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*Editor's Note:* Prior to providing [their reply](#) to this rejoinder, Professors Grinols and Mustard requested assurance that Professor Walker would not be permitted to reply to it in this journal, and that assurance was given. Readers interested in discourse beyond *EJW* may wish to visit Professor Walker's website. [Link](#).

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## The Diluted Economics of Casinos and Crime: A Rejoinder to Grinols and Mustard's Reply

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**A REJOINDER TO:** EARL L. GRINOLS AND DAVID B. MUSTARD, "CORRECTLY CRITIQUING CASINO-CRIME CAUSALITY," *ECON JOURNAL WATCH* 5(1), JANUARY 2008: 21-31. [LINK](#).

### ABSTRACT

I APPRECIATE THAT PROFESSORS GRINOLS AND MUSTARD (2008) REPLIED to my comment (Walker 2008). They say that, since I did not present empirical evidence for the "*potential* problems" I raised, they have no reason to alter their initial conclusions about the relationship between casinos and crime (30).

But if *A* estimates some effect, and *B* shows that the estimation is based on bad formulations and iffy data, it is rather irrelevant for *A* to respond: "But *B* hasn't shown that reality is something other than my estimates." My criticism wasn't based on the claim that I know what the crime effects of casinos are; it was based on the demonstration that Grinols and Mustard have not given credible grounds for claiming that *they* know what the crime effects are.

I wish to revisit the crime rate issue as it pertains to the cost of casino crime estimates. I will also discuss the public consumption of research results.

### THE SHIFT FROM CRIME RATE TO COST BURDEN PER PERSON

Consider Tunica County, Mississippi. The county population is around 10,000, and the county has 15 million visitors each year.<sup>2</sup> Suppose there were 1,000 Index I crimes reported during a particular year. If we include the visitors

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<sup>2</sup> The 2005 estimated population was 10,321 ([www.census.gov](http://www.census.gov)). The tourism estimate is from the Tunica Chamber of Commerce ([www.tunicachamber.com](http://www.tunicachamber.com)).

in the denominator, then the crime rate is 0.000067; if not, it is 0.10.

Grinols and Mustard label the first the “diluted” crime rate and the second “undiluted.” In the Tunica case, the “undiluted” crime rate is 1493 times greater than the “diluted” rate. To the extent that the Grinols and Mustard results depend on similar counties with a large ratio of tourists to residents, the exclusion of visitors from the population measure will have a real impact on the estimated crime rates. Clearly, one’s estimated cost of crime will change massively depending on whether one uses 0.000067 or 0.10 as the crime rate. Yet, Grinols and Mustard argue that differences in crime rate measures are not the central issue because the rate used depends on “what the researcher wants to do” (Grinols and Mustard 2008, 23).

In my comment, I had interpreted Grinols and Mustard’s purpose as estimating the change in the probability of casino county residents falling victim to crime with the introduction of casinos. My reason was that most of Grinols and Mustard’s justification for using the “undiluted” crime rate focused on showing that the “diluted” rate can fall even if the probability that a resident falls victim to crime increases. In their 2006 *Review of Economics and Statistics* article they write:

Should the number of crimes be divided by population—the conventional way to generate the crime rate (undiluted)—or by population *plus* visitors (diluted)?... Some have argued for one combination or another without realizing that the choice is not methodological, but depends on what questions the researcher wants to answer. A common but invalid claim is that the diluted crime rate should be used to determine the change in probability that a resident would be the victim of a crime. However, knowing what happens to the diluted crime rate does not give the needed information and could even move the answer in the wrong direction... (Grinols and Mustard 2006, 34)

Grinols and Mustard then give a lengthy, flawed example (discussed in Walker 2008, 8), and continue, “Thus, in this case the diluted crime rate falls while the probability of a resident being victimized rises” (Grinols and Mustard 2006, 35).

Grinols and Mustard (2008, 22) reply that my interpretation is wrong. They say they are *not* estimating the change in the probability of casino county residents falling victim to crime. They quote from their 2006 paper: “In this study we are interested in the costs to the host county associated with a change in crime from whatever source. We are therefore interested in the total effect of casinos on crime, and thus use the undiluted crime rate...”<sup>3</sup> And then immediately add: “In other words because crime perpetrated in a given geographical area can impose costs that fall on local taxpayers,

<sup>3</sup> This quotation follows immediately after the quotation above.

it is appropriate to consider the total number of crime incidents relative to the local population and tax base” (Grinols and Mustard 2008, 22).

So they want us to focus on the costs of crime to casino hosting counties, rather than the risk to residents of falling victim to crime. Yet, the estimated cost of casino crime on casino hosting counties will be overstated if the crime rate attributed to county residents is overstated, as it is using their “undiluted” rate. If Grinols and Mustard want us to think in terms of cost burden per resident, they might elude the crime rate criticism, *but the basis for that criticism simply re-emerges in terms of cost burden per resident.*<sup>4</sup>

### COSTS OF CRIME

Grinols and Mustard estimate the casino crime cost burden to be \$75 per adult casino county resident per year.<sup>5</sup> This figure is emphasized in their abstract (2006, 28) and it is the basis of their brief policy discussion (41-42). But does this figure actually mean what Grinols and Mustard say it means? No. As I pointed out in my original comment, Grinols and Mustard have implicitly attributed the entire cost burden to the residents—even if they are not victims of crimes! That is why I said their story would only make sense if all crimes are committed against casino county residents, and none against visitors (Walker 2008, 9-10).<sup>6</sup>

Grinols and Mustard use estimates of the cost per crime from Miller, Cohen, and Wiersema (1996, 24) in order to estimate the cost of casino crime per casino county adult resident (\$75). Yet, Miller et al. (1996) emphasize, “this study focuses on victims’ costs” (9) and “deliberately excludes two of the largest costs associated with crime—the cost of operating the criminal justice system and the cost of actions taken to reduce the risk of becoming a crime victim” (17). In fact, most of the estimated costs of crime are intangible costs such as lost quality of life, fear, pain, and suffering (21), that are *borne by the crime victims*—not by the taxpayers in the counties in which the crimes are perpetrated.<sup>7</sup>

Miller et al. (1996, 24, Table 9) estimate the cost of each robbery, for example, at \$13,000. Of that amount, \$10,700 is intangible costs. Grinols and Mustard’s failure to distinguish between resident and visitor victimizations effectively assumes that all costs—including intangible costs borne by casino county visitors

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4 Rhetoricians might say that Grinols and Mustard’s argument for using the “undiluted” rate is an *ipse dixitism*.

5 They write, “We use cost per victimization figures...to calculate the total social cost of crimes committed in casino counties that are attributable to the presence of casinos...” (Grinols and Mustard 2006, 41). The abstract (28) indicates that these costs are on an annual basis. The details of the calculation are not provided by Grinols and Mustard.

6 Grinols and Mustard attribute the costs to *adult* county residents—71% of the average county’s resident population (Grinols and Mustard 2006, 41).

7 Even the estimated tangible costs fall heavily on crime victims. Still, *some* of the estimated costs fall on society, as shown by Miller et al. (1996, 11).

—fall on the residents. Otherwise it makes no sense for the “per person” part of the calculation to include only the county residents.

An analogy might help to confirm our understanding of what is going on. Let’s take an example that involves not costs per person, but benefits per person. The economic principle of mutual gains from voluntary interaction suggests that there are net benefits to those who voluntarily engage in sexual activity. What Grinols and Mustard have done is like saying that the sex benefits per person—that is, net benefits from sexual activity occurring within the county divided by the county population—is much higher in Carson City County, Nevada, than in practically all other counties in the country. But, in fact, the ordinary person who resides in Carson City County might in fact experience sexual benefits only about equal to or a little higher than ordinary residents in the other states. Benefits per person will appear artificially high if the numerous visitors to Carson City County are left out of the denominator. My suggesting that the residents should not open a casino because of the crime cost burden per person is \$75 (as Grinols and Mustard estimate) would be analogous to suggesting that they should authorize brothels because their sex-benefit per person will go up significantly. But it is no more legitimate to encourage residents with the benefits of other people’s sexual experiences than it is to discourage them with costs of other people’s crime experiences.

It is certainly true that crimes impose some costs (policing, court, incarceration, etc.) on the county taxpayers, even when crimes are perpetrated against visitors. But Grinols and Mustard have not estimated that, since many of the costs that *are* borne by county taxpayers are explicitly ignored in the cost of crime estimates used by Grinols and Mustard (Miller et al. 1996, 17).

To summarize, most of the estimated cost of a crime against a visitor is not borne by residents—it is borne by that visitor. Furthermore, many of the costs that *are* borne by county residents and taxpayers are *ignored* in the cost of crime estimates used by Grinols and Mustard.<sup>8</sup> Their \$75 estimate of the cost of casino crime per adult casino county resident is simply not meaningful.

#### PUBLIC CONSUMPTION OF GAMBLING RESEARCH

If Grinols and Mustard’s estimates were ignored by the world, the dispute would be of merely scientific interest. But the results of Grinols and Mustard’s crime study (2006) have certainly had an influence on the public discourse on gambling. Professor Grinols was recently quoted in *Parade Magazine* (Flynn 2007) as saying that “if the damage [from gambling] were spread evenly among all of us, there’d be no gambling. Grinols also co-authored an op-ed (Grinols and Rose

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<sup>8</sup> An additional problem is that, to the extent that casino-related crime is perpetrated on casino premises, the casino bears much of the costs of enforcement. Yet, Grinols and Mustard made no distinction between on-premises and off-premises crimes.

2007) based on his other social cost research.

Professors Grinols and Mustard are frequently quoted in newspapers, on anti-gambling websites, and in academic debate over the social costs of casino gambling.<sup>9</sup> As a result, they have had, and will likely to continue to have, a significant impact on the ongoing political debate in states like Kansas, Kentucky, and Massachusetts;<sup>10</sup> and in other countries where casino legalization is under consideration. It is therefore worthwhile to examine some of the other “cost of gambling” figures that Grinols, in particular, often repeats to the media, in order to illustrate just how arbitrary are much of the publicized data on the economic effects of casinos.

Grinols and Mustard (2001, 154)<sup>11</sup> and Grinols (2004, 171, 176) provide estimates of the social costs of pathological gambling. They estimate costs at over \$10,000 per pathological gambler, per year,<sup>12</sup> and include a component for the costs of crime. Based in part on this cost estimate, the authors argue that casino gambling fails a cost-benefit test, with a ratio of 1.9:1 to 3:1, or even greater (Grinols and Mustard 2001, 155; Grinols 2004, 175-176).

Grinols has repeated these estimates in his op-ed on the effects of casinos (Grinols and Rose 2007), and has been quoted in the *Wall Street Journal* as saying that the introduction of a casino results in a net cost of over \$97 per resident per year (Whitehouse 2007). In another newspaper article, Grinols was quoted, “I have concluded gambling as a whole is probably a bad idea for society” (Monahan 2007). Mustard was quoted in the *Washington Post* as arguing that “even using conservative estimates of costs and generous estimates of benefits, we still find the costs exceed the benefits” (Morin 2006). More importantly, the Grinols and Mustard analysis served as an important component of a just-released Canadian study which its authors hope will be the new “gold standard” for social cost of gambling research.<sup>13</sup>

Clearly, Grinols and Mustard have been strong advocates in the public discourse on casinos. Yet, the social cost estimate they provide is based on an average of cost estimates from other studies. Most of those studies arrive at their

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9 See Walker (2008, 4, note 2).

10 I recently received an unsolicited email by someone requesting my help: “I am on the vanguard of keeping casinos out of Kentucky and have written several articles over the last few years. The legislature is scheduled to bring a bill to amend the constitution soon. I was doing some research and ran across your piece, Do Casinos Cause Economic Growth... I gather from the abstract that your answer was a resounding ‘NO’. Is this what you concluded? I have had many discussions with Dr. John Kindt and also Dr. Earl Grinols, both of whom have helped me considerably in the past. I appreciate any ‘ammunition’ you can provide in this fight against this race to the bottom.”

11 Incidentally, Grinols and Mustard were the guest-editors of the issue of *Managerial and Decision Economics* in which their 2001 paper was published.

12 The costs attributable to pathological gamblers are widely regarded as being the major component of the costs of legalized casinos. However, these estimates by Grinols and Mustard depend on numerous very questionable assumptions.

13 *The Socio-Economic Impact of Gambling Framework* (2008, 6). The findings by Grinols and Mustard (2001) are repeated on pp. 91, 95, and 99, and are promoted elsewhere in the report.

estimates in ways highly arbitrary. Here are a few examples:<sup>14</sup>

- In the study by Thompson, Gazel, and Rickman (1996, 19), the authors write, “The cost of probation and parole was estimated from the state budgets for corrections minus the costs of the operation of prisons, jails, and juvenile corrections. We assigned two-thirds of the residual budget to probation and parole costs, and divided the costs by the number of persons in these programs.”
- Schwer, Thompson, and Nakamuro (2003, 15) explain how they calculated court costs: “[An earlier] study found that each federal court action costs \$7,500. Considering that these actions may not be as complicated or long enduring as some others, we assign a 50 percent cost factor of \$3,750 for each...case.”<sup>15</sup>
- Focusing on money inflow and outflow to/from South Carolina as a representation of the benefits and costs of video gaming machines, Thompson and Quinn (1999, 10-12) explain, “There are 31,000 machines [in South Carolina]...They carry a [total] value of \$46,500,000. The machines are for all intents and purposes manufactured out of state. We can assume that \$46,500,000 leaves the state each year because of the machines.” Summing over all components, they conclude, “The money leaving the state...equals \$133.3 million compared to \$122 million coming into the state. In direct transactions, the state’s economy loses.”

These are only three examples, but they are sufficient to show just how arbitrary such cost estimates are, both in methodological and empirical terms. Indeed, such studies have long been criticized for their poor quality, as discussed by the National Research Council (1999).<sup>16</sup>

## CONCLUSION

I do not fault Professors Grinols and Mustard for participating actively in the public discourse. I admire their vitality.<sup>17</sup> But given the “*potential* problems” in

14 See Grinols and Mustard (2001, 153-154) and Grinols (2004, 172-174). Grinols and Mustard (2001, 152) acknowledge that only one of the eight studies on which they base their estimate was peer reviewed.

15 Schwer et al. (2003) is cited by Grinols (2004) but obviously not by Grinols and Mustard (2001). For a discussion of other problems in the Schwer et al. (2003) analysis, see Walker (2007b, 628-637).

16 Walker and Barnett (1999) discuss many of these studies in detail, and the social costs of gambling in general. Problems in quantifying social costs are also addressed in Walker (2007a, 2007b).

17 Perhaps they believe gambling is immoral. Grinols (1997, 8) has argued that “the Christian economist should differ from the non-Christian economist in what he does, how he does it, and why he does it.” In a recent newspaper article (Monahan 2007), Grinols discussed the charge by another researcher that his

their crime study, I do not believe strong conclusions about the costs of casino-related crime are justified. For any policy issue, researchers should acknowledge potential problems, and policy conclusions should be tempered accordingly. I agree with Grinols and Mustard that I do not have a good estimate of the cost of casino crime. But neither do they.

Perhaps more importantly, this is an excellent example of *caveat emptor*. Given some of the examples of research discussed here, consumers of gambling research must be very careful to scrutinize the evidence—even when it is published in a reputable journal like *Review of Economics and Statistics*.

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“economic arguments against casinos are tainted by his evangelical Christian values.” Citing prostitution as an example, Grinols was quoted: “What is morality, other than a balancing of economic costs and benefits?... Moral opposition is based on the fact that we have had [prostitution] long enough to know it causes more damage than benefits.” Since Grinols and Mustard believe the costs of gambling exceed the benefits, perhaps they are morally opposed to it.

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