



# DISCUSSION PAPERS

COMMUNITY AFFAIRS DEPARTMENT

**ECONOMIC AND SOCIAL IMPACT OF  
INTRODUCING CASINO GAMBLING:  
A REVIEW AND ASSESSMENT OF THE LITERATURE**

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**March 2010**

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# ECONOMIC AND SOCIAL IMPACT OF INTRODUCING CASINO GAMBLING: A REVIEW AND ASSESSMENT OF THE LITERATURE

## ABSTRACT

Casinos can produce significant economic effects in the communities and regions in which they are located, although the effects vary widely. The size of the local or regional effect depends most significantly on how many visitors the casino draws from outside the area, thus reducing displacement of existing economic activity, and the number of jobs it generates within the area, thereby increasing the multiplier effect of the casino. Although casinos generate significant public revenue effects, the net effect is difficult to estimate because the extent to which casinos displace other public revenues, such as lotteries, has to be determined and because there is a paucity of detailed assessments of public costs. Even so, in most states the rate of taxation of casinos is substantially higher than the level at which other sectors are taxed; therefore, the net effects are likely to be positive. The effects of casinos on *local* public revenues, however, are much more mixed because state tax regimes retain most casino revenues at the state level, often allowing only a small part of the total public revenue stream to go to local governments. The incidence of casino taxes on consumers (OR households) is likely to be highly regressive. There are also significant social effects associated with casinos, which may include increases in pathological gambling, crime, and personal bankruptcy; however, there is no consensus in the literature on either the magnitude of these effects or the costs they impose on society and the economy.

So far, the experience in Pennsylvania suggests that the introduction of casinos has had a positive economic and fiscal impact, particularly to the extent that Pennsylvania's casinos are drawing gamblers who previously would have traveled to Atlantic City or other out-of-state locations. The same is likely to be true of Philadelphia's casinos; however, it is unclear whether the benefits realized by the host community will be adequate to offset local costs. Whether the short-term benefits will be sustained over the long term remains to be seen. In addition, in evaluating the effects of casinos in Philadelphia, it is important to take into account the opportunity costs associated with developing a substantial part of the city's waterfront for casinos rather than for other facilities. With the imminent addition of table games to Pennsylvania's casinos, the casinos in Philadelphia are likely to further undermine the Atlantic City casino industry, which is already showing significant declines in visitation and revenues.

## INTRODUCTION

As late as 1975, gambling casinos were an exotic phenomenon in the United States but were limited to the state of Nevada, where they conjured up a mixed image of entertainment, sin, and corruption well captured by the *Godfather* movies.<sup>1</sup> Today, casinos are a widely accepted part of the landscape throughout much of the nation, from California to Connecticut, and from Biloxi, Mississippi, to Gary, Indiana. In 2008, 54.6 million people visited casinos in the United States (American Gaming Association 2009). The MotorCity Casino, one of three state-licensed casinos in Detroit, looms over the city's Corktown neighborhood. In 2008, 233 Indian tribes in 28 states operated casinos that generated nearly \$26 billion in gross gaming revenues (National Indian Gaming Association 2009). That same year, 445 commercial casinos and 44 "racinos" (racetrack-based casinos) in 20 different states generated another \$39 billion in gaming revenues (American Gaming Association 2009). This translates into an average of about \$600 wagered at casinos by each American household in 2008.

Despite the increasing spread of gaming establishments across the United States and the large numbers of people that frequent them, Americans continue to be ambivalent about casinos. This ambivalence is reflected in the casinos' unusual and distinctive legal and regulatory environment. Casino gambling, while widely frowned upon, is equally widely permitted, but only within a strict and often deliberately burdensome regulatory regime designed, at least in theory, to mitigate its harms. These regulations can sometimes take seemingly absurd forms. For example, a number of states require that casinos be housed on "riverboats," those strange structures that sit in the water but are destined never to set sail. These types of regulatory requirements usually also have the effect of creating a casino monopoly or oligopoly within each city or region, which has significant implications for the economic impact of casinos.

The reason for this anomalous status — moral disapproval but legal approval under an extraordinary regulatory system — arises in large part from the belief that casino gambling is a powerful tool for economic development in that casinos may lead to job creation, redevelopment, and increased public-sector revenues. This is explicitly reflected in the rationale for the introduction of casinos to such areas as Atlantic City, New Jersey, or Tunica, Mississippi (Rivenbark and Rounsaville 1996) and in the enactment of the Indian Gaming Regulatory Act in 1988, the primary purpose of which, as set forth in the preamble to the act is "to provide a statutory basis for the operation of gaming by Indian tribes as a means of promoting tribal economic development, self-sufficiency, and strong tribal governments."<sup>2</sup> Thus, it seems to be the case that — in contrast to activities that are considered acceptable per se — many, if not most, communities would not entertain the idea of legalizing casino gambling were it not for the anticipated economic benefits. This argument emphasizes the importance of trying to establish whether these benefits exist, and if they do, then determining the magnitude of their effects.

The purpose of this paper is not to conduct additional primary research into this question but to review and assess the extensive literature that already exists on the potential economic impact of introducing casino gambling into a community or region, in the hope that it will shed some light on the potential impact of new casinos (that have been approved or are beginning to open) in Pennsylvania, particularly in Philadelphia. It is important to recognize that many different potential effects can be identified, at least in principle, some of which can be

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<sup>1</sup> It should be noted that as early as the 1940s, technically illegal but officially tolerated casinos were in operation in Biloxi, Mississippi. While according to one website, "open gambling ended during the 1950s" ([http://en.wikipedia.org/wiki/Biloxi,\\_Mississippi](http://en.wikipedia.org/wiki/Biloxi,_Mississippi)), I lived in that area in 1965, and I can testify that semi-open, well-established casinos were still illegal but tolerated and in operation in the mid-1960s.

<sup>2</sup> 25 U.S.C. 2702



measured, although with varying degrees of accuracy. Although an impact sometimes can be distinguished as “economic” or “social,” it is not possible to make a clear distinction between the two because their interactions are numerous and complex. Clearly, social pathologies can have significant economic costs, while economic effects, such as changes in labor force activity, also have social implications.

This paper focuses primarily on the economic effects of introducing casino gambling, first by discussing the casinos’ effect on economic activity and growth within a community or region, and then by exploring their effect on government revenues. Those effects are discussed in the first section of this paper and are then contrasted with the economic impact of social costs widely associated with gambling, such as increases in crime, bankruptcy, and problem gambling. The closing section summarizes the paper’s findings and suggests what some of the implications of these findings may be for the communities in Pennsylvania where casinos already exist or will be located in the near future.

An important disclaimer must be provided at the outset. Despite the volume of research that this subject has generated, it is still difficult – if not impossible – to draw clear conclusions about many of the issues addressed in the literature. Part of this difficulty stems from the nature of the subject, which is complex, rife with hard-to-measure intangibles, and subject to highly variable results based on the region or community where a casino opens, as well as the specific facts of each case.

Moreover, a disproportionate amount of the work that has been done on this issue has been written by or under the auspices of either proponents or opponents of casino gambling. While two scholars have pointed out that more studies of gambling have favored it than have opposed it (Goodman 1994; Rose 1999), the greater frequency with which oppositional scholarship has been cited tends to offset that apparent imbalance. Nevertheless, the entire subject of casino gambling and its effects is often interwoven with moral or ideological issues, not just economic and financial issues. When reading the literature, such differences in perspectives must be kept in mind.<sup>3</sup>

## **I. CASINO GAMBLING AND ECONOMIC DEVELOPMENT**

This section begins by outlining a conceptual framework by which we can attempt to understand the potential impact of casino gambling on local economic development, followed by a review of the empirical findings in the literature. This section concludes with a review of the effect of casino gambling on public-sector revenues.

### *A. A Conceptual Framework for Assessing the Economic Impact of Casino Gambling*

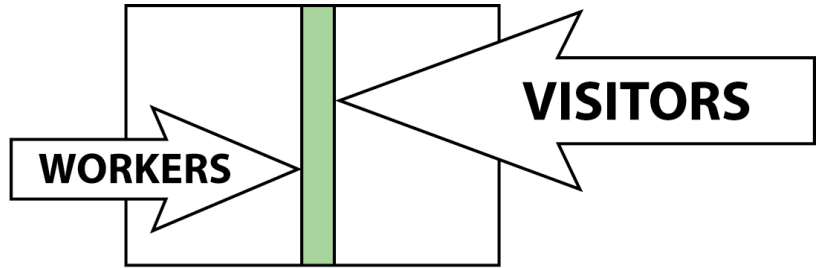
The most straightforward model for evaluating the economic impact of casino gambling is a classic multiplier model, an approach widely used to measure the economic impact of tourism and visitor-driven activity to a region (Gazel 1998; Hall and Page 1999). In such a model, a casino has a direct or primary impact on the level of economic activity in a community (as it may variously be defined for purposes of each analysis) through the jobs it creates as well as through its purchase of goods and services, and in some cases, by the reinvestment of profits

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<sup>3</sup> It is unlikely that anyone who has given thought to the subject is completely without a personal bias either in favor of or against casino gambling. I must acknowledge that I am not a great fan of casino gambling, a stance that owes much to my experience as executive director of the Atlantic County (NJ) Improvement Authority between 1980 and 1983. That notwithstanding, I have attempted to be as objective as possible in this paper. The reader will have to judge whether I have been successful.

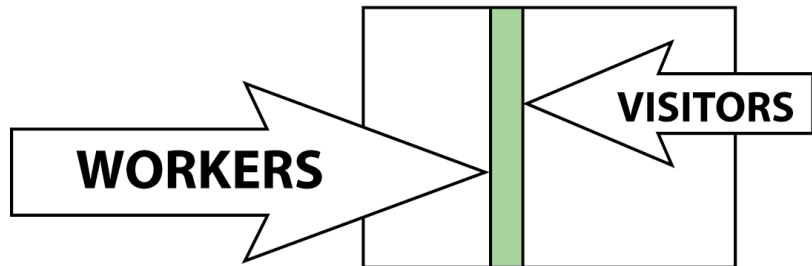
**FIGURE 1**

**Local workforce -  
noncasino visitors -  
low leakage and  
displacement**



**FIGURE 2**

**Nonlocal workforce -  
local casino visitors -  
high leakage and  
displacement**



in the community.<sup>4</sup> The casino revenues that support those jobs and purchases are generated, in turn, by casino visitors' spending. The funds diffused into the community as a result of the casino's jobs and purchases have secondary or multiplier effects in subsequent rounds of spending by the recipients of those funds. A second category of both direct and secondary effects results from the noncasino expenditures of people drawn by the casino from outside the area. These noncasino expenditures include purchases in local stores or meals in local restaurants. These revenues are offset, to varying degrees, by the costs imposed on the community both by the casino itself and by the visitors it generates.

The actual extent of the *localized* economic impact, however, must be adjusted by calculating the share of the economic effects that actually take place locally. Depending on a variety of factors, a greater or lesser share of both the direct and the secondary impact may be experienced outside the local area. This occurs when a casino purchases supplies from an out-of-area vendor or when a casino hires a worker who commutes to the casino from outside the community and then takes the income he or she makes at the casino and spends it outside the local area, a phenomenon known as "leakage" (Figures 1 and 2). An area with a modest local workforce and economic base may lose a great deal of even a large casino's impact as a result of leakage outside the area – except to the extent that local casino spending and hiring can be mandated by public or tribal regulation. Tribal authorities can require a Native American casino to hire from the tribal population, for example, even if pure business considerations would dictate that the casino hire from the larger labor pool available outside the immediate area.

It is clear, therefore, that the impact of the casino will vary significantly on the basis of two factors: one substantive and one an artifact of the research methodology. The first factor is the nature and location of the community itself and the degree to which its economic and workforce base is likely to result in the casino's economic

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<sup>4</sup> The term multiplier is generally used to reflect the chain of additional spending, hiring, etc. triggered within an economy (local, regional, or national) as a result of the infusion of an initial level of resources drawn into the area under study from the outside.

impact being retained in the local area. The second factor is the manner in which “local area” is defined for purposes of the analysis. The larger the area, the larger the absolute economic impact is likely to be, but the smaller it is likely to be as a share of total economic activity.

Another factor, however, needs to be incorporated into the analysis. The positive economic impact is offset to varying degrees by the extent to which other local economic activity is negatively affected by the casino, as when the presence of a casino results in a loss of business in the existing local economy. For example, an existing restaurant may lose business to a new restaurant located inside a casino, or local residents may take money that otherwise would be spent for other purposes and redirect those funds to the casino. This will be referred to as “displacement,” or “substitution,” since casino-related spending displaces, or substitutes for, other forms of spending.<sup>5</sup> If we accept the proposition that consumers tend to have a relatively fixed recreation budget with respect to their expenditure of both time and money, it logically follows that displacement of other recreational or entertainment activities by casino gambling – or any new major recreational activity introduced into an area – will be substantial (Baade and Sanderson 1997). At the same time, as Rose points out, “Claims of the complete ‘cannibalization’ of pre-existing local restaurants and entertainment facilities by a mere shift in resident spending is grossly exaggerated. The substitution effect is not insignificant, but it is offset somewhat by empirical verification of a recapture effect” (Rose 1999, p. 27).

In summary, the net local economic gain of a casino can be defined as:

$$([ \text{Casino} + \text{Nonlocal visitor spending} ] - [ \text{Leakage} + \text{Displacement} ] ) \times \text{Multiplier.}^6$$

This formulation does not take into account the costs imposed by casinos, such as additional infrastructure or public safety expenditures, as well as the economic impact of the social effects of casinos, such as crime or the losses associated with problem gambling, which will be discussed later. It also does not take into account the possibility that locating a casino in a given area will result in opportunity costs for that community, by acting as a disincentive to other businesses that would otherwise locate in that community,<sup>7</sup> or by forgoing alternative development opportunities for particular sites, which may be the case in Philadelphia (as discussed below).

## B. *Factors Affecting the Economic Impact of Casinos*

The above model leads to a number of basic inferences about how the actual economic impact of a casino of a given size and character is likely to vary, based on a number of critical factors.

(1) The first factor is the extent to which the casino is a destination for gamblers or other visitors from outside the local area (however defined) – that is, the degree to which the casino functions as an export industry. As a recent analysis notes, “Casinos that cater to a local market generally do not bring outside money into the economy through the spending of their patrons. In fact, such casinos may have no net ancillary economic

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<sup>5</sup> Gazel refers to this as “cannibalization,” an accurate term but one with arguably pejorative overtones.

<sup>6</sup> The equation has been simplified for purposes of illustration, since rather than a single multiplier, there are likely to be several multipliers, reflecting the different elements in the left-hand side of the equation.

<sup>7</sup> It is hard to quantify how important this issue is empirically, and few studies have made any attempt to account for such opportunity costs. An executive with a major corporate site selection company has been quoted, however, as saying that “casinos are an eliminator” and are seen by many corporations as a negative location factor; quoted in <http://aroundfortwayne.info/blog/?p=3697> (accessed April 16, 2009).

impacts. Residents patronizing such casinos may simply substitute gambling for other goods and services” (Brome 2006). The author adds, however, that “if a casino attracts gamblers who otherwise would be gambling out of state, it can have net positive ancillary economic effects.” The increased economic effect in a local area that can be attributed to this factor, however, depends primarily on how much spending is being displaced from one location – the visitor’s place of origin – to another, the casino locale.

(2) There are two other closely related factors to consider: First, can the area where the casino is located provide an adequate workforce as well as the goods and services the casino is likely to need? Second, does the area offer ancillary activities that can capture spending by nonlocal visitors? It may be necessary to determine, therefore, whether a substantial and suitable workforce already exists in the casino locale, as well as the proximity of the casino locale to areas with a larger, or better trained, workforce.

Given a common set of methodological choices, those two factors are likely to drive the quantitative local economic impact of the casino. The measurement of the impact – particularly the secondary impact – is significantly affected, however, by the research design; that is, the choice of what to measure and what impact to attribute to the casino as distinct from other activities or facilities in the same area. A case in point is a 2002 study of the Detroit casinos. In this study, the authors surveyed nonlocal casino visitors in order to, among other things, measure their local expenditures outside the casino. The total expenditures of nonlocal casino visitors in Detroit on noncasino-related businesses were estimated at \$104 million. The noncasino spending of those who indicated that the primary purpose of their trip was to visit the casino, however, amounted to only \$23 million (Moufakkir and Holecek 2002). The question then arises: How much of the difference between the two figures, if any, should appropriately be attributed to the casino? In an area where the casino is the only major visitor destination, this may not be an important issue; when the casino is one of many destinations, however, as in an urban area such as Detroit or Philadelphia, it becomes a significant question.<sup>8</sup>

(3) Finally, the nature of the local casino activity in general, and the features of individual casinos in particular, will affect their economic impact. This is a function of at least two distinct factors. The first factor is scale, which includes the possibility that, at some point, the scale of casino activity in a particular location may generate potential agglomeration effects,<sup>9</sup> including the location of ancillary facilities and support industries. Conversely, if the casino itself is so large as to include substantial self-contained eating, sleeping, and shopping facilities, this could minimize the growth of secondary establishments and increase displacement (Newburger, Sands, and Wackes 2009). The second factor is the nature of the facilities. Considerable anecdotal evidence indicates that the characteristics and behavior, and by extension the economic effects, of the patrons of table games, for example, are different from those who play the slot machines, although this issue does not appear to have been studied in the literature.

For all of these reasons, it is impossible to generalize about the economic impact of casinos. The actual economic impact of a casino, or a cluster of casinos, will vary widely depending on the characteristics of the host community, the community’s position within the regional economy, the features of the casino or casinos, and the

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<sup>8</sup> Moufakkir and Holecek argue that it is reasonable to count the larger figure (whose inclusion tends to support arguments favoring casino gambling) on the grounds that “these visitors might have extended their stay because of the availability of gaming in the community and therefore their economic impact is equally as important as those who came specifically for the casino(s).” Others would find this approach overly broad and would argue for a more limited definition, resulting in a substantially smaller impact.

<sup>9</sup> Agglomeration effects, or agglomeration economies, are defined as those benefits that result when enough firms or workers are concentrated in a single location to generate economies of scale and network effects.

interaction among those variables. The wide variation in the empirical findings reported in the literature reflects this reality.

C. *The Evidence for the Economic Development Impact of Casinos*

The economic development impact of casinos can be measured in a number of ways, including gross levels of economic activity in the community or region; changes in key indicators, such as employment levels or welfare rolls; and the distribution of economic benefits within the population. A further area in which casinos may have an economic development impact is in the redevelopment of distressed areas, an explicit rationale offered for the licensing of casinos in Atlantic City and elsewhere. The literature, however, on that last point tends to be, at best, descriptive or anecdotal (Braunlich 1996; Hall and Hamon 1996) and will not be explored further. While redevelopment and revitalization may be real outcomes of casino – or other – development, they are both inherently fuzzy concepts that mean different things to different people. Moreover, the lack of solid data in this area also reflects the lack of clarity by policymakers, who rarely frame the sort of coherent redevelopment or revitalization objectives or strategies that might be more susceptible to measurement and evaluation.

Thompson, Gazel, and Rickman (1995) used Gazel’s multiplier model in an attempt to quantify the economic impact of Indian casino development in Wisconsin. This study is worth some attention because it used substantially more primary data (including an extensive survey of gamblers at the subject casinos) than most research in this area. A summary table drawn from this study, showing the statewide impact, is presented below (Table 1). In short, the authors concluded that the positive economic impact of \$1.4 billion was offset by the negative economic impact of roughly \$1.1 billion. This negative impact, which is actually an offset or an adjustment to a gross positive impact, reflects the displacement effects of (1) casino and related spending by Wisconsin residents, and (2) expenditures of non-Wisconsin residents who were projected to have spent that amount in the state in the absence of casinos, along with the multipliers associated with those expenditures. The high level of offsetting adjustments reflects the authors’ finding that the great majority (80 percent) of their survey respondents were Wisconsin rather than out-of-state residents.

The authors then attempted to quantify the economic impact of the social costs associated with the cas-

**TABLE 1**  
**Net Economic Impact of Indian Casino Gambling in Wisconsin**

	\$ Millions
Total positive economic impact	\$1,410.55
Total negative economic impact	(-1,083.83)
Net economic impact before social and infrastructure costs	326.72
Low-estimate social costs	160.46
Median-estimate social costs	320.92
High-estimate social costs	456.69
<b>Net economic impact with low social costs</b>	166.26
<b>Net economic impact with medium social costs</b>	5.80
<b>Net economic impact with high social costs</b>	(-\$129.97)

SOURCE: Thompson, Gazel, and Rickman (1995)

nos “resulting from [the authors’] analysis of problem gambling for local area residents” (Thompson, Gazel, and Rickman 1995, p. 34). Recognizing the difficulty of quantifying that impact, they ended up generating high, low, and median estimates of social costs, with the variation between their low to high estimates being nearly \$300 million. Issues associated with measuring the impact of social costs are discussed later in this paper.

In the end, Thompson, Gazel, and Rickman concluded that the overall economic impact of the casinos statewide was very close to a wash; that is, using the mid-range of their social cost estimates, the costs and benefits all but cancelled one another out. A second Illinois study conducted by two of the same authors reached a more negative conclusion about the casinos in that state, finding that the state’s riverboat casinos had a total negative impact of just under \$300 million per year on the state’s economy (Thompson and Gazel 1996). It is important to stress that these were statewide, rather than local, studies.

The authors of the Wisconsin study also disaggregated costs and benefits by area, distinguishing between the casinos’ immediate area (defined as areas within a 35-mile radius of the casino) and the rest of the state. They found that the local areas derived significant economic benefits from the casinos, showing that the casinos represented a significant economic transfer – about \$200 million to \$300 million per year – from the rest of the state to the areas immediately adjacent to the casinos, a finding with important implications for state policy.

Similar studies conducted elsewhere have found a substantially more positive net impact. Even after factoring in the economic effects of social costs, Chhabra (2007) found that overall statewide economic benefits of casino gambling in Iowa were \$1.426 billion, which were offset by \$449 million in costs, for a net benefit of \$977 million. However, this study appears to define substitution much more narrowly than the Thompson, Gazel, and Rickman study discussed above. A study of the net statewide impact of casinos in Missouri found that overall benefits of \$1.447 billion were offset by \$688 million in costs, for a net benefit of \$759 million (Leven, Phares, and Louishomme 1998). This study, however, did not factor in any assessment of the economic effects of social costs.

Studies have shown wide variation in the distribution of casino gamblers between local area (or in-state) residents and those living beyond that area, a rough proxy for the size of the displacement or substitution effect associated with casinos. In addition to the Wisconsin finding above, Gazel, Rickman, and Brunner (1995) found that 84 percent of Illinois riverboat casino patrons were residents of Illinois, while Leven and Phares (1998) found a 75 percent substitution rate in Missouri’s casinos. A recent newspaper article reported that 80 percent of the patrons of Detroit’s casinos come from the Detroit metropolitan area (Wayne, Oakland, and Macomb counties) (Yerak 2003). Conversely, less than 15 percent of casino patrons in Atlantic City and Las Vegas are local area residents (Gazel, Rickman, and Brunner 1995). One of Gazel’s co-authors has been quoted as saying that “[casinos] have a negative impact on the community unless 50 percent of the gamblers come from out of state.”<sup>10</sup> While the point is not unreasonable, it should be clear that such a rule of thumb is not likely to be consistently reliable for all locales.

Researchers have also studied the more specific question of the effect of casinos on employment and related indicators, such as welfare rolls or unemployment rates. Grinols (1995) looked at employment and unemployment in five Illinois jurisdictions during the period preceding and following casino openings and found no significant change in either measure in four out of the five communities. The exception, Massac County, had an extremely small pre-casino workforce and was located on the state border, contiguous to areas of substantially larger population in and around Paducah, Kentucky. A more sophisticated analysis of six counties, which com-

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<sup>10</sup> William Thompson of the University of Nevada–Las Vegas, quoted in Ray Parker, “Gambling Is Professor’s Work,” *Las Vegas Review-Journal*, February 19, 1997, p. 12A.

pared actual household employment to projections of employment growth without casinos, yielded mixed results. While the study found significant positive effects in three counties, all three of which are relatively isolated rural counties (two in Mississippi and one in Illinois), the study found no significant relationship between casinos and employment growth in two larger urban counties (Garrett 2004). The question remains whether the lack of a relationship reflects the small share of the county economy represented by the casinos or whether displacement of existing economic activity is higher in urban areas. Similarly, ambiguous findings emerged from an analysis of casinos that were opened in Gary, Indiana (Klacik et al. 2004).

Research on the employment effects of Indian casinos has shown more consistent positive effects (Evans and Topoleski 2002; Reagan and Gitter 2007). These positive effects are understandable, especially in light of both the extreme levels of poverty and unemployment on reservations before the arrival of casinos, as well as the legal ability of Indian casinos to target tribal members for a larger share of casino-related benefits than might be possible in nontribal casinos.

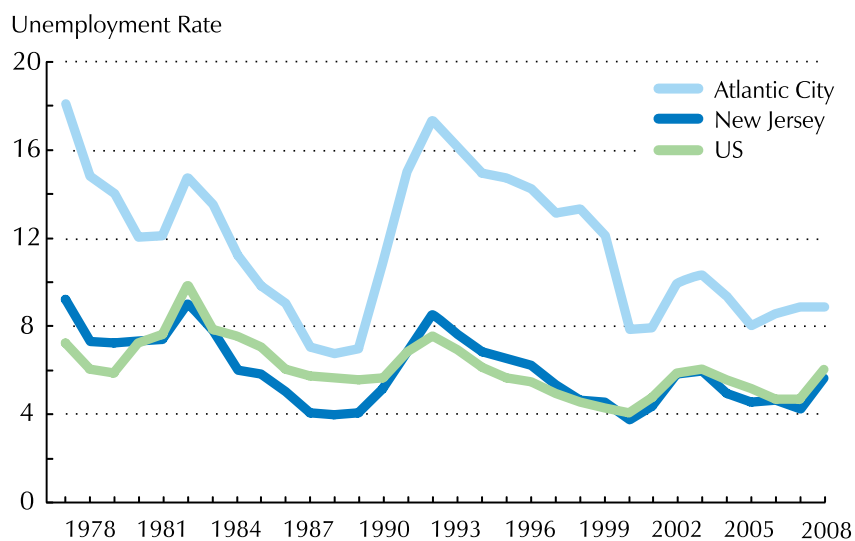
Moreover, Indian casinos are likely to reinvest more of their casino profits within the tribe, in contrast to non-Indian casinos, which, in most cases, will export their profits far from the casino's host community.

A more extensive study by the National Opinion Research Center (NORC) of 100 jurisdictions, of which 40 were within 50 miles of a casino that opened after 1980, found an association between the opening

of a casino and a 1 percent reduction in the unemployment rate; the study also found statistically significant declines in welfare, unemployment compensation, and other transfer payments. There was, however, no increase in overall per capita income in the casino-related jurisdictions, suggesting that the increase in incomes resulting from the shift from transfer payments to employment income was offset by a decline in the average wage associated with the casino-induced change in the characteristics of the local employment base (NORC 1999).

Data on Atlantic City, compiled by the U.S. Government Accountability Office (GAO 2000)<sup>11</sup> for the 20 years following the introduction of casino gambling in that city, present a mixed picture. Although the city saw a dramatic short-term bounce from the introduction of casinos (Hamer 1982), the long-term effects are more ambiguous. A massive growth in casino jobs sent total private-sector employment from 21,000 to 62,000 between 1977 and 1997; during the same period, however, the number of noncasino jobs in Atlantic City actually declined.

**FIGURE 3**  
Trends in the Unemployment Rate in the United States, New Jersey, and Atlantic City 1977-2008



SOURCE: Newburger, Sands, and Wackes (2009)

<sup>11</sup> Previously known as the General Accounting Office, the GAO changed its name to the Government Accountability Office in 2004.

Noncasino employment in Atlantic City in 2007 – after a significant increase from a low point in 2003 – was still only slightly more than three-quarters of the level in 1976 (Newburger, Sands, and Wackes 2009). Welfare caseloads declined significantly during the study period relative to statewide or national levels. Unemployment rates, however, showed a more uneven pattern. As shown in Figure 3, although unemployment rates declined significantly between 1977 and 1987, they then rose precipitously from 1989 to 1992. Since 1992, unemployment has declined once again, but at a more gradual rate. Since 2000, the unemployment rate in Atlantic City has remained consistently high relative to state and national levels, although it has been lower than in pre-casino days (Newburger, Sands, and Wackes 2009). In recent years, moreover, the number of casino jobs in Atlantic City has gradually declined and, by the end of 2008, had fallen to slightly less than 75 percent of its 1997 peak (38,600 compared with 51,600).<sup>12</sup>

Interpreting these findings, however, is not a straightforward matter. A significant short-term increase in jobs, particularly in a depressed labor market area, can trigger complex changes in local and regional labor force behavior. The greater potential availability of jobs can lead to higher rates of labor force participation in the local population or the in-migration of potential job seekers. In either case, the increase in job seekers can offset the increase in jobs, resulting in little or no change in the unemployment rate. Similarly, comparing actual job growth with casinos to a forecast of how an area's job growth would fare without casinos can also be misleading, unless other factors affecting job growth are taken into account. Garrett (2004) found that actual job growth in Lee County, Iowa, with the addition of a casino, was significantly lower than in his *no-casino* forecast. Given the magnitude of the disparity, it seems that this outcome could just as well be the product of some unrelated change in the local economy, which the forecast failed to anticipate, rather than a negative employment effect attributable to the casino.

It is clear from the discussion above that, as suggested earlier, it is impossible to generalize about the economic impact of casinos. While Rose (1999) concludes that “a new casino, of even limited attractiveness and placed in a market that is not already saturated, will yield positive economic benefits on net to its host community,” I would suggest that that is an oversimplification. There is no question that casinos create large numbers of jobs, both directly and indirectly. The larger economic effect of those jobs, however, will be driven by the unique characteristics of the local area being studied. Even there, the highly unpredictable interactions between local and regional economies are likely to make the results highly speculative. Moreover, the interaction between casino openings in different states or metro areas, where their proximity places them in competition with one another, adds a further and problematic dimension. There appears to be considerable evidence, although largely anecdotal, that Indian casinos in Connecticut and, more recently, newly opened casinos in Pennsylvania have displaced casino business from Atlantic City (Creswell 2009). Given the ongoing growth in casino venues, this may mean that any empirical findings are constantly subject to change on the basis of exogenous as well as endogenous considerations.

#### D. *Effects of Casinos on Public Revenue*

For many policymakers, the effect of casinos on employment or other general economic indicators may be less significant than their ability to generate tax revenues, either at the local or state level, or both. In many cases, it appears that the drive to legalize casino gambling (as well as other forms of gambling) is dictated most strongly by the desire to increase state tax revenues. There is no question that casinos pay substantial amounts in both state and local taxes, although the actual amounts vary widely from state to state.

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<sup>12</sup> Hotel-casino and gambling establishment employment in Las Vegas also declined between 2000 and 2009, but by a far more modest amount (2,900 jobs, or 2 percent of the total). See U.S. Department of Housing and Urban Development, *Comprehensive Housing Market Analysis for Las Vegas-Paradise, Nevada*, March 1, 2009.



**TABLE 2**  
**Casino-Specific Taxes Paid by Atlantic City Casinos 2006–2008 (\$ millions)**

	2006	2007	2008
Gross revenues tax	\$417.5	\$393.7	\$360.3
Casino reinvestment development authority	65.2	67.5	57.8
Luxury tax	27.3	28.0	27.6
Promotions tax	10.4	10.3	10.5
Parking fee tax	37.1	35.9	34.4
Comps tax	22.4	15.4	9.4
Hotel room fee	15.0	14.6	15.2
Multi-casino progressive slots tax	5.4	4.3	4.1
<b>TOTAL</b>	<b>\$600.3</b>	<b>\$569.7</b>	<b>\$518.3</b>

SOURCE: NJ Casino Control Commission

The magnitude and variety of taxes paid by the casino industry in one state are illustrated in Table 2, which shows the casino-specific taxes paid by Atlantic City casinos to the state of New Jersey between 2006 and 2008. In addition to these taxes, the casinos pay taxes of general applicability, such as corporate income tax and sales tax as well as municipal and county property taxes, which in New Jersey amounted to roughly \$160 million in 2001.<sup>13</sup> Casinos accounted for 80 percent of the combined municipal and school district tax in Atlantic City.

According to the New Jersey Casino Association, when all forms of taxation are taken into consideration, casinos contribute roughly \$1.1 billion to the state government’s coffers. Looked at narrowly from a *state* revenue perspective, this is likely to represent a significant net gain. An analysis of tax revenues net of offsets and social costs for the state of Indiana concluded that for the 2005 fiscal year, the net fiscal benefit for the state amounted to between \$717 million and \$740 million, with the variation depending on the method used to measure the fiscal effects of social costs (Policy Analytics 2006). This study, however, narrowly defined the potential costs to the state, including only the fiscal effects of social costs and the direct costs of casino regulation. The study did not address other offsets and displacement effects, which are also important.

The overall public finance picture, however, is more complicated than the above would suggest. A number of different considerations may make it difficult to reach conclusions about the overall public benefit of casinos. To illustrate this point, consider that the net public revenue impact of a casino can be defined as follows:

$$\begin{aligned}
 & ([\text{Casino tax revenue} + \text{Multiplier tax revenue}] - \text{Revenue displacement}) \\
 & - (\text{Public costs}) = \text{Net public revenue}
 \end{aligned}$$

In light of the importance of accurate measurement of public costs and revenues, it is surprising that some of these considerations have only been addressed marginally in the literature. They would benefit from further investigation.

**Revenue Displacement.** As casinos displace other economic activity, they also displace tax revenues that would otherwise flow from that activity. There is evidence that casino tax revenues displace tax revenues from oth-

<sup>13</sup>This is the most recent year for which data are available from the New Jersey Casino Control Commission.

er forms of gambling, particularly lotteries. One study constructed a sophisticated model to compare casino and lottery revenues, concluding that a state could expect to lose \$0.83 in net lottery revenues for every \$1 it gained in casino revenues (Elliott and Navin 2002). While that still represents a net positive outcome, the loss represents a significant net offset. Other studies, however, have projected lower but still significant declines in lottery revenues, including \$0.56 to \$1 (Fink and Rork 2003) and \$0.26 to \$1 (Semanchik 2006).

Even if one assumes a high level of net offsets from lost lottery proceeds, however, the decision to approve a casino may be an economically defensible policy decision. It is at least arguable that a casino is substantially more labor-intensive than a lottery – thus generating more jobs for the same revenues – and if the goal is to revitalize a particular geographic area, casinos are more likely to trigger secondary economic effects in that area. Thus, the ancillary benefits generated by the casino per dollar wagered may be greater than those generated by the lottery. Conversely, a dollar wagered in a lottery may generate more direct state revenue than the same dollar spent at a casino.

Revenue displacement is likely to lead to many other offsets, including tax revenues that would be generated from noncasino businesses that are displaced by casinos, as well as sales tax revenues that would be lost from gamblers' reduced spending on other items, such as food and clothing. A study of Missouri casino receipts found that nearly half of the gross receipts of those casinos were offset by gamblers' reduced spending on noncasino goods and services inside Missouri (Anderson 2005, quoting Leven and Phares 1998). The Iowa study estimated that 30 percent of gamblers' spending in casinos was displaced from other noncasino entertainment alternatives (Chhabra 2007). Not unreasonably, Mason and Stranahan (1996) suggest that when casino tax rates are lower than general sales and excise tax rates, significant state tax revenue enhancement is unlikely. That particular outcome, however, as will be discussed below, is likely to be rare.

***The Effect of Casino Oligopolies.*** The actual impact of casino tax gains that are offset by losses from other tax revenue sources is potentially reduced in areas where state regulation of casinos has created a casino monopoly or oligopoly. In those situations, which are common, the limit on the number of casinos reduces competition, thus enabling casino operators to earn profits substantially beyond the normal rate of return and potentially beyond those available in other, more competitive economic sectors. That, in turn, creates the opportunity for the state to tax these profits while still permitting the operators to retain a return adequate to induce them to continue to operate the casino. This phenomenon is noted by Anderson (2005) and Rose (1999), but its full significance does not appear to have been explored in the casino literature. A related issue involves the potential costs that may be associated with “rent-seeking” behavior, on the part of both proponents and opponents of casinos, that is triggered by the quasi-monopolistic regulatory framework within which casino gambling most often operates.<sup>14</sup> Although this issue is noted by Walker and Barnett (1999), it has also not been seriously explored in the literature. Related to this issue is the high cost of the regulatory schemes put in place by state governments. These schemes largely grow out of the demands of the quasi-monopolistic structures established by state law. According to Grinols and Omorov (1996), in 1994, Illinois spent \$65 million in regulation, for example, and New Jersey spent \$59 million, or about \$7.59 per adult. These sums may be modest in relation to the scale of total casino revenues but are nonetheless not insignificant. According to official sources, the direct expenditures of the two New Jersey agencies charged with enforcing that state's casino control regulations were \$71.1 million in 2008 (New Jersey Casino Control Commission 2009).

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<sup>14</sup> Rent-seeking behavior can be characterized as behavior in which an individual or organization seeks to gain economic advantage by manipulating the economic or political environment, in contrast to profit-seeking behavior, in which the individual or organization seeks to gain profits through market transactions and activities that build wealth. Rent-seeking behavior is most widely used to describe efforts to gain special privileges through monopolies or other forms of constraints on competition.

Most state casino taxation schemes appear to be significantly more aggressive than their general tax policies (Rose 1999). In 2008, casinos paid \$5.66 billion in gambling-specific taxes on direct gambling revenues of \$32.54 billion, or over 17 percent (American Gaming Association 2009), which are generally imposed on top of applicable corporate income taxes, sales taxes, and more. Missouri taxes casino earnings at 21 percent of adjusted gross receipts (AGR),<sup>15</sup> with 90 percent of that going to the state, while Indiana taxes casinos on a graduated scale beginning at 15 percent of AGR and reaching 35 percent of AGR on revenues above \$150 million (Anderson 2005). Colorado's tax rate is graduated, beginning at a minimum of 20 percent, while that of Illinois ranges from 15 percent to a maximum of 50 percent. Pennsylvania has arguably the most aggressive taxation policy, taxing its casinos at a rate of 55 percent of gross terminal revenue (similar to AGR). In contrast, it is notable that in Nevada, where casinos operate in a more openly competitive environment (arguably the only state for which that is true) and where more than 60 percent of all of the commercial (non-Indian) casinos in the United States are located, the gambling-specific taxes are the lowest of any state in which casinos are legally operated.

**Multipliers.** At the same time as they displace some economic activity, casinos create additional economic activity through their multiplier effect, and this is likely to result in offsetting positive public revenues that have not necessarily been factored into many of the analyses. The gambler may forgo spending on clothing in his hometown but may buy souvenirs in a shop near the casino, while the casino pit boss may well buy just as much clothing with his or her earnings. The degree to which this offsets the offsets, as it were, will vary widely depending on some of the considerations discussed earlier with respect to economic impact in general.

**Costs.** While revenues, at least direct ones, are fairly easily tracked, the same is not necessarily true of costs. It can be difficult (and a source of potential disagreement) to define which costs are relevant and then to determine to what extent they were increased by the opening of a casino. While the construction of a new highway built specifically to serve a casino might be relatively easily identified, as when the state of New Jersey spent about \$220 million in public funds to build a connector to link a cluster of casinos in Atlantic City to the Atlantic City Expressway, measuring the added maintenance cost to existing roadways directly attributable to the additional vehicle traffic generated by a casino can be more complicated, although by no means impossible. While the economic costs of social pathologies associated with crime or problem gambling have been studied in detail (with often wildly divergent results), the ongoing public service costs associated with a casino, which is, after all, a major facility generating substantial service and infrastructure demand, have hardly been explored.

**Inter-jurisdictional Distributional Inequities.** Since a major motivation on the part of state governments in legalizing casino gambling is the goal of increasing state revenues, it may be unsurprising that many state casino tax regimes appear to foster an uneven distribution of public revenues and costs at the state versus the local level. While states routinely get most of the tax revenues, counties or municipalities may have to bear the greater part of the costs. For instance, Missouri has a 90:10 division of casino revenues between state and local government, which may or may not reflect the division of casino-related costs. Pennsylvania passes only 7.2 percent of the casino taxes collected by the state back to local governments, far less than the 12 percent share received by the state's horse-racing industry. In New Jersey, the state collects all of the casino-specific taxes, and the only public revenues that the municipal government of Atlantic City derives directly from the casinos are the property taxes casinos pay and a modest (not casino-specific) hotel occupancy tax.<sup>16</sup> Only in Michigan, where casinos have been

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<sup>15</sup> Adjusted gross receipts, or adjusted gross revenues, are generally defined as gross revenues less prizes paid out to gamblers.

<sup>16</sup> Atlantic City does benefit to varying degrees from some of the state taxes imposed on the casinos. The luxury tax was initially designed to be devoted to a wide range of revitalization projects in the city but was subsequently redirected to provide cash flow for the Atlantic

legalized only in the city of Detroit, does there appear to be a more balanced distribution of revenues between state and local government, with the city retaining more than half of the gambling tax receipts.

The issue of inter-jurisdictional revenue and cost inequities, which has not been explored in the literature, is particularly important, since it appears likely that a substantial part of the cost burden associated with the normal operation of casinos – as well as that associated with the social costs of the casinos – falls on county and local, rather than state, government. These costs, among others, include the cost of expanding and maintaining an infrastructure on which substantially increased demands are being placed, including the costs of providing services to households that move into the local area in search of casino employment.

**Tax Incidence.** A further important consideration is the incidence of casino taxes, or, in other words, how those taxes are distributed across the population, as well as how shifting tax revenues from noncasino to casino sources will affect the overall tax distribution. It is important to remember that gambling taxes do not create new wealth for the society but simply transfer resources from the gambler – via the casino – to the society as a whole, or if those taxes are earmarked for particular purposes, to those purposes. Tax incidence is thus a function of both how the taxes are collected and how the tax revenues are spent – what is known as “balanced budget incidence.” Although this consideration may not directly affect the amount of taxes collected or the net tax benefit from the perspective of the state’s fiscal condition, it has important public policy implications. Regressive taxes not only raise issues of social equity, but they can also impose disproportionately heavy burdens on households with little discretionary income, leading to potentially severe social welfare effects and potentially triggering offsetting public-sector costs.

The literature provides a strong basis for concluding that the revenue collection effects of casino gambling are regressive; that is, they weigh more heavily on lower-income than on higher-income individuals and households. Although an early study (Suits 1977) suggested the contrary, its finding was an artifact of its methodology. Specifically, the study was based on a survey of a national sample of respondents, within which a relatively small percentage were casino gamblers. Since, moreover, the gamblers were distributed across the country but gambled in Nevada – which was the only jurisdiction in the United States with legal gambling at the time – the sample was disproportionately weighted to individuals who had to travel long distances by air to gamble. They could afford to do so because they had disproportionately higher incomes.

All of the many studies (based on site-specific data) conducted since then have found consistently that casino tax incidence is regressive and is borne disproportionately by lower-income, less educated, and African American households. This was the finding in Las Vegas and Atlantic City (Borg, Mason, and Shapiro 1991), in Mississippi (Rivenbark 1998), and in Iowa (Rolling 2002). Both Rivenbark and Rolling, who controlled for gamblers’ place of residence, found that casino taxes were more regressive in casino counties than in noncasino counties; that is, the regressivity of the tax increased with greater proximity to casinos. As Rolling states, “The more accessible casino gambling becomes, the more regressive the casino tax becomes.”<sup>17</sup>

Applying the principle of balanced budget incidence, a tax could in theory have an overall progressive effect even if it is collected disproportionately from lower-income taxpayers, as long as it is then used in a way that benefits lower-income households more than the revenue collection disadvantages them. In practice, this is often difficult to evaluate. This is true even when the tax has been statutorily dedicated to a specific category of expenditure, such as

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City Convention Center. A share of the funds that the casinos provide to the Casino Reinvestment Development Authority is required to be spent in Atlantic City, and these funds have been used for a variety of projects within the city, including housing developments and an outlet mall. Neither of these sources, however, contributes to the city’s operating budget or the maintenance of the public infrastructure.

<sup>17</sup> Although Anderson (2005) points out that in a monopolistic setting in which the government is taxing the monopoly rents being earned by the casino operators, the effect of the tax may not be regressive.

public education or property tax relief, which is the rule rather than the exception with respect to casino revenues. Few states other than Nevada simply put these revenues into the state's general fund (Anderson 2005).

Trying to assess the incidence of those dedicated expenditures, however, is unlikely to be meaningful because of the problem of fungibility.<sup>18</sup> If a state dedicates a new revenue source to a particular use, does that represent in its entirety an increase in the total funds provided for that use in the state budget? Does it displace an equal sum that would have been made available from the general fund? Or does reality lie somewhere in between? Any attempt to answer this question – especially when looking at an expenditure trend over a number of years – is fraught with difficulties. As Anderson notes, “Evidence on the fungibility of funds from lotteries indicates that earmarking for specific purposes is not likely to assure increased funding for those purposes” (Anderson 2005, p. 321).

***Fiscal Implications of Social Costs.*** Finally, as will be discussed further in the next section, the ability to accurately account for the fiscal effects of the social costs associated with casinos remains a particular problem. As noted earlier, Thompson, Gazel, and Rickman found that, depending on the different ways in which the fiscal impact of social costs could be treated, the outcome could range from a significant casino-generated fiscal benefit to an equally significant fiscal loss for the state of Wisconsin.

In summary, while the information available may be incomplete, the high tax rate on casino gambling under the typical state casino tax regime suggests that the revenues to state government are likely to outweigh the losses from displacement of other tax revenues, thus affording state government significant fiscal benefits from casino gambling. This conclusion, however, is often reached without full consideration of the costs associated with casino gambling, not only at the state level but arguably even more at the local level, as well as without full consideration of the economic effects of the social ills associated with casinos and gambling, which will be discussed further in the following section. Finally, such a conclusion also fails to take into account the potential implications of the regressive nature of casino taxation.

## II. THE ECONOMIC IMPLICATIONS OF THE SOCIAL COSTS OF CASINOS

### A. *Defining Social Costs*

Casinos are generally believed to impose social costs such as increased crime, bankruptcies, and problem or pathological gambling – problems that, in turn, impose measurable economic costs on the society. These costs can offset in whole or in part the benefits of casinos with respect to increased economic activity or tax revenues. From an economic perspective, accounting for the fiscal impact of the social costs imposed by casino gambling can be more problematic than measuring the gross economic or revenue impact, beginning with the complexity of defining precisely what can be considered “social costs,” and of those costs, which can reasonably be attributed to a casino, rather than to other factors also at work within a society.

The relevant economic costs associated with these behaviors are limited to the externalities created by the behaviors and, even then, do not include all externalities. Specifically, one can define three distinct costs arising from problem gambling or other socially undesirable behavior potentially triggered by casinos:

- (1) Costs borne by the individual exhibiting that behavior;
- (2) Costs borne by the family and friends of that individual; and

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<sup>18</sup> The use of a large part of Pennsylvania's gambling revenues for local property tax relief arguably does not pose a fungibility issue at the state level but may well pose one at the local level, where local governments may maintain higher levels of property-tax-dependent spending than they would in the absence of the state tax relief.

### (3) Costs borne by society.

Thus, “to the extent that the costs are knowingly and freely borne by the consumer or producer himself, they are referred to as private costs; but to the extent that they are not so borne but fall on the rest of society, they are referred to as social costs” (Markandya and Pearce 1989; quoted in Collins and Lapsley 2003). In other words, if a gambler knowingly, or rationally, undertakes certain behavior and subsequently assumes the full cost of his or her behavior, there are no social costs associated with that behavior. Gambling losses, even if they are disproportionately borne by some sectors of society, are not social costs any more than the cost of a ticket to a concert or sports event, since one can reasonably assume that – with the exception of the pathological gambler – the gambler is behaving rationally and deriving a welfare benefit that he or she considers proportionate to his or her gambling losses.<sup>19</sup>

The second and third categories are both externalities, but those externalities that affect only the individual’s family and friends may fall outside the scope of measurable economic costs. To the extent that we can quantify the increase in crime associated with a casino, we can then quantify the police, judicial, and penal costs associated with that crime. If problem gambling increases the suffering of the gambler’s family, that cost is as real as the cost of the police time needed to apprehend a criminal but may be impossible to quantify.

Finally, the question of how much of any given cost is actually attributable to the casino is not a straightforward matter. As one paper points out, “Simply observing that gambling is correlated with such problems does not imply that gambling causes them. If gambling were not an option, a person who is predisposed to a pathological disorder may manifest his disorder in other, equally destructive ways” (Walker and Barnett 1999). If pathological gambling is, in psychiatric terminology, a primary disorder, there is a legitimate case to be made that the costs associated with that disorder can be assigned to the casino. If it is a secondary disorder, the argument is more questionable. This issue, sometimes called the “co-morbidity” of problem and pathological (or compulsive) gambling,<sup>20</sup> has been explored to some extent (Hayward 2004).

At least two studies cited by Rose (1999) found no statistically significant increase in pathological gambling after the introduction of casino gambling in Minnesota and South Dakota (Emerson et al. 1994; Volberg and Stuefen 1994). A more recent study, which compared the gambling behavior of 800 residents of Hull, Quebec, over a four-year period following the opening of the casino in that city, with the behavior of a similar sample in Quebec City where there was no casino, reached the same conclusion (Jacques and Ladouceur 2006). While investigators for the National Gambling Impact Study Commission (NGISC) found that the presence of a casino within 50 miles was associated with a significantly higher prevalence of problem and pathological gambling (Gerstein et al. 1999), the study does not permit drawing a direct connection between the opening of a casino and an increase in problem gambling. The authors of a 2002 meta-analysis concluded that “it can appear that gambling causes social problems, and it even might be that gambling is a cause of these social problems. However, the current state of scientific research simply does not permit this conclusion” (Shaffer and Korn 2002, p. 178).

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<sup>19</sup> A parallel argument that is often heard from casino opponents is that because casino gamblers are disproportionately lower-income individuals, their disproportionate gambling losses represent a social cost or, alternatively, that casinos should be discouraged or banned because they prey on the poor (Reno 1997). These arguments are highly paternalistic, since they assume that lower-income people are less able than others to make rational judgments about the utility of a particular expenditure and are actually grounded in the unspoken premise that gambling is inherently a social or merit bad. Assuming it were shown that lower-income people were disproportionately likely to frequent soccer games or bowling tournaments, it is hard to imagine responsible individuals arguing that those activities should therefore be banned.

<sup>20</sup> The National Council on Problem Gambling uses the following definition: “Problem gambling is gambling behavior which causes disruptions in any major area of life: psychological, physical, social or vocational. The term “Problem Gambling” includes, but is not limited to, the condition known as “Pathological”, or “Compulsive” Gambling, a progressive addiction characterized by increasing preoccupation with gambling, a need to bet more money more frequently, restlessness or irritability when attempting to stop, “chasing” losses, and loss of control manifested by continuation of the gambling behavior in spite of mounting, serious, negative consequences.”

**TABLE 3**  
**The Social Costs of Gambling**

CATEGORY	EXAMPLES
Production	Reduced on-the-job productivity Reduced workforce (absenteeism, unemployability, suicide) Reduced unpaid household services Resource allocation effects of corruption
Health and counseling	Psychosocial treatment of gamblers Treatment of families of gamblers Treatment of victims of crime attributable to gambling
Crime	Policing Judicial systems Penal systems Insurance administration
Regulation	Regulation supervision Regulatory programs
Research and evaluation	Research Evaluation Development
Welfare	Welfare Other support programs
Prevention	Prevention programs Crime prevention Regulation supervision

SOURCE: Collins and Lapsley (2003), p. 141

B. *Measuring Social Costs*

In light of this methodological morass, it is unsurprising that estimates of the social cost of casino gambling vary widely. Within the broad range of possible social costs, the category most extensively studied is that of the costs attributable to problem or compulsive gambling. Studies in this area have arrived at annual cost estimates per gambler ranging from as low as \$560 to as high as \$52,000 (Productivity Commission 1999).<sup>21</sup> Table 3, taken from Collins and Lapsley (2003), describes the components of tangible or quantifiable social costs associated with gambling. Dunstan (1997) reported on a study that set the cost per pathological gambler at \$100,000 but provided no citation. Based on a review of previous research, another study concluded that the annual cost per pathological gambler was between \$15,000 and \$33,500, which the authors translate into a cost of between \$214 and \$778 per adult per year spread over the adult population of the United States (Grinols and Omorov 1996).<sup>22</sup> By contrast, a study conducted for the NGISC concluded that the cost per problem gambler was \$560 per year plus unallocated

<sup>21</sup> The Australian Productivity Commission is the Australian government's independent research and advisory body on a range of economic, social, and environmental issues. The commission's 1999 report, *Australia's Gambling Industries*, is the most extensive and thorough ongoing study of legalized gambling ever undertaken.

<sup>22</sup> Grinols and Omorov's citation of previous work is worth reprinting in full for those who may want to delve into this further: "A 1981 report estimates that \$11,200 is lost annually in productivity costs per pathological gambler. See Robert M. Politzer et al., *Compulsive Gambling Counseling Center, Johns Hopkins University, Report on the Societal Cost of Pathological Gambling and the Cost-Benefit/Effectiveness of Treatment 19* (1981) (presented at the Fifth National Conference on Gambling and Risk Taking, October 22-25, 1981). The Task Force on Gambling Addiction in Maryland, *supra* note 9, at 59, gives a total cost figure of about \$20,000 per addicted gambler in 1980 dollars (\$33,500 in 1995 dollars). Goodman, *supra* note 12, at 63, revising estimates based on Politzer et al., conservatively reports

lifetime costs of \$3,580. For pathological gamblers, the equivalent figures were \$1,050 and \$7,250 (Gerstein et al. 1999). The latter study made a careful effort to exclude transfer payments.

While some of the variation between study findings may be attributable to differences in particular local conditions or state policy choices,<sup>23</sup> it appears that far more is attributable to differences in methodology. In the absence of a single generally accepted methodology for determining the economic impact of social costs – something that is unlikely to emerge – it is hard to see what real value this research has for policymaking. In the meantime, it offers ready-made ammunition to advocates of all persuasions.

One area of potentially significant casino-related social costs that has been the subject of particular attention is crime, which can include three separate and distinct forms: (1) crimes committed by pathological gamblers; (2) street or other crimes triggered by the presence or proximity of a casino; and (3) increases in corruption or organized crime associated with casinos. While the first tends to be considered in the framework of the costs associated with pathological gambling, and the last tends to be relatively immune to quantification (and, one hopes, significantly mitigated by careful regulation),<sup>24</sup> the second has been the subject of separate investigation.

A 2001 study found a significant increase in crime, both index and nonindex crime,<sup>25</sup> in Wisconsin counties in which Indian casinos had been located (Gazel, Rickman, and Thompson 2001). Another study found similar effects in Atlantic City as well as adjacent communities (Friedman, Hakim, and Weinblatt 1989). A more recent national study found similar increases, concluding that 8.6 percent of property crime and 12.6 percent of violent crime in counties with casinos was due to the presence of the casino. The study found that crime increased gradually, rising steadily for the first five years after the casino opened (Grinols and Mustard 2006).

These studies have been criticized on a number of both conceptual and methodological grounds. The most significant methodological critique is that the studies measure crime relative to the resident population of the city or county under investigation, failing to take into account that, in each case, the opening of the casino was accompanied by an increase – often quite substantial – in the number of visitors to that city or county, thus spreading the incidence of crime across a substantially wider population base than existed prior to the opening of the casino (Walker 2008).<sup>26</sup>

The salience of accounting for the visitor population, however, depends on *which* costs of crime we are trying to measure. If the issue is the incidence of crime – that is, the likelihood of any individual being victimized

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total costs of \$8,800 (\$15,000 in 1995 dollars). A Florida study estimates that the incarceration and supervision costs alone of 266,667 problem gamblers in Florida would be \$6.09 billion, or \$22,830 per gambler. See Office of Planning and Budgeting, The Executive Office of the Governor, *Casinos in Florida: An Analysis of the Economic and Social Impacts* 71-72 (1994). Adjusting for price level changes and adding the lowest lost productivity cost estimate to the incarceration and supervision cost figure from Florida implies social costs of \$37,600 per pathological gambler. Using the minimum and maximum of the above figures independently implies a more conservative range of costs from \$15,000 to \$33,500. The direct regulatory costs of gambling must be added to the costs just enumerated. [In 1994] Illinois spends \$65 million in regulation, for example, and New Jersey spends \$59 million, or about \$7.59 per adult.” It should be stressed that these studies, as well as the figures cited, date from the 1980s and 1990s.

<sup>23</sup> Although some of the economic costs shown in the Collins and Lapsley table are arguably a function of the pathology itself (i.e., lost productivity), other costs are clearly matters of policy choices, such as the extent to which a state chooses to spend funds on education and prevention activities or the extent to which different crimes are punished by incarceration (and for what duration) under the various state laws.

<sup>24</sup> However, the cost of the regulatory infrastructure that may be needed to prevent corruption and organized crime penetration in the casino industry may be considerable.

<sup>25</sup> Index crimes under the Federal Uniform Crime Reporting System include murder and nonnegligent manslaughter, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson. Nonindex crimes are other crimes reported to the police.

<sup>26</sup> Walker points out in his critique of the literature: “To illustrate the effect of visitors (tourists) on the crime rate, let CR be the crimes



by crime – it is clearly relevant, and arguably any study that proposes to address the incidence of casino-related crime without taking the visitor population into account is fatally flawed. If the issue, instead, is the cost incurred by the public sector to deal with crime within the jurisdiction, it may be less relevant. Thus, even if the incidence of crime goes down (if the increase in visitors exceeds the increase in the number of crimes committed), the social costs could go up (Miller and Schwartz 1998). Furthermore, to the extent that crime increases within a given geographic area, the perceived frequency of criminal events and the attendant social and economic effects of crime could increase even if the incidence – because of the increase in visitors – remains unchanged. This is suggested by a study that applied an urban land value model to Atlantic City and found that, arguably, as a result of crime drawn to the vicinity of the casinos, land values of properties close to the casinos were significantly less than predicted by the model (Buck et al. 1991).

To determine the costs of crime in a useful fashion, it is also necessary to establish what costs are incurred at what governmental levels and the effect of inter-governmental transfers on those costs. For example, in Atlantic City, while the costs of policing are covered by the local property tax, judicial costs are a state responsibility; and penal costs, depending on the circumstances, are divided between county and state government. Such an analysis would then make it possible to determine whether the costs by jurisdiction are paralleled by revenues. An analysis would also make it possible to determine which inter-jurisdictional inequities, as discussed earlier, are a significant issue, and the extent, if any, to which they are being addressed by inter-jurisdictional transfers.

A further consideration is more conceptual in nature, namely, whether there is a meaningful distinction to be made between casinos and any other large-scale entertainment venue, or even the phenomenon of tourism in general. Studies have found that tourists in high-tourism venues are disproportionately likely to be victims of crime (Chesney-Lind and Lind 1986). As Miller and Schwartz (1998) note, “We have not found any compelling evidence to suggest that there is something unique about casinos that causes an increase in street crime in the surrounding area.” If that is indeed the case, it does not mean that the issue of crime should be ignored or downplayed. It does mean, however, that looking at casinos as drivers of crime in any fashion different from other tourist venues may be methodologically questionable.

A number of studies have also established a relationship between casinos and personal bankruptcy, finding a statistically significant relationship between the location of a casino and the rate of bankruptcy filings in that area, measured either by jurisdiction or proximity, for example, a 50-mile radius (Barron, Staten, and Wilshusen 2002). A more recent study, which looked at Las Vegas, Atlantic City, and Mississippi in order to determine whether destination casinos “exported” bankruptcies in the sense of affecting the number of bankruptcies in the states from which the casino visitors came, found that only the Mississippi casinos had a significant “export” effect, an effect the authors suggest may be attributed to the lower incomes of the states from which those casinos draw their visitors (Garrett and Nichols 2007). The costs of bankruptcy, of course, are not necessarily social costs, as seen from a welfare economics framework.

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committed by residents and CV be crime committed by visitors. Also let PR be the resident population and PV be the population who are visiting. Then the total number of crimes committed will be CR + CV, and the population at risk is PR + PV. We can rewrite the crime rate from equation (1) as

$$\text{Crime rate} = \frac{\text{PR} + \text{PV}}{\text{CR} + \text{CV}}$$

Clearly, if we are interested in the crime rate for a single county that is attracting many visitors, then it is critical to account for visitors in both the numerator (CV) and the denominator (PV).”

The manner in which casinos affect the global quality of life in a city or region is difficult to measure and highly subjective. The cumulative effects of a particular trend, such as an increase in crime, can have significant ramifications for the social and economic vitality of a community or a region. Conversely, many of the costs of pathological gambling will not be experienced in the community in which the casino is located but in the community from which the casino visitor comes. Moreover, even within the local area, how the social costs affect different community members will vary widely. One resident will find that the entertainment value added by the casino outweighs the increased traffic or crime that may be associated with it, while another may find that it does not. Further efforts to frame a larger social and economic context for assessing the impact of casinos may be difficult but would be valuable.

### **III. IMPLICATIONS OF THE RESEARCH FOR CASINO GAMBLING IN PENNSYLVANIA, PHILADELPHIA, AND ATLANTIC CITY**

While the discussion above may have emphasized the difficulties of measurement as much as the findings of the research on the economic impact of casinos, it is nonetheless possible to extract some general themes from the research and to apply them to a consideration of the emerging casino industry in Pennsylvania and Philadelphia, and the established industry in Atlantic City. While a straightforward body of findings that can readily be generalized to new casinos being planned in new locations may not exist, it is possible to draw some conclusions about the potential economic impact of a casino within a local area based on the particular locational, demographic, and economic characteristics of the locality, as well as the casino's spatial relationship to the larger region around it.

Thus, an area with a large pool of unemployed or underemployed workers who meet the criteria for casino employment,<sup>27</sup> so that the casino can fill most of its jobs locally, *and* which will be drawing the greater part of its casino visitors from outside the local area, may be able to reap significant local economic gains from the casino. The local origin of the workforce – assuming they do not leave the local area as a result of their increased income<sup>28</sup> – will maximize the multiplier effect of the casino, while the remote origins of the casino visitors will minimize the local displacement effect. Conversely, if the workers commute from outside the area and a larger share of the visitors are drawn from the local area, both leakage and displacement will increase, arguably to the point at which the local economic development impact may be modest and possibly outweighed by the costs.

The importance of the origins of the casino workers and visitors in measuring economic impact highlights an important underlying point about the geographic distribution of costs and benefits. Ultimately, when taking into consideration a large enough geography, the casino costs and benefits are likely to tend to cancel each other out. Within a smaller area, however, the benefits can significantly outweigh costs. As the Wisconsin study

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<sup>27</sup> This is not always straightforward. An urban area may have large numbers of unemployed or underemployed workers who may meet the skill requirements of casino jobs (or can be trained to meet those requirements), but who may fail the stringent criminal checks required. Murphy (2007) points out that to the degree Philadelphia's casinos displace other retail and service facilities in the city – resulting in a loss of jobs – the job losses, rather than the gains, may fall more heavily on inner-city and African American workers.

<sup>28</sup> Large numbers of Atlantic City residents left the city for suburban venues after they were hired by the Atlantic City casinos. This is likely to be less common in Philadelphia, partly because of the vastly greater diversity of housing and neighborhood options within the city as well as because of the relatively higher cost of housing outside the central city, thus making it more difficult for moderate- and middle-income urban residents to relocate to the suburbs.

(Thompson, Gazel, and Rickman 1995) found, the localized benefits of casinos essentially represented a transfer of resources to the casino venues from the rest of the state.

Assuming that this is likely to be the case under most circumstances, it raises a policy question: Does public policy justify such a transfer? In many cases, the answer, although implicit, has been affirmative. States have often created casino monopolies for areas (e.g., Atlantic City; Gary, Indiana; and Detroit) that were particularly disadvantaged economically in order to use casinos as a tool for those areas' revitalization. Presenting this to the public as an economic development strategy that imposes no offsetting costs, however, is misleading.

In that light, we now turn to the emerging casino landscape in Pennsylvania. In 2004, the state legislature authorized the establishment of 14 casinos – limited to slot machines and other electronic gambling devices (EGDs) – around the state. As of this writing, nine are in operation; the most recent, in Pittsburgh, opened late in 2009. Of these, some are free-standing casinos and some are ancillary to race tracks, a type of facility sometimes called a racino. There is no difference between the two, however, in terms of the gambling facilities they offer under Pennsylvania law. Two casinos are planned for Philadelphia, while three more will be located elsewhere in the state.

These casinos have already generated significant revenues for the state and for the racing industry. While Kocerka, Lementowski, and Shiu (2005) projected that with 38,000 EGDs in operation, the gross terminal revenue would be \$4.1 billion, the gross revenue for the 2008-2009 fiscal year with fewer than 22,000 EGDs in operation was already \$3.6 billion.<sup>29</sup> The state gaming fund dedicated to property tax relief generated \$1.228 billion, a not inconsiderable sum. Once all 14 casinos are in operation, assuming gross revenues per EGD remain roughly the same, the state could see this figure nearly double.<sup>30</sup> Even if all casino spending simply displaces other spending in Pennsylvania, which is highly unlikely in view of the locations of many of the casinos at or near the state's borders, these revenues are likely to substantially exceed any state revenues lost as a result of displacement because of the exceptionally high rate at which casino revenues are taxed.

As we have discussed, given the aggressive nature of the state casino tax regime, it is not surprising that Pennsylvania should be capturing significant tax revenue from its casinos; although since the greater part of the revenues are dedicated to providing local property tax relief and to supporting the state's race tracks, it is uncertain whether state government costs associated with the casinos are being fully covered. A more complex issue is what economic benefits the host communities can expect to derive. Two studies of the proposed Foxwoods casino in Philadelphia reached opposite conclusions: one study predicting that it would be a major fiscal boon and the other indicating that it would result in significant net losses to the community (Econsult 2006; Murphy 2007). This reflects not only the fact that both studies were done on behalf of one or the other of the sides in the debate about this particular casino but also the fact that legitimate differences over what parameters to measure and how to measure them can lead to wildly different results.

The Econsult study, commissioned by the operators of the proposed Foxwoods casino, does not address substitution or displacement; it merely states in a footnote that "some studies note, quite properly, that in order to estimate net new spending, any additional spending, inside or outside of a casino, must be offset by declines in spending elsewhere in the local economy. We do not anticipate any significant differential among casino appli-

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<sup>29</sup> This total includes 3,000 EGDs at the Sands Casino Resort Bethlehem that was open only for the last two months of the fiscal year.

<sup>30</sup> This assumes that the casinos are limited to the 3,000 EGDs to which a casino license-holder is entitled by virtue of the license. Because the Gaming Control Board exercises its discretion to permit all or some casinos to install up to an additional 2,000 EGDs, this figure could further increase. One casino has already received such approval.

cants with regard to “diverted spending”, and we do not include it in this analysis” (Econsult 2006, p. 19).<sup>31</sup> The study also does not address the economic impact of social costs and arguably minimizes the costs likely to be borne by the municipality. In the other study, however, Murphy arguably underestimates the extent to which casinos in Philadelphia will draw people from outside the city while using what appear to be high values to calculate the economic impact of social costs.

Murphy does, however, make the important point that there are potentially significant opportunity costs associated with developing the two riverfront sites for casinos.<sup>32</sup> In contrast to casino sites in Atlantic City or some other distressed cities, for which alternative uses capable of triggering meaningful economic benefits may not be available, that may well not be true of the Philadelphia sites. Both are located along the Delaware River, in relatively close proximity to the retail, entertainment, and condominium developments that have grown up along the river during the past 10 to 15 years. It is not unreasonable to assume that if these sites are not developed for casinos, they will sooner or later be developed for other purposes. Such development may, of course, be of more modest scale and, in light of current economic conditions, may not take place for many years to come. Still, it is a legitimate consideration that should be taken into account.

In the case of the Philadelphia casino, such inferences that can be made on the basis of the literature would strongly suggest that the local economic impact may be significant. While a significant percentage of the gamblers at Philadelphia’s casinos are likely to be residents of Philadelphia, many of them will now be spending at home money that they previously spent in Atlantic City. Similarly, the greater proximity of the Philadelphia casinos for the great majority of the metropolitan area’s households, including those living on the New Jersey side of the river,<sup>33</sup> argues that a substantial number of them are likely to divert their casino spending from Atlantic City to Philadelphia. While some of those households, of course, will be diverted away from Philadelphia by the casinos in Chester and Bensalem, they still represent a population base more than double that living in the city of Philadelphia.

Thus, while casino spending will displace some noncasino spending in Philadelphia, it is likely to displace more spending from Atlantic City and from the Philadelphia suburbs because it is unlikely that many people from outside the region will make special trips to Philadelphia in order to gamble. The gambling expenditures of overnight visitors to the city, however, are likely in large part to displace other expenditures that they would have made on their trips to the city. The same may be true of some suburban visitors, who may choose to take a day trip to a casino rather than to attend a rock concert or baseball game. If, as is now certain to happen, table games are added to the EGDs at these casinos, this may draw a larger number of overnight destination visitors, who may in turn engage in meaningful ancillary spending elsewhere in the city.<sup>34</sup>

The fiscal impact of the casinos on the city’s finances is uncertain. With eight casinos in operation as of June 2009, the annualized gross terminal revenue per casino is approximately \$300 million. Assuming that each

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<sup>31</sup> Econsult prepared its study for the Foxwoods casino, and the Murphy study was prepared for an anti-casino advocacy organization. The Murphy study compares and critiques the economic impact study prepared by Econsult for the Foxwoods casino.

<sup>32</sup> The Foxwoods site is located adjacent to South Philadelphia, along the Delaware River between Tasker and Reed streets; the Sugarhouse site is located adjacent to Fishtown, along the river between Frankford Avenue and Shackamaxon Street.

<sup>33</sup> The most heavily populated sections of Burlington, Camden, and Gloucester counties in New Jersey are all closer to Philadelphia than they are to Atlantic City.

<sup>34</sup> Senate Bill 711, to authorize adding table games to Pennsylvania’s casinos, was adopted by the Pennsylvania state legislature and signed by Governor Rendell in early January 2010. It is likely that the first table games will be in use in the state’s casinos by the second half of 2010.

of the two Philadelphia casinos gross \$360 million per year (reflecting the fact that most of the existing casinos have yet to reach their legal limit of 3,000 EGDs), the city's 4 percent host community revenue from that will be \$28.8 million ( $\$360\text{m} \times 2 \times .04$ ),<sup>35</sup> to which one must add property taxes, business privilege tax, and wage taxes, which Econsult projects at \$15 million at the completion of Foxwoods' Phase II. This is not insignificant, but without a far more thorough analysis than has been conducted up to now, it is impossible to determine whether these revenues would indeed exceed the city's costs, a subject not addressed in either study.

The jobs picture is also uncertain. While the construction of the casinos will create substantial construction employment, that must be seen in light of the opportunity cost for alternative development of the two sites. Moreover, without a more thorough analysis of the displacement effects of the casinos on noncasino business activity, it is impossible to determine whether the jobs created in the casinos will be offset by job losses elsewhere. Many casino jobs, however, are low-wage jobs; in their report on Atlantic City, Newburger, Sands, and Wackes state, "As in Atlantic City's days as a beach resort, many of the [casino] jobs available to residents are low-skill, low-paying service-sector positions" (2009, p. 37). Thus, it is possible that although resulting in some increase in the aggregate number of jobs in the local area, the effect of the casinos will be to reduce the average wage for city residents.

The picture may be different elsewhere in Pennsylvania. The Bethlehem and Mt. Pocono casinos are likely to draw a significant share of their visitors from New Jersey and the New York metropolitan area, much of which will displace Atlantic City casino spending, perhaps leading to net economic gains for those casino host communities. To the extent that the Poconos and the Bethlehem area both contain pools of underemployed workers who are hired by the casinos, the resulting juxtaposition of outside visitors and local workers may lead to a positive economic impact in these locations. Conversely, opening new casinos in areas that have up to now been some distance from similar gambling opportunities may result in an increase in gambling by residents of northeastern Pennsylvania, with the potential of greater displacement of local business activity and increased social costs for these communities.

Finally, the picture, at least in the short run, for Atlantic City does not appear to be a bright one. Even before Pennsylvania opened its casinos, and before the recent recession, casino revenues and visitation levels were slipping from peak levels (Newburger, Sands, and Wackes 2009). The total casino "win" from January through September 2009 dropped 14 percent compared with the year before; four of the city's 11 casinos are in bankruptcy and a fifth is expected to be taken over by its lender (Creswell 2009). Despite efforts such as the new Atlantic City Convention Center and the outlet mall known as The Walk, Atlantic City does not appear to have established a long-term stable visitor base commensurate with its capacity. The addition of table games at Pennsylvania casinos will only increase Atlantic City's difficulties. As one industry analyst commented, "Atlantic City properties will be under more pressure as table games were their last line of defense. Atlantic City could now lose more customers from the New York City area" (Stutz 2010).

While many planners and casino executives believe that Atlantic City needs to re-invent itself around a different, more upscale business model represented by the Borgata casino, the shortage of investment capital in the current economy would suggest that – even if it is a sound strategy – it will be many years before it can be implemented. The only Borgata-style casino under construction, the Revel, appears to be stalled for lack of adequate financing, while other proposed projects have been placed indefinitely on hold (Creswell 2009; Kosman 2010). In

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<sup>35</sup> The Econsult study assumes that Phase II of the Foxwoods casino development plan will bring it to 5,000 EGDs, at which point they project a \$20 million host community fee.

the meantime, in the absence of such a major financial infusion, the economic position of Atlantic City's casinos may further deteriorate, rendering its future ability to revitalize its industry that much more difficult.

The principal objective of legalizing casinos in Pennsylvania appears to have been that of creating new sources of state revenue, while the secondary objective was to bolster the financial viability of the state's struggling racing industry. From those two perspectives, the effort so far appears successful, although it is too early to assess whether this will continue to be the case over the long term. Furthermore, if the objective was to foster economic growth and revitalization in economically distressed areas of the state, it is still too early to tell whether this will indeed be the case.

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