaning that counties that were at least 50 miles from a casino had higher wages. We also found that educational attainment, whichever of the two education variables was used, had a significantly positive effect on the average county wage. Our results also suggest that the higher the percentage of employment in service-related fields like accommodation, food service, or recreation, the lower the average county wage, but this effect is quite small.

In the regressions for the 80-county sample we generally found similar results. For example, in this set of results the presence of a casino reduced the average annual county wage by between $1100 and $1900 with a mean of $1500. One difference was that in the smaller sample regressions the variable indicating that a county was in the None category was never statistically significant. This suggests that being more than 50 miles from a casino has no effect on the average wage in the county.

Regression Analyses: Crime

There are both similarities and differences between the full sample and 80-county sample results for the crime regressions. One important similarity is the fact that counties in the None group experienced lower crime rates across the board. Also, in both samples the greater the percentage of the population accounted for by either all 20-34 year olds or by 20-34 year old males, the lower the crime rate, which is not what we would generally expect**.** Finally, in the regressions with the rate of prostitution and common law vice crimes as the dependent variables, most of the included independent variables had a statistically significant impact on a given crime measure. In addition, this crime category was the only one for which the variable that denotes whether a county has a casino was a statistically significant determinant of the crime rate; its coefficient was negative, meaning that counties with casinos had lower rates of this type of crime.

The two major differences in the results between the two samples are concerned with the independent variables for the proportion of the population that is white and the number of uniformed officers. These did not generally have a statistically significant impact for the full sample, but they were significant for the 80-county sample. A higher white population percentage was associated with higher crime rates for the smaller sample, as was the number of uniformed police officers. The latter finding seems a bit unusual, but is probably explained by thinking a bit about the issue of causality: more crime will lead to increases in the number of police, rather than more police causing higher crime.

Tables for the Statistical Appendix

The following pages contain some tables that are relevant to the statistical results discussed in this Appendix. The first table (Table A-12) gives a brief description of each of the variables used in the regression analysis. Table A-13 presents the county classifications used here in the appendix. These differ slightly from the classifications in Parts One and Two. The remaining tables present results of the equations used to analyze changes in the groups of independent variables used. In each of the regression tables, the variables used as dependent and independent are listed. The estimated coefficients on the independent variables are shown in larger font, while the numbers appearing in smaller font italics are called “P-values.” Only those P-values that are less than or not much greater than 0.10 are listed, since this is often used in regression analysis as the critical P-value. Generally speaking, the lower the P-value, the more confident we can be that the estimated coefficient is reasonably accurate. A rule of thumb is that P-values less than 0.10 indicate the independent variable does have some influence on the dependent variable—we say “the coefficient is significant at the 10% level.” When the shown P-value is 0.000, there is very strong evidence that the independent variable does in fact have the estimated impact.

A useful way to interpret the coefficients can be demonstrated with examples. Consider the last two columns (under “FCPHT”) in the lower half of the table “Regression Results: Crime: Full Sample.” The two versions of this regression show a coefficient on the unemployment rate variable of about -43 or about -38. This means that a one percentage point increase in the unemployment rate, say from 6% to 7%, would result in roughly 40 fewer family and children crimes. Since the mean of the FCPHT variable is 262, the impact of that increase in the unemployment rate is a roughly 15% decrease in the number of such crimes per hundred thousand persons. Focusing on the next-to-last column alone, we see the coefficient on the CASAFF3 variable is -100.9. That variable takes on a value of 0 if the county has or is within 50 miles of a casino, and the value 1 if the county neither has nor is within 50 miles of a casino. This means that if we have two counties alike in all other ways except for their CASAFF3 values, the county at least 50 miles from a casino has 101

fewer family and children crimes per hundred thousand residents; this is on average a reduction of approximately 40% from the rate in counties with or near a casino.

Turning to the results of the average wage regressions, we can see by looking at the first two lines and columns of the table "Regression Results: Average Wage: All Counties" that a one-percentage point increase in the percent of people over 24 with a bachelor's degree (e.g., from 15% to 16%) will increase the average annual wage in a county by about $159 (or 0.6%), while a similar increase in the percent of people over 24 with a high school diploma raises annual wages by $230 (0.9%).

Table A-12: Definition of Variables Used in the Study

Variable Name	Description
Dependent Variables	
AWPB	Average wage per job
ITPHT	Index Crimes total, per hundred thousand population
BURPHT	Burglaries, per hundred thousand population
LARPHT	Larcenies, per hundred thousand population
MVTPHT`	Motor Vehicle Theft, per hundred thousand population
VIOLPHT	Violent Crime, per hundred thousand population
NITPHT	Non-index crimes, per hundred thousand population
PCLVPHT	Prostitution/Common Law Vice, per hundred thousand population
SOPHT	Sex offenses, per hundred thousand population
FCPHT	Family and Children crimes, per hundred thousand population
Independent Variables	
CASYES	Is there a casino in this county? 1 if Yes, 0 if No.
CASAFF3	Is this county at least 50 miles from a casino? 1 if Yes, 0 if No.
BD	Percentage of the population 25 or older with a bachelor's degree.
HSG	Percentage of the population 25 or older with a high school diploma.
POGROW	Annual population growth rate, percent
PCTW	Percentage of the population that is white
PCTM	Percentage of the population that is male
PCT2034	Proportion of the population that is aged 20-34 years
PCTM2034	Proportion of the population that is male and aged 20-34 years
AGEPROF	Percentage of the population that is aged 25-65
UMEMRT	Unemployment rate, percent
OFF	Number of uniformed police officers
IM1	Proportion of total employment that is in the Accommodations, Food Service, and Drinking Places industries

Table A-13: County Classifications 2000-2003

C = has a casino A = within 50 miles of a casino U = neither C nor A
* =unaffected 1993-2003 ** casino county 1993-2003

County	83 sample	80 sample	County	83 sample	80 sample
Alcona *	U	U	Lake	A	A
Alger **	C	C	Lapeer	A	A
Allegan *	U	U	Leelanau **	C	C
Alpena *	U	U	Lenawee	U	U
Antrim	A	A	Livingston	A	A
Arenac	A	A	Luce	A	A
Baraga **	C	C	Mackinac **	C	C
Barry *	U	U	Macomb	A	--
Bay	A	A	Manistee	C	C
Benzie	A	A	Marquette **	C	C
Berrien	U	U	Mason	A	A
Branch *	U	U	Mecosta	A	A
Calhoun *	U	U	Menominee **	C	C
Cass	U	U	Midland	A	A
Charlevoix	A	A	Missaukee	A	A
Cheboygan	A	A	Monroe	A	A
Chippewa **	C	C	Montcalm	A	A
Clare	A	A	Montmorency	A	A
Clinton	A	A	Muskegon *	U	U
Crawford	A	A	Newaygo	A	A
Delta	A	A	Oakland	A	--
Dickinson	A	A	Oceana	A	A
Eaton *	U	U	Ogemaw	A	A
Emmet	C	C	Ontonagon	A	A
Genesee	U	U	Osceola	A	A
Gladwin	A	A	Oscoda	U	U
Gogebic **	C	C	Otsego	A	A
Grand Traverse	C	C	Ottawa *	U	U
Gratiot	A	A	Presque Isle	A	A
Hillsdale *	U	U	Roscommon	A	A
Houghton	A	A	Saginaw	A	A
Huron *	U	U	Sanilac	U	U
Ingham *	U	U	Schoolcraft **	C	C
Ionia	A	A	Shiawassee	A	A
Iosco *	U	U	St. Clair	A	A
Iron	A	A	St. Joseph *	U	U
Isabella **	C	C	Tuscola	U	U
Jackson *	U	U	Van Buren	U	U
Kalamazoo *	U	U	Washtenaw	A	A
Kalkaska	A	A	Wayne	C	--
Kent	A	A	Wexford	A	A
Keweenaw	A	A			

Table A-14: Crime Regression Results using Full Sample with All Counties

Dependent Variable *Mean*	ITPHT *6715.1*		BURPHT *1421.0*		LARPHT *4011.9*		MVTPHT *475.0*		VIOLPHT *747.0*	
Independent Variable *Mean*										
POPGROW *0.93*	448.2	374.13	120	104.17	227.7	184.6	33.27	27.74	64.85	55.8
PCTW *93.7*	75.9	9.68	16.88	3.19	43.11	4.289	6.45	1.524	9.51	1.22
UNEMRT *6.73*	235.6	146.99	100.3 *0.114*	87.3 *0.117*	61.27	5.76	26.38	20.02	46.95	33.42
OFF *51.5*	1.605	-1.69	0.18	-0.584	-0.254	-2.13 *0.119*	1.08 *0.004*	0.8275 *0.017*	0.58 *0.142*	0.2055
CASYES *0.15*	-352.2	-152.7	-335.1	-281.8	253.3	362.1	-103.7	-88.34	-180.8	-161.4
CASAFF3 *0.34*	-5269.3 *0*	-5697.9 *0*	-1141.7 *0*	-1241.4 *0*	-3003.2 *0*	-3247 *0*	-432.8 *0*	-465.12 *0*	-646.4 *0*	-695.04 *0*
PCT2034 *0.187*	-32044 *0.047*		-9086.8 *0.009*		-17131 *0.076*		-2486 *0.071*		-2887.1 *0.147*	
PCTM2034 *0.096*		-89763 *0.000*		-22125 *0.000*		-50222 *0.000*		-6825 *0.001*		-9606.7 *0.000*
CONS	5127	14734 *0.044*	1159.3	3007.2 *0.058*	3367	9091 *0.039*	220.7	929.3 *0.128*	230.4	1495.7 *0.106*

Dependent Variable *Mean*	NITPHT *14288.4*		PCLVPHT *36.8*		SOPHT *228.4*		FCPHT *262.0*	
Independent Variable *Mean*								
POPGROW *0.93*	554.6	432.57	7.31	6.71	15.94	13.99	-16.1	-18.66
PCTW *93.7*	131.9	27.98	2.38 *0.006*	1.76 *0.013*	3.25	1.568	0.471	-1.22
UNEMRT *6.73*	54.7	-23.95	6.25 *0.055*	4.45 *0.107*	9.87	8.352	-42.99 *0.021*	-38.06 *0.02*
OFF *51.5*	-7.03 *0.12*	-13.16 *0.004*	0.0727 *0.025*	0.0574 *0.055*	-0.071	-0.1662 *0.038*	-0.139	-0.337 *0.113*
CASYES *0.15*	4834	5285	-41.96 *0.001*	-42.32 *0.001*	47.24	53.967	600.7 *0.007*	622.22 *0.007*
CASAFF3 *0.34*	-8780 *0*	-9580 *0*	-46.88 *0.001*	-48.83 *0.001*	-145.97 *0*	-158.37 *0*	-100.9 *0.006*	-126.93 *0.001*
PCT2034 *0.187*	-78400 *0.012*		154.2		-1151 *0.033*		-4161.4 *0.001*	
PCTM2034 *0.096*		-181661 *0.000*		-179.9		-2768.1 *0.000*		-7142.3 *0.000*
CONS	17468	30983 *0.036*	-239.5 *0.021*	-124.7 *0.092*	98.9	323.8	1178.6 *0.052*	1238 *0.023*

Note on Means: The means of all variables in this table are based on all (913) county-years, unweighted

Table A-15: Crime Regression Results using 80 County Sample

Dependent Variable	ITPHT		BURPHT		LARPHT		MVTPHT		VIOLPHT	
Mean	*6803.0*		*1449.9*		*4077.2*		*464.1*		*751.3*	
Independent Variable										
Mean										
POPGROW	425.3	362.98	115.73	102.4	211.85	175.5	32.49	28.04	63.04	55.32
0.95										
PCTW	173.3	101.95	37.4	21.64	94.95	53.46	17.24	12.21	22.58	14.15
94.3	*0.083*		*0.069*		*0.114*		*0.023*	*0.077*	*0.073*	
UNEMRT	375.4	301.4	127.03	113.94	153.8	109.9	32.35	26.76	60.01	48.86
6.79			*0.065*	*0.079*						
OFF	36.5	28.78	6.899	4.81	22.12	17.73	3.00	2.505	4.06	3.43
33.47	*0.072*	*0.124*	*0.074*		*0.083*	*0.123*	*0.038*	*0.067*	*0.063*	*0.098*
CASYES	19.1	191.5	-275.6	-236.4	554.7	654.7	-114.1	-102.1	-164	-144.39
0.15										
CASAFF3	-5723.9	-6074	-1233.4	-1312.1	-3284.5	-3488	-460.7	-485.2	-695.1	-735.4
0.34	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
PCT2034	-36771		-9820		-20942		-2394.5		-3108.8	
0.186	*0.047*		*0.010*		*0.064*		*0.102*			
PCTM2034		-88916		-21625		-51213		-6039.1		-9075
0.095		*0*		*0.000*		*0.000*		*0.002*		*0.000*
CONS	-5030.4	4153.6	-988.7	915.1	-2049	3329	-893.4	-230.9	-1131.8	47.67

Dependent Variable	NITPHT		PCLVPHT		SOPHT		FCPHT	
Mean	*14612.4*		*37.6*		*234.3*		*269.6*	
Independent Variable								
Mean								
POPGROW	489.92	392.16	7.25	6.69	14.99	13.42	-21.66	-22.07
0.95								
PCTW	286.56	164.42	3.22	2.73	5.88	3.96	10.45	8.37
94.3			*0.003*	*0.006*	*0.076*		*0.069*	*0.150*
UNEMRT	391.51	326.55	6.64	5.29	14.94	13.70	-9.95	-2.419
6.79			*0.062*	*0.106*				
OFF	74.63	54.22	0.205	0.2483	1.17	0.8744	7.36	6.007
33.47	*0.122*		*0.108*	*0.063*	*0.123*		*0.006*	*0.011*
CASYES	6133.8	6449	-43.56	-42.63	65.15	70.03	751.1	759.28
0.15		*0.181*	*0.001*	*0.002*			*0.005*	*0.005*
CASAFF3	-9791.5	-10416	-49.34	-51.43	-161.84	-171.6	-180.6	-194.8
0.34	*0.000*	*0.000*	*0.001*	*0.001*	*0.000*	*0.000*	*0.000*	*0.000*
PCT2034	-94816.9		175.49		-1374.9		-6067.4	
0.186	*0.014*				*0.030*		*0.001*	
PCTM2034		-189237		-118.1		-2841		-8389
0.095		*0.000*				*0.000*		*0.000*
CONS	1349.6	14672	-327.7	-231.2	-176.3	41.8	136.8	26.63
			0.010	*0.027*				

Note on Means: The means of all variables in this table are based on all (880) county-years, unweighted

Table A-16: Regression Results: Average Wage: Both Samples

	Full Sample with All Counties				80 County Sample			
Dependent Variable	AWPB				AWPB			
*Mean**	*25,399*				*24,910*			
Independent Variable								
*Mean**								
BD	159.2		159.7		162.4		162.7	
15.71	*0.000*		*0.000*		*0.000*		*0.000*	
HSG		230.4		237.5		244.3		251.6
81.15		*0.000*		*0.000*		*0.000*		*0.000*
PCTM	-246.2	-287.6	-294.6	-321.4	-81.8	-112.4	-132.6	-147.1
49.76	*0.114*	*0.064*	*0.054*	*0.033*				
PCTW	-134.3	-190.0	-135.3	-191.5	-52.7	-117.8	-53.6	-119.0
93.7	*0.000*	*0.000*	*0.000*	*0.000*		*0.002*		*0.002*
POPGROW	-230.1	-173.1			-239.4	-178.2		
0.93								
AGEPROF	49,268	38,746	46,380	36,050	39,980	26,375	36,996	23,624
	0.000	*0.000*	*0.000*	*0.000*	*0.000*	*0.004*	*0.000*	*0.004*
CASYES	-992.3	-1,375.8	-694.7	-1,176.6	-826.3	-1,305.0	-514.4	-1,097.3
0.15		*0.056*		*0.083*		*0.049*		*0.077*
CASAFF3	785.8	626.5	885.6	692.4	593.5	385.7	699.0	454.8
0.34	*0.098*		*0.064*					
IM1	-278.5	-212.3	-302.8	-228.9	-281.7	-210.8	-307.0	-228.1
0.31	*0.000*	*0.001*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*	*0.000*
CONS	20,836	17,590	24,497	20,010	9,519	7,146	13,329	9,576
	0.043	*0.079*	*0.015*	*0.041*				

Note on Means: The means of all variables in this table are based on all (913) county-years, except IM1, for which data were available for only 339 county-years.

APPENDIX B

2% and 8% Payment History

Table B-1: 2% Payments to Michigan Strategic Fund

Michigan Gaming Control Board
2% Payments to Local Governments.
5/14/2007

	1994	1995	1996	1997	1998	1999	2000
Bay Mills Indian Community	Jan. 1, 1994 - Dec. 31, 1994 $30,218.40	Jan. 1, 1995 - Dec. 31, 1995 $154,587.29	Jan. 1, 1996 - Dec. 31, 1996 $358,282.46	Jan. 1, 1997 - Dec. 31, 1997 $388,091.46	Jan. 1, 1998 - Dec. 31, 1998 $471,123.80	Jan. 1, 1999 - Dec. 31, 1999 $481,454.16	Jan. 1, 2000 - Dec. 31, 2000 $478,991.79
Grand Traverse Band of Ottawa and Chippewa	Nov. 1, 1993 - Sept. 30, 1994 $369,551.86	Oct. 1, 1994 - Nov. 30, 1995 $541,252.46	Dec. 1, 1995 - Nov. 30,1996 $829,459.77	Dec. 1, 1996 - Nov. 30, 1997 $1,168,406.55	Dec. 1, 1997 - Nov. 30, 1998 $1,699,951.75	Dec. 1, 1998 - Nov. 30, 1999 $1,830,855.33	Dec. 1, 1999 - Nov. 30, 2000 $1,799,013.22
Hannahville Indian Community	Aug. 20, 1993 -Sept. 30, 1994 $220,034.74	Oct. 1, 1994 - Sept. 30, 1995 $293,201.20	Oct. 1, 1995 - Sept. 30, 1996 $334,616.04	Oct. 1, 1996 - Sept. 30,1997 $353,091.22	Oct. 1, 1997 - Sept. 30, 1998 $347,643.74	Oct. 1, 1998 - Sept. 30, 1999 $554,543.02	Oct. 1, 1999 - Sept. 30, 2000 $592,396.18
Keweenaw Bay Indian Community	Aug. 20, 1993 -Sept. 30, 1994 $206,000.84	Oct. 1, 1994 - Sept. 30, 1995 $360,407.23	Oct. 1, 1995 - Sept. 30, 1996 $391,578.76	Oct. 1, 1996 - Sept. 30, 1997 $510,128.96	Oct. 1, 1997 - Sept. 30, 1998 $467,177.72	Oct. 1, 1998 - Sept. 30, 1999 $503,556.85	Oct. 1, 1999 - Sept. 30, 2000 $555,265.08
Lac Vieux Desert Band of Lake Superior Chippewa	Aug. 20, 1993 -Sept. 30, 1994 $94,985.42	Oct. 1, 1994 - Sept. 30, 1995 $131,946.08	Oct. 1, 1995 - Sept. 30, 1996 $152,551.15	Oct. 1, 1996 - Sept. 30,1997 $282,521.52	Oct. 1, 1997 - Sept. 30, 1998 $308,392.17	Oct. 1, 1998 - Sept. 30, 1999 $307,166.28	Oct. 1, 1999 - Sept. 30, 2000 $328,212.57
Little River Band of Ottawa Indians						July 21, 1999 - Dec. 31, 1999 $337,155.00	Jan. 1, 2000 - Sept. 30, 2000 $1,189,043.49
Little Traverse Bay Bands of Odawa Indians							Oct. 1, 1999 - Sept. 30, 2000 $599,420.86
Saginaw Chippewa Indian Tribe	Aug. 20, 1993 -Sept. 30, 1994 $1,696,115.42	Oct. 1, 1994 - Sept. 30, 1995 $3,388,876.25	Oct. 1, 1995 - Sept. 30, 1996 $4,177,889.84	Oct. 1, 1996 - Sept. 30,1997 $5,493,601.88	Oct. 1, 1997 - Sept. 30, 1998 $6,659,671.60	Oct. 1, 1998 - Sept. 30, 1999 $7,362,007.50	Oct. 1, 1999 - Sept. 30, 2000 $7,353,826.54
Sault Ste. Marie Tribe of Chippewa Indians	Aug. 20, 1993 -Sept. 30, 1994 $984,320.65	Oct. 1, 1994 - Sept. 30, 1995 $1,710,403.44	Oct. 1, 1995 - Sept. 30, 1996 $2,030,777.74	Oct. 1, 1996 - Sept. 30,1997 $1,851,505.38	Oct. 1, 1997 - Sept. 30, 1998 $2,018,591.77	Oct. 1, 1998 - Sept. 30, 1999 $2,114,801.36	Oct. 1, 1999 - Sept. 30, 2000 $1,978,515.28
Total 2% Payments to Local Governments	$3,601,227.33	$6,580,673.95	$8,275,155.76	$10,047,346.97	$11,972,552.55	$13,491,539.50	$14,874,685.01

Table B-1: 2% Payments to Michigan Strategic Fund (continued)

Michigan Gaming Control Board
2% Payments to Local Governments.
5/14/2007

	2001	2002	2003	2004	2005	2006	Total
Bay Mills Indian Community	Jan. 1, 2001 - Dec. 31, 2001 $488,296.52	Jan. 1, 2002 - Dec. 31, 2002 $532,808.55	Jan. 1, 2003 - Dec. 31, 2003 $528,220.16	Jan. 1, 2004 - Dec. 31, 2004 $561,723.88	Jan. 1, 2005 - Dec. 31, 2005 $572,539.64	Jan. 1, 2006 - Dec. 31, 2006 $622,333.76	$5,668,671.87
Grand Traverse Band of Ottawa and Chippewa	Dec. 1, 2000 - Nov. 30, 2001 $1,908,022.84	Dec. 1, 2001 - Nov. 30, 2002 $1,983,770.33	Dec. 1, 2002 - Nov. 30, 2003 $1,827,909.97	Dec. 1, 2003 - Nov. 30, 2004 $1,865,481.19	Dec. 1, 2004 - Nov. 30, 2005 $1,887,741.46	Dec. 1, 2005 - Nov. 30, 2006 $1,807,757.26	$19,519,173.99
Hannahville Indian Community	Oct. 1, 2000 - Sept. 30, 2001 $632,746.48	Oct. 1, 2001 - Sept. 30, 2002 $694,402.48	Oct. 1, 2002 - Sept. 30, 2003 $707,674.40	Oct. 1, 2003 - Sept. 30, 2004 $738,640.72	Oct. 1, 2004 - Sept. 30, 2005 $931,032.23	Oct. 1, 2005 - Sept. 30, 2006 $937,560.66	$7,337,583.11
Keweenaw Bay Indian Community	Oct. 1, 2000 - Sept. 30, 2001 $583,549.00	Oct. 1, 2001 - Sept. 30, 2002 $594,197.62	Oct. 1, 2002 - Sept. 30, 2003 $624,866.42	Oct. 1, 2003 - Sept. 30, 2004 $627,799.76	Oct. 1, 2004 - Sept. 30, 2005 $673,471.56	Oct. 1, 2005 - Sept. 30, 2006 $591,596.72	$6,689,596.52
Lac Vieux Desert Band of Lake Superior Chippewa	Oct. 1, 2000 - Sept. 30, 2001 $350,242.86	Oct. 1 2001 - Sept. 30, 2002 $400,463.94	Oct. 1, 2002 - Sept. 30, 2003 $447,647.54	Oct. 1, 2003 - Dec. 31, 2004 $466,167.28	Jan. 1, 2005 - Dec. 31, 2005 $504,479.92	Jan. 1, 2006 - Dec. 31, 2006 $475,381.56	$4,250,158.29
Little River Band of Ottawa Indians	Oct. 1, 2000 - Sept. 30, 2001 $1,484,141.82	Oct. 1, 2001 - Sept. 30, 2002 $1,715,218.16	Oct. 1, 2002 - Sept. 30, 2003 $1,955,581.54	Oct. 1, 2003 - Sept. 30, 2004 $2,129,030.31	Oct. 1, 2004 - Sept. 30, 2005 $2,140,802.21	Oct. 1, 2005 - Sept. 30, 2006 $2,167,562.83	$13,118,535.36
Little Traverse Bay Bands of Odawa Indians	Oct. 1, 2000 - Sept. 30, 2001 $839,414.53	Oct. 1, 2001 - Sept. 30, 2002 $978,898.39	Oct. 1, 2002 - Dec. 31, 2003 $1,338,605.02	Jan. 1, 2004 - Dec. 31, 2004 $1,079,947.00	Jan. 1, 2005 - Dec. 31, 2005 $1,137,338.37	Jan. 1, 2006 - Dec. 31, 2006 $1,179,262.87	$7,152,887.04
Saginaw Chippewa Indian Tribe	Oct. 1, 2000 - Sept. 30, 2001 $7,150,869.42	Oct. 1, 2001 - Sept. 30, 2002 $7,683,494.32	Oct. 1, 2002 - Sept. 30, 2003 $7,716,454.60	Oct. 1, 2003 - Sept. 30, 2004 $7,726,614.44	Oct. 1, 2004 - Sept. 30, 2005 $7,732,270.94	Oct.1, 2005 - Sept. 30, 2006 $7,899,977.49	$82,041,670.24
Sault Ste. Marie Tribe of Chippewa Indians	Oct. 1, 2000 - Sept. 30, 2001 $2,004,083.79	Oct. 1, 2001 - Sept. 30, 2002 $1,932,657.95	Oct. 1, 2002 - Sept. 30, 2003 $1,913,192.02	Oct. 1, 2003 - Sept. 30, 2004 $1,926,099.32	Oct. 1, 2004 - Sept. 30, 2005 $1,960,728.67	Oct. 1, 2005 - Sept. 30, 2006 $1,982,290.65	$24,407,968.02
	$15,441,367.26	$16,515,911.74	$17,060,151.67	$17,121,503.90	$17,540,405.00	$17,663,723.80	$170,186,244.44

Table B-2: 8% Payments to Michigan Strategic Fund

Michigan Gaming Control Board
8% Payments to Michigan Strategic Fund (Michigan Economic Development Corporation)
5/14/2007

	1993	1994	1995	1996	1997	1998	1999	2000
Bay Mills Indian Community	Aug. 20, 1993 -Dec. 31, 1993 $13,347	Jan. 1, 1994 -Dec. 31, 1994 $333,080	Jan. 1, 1995 -Dec. 31, 1995 $618,349	Jan. 1, 1996 -Dec. 31, 1996 $1,382,133	Jan. 1, 1997 -Dec. 31, 1997 $1,552,366	Jan. 1, 1998 -Dec. 31, 1998 $1,884,495	Jan. 1, 1999 -June 30, 1999 $869,253	
Grand Traverse Band of Ottawa and Chippewa	Aug. 20, 1993 -Dec. 31, 1993 $423,418	Jan. 1, 1994 -Dec. 31, 1994 $933,852	Jan. 1, 1995 -Dec. 31, 1995 $2,439,841	Jan. 1, 1996 -Dec. 31, 1996 $3,260,434	Jan. 1, 1997 -Dec. 31, 1997 $4,813,874	Jan. 1, 1998 -Dec. 31, 1998 $5,579,522	Jan. 1, 1999 -Feb. 17, 1999 $659,037	
Hannahville Indian Community		Aug. 20, 1993 -Sept. 30, 1994 $880,139	Oct. 1, 1994 -Sept. 30, 1995 $1,172,805	Oct. 1, 1995 -Sept. 30, 1996 $1,338,464	Oct. 1, 1996 -Sept. 30,1997 $1,412,365	Oct. 1, 1997 -Sept. 30, 1998 $1,390,580	Oct. 1, 1998 -June 30, 1999 $1,532,178	
Keweenaw Bay Indian Community		Aug. 20, 1993 -Sept. 30, 1994 $719,417	Oct. 1, 1994 -Sept. 30, 1995 $1,423,157	Oct. 1, 1995 -Sept. 30, 1996 $1,681,683	Oct. 1, 1996 -Sept. 30, 1997 $1,858,025	Oct. 1, 1997 -Sept. 30, 1998 $1,983,757	Oct. 1, 1998 -Sept. 30, 1999 $2,089,363	Oct. 1, 1999 -Sept. 30, 2000 $2,221,060
Lac Vieux Desert Band of Lake Superior Chippewa		Aug. 20, 1993 -Sept. 30, 1994 $379,937	Oct. 1, 1994 -Sept. 30, 1995 $527,768	Oct. 1, 1995 -Sept. 30, 1996 $610,205	Oct. 1, 1996 -Sept. 30,1997 $1,130,086	Oct. 1, 1997 -Sept. 30, 1998 $1,233,569	Oct. 1, 1998 -Feb. 19, 1999 $349,629	
Little River Band of Ottawa Indians							July 21, 1999 -Dec. 31, 1999 $1,348,619	Jan. 1, 2000 -Sept. 30, 2000 $4,756,176
Little Traverse Bay Bands of Odawa Indians								Oct. 1, 1999 -Sept. 30, 2000 $2,397,683
Saginaw Chippewa Indian Tribe		Aug. 20, 1993 -Sept. 30, 1994 $6,784,462	Oct. 1, 1994 -Sept. 30, 1995 $13,555,505	Oct. 1, 1995 -Sept. 30, 1996 $16,740,181	Oct. 1, 1996 -Sept. 30,1997 $21,974,408	Oct. 1, 1997 -Sept. 30, 1998 $26,638,686	Oct. 1, 1998 -Feb. 17, 1999 $10,202,008	
Sault Ste. Marie Tribe of Chippewa Indians		Aug. 20, 1993 -Sept. 30, 1994 $3,811,159	Oct. 1, 1994 -Sept. 30, 1995 $7,633,354	Oct. 1, 1995 -Sept. 30, 1996 $7,801,198	Oct. 1, 1996 -Sept. 30,1997 $7,480,181	Oct. 1, 1997 -Sept. 30, 1998 $8,067,340	Oct. 1, 1998 -June 30, 1999 $5,884,340	
Total 8% Payments to Michigan Strategic Fund	$436,765	$13,842,046	$27,370,779	$32,814,298	$40,221,304	$46,777,949	$22,934,426	$9,374,920

Table B-2: 8% Payments to Michigan Strategic Fund (continued)

Michigan Gaming Control Board (continued)							
8% Payments to Michigan Strategic Fund (Michigan Economic Development Corporation)							
5/14/2007							
	2001	2002	2003	2004	2005	2006	Total
Bay Mills Indian Community							$6,653,022
Grand Traverse Band of Ottawa and Chippewa							$18,109,978
Hannahville Indian Community							$7,726,531
Keweenaw Bay Indian Community	Oct. 1, 2000 - Sept. 30, 2001 $2,236,740	Oct. 1, 2001 - Sept. 30, 2002 $2,476,915	Oct. 1, 2002 - Sept. 30, 2003 $2,496,797	Oct. 1, 2003 - Sept. 30, 2004 $2,511,199	Oct. 1, 2004 -Sept. 30, 2005 $1,970,642	Oct. 1, 2005 -Sept. 30, 2006 $2,451,932	$26,120,687
Lac Vieux Desert Band of Lake Superior Chippewa						.	$4,231,193
Little River Band of Ottawa Indians	Oct. 1, 2000 - Sept. 30, 2001 $5,936,567	Oct. 1, 2001 - Sept. 30, 2002 $6,860,873	Oct. 1, 2002 - Sept. 30, 2003 $7,822,326	Oct. 1, 2003 - Sept. 30, 2004 $630,404	Oct. 1, 2004 -Sept. 30, 2005 $148,559	Oct. 1, 2005 -Sept. 30, 2006 $0	$27,503,524
Little Traverse Bay Bands of Odawa Indians	Oct. 1, 2000 - Sept. 30, 2001 $3,357,658	Oct. 1, 2001 - Sept. 30, 2002 $3,915,594	Oct. 1, 2002 - Dec. 31, 2003 $5,354,420	Jan. 1, 2004 Dec. 31, 2004 $0	Jan. 1, 2005 -Dec. 31, 2005 $0	Jan. 1, 2006 -Dec. 31, 2006 $0	$15,025,355
Saginaw Chippewa Indian Tribe							$95,895,249
Sault Ste. Marie Tribe of Chippewa Indians							$40,677,572
Total 8% Payments to Michigan Strategic Fund	$11,530,965	$13,253,382	$15,673,543	$3,141,603	$2,119,201	$2,451,932	$241,943,112

Appendix C

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