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Questioning the economic benefits of casinos

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The Casino Gaming Industry: The Stakes for the Bay State

EDITORIAL NOTE

The remainder of this issue of *Mass*Benchmarks is dedicated to an exploration of several economic and public policy questions related to casino development, an issue currently being considered by the Commonwealth of Massachusetts. In making this controversial subject a focus, we have attempted to present a series of objective and dispassionate articles that highlight some of the economic and social costs and benefits associated with casino development.

For the record, there is no official *Mass*Benchmarks position on the proposed introduction of casino gaming in Massachusetts. This disclaimer applies to the University of Massachusetts, the *Mass*Benchmarks Editorial Board, the Federal Reserve Bank of Boston, and associated staff.

Professor Clyde Barrow, director of the Center for Policy Analysis at the University of Massachusetts Dartmouth, a prominent analyst of casino development, begins this exploration with a look at casino development nationwide, its economic impacts as well as the status of gaming in the other New England states. The article concludes with an assessment of what Massachusetts has to gain by keeping gamblers in the state.

Following Professor Barrow's article are two articles exploring some of the costs typically associated with the expansion of casino gambling. The first article briefly summarizes some important caveats that should be borne in mind when interpreting claims about the economic benefits of casino development. The second summarizes a landmark study prepared by the National Opinion Research Center (NORC) at the University of Chicago. This article estimates the economic costs of gambling addiction and associated social problems.

The issue concludes with an article by Professor Richard McGowan of Boston College, who has written extensively on the issue of gaming and casino development. Professor McGowan raises some important questions concerning the implementation of casino gaming that merit serious attention and consideration.

Robert Nakosteen
Executive Editor

Casino Economics in the U.S. and New England

The short history of legalized gambling in the U.S. shows where the Massachusetts governor's unusual proposal for casinos as economic development fits into the contemporary gaming picture.

CLYDE W. BARROW

> *"Fundamentally, gaming is a business."*
>
> Governor Deval Patrick
> September 17, 2007

On October 27, 2007, Governor Deval Patrick filed legislation to authorize up to three destination resort casinos in Massachusetts.[1] Its primary goal is to "spur economic development and job growth throughout the Commonwealth,"[2] complementing initiatives in the life sciences, renewable energy, education reform, and additional investment in higher education research facilities all aimed at creating 100,000 new jobs. A month earlier, Massachusetts was one of only four states to report fewer payroll jobs (-46,000) than at the end of the last recession (November 2001), ranking it 48th lowest nationally for net job growth in the current business cycle.[3]

The governor's plan calls for casinos in Greater Boston, Western Massachusetts, and Southeastern Massachusetts. Each casino would pay a minimum $200 million license fee that would be renewable every ten years subject to good behavior and economic performance. Each casino would also pay a minimum 27 percent tax on gross gaming revenues, as well as retail sales, meals, and room occupancy taxes on non-gaming operations, along with payroll, corporate income, and local property taxes. The governor's staff estimates that the three casinos would generate at least $3 billion in new capital investment and approximately $2.05 billion annually in gross gaming revenues (GGR),[4] create 20,000 new jobs, and produce more than $400 million annually in net tax revenues. The governor proposes to use the new tax revenues to support property tax relief and new infrastructure investment,

while providing millions of dollars per year in new property tax revenue for the three host communities.

The governor's legislation requires that licensed casinos may only be sited in communities that have voted favorably in a binding referendum to host a casino. To receive a license, operators must also negotiate local development impact agreements with host communities to defray the costs of municipal infrastructure improvements and service delivery directly related to casino development.[5] The legislation also sets aside 5 percent of GGR, $50 million annually, in a Community Mitigation Trust Fund to further assist host and surrounding communities to address the local impacts of casino development, and another $50 million annually in a Public Health Trust Fund for treatment and education programs related to problem gambling and alcohol and drug abuse. The casinos are also required to cover the full costs of state regulation and enforcement, which will be conducted through an independent Gaming Control Authority and a new Division of Enforcement and Investigation in the Attorney General's Office.

The U.S. Casino Industry

In announcing his casino legislation, Governor Patrick cautioned that casinos were "neither a 'cure all', nor the end of civilization," but that "fundamentally, gaming is a business."[6] Casino gaming in one form or another — including land-based casinos, floating riverboats, dockside riverboats, casino cruise boats, racetrack casinos, and Native American casinos — is available in 32 states. Casinos enjoy a high level of acceptance by the American public with 51 percent of the adult population now viewing casino gaming as "perfectly acceptable for anyone," while another 28 percent view it as "acceptable for others," but not for themselves. Only 16 percent of Americans view casino gaming as "not acceptable for anyone."[7] Similarly, a majority of Massachusetts residents express support for Governor Deval Patrick's casino legislation (55 percent favor/27 percent oppose/18 percent undecided) and, as with other Americans, a recent *Boston Globe*/University of New Hampshire poll found that 61 percent of the Commonwealth's residents now view casino gaming as a "viable and legal entertainment option, just like going to the movies."[8]

Structure of the Casino Industry

The expansion of casino gaming in the United States since the early 1990s has reflected the growth of the leisure, hospitality, and entertainment industries generally. Specifically, adults who gambled at a casino at least once

in the previous year climbed from 17 percent in 1990 to 25 percent in 2005, when Americans made approximately 320 million visits to casinos.[9] Since the early 1990s, nearly 82 percent of the increase in visits to casinos has occurred in "nontraditional venues" outside Las Vegas and Atlantic City. Clearly, casino gaming can be seen in part as just another industry.

The casino industry actually breaks down into many niche markets according to type of facility, consumer demographics, and customer motivation. Consequently, its economic and fiscal impacts vary widely from state to state depending on the particular configuration of establishments and a state's gaming policy (unrestricted market entry subject to licensing or a fixed number of establishments at predetermined locations). Another variable is whether a state is host to state-licensed "commercial casinos" or "Native American casinos."

Economic and Fiscal Impacts of Commercial Casinos

Nevada was the first state to legalize commercial casino gambling in 1931 but it was not until 1976 that New Jersey became the second state to legalize casinos in Atlantic City. Since 1989, however, nine states have legalized commercial casinos, including South Dakota (1989), Iowa (1989), Colorado (1990), Illinois (1990), Mississippi (1990),

Figure 1. U.S. Consumer Spending on Commercial Casino Gambling, 1995 – 2006
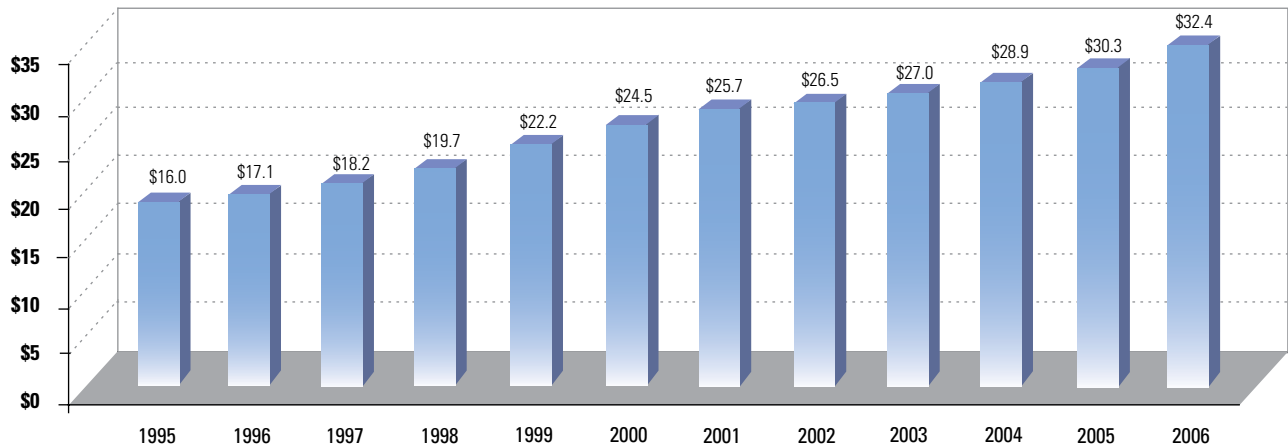
Source: American Gaming Association, *State of the States*, 2006

Table 1. Commercial and Native American Casinos: Employment, Wages, Taxes (2006)

State	Casino Employees	Casino Employee Wages (billions)	Average Annual Wages	Gross Gaming Revenue (billions)	Gaming Tax Revenue (millions)	Effective Gaming Tax Rate
Colorado	7,829	$0.295	$37,680	$0.782	$108.40	13.9%
Illinois	8,819	$0.333	$37,759	$1.924	$830.24	43.2%
Indiana	16,000	$0.610	$38,125	$2.577	$833.67	32.4%
Iowa	9,732	$0.331	$34,012	$1.173	$289.43	24.7%
Louisiana	17,859	$0.565	$31,637	$2.567	$527.80	20.6%
Michigan	6,961	$0.380	$54,590	$1.303	$349.86	26.9%
Mississippi	26,010	$0.771	$29,642	$2.570	$301.62	11.7%
Missouri	10,900	$0.330	$30,275	$1.592	$424.57	26.7%
Nevada	215,041	$8.380	$38,969	$12.622	$1,100.00	8.7%
New Jersey	45,043	$1.250	$27,751	$5.219	$508.78	9.7%
South Dakota	2,002	$0.039	$19,481	$0.090	$13.34	14.8%
Sub-Total	366,196	$13.284	$36,276	$32.419	$5,287.71	16.3%
Native American	308,726	$10.400	$33,687	$25.100	$1,100.00	4.4%
Total	**674,922**	**$23.684**	**$35,091**	**$57.519**	**$6,387.71**	**N/A**

Sources: American Gaming Association, *State of the States*, 2006 (as collected from state revenue or gaming regulatory authorities); Alan Meister, *Indian Gaming Industry Report*, 2006-2007.

Louisiana (1991), Missouri (1993), Indiana (1993), and Michigan (1996).[10] In 2006, these 11 states had 460 commercial casinos with 175 of the casinos located outside the traditional venues of Nevada and New Jersey. Commercial casinos had GGR of $32.4 billion in 2006 (Figure 1) with 45 percent of the total GGR generated by casinos in the nine non-traditional venues.

In 2006, commercial casinos employed 366,196 people with a total payroll of $13.3 billion and average annual wages of $36,276 (Table 1), which is comparatively high for the leisure and hospitality sector. By comparison, there are 296,713 people employed in the Commonwealth's leisure and hospitality industry with average annual wages of $20,176 (2006 ES-202). There are 46,887 people employed in the Commonwealth's arts, entertainment, and recreation industry with average annual wages of $30,784 (2006 ES-202). These comparatively high-wage rates are partly explained by union density in the commercial casino industry and also by the fact that 70 to 95 percent of casino jobs are full-time benefited positions.[11] Commercial casinos paid $5.2 billion in gaming taxes in 2006 (not including corporate income and payroll taxes) for an effective tax rate of 16.3 percent on GGR, although for the non-traditional venues alone the effective tax rate on GGR is 25.2 percent.[12]

Data collected by the New Jersey Casino Control Commission documents that Atlantic City casinos make 61 percent of their non-payroll purchases — $2.16 billion in 2006 — from 2,331 different vendors within the state.[13]

Economic and Fiscal Impacts of Native American Gaming

There are 561 federally recognized Indian tribes in the United States and 227 of these tribes operate 415 Class II and Class III gaming facilities in 30 states under provisions of the Indian Gaming Regulatory Act. Indian tribes throughout the United States began operating high-stakes bingo facilities on tribal lands as early as the 1970s. However, in 1987, the state of California claimed jurisdiction over gaming on Indian lands under California state law and, subsequently, sought to enforce criminal penalties against tribal leaders for allowing "illegal" bingo and poker games on tribal lands. These actions were challenged in federal court and in *California v. Cabazon Band of Mission Indians*. The U.S. Supreme Court ruled in favor of the tribes on grounds that the state did not have criminal jurisdiction in these cases, because some types of gambling were already allowed in California under the civil code (e.g., charitable bingo and card rooms). Moreover, the Supreme Court ruled that any regulation of Indian gaming would have to come from the federal government and not the states, because the U.S. Constitution gives the federal govern-

ment the exclusive power "to regulate commerce…with the Indian Tribes."

The U.S. Congress responded to the court's decision in 1988 with the Indian Gaming Regulatory Act (IGRA), which establishes three classes of games with a different regulatory scheme for each class of games. Class I gaming is defined as traditional Indian gaming and social gaming for minimal prizes. Regulatory authority over Class I gaming is vested exclusively in tribal governments. Class II gaming is defined as bingo, without distinction as to whether it is played electronically, on a computer, or with other technological devices, so long as it is played in the same location as bingo, pull tabs, punch board, tip jars, instant bingo, and other games similar to bingo. Class II gaming also includes non-banked card games or card games played exclusively against other players, rather than against "the house" or with a single player acting as a bank. IGRA specifically excludes slot machines or electronic facsimiles of any game of chance from the definition of Class II games. Tribes retain their authority to conduct, license, and regulate Class II gaming so long as the state where the tribe is located permits such gaming for any purpose and the tribal government adopts a gaming ordinance approved by the National Indian Gaming Commission. Tribal governments are solely responsible for regulating Class II gaming with Commission oversight.

The definition of Class III gaming includes all forms of gaming that are neither Class I nor Class II. Games commonly played at casinos, such as slot machines, black jack, craps, and roulette clearly fall within the Class III category, as well as wagering games and electronic facsimiles of any game of chance. Class III is frequently referred to as "casino-style gaming" and Class III facilities are generally comparable to commercial casinos in their operations and economic impacts.

However, before a tribe can lawfully conduct Class III gaming, three conditions must be met: 1) the particular form of Class III gaming (e.g., slot machines) must be permitted in the state where the tribe is located, 2) the tribe and the state must have negotiated a compact approved by the Secretary of the Interior, or the Secretary must have approved regulatory procedures; and 3) the tribe must have adopted a tribal gaming ordinance approved by the National Indian Gaming Commission (NIGC). Congress intended for most regulatory issues to be addressed in tribal-state compacts, although it left a number of key functions in federal hands, including approval authority over compacts, management contracts, and tribal gaming ordinances.

Tribal casinos have been the fastest growing segment of the casino industry for more than a decade. In 1988, tribal gaming generated a mere $121 million nationwide in gross gaming revenues, but by 2006 GGR had risen

to $25.1 billion (Figure 2). In 1994, Native American casinos accounted for 19.5 percent of the industry's total GGR, but by 2005 tribal casinos accounted for 41 percent of the industry's GGR (Table 2).

In 2006, tribal casinos employed 308,726, people and paid $10.4 billion in total wages for an average annual wage of $33,735. They also made $1.1 billion in payments to state and local governments for an effective overall "tax" rate of 4.4 percent (Table 1).[14] However, tribes in some states do not share any revenue with state and local governments, except to defray regulatory costs, while the two Connecticut tribes share 25 percent of gross slot revenues with the Nutmeg state and made payments of more than $430 million to the Connecticut general treasury in FY 2007.

Governor Patrick has stated that his casino proposal is focused more on the economic development and job creation potential of resort casinos than on their substantial capacity to generate new revenues for the state. Their potential contribution to economic development is their ability to "bolster tourism," while providing "permanent and diverse jobs" to Massachusetts residents.[15] Nationally, casinos employ about 11 persons for every $1 million in gross gaming revenues, while racinos (horse or greyhound race tracks that have casinos) employ only 6 persons. The governor's proposal estimates that three resort casinos will generate about $2 billion in gross gaming revenues and,

Figure 2. Growth of Tribal Gaming Revenue, 1996 – 2006 ($ billions)
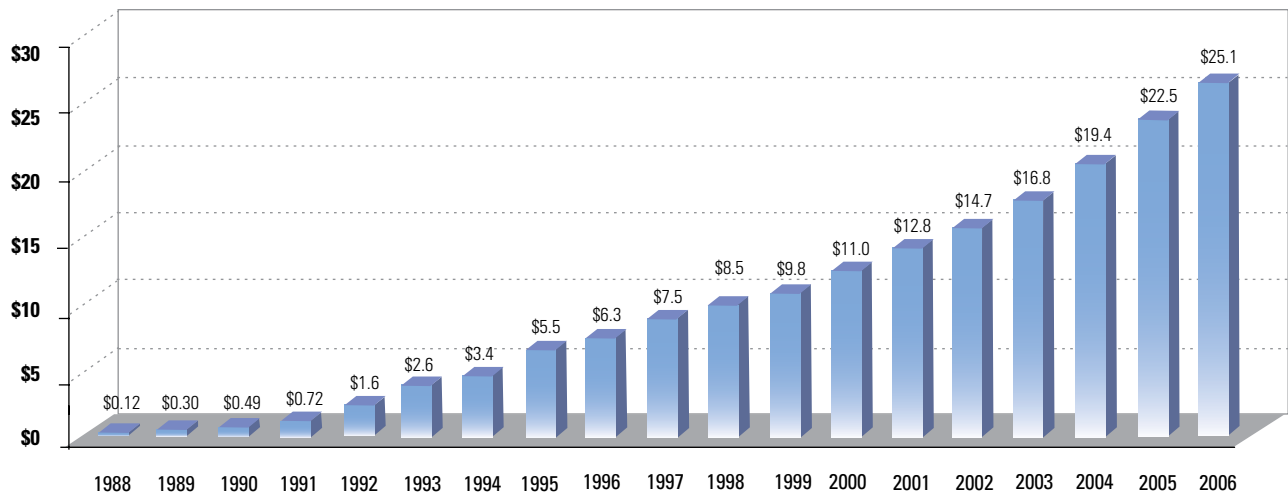
Source: National Indian Gaming Commission (NIGC)

Table 2. Sector Shares of Casino Gaming Market, 1994 – 2005

Calendar Year	Indian Gaming	Commercial Casinos	Racinos
1994	19.5%	80.2%	0.3%
1995	24.8	73.7	1.5
1996	26.1	71.4	2.5
1997	27.8	69.4	2.9
1998	29.0	67.9	3.2
1999	29.5	67.1	3.5
2000	29.6	66.5	3.9
2001	32.1	63.8	4.2
2002	34.5	60.6	4.9
2003	37.3	57.8	4.9
2004	38.9	55.7	5.5
2005	40.9	53.5	5.6

Source: Indian Gaming Industry Report, 2006-2007

therefore, employ about 20,000 people statewide, which is consistent with national averages.

Moreover, casinos do provide "diverse jobs" for individuals with a wide range of occupational skills and educational attainment levels. Of commercial and tribal casino employees, one-third work in casino operations and one-third in the food and beverage sector. However, resort casinos also employ individuals in retail and entertainment, hotel operations, marketing and administration, facilities maintenance, security, and accounting. Table 3 illustrates the average sectoral employment distribution for a commercial casino with 6,000 employees.

The occupational distribution of casino employees is equally diverse with more than one-third working in management (17 percent), professional (17 percent), and technical (2.4 percent) positions. Other employees are distributed among sales, clerical, craft, laborer, and service occupations (Figure 3).[16] In terms of educational attainment, about 15 percent of casino employees hold a bachelor's degree or higher, while 22 percent have an associate's degree and another 11 percent have some type of post-secondary trade or technical certification. However, casinos also provide abundant employment opportuni-

ties for individuals with only a high school diploma, while only 11 percent of the commercial casino workforce has less than a high school diploma (Figure 4). Nearly half (49 percent) of the casino workforce in Atlantic City falls within protected racial or ethnic groups based on federal equal employment opportunity definitions (Figure 5).

Table 3. Sectoral Distribution of Resort Casino Employees

Sector	Number of Employees	Percent
Food & Beverage	2,060	34.3%
Retail / Entertainment	189	3.1%
Hotel	384	6.4%
Marketing & Administration	462	7.7%
Facilities	502	8.4%
Security	214	3.6%
Casino Operations	2,042	34.0%
Accounting	147	2.4%
Total	**6,000**	**100.0%**

Source: Center for Policy Analysis (2007)

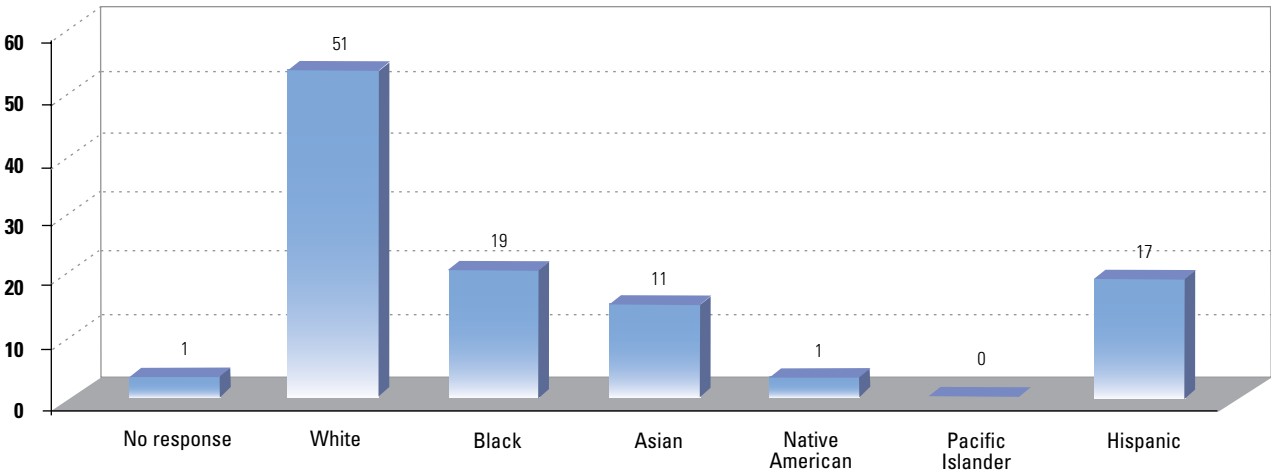## Figure 3. Occupational Distribution of New Jersey Casino Employees
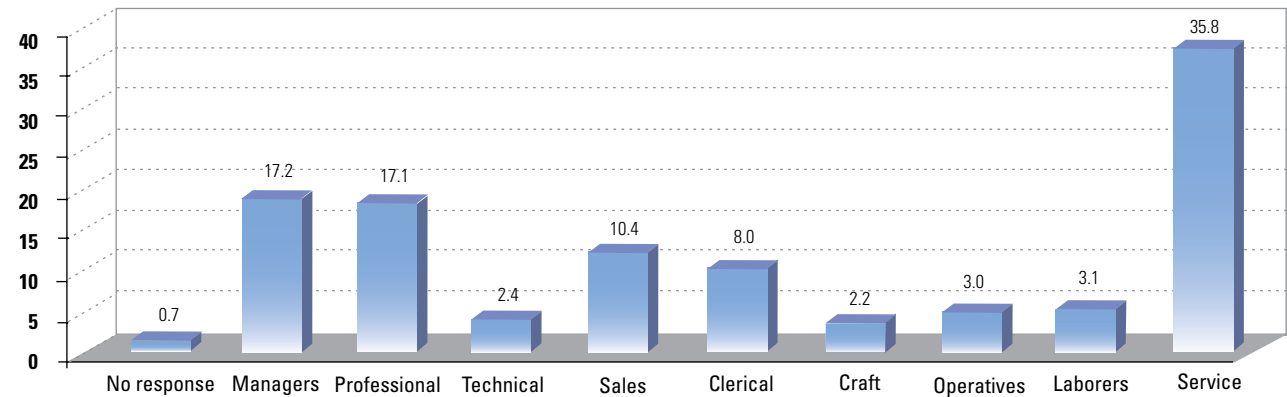
Source: New Jersey Casino Control Commission

Figure 4. Educational Attainment of New Jersey Casino Employees
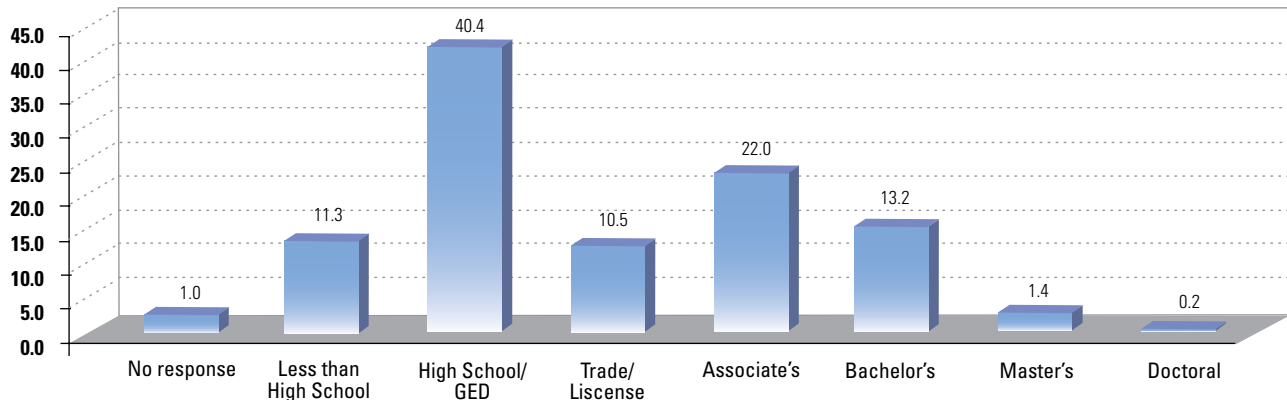
Source: New Jersey Casino Control Commission

Figure 5. Race/Ethnicity of New Jersey Casino Employees

Source: New Jersey Casino Control Commission

The Casino Industry in New England

Casino gaming, a $3.6 billion industry in New England, includes two tribal casinos in Connecticut, two racinos in Rhode Island, and a small slot parlor in Bangor, Maine. The industry is currently making $1.8 billion in new capital investments to fund expansions at the five gaming facilities.

CONNECTICUT

Foxwoods Resort and Mohegan Sun are currently the only gaming facilities in New England that offer both slot machines and table games, as well as a wide array of non-gaming resort amenities, including luxury hotels, gourmet dining, concert and entertainment arenas, dance clubs and cabarets, convention and meeting space, golf courses, and spas. In calendar year 2006, Connecticut's two casinos had combined gross gaming revenues (GGR) of approximately $2.5 billion, employed approximately 22,000 people, and paid $433.6 million to the Connecticut general treasury. The two casinos' resort and convention facilities generated another $683 million in non-gaming revenues for total (gaming and non-gaming) annual revenues of $3.2 billion.[1]

In 1986, the Mashantucket Pequot Tribal Nation opened a high-stakes bingo hall, which became the platform for launching Foxwoods Resort Casino in Ledyard, opening in 1992. It is now the largest resort casino in the nation with 340,000 square feet of gaming space in a resort complex that covers 4.7 million square feet.[2] An average of 40,000 people visit Foxwoods each day. In November 2005, Fox-

woods announced a $700 million expansion (only months after completing a two-year $100 million expansion) that will add another two million square feet to its existing 4.7 million-square-foot complex. The expansion includes 50,000 square feet of new gaming space, but the major focus of the expansion is the construction of new conference and meeting facilities that will compete directly with Hartford, Providence, and Boston for New England's convention business. The expansion will bring the resort's total meeting and convention space to 170,000 square feet. The latest expansion also establishes a partnership with MGM Entertainment that will feature a new MGM hotel with 824 rooms and suites, as well as another 21,000-square-foot spa. It is expected that Foxwood's expansion will result in approximately 2,300 new jobs being added to its current payroll of nearly 12,000 employees. The new development is scheduled for completion in the summer of 2008.[3]

Mohegan Sun opened in 1996 and is now the second largest resort casino in the nation following a successful expansion known as Project Sunburst. Located on a 240-acre site on the Mohegan Tribe's reservation adjacent to Montville, Mohegan Sun has nearly 300,000 square feet of gaming space in two casinos: the Casino of the Earth (179,500 sq. ft.) and the Casino of the Sky (119,000 sq. ft.). It also has an 11,000 square foot simulcast race book. On November 16, 2006, Mohegan Sun announced a $740 million expansion known as Project Horizon, which will add 42,000 square feet of gaming space and a 1,000-room hotel to the existing facility. Mohegan Sun will also add 115,000 square feet of new convention

Taking the Gamble in Massachusetts?

Residents of Massachusetts have played a significant role in fueling the expansion of Connecticut's casinos and Rhode Island's racinos since Foxwoods opened in 1992. Massachusetts accounts for 45 percent of New England's total population (U.S. Census Bureau, 2005) and 47 percent of its personal disposable income (U.S. Bureau of Economic Analysis 2005). It is estimated that Massachusetts residents annually spend about $1.1 billion at Connecticut's and Rhode Island's gaming facilities.[17] The gaming and non-gaming expenditures by Massachusetts residents in Connecticut and Rhode Island directly underwrite approximately 6,000 hospitality jobs in those two states and indirectly contribute more than $220 million annually to the two states' general treasuries.

The Center for Policy Analysis at the University of Massachusetts Dartmouth has been conducting patron origin analyses of Connecticut's casinos since 1995 and it has done the same with Rhode Island's racinos since 2004.[18] These results indicate that Massachusetts residents account for approximately 35 percent of the total annual visits to Foxwoods, 21 percent of total visits to Mohegan Sun, 41 percent of total visits to Twin River, and 44 percent of total visits to Newport Grand (Table 4). Telephone survey research conducted in October of 2006 confirms these estimates and found that Massachusetts residents made approximately 6.9 million visits to Foxwoods and Mohegan Sun in 2006 and 722,000 visits to Twin River and Newport Grand in the same year.[19]

Furthermore, the center's survey research suggests a clear differentiation between the region's resort casino market currently dominated by Connecticut and the convenience gambling market captured by Rhode Island. For

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space. The new Casino of the Wind is scheduled to open in the spring of 2008, while the non-gaming facilities are scheduled to open in the spring of 2010. It is expected that Mohegan Sun's expansion will result in approximately 2,000 new jobs being added to its current payroll of 10,400 employees.[4]

RHODE ISLAND

Twin River (formerly Lincoln Park) and Newport Grand were originally licensed as greyhound racing and jai-alai pari-mutuel facilities, respectively. They were first authorized to house video lottery terminals in 1992 and by calendar year 2006, Rhode Island's two racinos had combined GGR (known as net terminal income) of $406.5 million. The two racinos employ approximately 1,100 people and paid $243.9 million to the Rhode Island general treasury (including gaming tax and estimated sales tax revenues).[5]

Twin River, located in Lincoln off Route 146 approximately 10 minutes north of Providence, recently completed a $220 million expansion that added 160,000 square feet to its existing footprint. It now houses 4,752 video lottery terminals (VLTs) and only four other casinos or racinos in the nation have more slot machines: Foxwoods (7,035), Mohegan Sun (6,197), Bally's Atlantic City (5,580), and Empire City (5,500). The expansion also included several new restaurants and a 2,000-seat concert and entertainment arena. It is estimated that total annual revenues for Twin River (excluding live and simulcast racing) were approximately $359 million in CY

2006.[6] The expansion is expected to result in 700 additional jobs at the new Twin River.

Newport Grand is located in Newport on Route 138 in the far south end of Aquidneck Island. The facility no longer offers live jai-alai, but it does offer simulcast jai-alai games year-round, as well as thoroughbred, harness, and greyhound simulcasts. Newport Grand currently has 1,070 video lottery terminals, but in 2005 it was authorized to deploy up to 2,101 VLTs in exchange for the owners' commitment to expand the facility. The proposed $25 million expansion will include a new 120-room hotel and refurbishment of its gaming space to house the additional VLTs. It is estimated that total annual revenues for Newport Grand (excluding simulcasts) were approximately $84 million in CY 2006.[7]

MAINE

On May 6, 2004, the Pine Tree State became the third state in New England — after Rhode Island (1992) and Connecticut (1992) — to authorize expanded gambling in the form of slot machines. The "Governor's Gambling Control Legislation" was enacted by the Maine State Legislature and signed into law by Governor John E. Baldacci six months after Maine's voters approved a referendum by 53 percent to 47 percent to allow slot machines at the Bangor harness racetrack. Hollywood Slots racino opened on November 4, 2005 near Bangor Historic Racetrack and Bass Park on Main Street in Bangor.

instance, the CFPA's 2006 gaming behavior survey found that 77 percent of those who patronize Connecticut's two casinos, and who reside outside of Connecticut, have never visited either of Rhode Island's two racinos despite their closer proximity to these patrons. Indeed, even Rhode Island residents spend more annually at Foxwoods and Mohegan Sun ($291.6 million) than at their own slot parlors ($251.3 million).[20] Casino patrons report that they are attracted to the casinos by the general atmosphere and physical attractiveness of the facilities and they are also much more likely to spend money on non-gaming amenities, such as food, lodging, retail shopping, and entertainment venues.

In contrast, the convenience gamblers who visit Rhode Island's two racinos report that the two facilities' main attraction is their proximity to home. Sixty-one percent of Twin River's visitors travel less than 30 minutes to reach the facility and 97 percent travel less than one hour. Similarly, 24 percent of Newport Grand's patrons travel 30 minutes or less, while 76 percent travel less than one hour. In addition, convenience gamblers are simply less interested in resort-style amenities and virtually none of them stay overnight or spend money on non-gaming amenities while visiting these facilities.[21] According to public statements by Twin River officials, the improvement, expansion, and rebranding of the former Lincoln Park is designed to extend its market gravity from a 15- to 30-mile radius to a 60-mile radius and thus draw more patrons from the Worcester and Greater Boston areas.[22]

In contrast, Governor Patrick's three-casino proposal is specifically aimed at capturing a significant share of New England's resort casino market by recapturing revenues leaving Massachusetts for Connecticut and Rhode Island, as well as intercepting the considerable sums spent annually at Connecticut's casinos by New York, Maine, New Hampshire, and Vermont residents. Thus, a key element in the potential restructuring of the

Maine, continued

Hollywood Slots, which is owned and operated by Penn National Gaming, Inc. currently operates at a temporary facility with 475 slot machines. The construction of a permanent facility began in the summer of 2007 with completion expected in mid-2008. The new racino's owners originally planned to construct a $90 million slots facility on its 8-acre site, but on February 8, 2007, the company announced that it is now planning a $131 million upscale racino that will include a hotel and additional dining outlets.[8] Penn National Chairman and CEO Peter Carilino announced that the company expanded its plans for Hollywood Slots because of "the impressive results being generated by our temporary facility and a substantial number of patrons driving significant distances to Hollywood Slots at Bangor."[9]

The new facility will feature a two-story, semicircular, glass tower gaming area, a seven-story hotel, a four-story parking garage, restaurants, retail space, and a new simulcast facility for off-track wagering. Hollywood Slot's state gaming license allows it to operate up to 1,500 slot machines and the permanent facility is designed to accommodate future expansion up to this limit. It is estimated that total annual revenues for Hollywood Slots (excluding marginal non-gaming revenues) were $37.5 million in CY 2006.

NOTES

1. Clyde W. Barrow, New England Casino Gaming Update, 2007 (North Dartmouth, Mass.: Center for Policy Analysis, 2007); see http://www.umassd.edu/cfpa/docs/gaming_update_2007.pdf.

2. Foxwoods is the largest resort casino in terms of gaming space and gaming positions, although in CY 2006 Mohegan Sun surpassed Foxwoods in gross gaming revenues.

3. Anthony Cronin, "Foxwoods Expansion Raises Concerns," New London Day, December 3, 2005.

4. Eight-two percent of Mohegan Sun's employees are full-time benefited personnel, while 18 percent are seasonal and part-time employees (U.S. SEC 2006, 32).

5. Barrow, op. cit.

6. Barrow, op. cit.

7. Barrow, op. cit.

8. The upscale racino — a racino with a moderate-sized hotel, a small number of dining and entertainment venues, and other amenities (e.g., retail) was pioneered by Dover Downs in Delaware, which now has 2,700 slot machines, a 232-room hotel, 25,000 square feet of meeting space, and gourmet dining and entertainment venues. It also sponsors various sporting events (e.g., boxing). Newport Grand and Lincoln Park in Rhode Island are moving toward this model.

9. Dawn Gagnon, "Bangor slots project price jumps by $40 million," Bangor Daily News, February 9, 2007.

10. Barrow, op. cit.

Table 4. Estimated Patron Origins by State, 2006:
Foxwoods, Mohegan Sun, Twin River, Newport Grand

State	Foxwoods	Mohegan	Twin River	Newport
Massachusetts	34.8%	20.9%	40.5%	43.8%
Connecticut	33.3%	52.7%	0.6%	2.1%
Rhode Island	13.9%	4.6%	57.8%	52.0%
New Hampshire	3.1%	2.0%	0.2%	0.2%
Maine	1.3%	0.8%	0.1%	0.1%
Vermont	0.5%	0.4%	0.0%	0.0%
New York	9.0%	14.2%	0.2%	0.4%
New Jersey	2.0%	2.4%	0.1%	0.1%
Other	2.1%	2.0%	0.5%	1.3%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Center for Policy Analysis. Note: The statistical margin of error for the Foxwoods, Mohegan, Twin Rivers, and Newport surveys is plus or minus less than one percent.

New England casino market is that Foxwoods and Mohegan are both in the process of repositioning themselves as national, and even international, destinations.

In fact, a majority of the $1.4 billion in new capital investment at both casinos — more than 95 percent on a square footage basis — is to expand their non-gaming resort, hotel, entertainment, and conference facilities. Foxwoods' and Mohegan's current expansions are not designed to significantly expand their gaming capacity, which will only grow by 15 to 20 percent under current expansion plans. Rather, the current expansions at Foxwoods and Mohegan Sun are aimed at capturing national convention and business meetings and utilizing the new conference facilities to draw customers into their casinos from outside New England with the clear expectation that they will eventually lose their duopolistic position in the New England casino market (Table 4).

Conclusion

There is no question that Massachusetts residents now regularly gamble at the casinos in Connecticut and the racinos in Rhode Island. Moreover, a recent poll by the Center for Policy Analysis indicates that the governor's proposal enjoys strong popular support across the state and among most demographic groups, whether defined by age, income, sex, or educational attainment.[23] The governor's estimates of employment, wages, job diversity, and gross gaming revenues are consistent with national and regional averages for the casino gaming industry and, despite widespread misperceptions, is consistent with the state's high-wage economic development strategy, to the extent that commercial casinos offer average wages that are significantly higher (+80 percent) than for the state's leisure and hospitality sector generally.

Yet, in another important respect, Governor Patrick's casino proposal is an important new departure in the state's economic development strategy, because it seeks to also provide a diverse array of comparatively well-paying full-time jobs to those who work in "low- and mid-range" occupations of the service sector. Casino gaming does not need to come at the expense of other initiatives, such as those in the life sciences, education reform or research and development. As parallel strategies, they should complement, rather than compete with each other, in promoting job growth in the Commonwealth. Policy makers need to recognize that even though Massachusetts has one of the most highly educated populations in the nation — 33.2 percent with a bachelor's degree or higher — it is also true that 15.2 percent of the state's residents do not have a high school diploma, another 27.3 percent have only a high school diploma, and another 24.3 percent have some college or an associate's degree (U.S. Census 2000). A comprehensive statewide economic development strategy should also include industries that provide tangible opportunities for higher incomes and career advancement for individuals working in this segment of the labor market. ◄

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NOTES

1. *An Act Establishing and Regulating Resort Casinos in the Commonwealth*, see http://www.mass.gov/Agov3/docs/Legislation/2007_10_11_resort_casino_bill.pdf.

2. Deval Patrick, "Letter to the Honorable Senate and House of Representatives," October 11, 2007; "Governor Patrick Files Resort Casino Legislation," Press Release, October 11, 2007.

3. U.S. Bureau of Labor Statistics, "State and Area Employment, Hours, and Earnings," at http://data.bls.gov/PDQ/outsidejsp?survey=sm.

4. Gross Gaming Revenue (GGR) is the total amount of gaming revenue (win) retained by a casino during a day, month or year. GGR is the figure most commonly used to determine what a casino, racetrack, lottery or other gaming operation keeps *before* taxes, salaries, operating costs, and other expenses are paid by the casino. It is the equivalent of "sales" in other industries and should not be confused with "profit." Total Revenue (TR) consists of GGR plus non-gaming revenues, including hotel, food and beverage service, retail shops, conference and meeting services, and entertainment venues.

5. For examples of such agreements, see "Development Agreement By and Between the Town of West Warwick and Narragansett Tribe/ Harrah's Casino Project, LLC," at http://www.umassd.edu/cfpa and "Intergovernmental Agreement By and Between the Mashpee Wampanoag Tribe and the Town of Middleborough, Massachusetts," at http://www.middleborough.com/special_town_meeting.htm.

6. Governor Deval Patrick, "Transcript: Governor Unveils Casino Gaming Plan," September 17, 2007, p. 1.

7. American Gaming Association, *State of the States: The AGA Survey of Casino Entertainment, 2002* (Washington, D.C.); see http://www.americangaming.org/survey/index.cfm.

8. Center for Policy Analysis poll as reported in Scott Van Voorhis, "Mass: Bring on casinos; poll says majority of residents in favor of gov's plan," *Boston Herald*, October 5, 2007, p. 20; Andrea Estes, "53% in poll back Patrick casinos plan," *Boston Globe*, September 30, 2007, pp. A-1, A-21.

9. Harrah's Entertainment, Inc., *Harrah's Survey: Profile of the American Casino Gambler, 2003* (Memphis, Tennessee, 2003), see http://www.harrahs.com/about_us/survey/030948_Survey.pdf; Harrah's Entertainment, Inc., *Harrah's Survey: Profile of the American Casino Gambler, 2006* (Memphis, Tennessee, 2006); see http://www.harrahs.com/images/PDFs/Profile_Survey_2006.pdf.

10. The years identify dates when legislation was passed legalizing commercial casinos, although in most cases the first casino did not begin operations until one to three years later.

11. For example, 82 percent of Mohegan's Sun 10,400 employees are full-time benefited positions with health care and pension coverage; see Mohegan Tribal Gaming Authority, *Annual Report (Form 10-K) for the Fiscal Year Ended September 20, 2006* (Washington, D.C.: Securities & Exchange Commission, 2006), p. 35.

12. In general, the effective tax rate on riverboat and dockside casinos was significantly higher than the tax rate on land-based casinos, because the latter require much higher levels of capital investment, particularly for resort amenities. Political jurisdictions with unrestricted market entry (i.e., Nevada, New Jersey, Mississippi) tax gaming revenues at a much lower rate than jurisdictions with limited entry to encourage more market participation, while restricted jurisdictions tax gaming revenues at a higher rate because of restricted competition.

13. New Jersey Casino Control Commission, *Economic Impact Report: Atlantic City Gaming Industry, Fourth Quarter 2006 Report* (Year End), p. 8.

14. National Indian Gaming Commission, "Gaming Revenue Reports," http://www.nigc.gov/Default.aspx?tabid=67; Alan Meister, Indian Gaming Industry Report, 2006-2007 (Newton, Mass. Casino City Press and Analysis Group, 2007).

15. "Governor Patrick Files Resort Casino Legislation," Press Release, October 11, 2007, p. 1.

16. As reported in Rutgers University Bureau of Economic Research, *Limitations in the Workplace: A Survey and Study of Atlantic City Casinos: Final Report to the New Jersey Casino Control Commission* (October 1998), pp. 20-24.

17. Barrow, op. cit.

18. The methodology employed in the patron origin analysis has been validated by academic peer review and published by Jeffrey Dense and Clyde W. Barrow, "Estimating Casino Expenditures by Out of State Patrons: Native American Gaming in Connecticut," *Journal of Travel Research* (May 2003): 410-15. Findings generated by this methodology have been cited as authoritative by regional economists at the University of Connecticut, see Arthur Wright, "As the Wheel of Fortune Turns: Casinos Revisited," *The Connecticut Economy: A University of Connecticut Quarterly Review* (September 2006): 8-11 and research economists at the Federal Reserve Bank of Boston; see, Heather Brome, "Memorandum on Economic Impact of Casino Development," (September 14, 2006), at http://www.bos.frb.org/economic/neppc/memos/2006/brome091406.pdf. These estimates are also consistent with public statements by Foxwoods and Mohegan Sun officials (e.g., *Boston Globe*, October 21, 1995; *New London Day*, March 28, 2004; *New York Times*, October 21, 2007). The University of Connecticut Center for Economic Analysis also conducted a patron intercept survey at Foxwoods from September 7 to 13, 1999 with 496 respondents; see Fred Carstensen, William Lott, Stan McMillen, Bobur Alimov, Na Li Dawson, and Tapas Ray, *The Economic Impact of the Mashantucket Pequot Tribal Nation Operations in Connecticut* (Storrs, Conn.: University of Connecticut Center for Economic Analysis, 2000). The UCCEA survey found that 33 percent of Foxwoods patrons lived in Massachusetts, 27.5 percent in Connecticut, 17.2 percent in Rhode Island, 2.6 percent in New Hampshire, 1.8 percent in Maine, 0.8 percent in Vermont, 9.2 percent in New York, 2.0 percent in New Jersey, and 5.5 percent in other states. The reliability of the findings is bolstered by the fact that three different survey methodologies have arrived at almost identical results.

19. Clyde W. Barrow, *Taking the Gamble III: Who Gambles at Connecticut's Casino?* (North Dartmouth, Mass.: Center for Policy Analysis) and Clyde W. Barrow, *Taking the Gamble IV: Who Gambles at Rhode Island's Two Racinos?* (North Dartmouth, Mass.: Center for Policy Analysis, 2007). The second New England Gaming Behavior Survey was conducted from September 29, 2006 to November 2, 2006 using a survey instrument developed by the Center for Policy Analysis. A total of 1,041 telephone interviews of Massachusetts residents were conducted for a margin of error of +/-3.1 percent; see http://www.umassd.edu/cfpa/gaming_reports.cfm for additional results of the survey.

20. Barrow, *Taking the Gamble III*, p. 18; Barrow, *New England Casino Update*, 2007, p. 27.

21. Barrow, *Taking the Gamble IV: Who Gambles at Rhode Island's Two Racinos?*

22. Associated Press. 2007. "Expansion at Casino in R.I. is Set to Open," *Boston Globe*, March 19, 2007, p. B-2; Scott Mayerowitz, "New Lincoln Park is Pulling to Hit Jackpot," *Providence Journal*, March 18, 2007.

23. Scott Van Voorhis, "Mass: Bring on the Casinos; poll says majority of residents in favor of gov's plan," *Boston Herald*, October 5, 2007, pp. 19-20.

Questioning the Economic Benefits of Casinos

Local job seekers do not always hit the jackpot when legalized gambling comes to town but successful casinos may boost employment by driving up demand for other goods and services.

Robert Nakosteen

Skeptics of the economic development case for casinos make a variety of arguments. These include, among others, faulty economic impact methodology, the occurrence of demand substitution, the local effect of employment increases, leakages from the local economy, and the fallacy of the "recapture" argument of resident gamblers who now travel out of state for this activity.

Inconclusive Employment Effects

A long-standing critic of casino economic impact studies is Earl L. Grinols,[1] who argues that employment studies of development effects are based on faulty assumptions. He notes that most casinos opened after 1991, when the country was recovering from recession and subsequently experienced the longest economic expansion in U.S. history. During this time, unemployment declined in areas with and without casinos. To prove a benefit, studies would have to show that casinos temporarily reduced unemployment faster than would otherwise have been the case — and the author knows of no such studies. On the contrary, economic impact reports indicate that areas without casinos but with comparable starting unemployment rates experienced similar or larger drops (Grinols, p. 106).

Demand Substitution

Often referred to as cannibalization, demand substitution is defined as, "demand for the products of a business taken from the demand of other local businesses" (Grinols, p. 197). The argument is that casinos simply siphon money away from spending in other areas, and thus their long-term net effect is reduced. For example, a pre-existing restaurant may suffer a decline in revenue once a restaurant opens adjacent to or in a new casino. Casino gambling may siphon money away from the state lottery. More subtly, if new demand for gambling is generated by opening a casino, household expenditures in the casino sector will come at the expense of other expenditures, or of household savings.

The issue of the effect of demand substitution on local employment has been addressed by Thomas Garrett,[2] who questions the job-creation assumptions made by gaming supporters. He argues that the relationship between casinos and employment depends on location and the skills required of their work force. Casinos obviously need workers but it cannot be assumed that they will all come from the surrounding region, thereby reducing local unemployment. Most casino jobs require some skill and if a casino locates in a rural area with a less skilled work force, it will likely need to hire skilled labor from further afield. If such new hires commute to their jobs, they will not improve the local unemployment rate. A casino sited in a relatively urban area will be able to recruit locally from a more diverse talent pool but in rural areas, most labor is likely to be imported.

Garrett further argues local businesses may close with the coming of casino gaming, resulting in layoffs that partly offset the number of new casino jobs. However, casinos may increase overall employment if they indirectly increase demand for non-casino goods and services. Formerly jobless casino workers or those who recently moved to the area now spend part of their income on such goods and services as housing and entertainment. An increase in such demands will cause firms to hire, further increasing employment (Garrett, p. 12).

Leakages from the Local Economy

Skeptics of casinos' economic development impacts often cite unaccounted leakages from local economies. Leakages occur when revenues spent in a casino leave the local area. This can occur when the resources used by the casino do not have a "local content," for example, when employees commute from outside the local area to work or when ownership of the casino is outside of the locality, and profits from the casino go to these non-local owners. Illustrating the results, Grinols states: "State gambling commissions have taken to monitoring the share of expenditures that go out of state. In one case, 65 percent of vendor contracts for the state's casinos involved out-of-state purchases" (Grinols, p. 78).

The Revenue "Recapture" Fallacy

One argument that has been made in favor of building casinos in Massachusetts is that they will "recapture" gambling revenue that is spent outside the state. Especially Connecticut, but also Rhode Island, currently "export" casino gambling to many Massachusetts residents. Since gambling is largely a "local activity," Massachusetts residents will opt to stay closer to home once casinos open in the state, which will stem the loss of revenue from the state, while increasing our job and tax base.

But it appears likely that the Commonwealth's efforts to "recapture" these gambling dollars will not be easy. As the Massachusetts Taxpayer's Foundation (MTF) recently found, neighboring states have already begun to expand their capacity to meet consumer demand for gaming:

> Gaming facilities in Maine, Rhode Island and Connecticut have committed $1.8 billion in new capital investments at existing casinos and slot parlors, seeking to hold on to their customer base and attract new people. Foxwoods and Mohegan Sun in Connecticut will invest a collective $1.5 billion adding 2,600 slot machines by 2008; Lincoln Park in Rhode Island recently completed a $220 million upgrade to bring the total number of slot machines to 4,750; Newport Grand in Rhode Island will add 850 slots, while Bangor, Maine's slot parlors are undergoing a $130 million expansion adding 1,000 slot machines. And New Hampshire is considering getting into the gaming business with a specific proposal being developed at Rockingham Park immediately across the Massachusetts border that could introduce 3,000 slot machines in six months.

MTF also notes that the size of the market may also compound competitive pressures:

> Even assuming a conservative 3 percent annual growth in gaming revenues over the next five years, by 2012 nearly two-thirds of the estimated unmet demand would already be met. With population growing at a tiny 0.25 percent per year in New England, one-fourth the national average, it's unlikely that population growth over the next few years would generate a significant increase in demand.[3]

In the final analysis, it is clear that claims about the economic benefits of casino development must necessarily be viewed with both skepticism and a recognition that the "true" economic impact of these projects will ultimately be a function of the location of the project, the economic base of the surrounding region, prevailing economic conditions and the reaction of the competition to the new development. Given that it is nearly impossible to undertake an analysis that "controls" for all of these factors, the debate over the economic impacts of casino development can be expected to continue. ◄

1. Grinols, Earl L., *Gambling in America: Cons and Benefits*, Cambridge University Press, 2004.

2. Garrett, Thomas, "Casino Gambling and Local Employment Trends," *Federal Reserve Bank of St. Louis Review*, January/February 2004, 86 (1), pp. 9-22.

3. *An Analysis of Property Tax Credits and Transportation Funding Under the Governor's Casino Proposal*. Massachusetts Taxpayer's Foundation, October 2007: http://www.masstaxpayers.org/data/pdf/reports/casino~1.pdf. p. 5.

The Cost of Gambling Addiction

NATIONAL OPINION RESEARCH CENTER

This article is based upon the final report of the National Opinion Research Center (NORC) at the University of Chicago, *Gambling Impact and Behavior Study* (1999) prepared for the National Gambling Impact Study Commission. For the full report, see http://www2.norc.org/new/gamb-fin.htm.

In order to describe the economic impacts of gambling, the nature of gambling addiction needs to be defined. Figure 1 lists the criteria, including such characteristics as a person's preoccupation with gambling, the experience of withdrawal symptoms when not gambling, and lying about gambling to important people in the gambler's life. For the purpose of this summary, two types of gambling pathologies are considered: problem gamblers (affirmed three or four criteria), or pathological gamblers (affirmed five or more criteria). Useful comparisons are made with non-gamblers and low-risk gamblers, defined as those having some gambling losses, but possessing none of the criteria listed in Figure 1.

The costs included and measured in this study were job impacts, financial problems, family and health impacts, and criminal/legal problems. The consequences that arise from these problems are:

- Employment-related problems

- Bankruptcy and debt

- Poor health and mental health problems

- Arrest and incarceration

- Divorce.

The major findings of this study are:

- Problem and pathological gamblers have significantly higher rates of costly consequences than otherwise similar persons do.

- Problem and pathological gamblers experience or impose thousands of dollars of economic costs per year on society.

- Problem and pathological gamblers rarely directly attribute these costly problems to their gambling behaviors or difficulties.

Employment-Related Impacts

Adverse financial consequences are the crux of the issue for problem and pathological gambling. Although there are obviously other manifestations and consequences that can and often do arise, the financial problems are generally thought to underlie these in some way. One potential mechanism through which gambling might bring adverse consequences is for the gambler to lose too much money relative to his or her earning capacity and/or wealth. Problem and pathological gamblers in this study display a pat-

tern of higher rates of certain types of financial problems relative to other gamblers (with no or few problems) and to non-gamblers. Although this finding is almost tautological (attributing financial problems to gambling contributes to a determination of gambling type), this is exactly the pattern of problems that contributes to other sorts of consequences (e.g., family, legal, and health problems).

Another mechanism for adverse consequences is for one to engage in gambling at times and places that are inappropriate given one's responsibilities; adverse outcomes could include a decline in job performance and additional costs to employers, job loss, lost wages, and reliance on Unemployment Insurance and/or other social welfare programs.

The survey data reveal somewhat complex patterns regarding employment. For example, pathological gamblers had relatively high employment (76.3 percent) at the time of the survey. However, among those who had worked in the past year, we found a slightly higher (but not statistically significant) rate of working less than a full year (about 26.6 percent, versus 18.6 percent for low-risk gamblers). Still, pathological gamblers who had worked in the prior 12 months were significantly more likely to have lost/been fired from a job (13.8 percent versus 4 percent for low-risk gamblers). However, they were not significantly more likely to have been earning a wage below $10 per hour than others. The mean household income for pathological gamblers was about 15 percent lower than for low-risk gamblers, but this difference was not statistically significant.

The most unambiguous measure of employer dissatisfaction with employee performance (productivity) is to fire

Figure 1. Criteria for Pathological Gambling

Preoccupation	Is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble).
Tolerance	Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
Withdrawal	Is restless or irritable when attempting to cut down or stop gambling.
Escape	Gambles as a way of escaping from problems or relieving dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, or depression).
Chasing	After losing money gambling, often returns another day in order to get even ("chasing one's losses").
Lying	Lies to family members, therapists, or others to conceal the extent of involvement with gambling.
Loss of control	Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
Illegal acts	Has committed illegal acts (e.g., forgery, fraud, theft, or embezzlement) in order to finance gambling.
Risked significant relationship	Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
Bailout	Has relied on others to provide money to relieve a desperate financial situation caused by gambling.

Source: *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV),* found in *Gambling Impact and Behavior Study,* National Opinion Research Center (NORC), University of Chicago, 1999.

Figure 2. Selected Economic Costs of Pathological and Problem Gambling
Costs per pathological and problem gambler

Type of Cost	Who Pays (Primary)	PROBLEM GAMBLER COSTS		PATHOLOGICAL GAMBLER COSTS	
		Lifetime	Past Year	Lifetime	Past Year
Job loss	Employer	n.e.	$200	n.e.	$320
Unemployment benefits	Government	n.e.	$65	n.e.	$85
Welfare benefits	Government	n.e.	$90	n.e.	$60
Filed bankruptcy	Creditors	$1,550	n.e.	$3,300	n.e.
Arrests	Government	$960	n.e.	$1,250	n.e.
Corrections	Government	$670	n.e.	$1,700	n.e.
Divorce	Gambler/spouse	$1,950	n.e.	$4,300	n.e.
Poor health	Health insurance	n.e.	$0	n.e.	$700
Poor mental health	Health insurance	n.e.	$360*	n.e.	($330**)
Gamb. Treatment	Government	0	0	n.e.	$30
Total costs/impacts		**$5,130**	**$715**	**$10,550**	**$1,195**
Costs minus transfers		**$3,580**	**$560**	**$7,250**	**$1,050**
Transfers to gamblers		**$1,550**	**$155**	**$3,300**	**$145**

* This is a net increase in cost.   **This is a part of total health.   n.e.: not able to be estimated in this survey

Source: *Gambling Impact and Behavior Study*, National Opinion Research Center (NORC), University of Chicago, 1999.

an employee. As noted above, both problem and pathological gamblers have higher rates of job loss than low-risk or non-gamblers — 10.8 and 13.8 percent, respectively (compared to the expected rates of 5.8 and 5.5 percent). Employers incur search and training costs assumed equal to 10 percent of the annual salary for each employee replaced. We have estimated that employer costs equivalent to an additional 6 percent of an employee's time are invested in recruiting and initially training a replacement hire. Since pathological gamblers in our sample earned about $18 per hour, or $40,000 per year, firing an employee costs an employer an average of $4,000. Since pathological gamblers had a job loss rate of 13.8 percent, versus the expected rate of 5.8 percent, their "excess" rate of job loss was 8 percent. Therefore, the average pathological gambler cost his or her employer 8 percent of $4,000, or about $320. The cost of excess job loss for each problem gambler was $200.

Bankruptcy and Debt

Pathological gamblers have clearly elevated rates of indebtedness, both in an absolute sense and relative to their income. Indebtedness per person is 25 percent greater than that of low-risk gamblers and about 120 percent greater than that of non-gamblers. However, the disparity is even greater when debt is compared to income: pathological gamblers owe $1.20 for every dollar of annual income, while low-risk and non-gamblers only owe $0.80 and $0.60, respectively. In accord with their higher debt, pathological gamblers have significantly elevated rates of having ever declared bankruptcy: 19.2 percent, versus 5.5 percent and 4.2 percent for low-risk and non-gamblers. For problem gamblers the story is not as clear. Their average level of indebtedness is actually the lowest of any type of gambler; however, they still have an elevated rate of bankruptcy (10.3 percent), but this is only marginally statistically significant when compared to the rate among non-gamblers.

Figure 3. Economic Impacts of Major Health Problems

Type of Problem	Annual Cost (billions)	Prevalence (millions)	Annual Cost Per Prevalent Case ($ per person)
Pathalogical / problem gambling	$5	$5.4	$900
Drug abuse	$110	$6.7	$10,000
Alcohol abuse	$166	$13.8	$7,000
Mental illness	$105	$44	$2,300
Stroke	$30	$3	$10,000
Heart disease	$125	$21	$6,000
Diabetes	$92	$15.5	$5,800
Motor vehicle crashes	$71	$19	$3,600
Smoking	$72	$46	$1,500

Source: *Gambling Impact and Behavior Study*, National Opinion Research Center (NORC), University of Chicago, 1999.

On average, excess lifetime losses involved with bankruptcy are about $3,300 for pathological gamblers and $1,600 for problem gamblers. Almost 19 percent of pathological gamblers have ever declared bankruptcy, versus an expected 10.8 percent, given their personal characteristics. For problem gamblers, their 10-percent rate compares to an expected rate of 6.3 percent. Personal bankruptcies result in an average of $39,000 in losses to creditors, although one should keep in mind that there are major differences between Chapter 7 and 13 filings.

Poor Physical and Mental Health

Several studies have suggested that pathological and problem gambling is correlated with a decline in health and elevated rates of illness — either physical or mental. It is unclear how gambling problems would cause adverse impacts on health, although such impacts are believed to be a function of stress and strain. In our survey, 33.8 percent of pathological gamblers reported that they were in poor or only fair health, while only about 14 percent of low-risk gamblers reported poor or fair health. We estimated that annual health care expenditures were elevated by about $750 for pathological gamblers; no estimate was made for problem gamblers.

Arrest and Incarceration

Pathological and problem gamblers account for about $1,000 each ($1,250 and $960, respectively) in excess lifetime police costs. Almost one-third of each group has been arrested or detained by the police at some time in their life (their expected rates are about 19 and 15 percent, respectively). Pathological gamblers are estimated to have $1,700 in lifetime corrections costs, with problem gamblers having $670 in costs.

Divorce

Family problems are one of the primary concerns associated with problem and pathological gambling. One measure of gambling as a factor in divorce is that respondents representing about 400,000 adults pointed to their own gambling as a cause or factor in a past divorce, and respondents representing two million adults identified a spouse's gambling as a significant factor in a prior divorce.

The analysis estimates that the average pathological gambler has accumulated $4,300 more than expected for legal fees involved with excess divorces (measured rate of 53.5 percent, versus an expected rate of 33.4 percent). Low-risk gamblers and non-gamblers have lifetime divorce rates of 30 and 18 percent, respectively. Problem gamblers have losses of $1,950 in lifetime excess divorce legal fees. Their reported divorce rate was 39.5 percent, compared to a rate of 31 percent expected for persons otherwise similar without gambling problems. Legal fees

per divorce average $20,000. The costs per problem and pathological gambler were developed by multiplying the average number of divorces per gambler times $20,000 to get legal costs per gambler ever divorced. This total was averaged over all pathological gamblers and adjusted down to account for the difference between reported and predicted divorce rates.

Summary and Comparisons

Problem and pathological gamblers experience a variety of tangible consequences at rates that are significantly higher than would otherwise be expected based upon their socio-demographic (and substance abuse) characteristics. Such consequences include burdens to personal health, family, workplace, and the criminal justice system. In other words, such gamblers impose costs on themselves, their families, and on those around them, including employers, creditors, and taxpayers. It is possible to estimate economic impacts experienced by, or at the level of, the individual problem or pathological gambler. These estimates use standard and commonsense methods to attach valuations on the consequences that could be measured. Average annual costs per pathological gambler are about $1,200 per year, and $715 per year per problem gambler. "Lifetime" costs are estimated at $10,550 and $5,130. These costs are summarized in Figure 2.

It is instructive to compare economic cost estimates from this study with measurable costs of other sources of morbidity, mortality, and productivity loss (Figure 3). The annual cost estimate for pathological and problem gambling in 1998 of $5 billion (somewhat more if we annualize the lifetime costs) compares with 1995 estimates for drug abuse of $110 billion and alcohol abuse of $166.5 billion. Motor vehicle crashes in 1992 cost $71 billion. The current economic impact of problem and pathological gambling, in terms of population or cost per prevalent case, appears smaller than the impacts of such lethal competitors as alcohol abuse and heart disease. However, the costs measurable by health-based estimation methods do not capture all of the consequences important to the person, family or society. The burden of family breakdown, for example, is outside of these measures. And the value of further attention at the policy level may depend more on the quality of efforts to respond as on the extent of costs we can currently measure. ◄