

**Hampton Roads Casino  
The Likely Socio-Economic Impacts of a New Casino\***

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May 2015

\* Report prepared for the Economic Forecasting Project at Old Dominion University.

# Hampton Roads Casino

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## I. Introduction

Since the 1990s the legal gambling industry has spread across the U.S., with a majority of state governments sponsoring lotteries and hosting commercial or tribal casinos. Despite concerns of “market saturation,” the casino industry continues to expand, particularly in the Northeast. In 2014, commercial casinos earned revenues of around \$39 billion, while tribal casinos netted another \$29 billion.<sup>1</sup>

Virginia is among those states that has not taken the casino plunge. However, with casinos well established in West Virginia, Maryland, Delaware, and Pennsylvania, many Virginians have easy access to casinos to their north. But Virginia also sits at the northern edge of a region in which casinos are rare. There are very limited opportunities for legal casino gambling in Kentucky, Tennessee, North Carolina, South Carolina, Georgia, and Alabama. This means that concerns over “market saturation”, perhaps illustrated by the closure of four casinos in Atlantic City during 2014, are not necessarily relevant to potential casinos in Virginia. In recent years there have been discussions of bringing casino gambling to Virginia; the most common proposal has been to build a casino in the Hampton Roads area. Despite the recent failure of a proposal in the Senate to create a gaming commission, there is likely to be ongoing discussion about the introduction of casinos in Virginia.<sup>2</sup> In this report we examine the likely economic and social impacts of a Hampton Roads casino, based on the available empirical evidence from the academic literature.

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<sup>1</sup> Source for commercial casino revenue estimate: D. Schwartz. National commercial casino gaming: Monthly revenues. Las Vegas: Center for Gaming Research, University Libraries, UNLV, 2014. Source for tribal casino revenue estimate is based on 2013 estimate from “Growth in Indian Gaming Graph 2004-2013,” from the National Indian Gaming Commission ([http://www.nigc.gov/Gaming\\_Revenue\\_Reports.aspx](http://www.nigc.gov/Gaming_Revenue_Reports.aspx)).

<sup>2</sup> Senator Lucas has been the major proponent. She has proposed to create a gaming commission and a casino development in Portsmouth. However, SB716 was voted down by the Virginia Senate’s General Laws and Technology Committee in February, 2015. See Wilson, P. (2015, Feb. 3). Senate committee votes down Lucas casino bill. *The Virginian Pilot*. A summary of SB 716 is presented in the Appendix. Despite this setback, there have been calls to continue the study of the likely impacts of a casino in the Hampton Roads area. See, for example, Chelsey, R. (2015, Feb. 24). Hire impartial consultants to study feasibility of casinos in Virginia. *The Virginian Pilot*.

## ***Background***

Casinos are almost always controversial in policy deliberations. Despite the apparent economic benefits such as tax revenues and employment, there are also potential costs, including problem gambling, increased crime, and negative impacts on competing industries. Many of these issues were addressed in a report by the Hampton Roads Transportation Planning Organization.<sup>3</sup> The report was produced as a White Paper to be considered by the Senate in 2013.

The HRTPO report used a variety of sometimes-questionable assumptions about how many customers would be attracted to a Hampton Roads casino, the likely spending per patron, estimated casino revenues and casino taxes. The report also provided estimates of the number of jobs that a casino would create, and the contribution of a casino to gross regional product and regional personal income. The report estimated that there were around 500,000 potential customers for a Hampton Roads casino, who would spend an estimated \$210 million to \$600 million per year. Using a mid-range estimated casino revenue of \$375 million and a moderate casino revenue tax rate of 30%, the study estimated casino taxes of around \$113 million per year.<sup>4</sup> The study estimated that a casino operation in the Hampton Roads area that employs 2,000 people could increase overall employment by between 2,000 and 2,500 jobs, and supplement regional gross product by between \$78 million and \$107 million per year (p. 8). Such estimates are based on previous studies of casinos in similar regions, but there is little evidence of how reliable such estimates would be. For example, new casinos in nearby states would almost certainly have a significant impact on a casino in the Hampton Roads region. Nevertheless, despite any limitations of the HRTPO report, it provides a useful estimate of specific impacts of a potential casino in the Hampton Roads area.

The goal of this chapter is to use the available evidence from the academic literature to help describe the likely impacts of a new casino in the region. The chapter outline is as follows. In the remainder of this section we provide a brief background on the Hampton Roads area and discuss the existing casino industry, particularly in the mid-Atlantic and Northeast states. In section II we examine the economic impacts of casinos, focusing on tax revenues, employment and wages, and the impacts on other firms and industries. Section III is a discussion of the social costs of casinos, many of which are attributable to pathological gambling. Finally, in section IV we summarize the costs and benefits of gambling, and conclude.

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<sup>3</sup> Hampton Roads Transportation Planning Organization, & Hampton Roads Planning District Commission. (2013). *Casino gambling in Hampton Roads: Potential revenues, economic impacts & social impacts*. Chesapeake, VA: Authors.

<sup>4</sup> These estimates are taken from pp. 4-6 of the report.

### ***The Hampton Roads Region***

The Hampton Roads region falls within the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area (MSA). The MSA includes nine cities and six counties, and a population of around 1.7 million people. Many of the demographic details of the Hampton Roads area are listed in the *Community Profile*.<sup>5</sup> The economic impacts of a casino in the Hampton Roads area would depend, to some extent, on the exact location of such a casino. We discuss this and other relevant issues in subsequent sections of this chapter.

### ***The Regional Casino Market***

Casino gambling is available in most states to the north of Virginia. Racetrack casinos exist in West Virginia, and five casinos have opened in Maryland since 2010. In 2016 a new casino will open at National Harbor, which will be very convenient to residents of northern Virginia. Figure 1 illustrates the casinos that currently operate in the mid-Atlantic region. The Hampton Roads area, represented by the star, is relatively isolated from casino gambling opportunities. The closest casino is the Ocean Downs racetrack casino at Berlin, MD (about 130 miles from Virginia Beach). A casino located in the Hampton Roads area would serve residents of the immediate area and possibly Richmond. Richmond is about 105 miles from National Harbor and from Virginia Beach. It is difficult to predict which casino might be more attractive to Richmond residents. On the one hand, the National Harbor casino will be bigger than a casino in the Hampton Roads region, but perhaps traffic would be less of an issue getting to Hampton Roads.

In Table 1 we list the casinos and racetrack/casinos shown in Figure 1 that are within 250 miles (or roughly a 4-hour drive) of Portsmouth, VA. The table also lists the number of machine and table games available at each location. Given the location of Hampton Roads relative to Richmond, we also show the distance of each casino to Richmond. A casino in Hampton Roads would be about 100 miles from Richmond, or about a 90 minute drive. This would mean that a casino in Hampton Roads would be roughly tied as the closest casino to Richmond – with MGM Grand. This is important because it suggests that a casino in Hampton Roads could consider Richmond to be a part of its market.<sup>6</sup>

While there are casino gaming opportunities north of Virginia, the opportunities for the south and south-west are limited. Because of this, there is the opportunity for a casino in southeast Virginia to attract patrons from North Carolina, South Carolina, whose closest casino resort

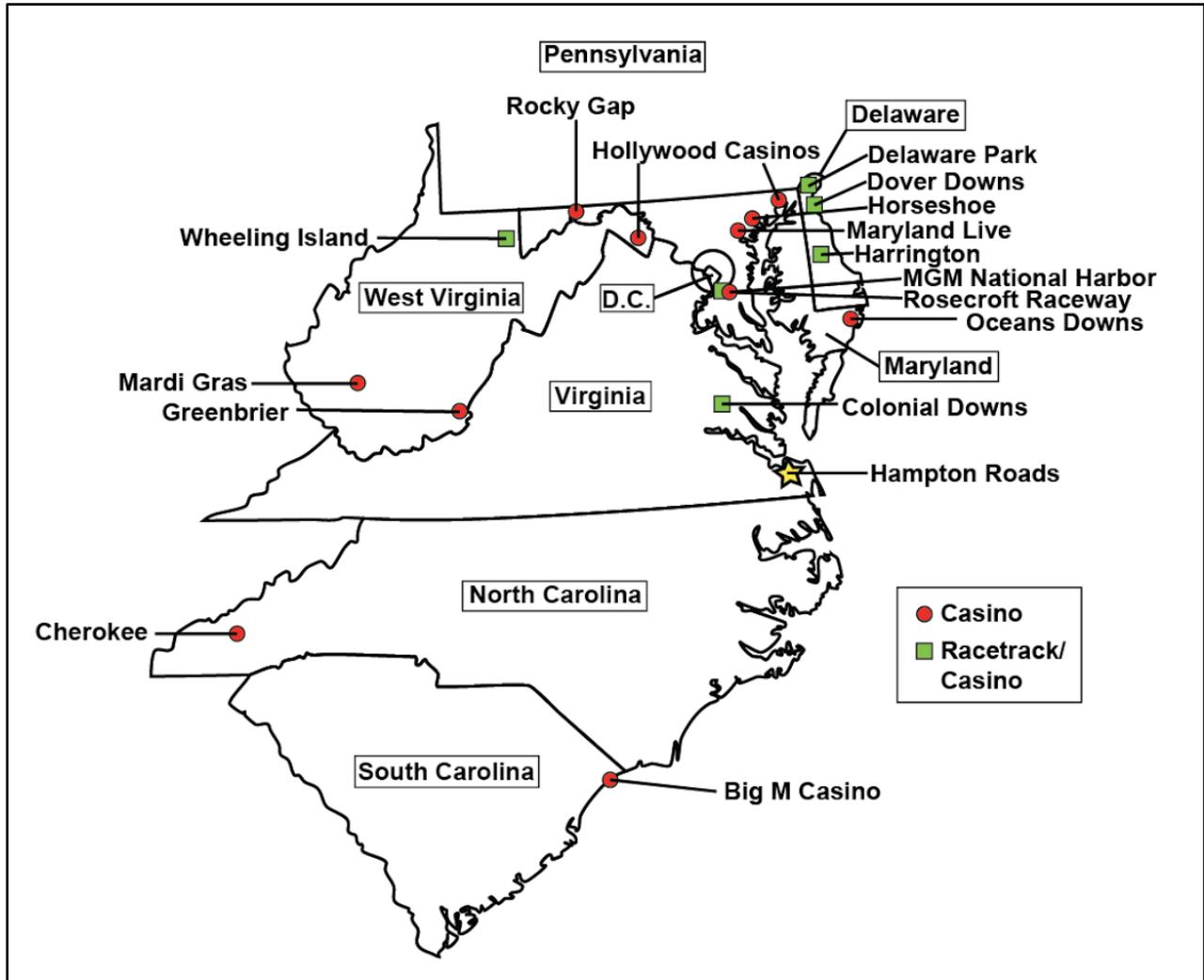
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<sup>5</sup> Virginia Economic Development Partnership, *Community Profile*. County- and city-level population estimates can be found at <http://www.coopercenter.org/demographics/interactive-map/citycounty>.

<sup>6</sup> This issue deserves more attention. The development of a casino in Hampton Roads should be done strategically to be competitive with the MGM National Harbor, in terms of amenities that could attract Richmond residents.

would likely be in Hampton Roads. However, a careful evaluation of the likely impacts of a new casino should be considered and should account for the possibility that there will be expanded regional competition in the future.

Figure 1. Hampton Roads regional casino map



**Table 1.** Casinos and racetrack/casinos within 250 miles of Hampton Roads

Property Name	Location	Racing Type	# of Gaming Machines	# of Table/ Poker Games	Distance from Hampton Roads (miles)	Drive time from Hampton Roads	Distance from Richmond (miles)**	Drive time from Richmond, Virginia
Colonial Downs	New Kent, VA	Harness, Thoroughbred	n/a	n/a	74.3	1 h 17 m	26.4	27 m
Oceans Downs	Berlin, MD	Harness	800	n/a	138	2 h 27 m	221	3 h 37 m
Harrington Raceway	Harrington, DE	Harness	1,800	51	176	3 h 9 m	198	3 h 5 m
MGM National Harbor*	Oxin Hills, MD	n/a	3,600	150	195	2 h 58 m	107	1 h 37 m
Rosecroft Raceway	Fort Washington, MD	Harness	n/a	n/a	200	3 h 3 min	109	1 h 39 m
Dover Downs	Dover, DE	Harness	2,600	58	200	3 h 33 m	205	3 h 16 m
Maryland Live	Hanover, MD	n/a	4,332	177	227	3 h 30 m	137	2 h 10 m
Horseshoe	Baltimore, MD	n/a	2,500	147	237	3 h 38 m	146	2 h 17 m
Hollywood	Charles Town, WV	Thoroughbred	2,700	124	237	3 h 49 m	147	2 h 30 m
Delaware Park	Wilmington, DE	Thoroughbred	2,540	88	241	4 h 5 m	211	3 h 17 m

Data Source: Casinocity.com.

\* MGM National Harbor expected data from worldcasinodirectory.com.

\*\* The distance from Richmond to Portsmouth is about 100 miles, or about 1 hr 30 min drive time.

## II. Economic Impacts of Casinos

In this section we discuss the most commonly discussed economic impacts of casinos. These impacts include earmarked tax revenues from casinos, impacts on employment and wages, and effects on other firms and industries.

### *Tax Revenues*<sup>7</sup>

One of the most important reasons that policymakers consider the introduction of casinos is for the potential tax revenues. We can get an idea of what casino taxes might be expected in Hampton Roads by reviewing some of the empirical literature to see what other jurisdictions have experienced.

While the evidence suggests that, on average, the introduction of a casino will lead to increases in overall tax revenues, the relationship is not as strong as one might imagine. Many regions have experienced only modest net increases in overall tax revenues because spending in casinos may replace some spending that would have occurred in other retail, restaurants, bars, hotels, and amusement sectors. In other words, although overall tax revenues may increase because of the

<sup>7</sup> A more comprehensive analysis of casino taxes can be found in Walker, D. M., & Jackson, J. D. (2011). The effect of legalized gambling on state government revenue. *Contemporary Economic Policy*, 29(1), 101-114. The material in this section is based on that paper.

introduction of a casino, we should also expect certain sectors of our economy to be negatively impacted by a casino. These negative effects will be smaller if a casino attracts a large percentage of its patrons from outside of Hampton Roads.

Why, then are politicians often adamant in their support for casinos as a tax revenue tool? One possible explanation is that casinos provide a large political benefit to policymakers because it is often much easier to increase casino taxes than it is to raise income, sales, or property taxes.

Another tax-related motivation for the introduction of casinos is that the introduction of casinos in a state may be a strategy of “import substitution.” If a Virginian travels to Maine for a vacation, we can think of the tourism spending as imports to Virginia. This is because the Virginian has spent money in another state. Traditional imports are usually goods brought into a country (or state), but a tourist spending money out of state is conceptually similar. In both cases, the person pays money to purchase something produced elsewhere. It is nearly impossible to accurately estimate just how much money Virginians spend out-of-state each year on casino gambling. If a casino were to be introduced in the Hampton Roads area, some portion of that amount – along with the tax revenue – would remain within Virginia.

Whatever the actual economic impacts of casino taxes, they are a primary argument used by the industry and supporters in promoting the legalization and expansion of the casino industry. As casinos have spread across the country, some states (e.g., Delaware, Indiana) have actually been considering lowering the tax rates on casino revenues because of increasing regional competition. It is unclear whether casinos in any particular state will continue to have the fiscal stimulus effect they may have had in the past. This is because it is likely that as casinos continue to spread, they will begin nearing a saturation point in which more square footage results in no significant increase in net casino revenues. However, given that casinos have not expanded significantly in the Southeast U.S., a Hampton Roads casino would likely be immune to significant regional competition, at least in the short term.

It is difficult to estimate how much casino revenue a Hampton Roads casino might earn each year. The amount depends on the local population, the amount of tourism, the size of the casino, and how much individuals spend at the casino, among other factors. However, we can provide a rough estimate by looking to another market. Kansas City is a large metropolitan area that has a well-established casino industry.

According to the 2010 Census, the population of the Kansas City metro area was about 2 million people. Casino revenues, for all Kansas City, Missouri, casinos, was just over \$700 million in 2010. Thus, annual per capita casino spending was \$350 that year. We could use this in estimating Hampton Roads potential casino tax revenue, but it is important to keep in mind some important differences between Kansas City and Hampton Roads. For example, Kansas City has

several casinos, not just one. In addition, the casino industry in Kansas City is mature; casinos have been operating in Kansas City since May 1994. If we assume per capita spending of \$250 per person, then with a regional population of about 1.7 million, the annual estimated casino revenues for a Hampton Roads casino would be about \$425 million.

To the extent that Richmond residents might be interesting in gambling at a Hampton Roads casino, actual revenues would be higher. Given that Richmond is about equidistant between the National Harbor casino (D.C.) and Hampton Roads, it is difficult to predict how many Richmond residents to count in the Hampton Roads market. On the other hand, there are other factors noted above that might suggest casino revenues might be lower. In short, any estimate of casino revenues is going to be somewhat arbitrary.

Once we have developed an estimate of the potential casino revenue from a Hampton Roads casino, it is relatively simply to predict casino tax receipts. In Table 2 we provide estimates under different assumptions about annual casino revenues (rows) and the tax rate applied to casino revenues (columns). Most states apply taxes from 20-30%, although casino tax rates range from around 6% up to almost 70%.

**Table 2.** Estimated annual casino tax receipts

Annual Casino Revenues	Tax Rate on Casino Revenues		
	20%	30%	40%
\$350 million	\$70 million	\$105 million	\$140 million
\$425 million	\$85 million	\$127.5 million	\$170 million
\$500 million	\$100 million	\$150 million	\$200 million

A reasonable estimated range of casino taxes that could be raised from a Hampton Roads casino is \$70-150 million. (A more accurate estimate would take an in-depth analysis and market study, which are beyond the scope of this chapter.) This range assumes modest casino revenues and about average casino tax rates, and it is consistent with the estimate by the HRTPO (2013).

Perhaps more important than the above estimate of casino tax revenues would be the net tax effect of introducing a casino. To the extent that casino expenditures come at the expense of other expenditures, we would need to subtract lost sales tax revenue because of decreased spending on other goods and services. However, even if we do this assuming each dollar spent at a casino would have been spent on something else, there would still be a large positive net tax effect since the sales tax rate is much lower than the likely casino tax rate.

## *Employment and Wages*<sup>8</sup>

Casino proponents point to local employment as one of the key economic benefits of casinos. It is true, of course, that a large casino resort is labor intensive to build and to operate. So it would be surprising if casinos did not, in fact, have a positive impact on local employment. If casinos create enough jobs to stimulate demand in the local labor market then casinos may also have a positive impact on wages.

In this section we offer a projection of the employment and wage impacts of a casino being opened in the Hampton Roads area. Specifically, we estimate the county-level employment and wages effect of a new casino if it were to be located in one of three areas: (1) Hampton/Newport News, (2) Portsmouth, and (3) Virginia Beach.

As with casino taxes, one concern about the employment impacts of casinos is whether casino jobs come at the expense of other local businesses. Several studies have examined this “substitution effect” with empirical evidence. The majority of studies have found at least modestly positive employment and wage effects from casinos. One study on employment and payrolls in several Mississippi counties found that...

“the legalization and subsequent development of casino gaming did not drive all the local restaurants out of business. Casinos did not cause the predicted drop in the number of businesses, nor the drop in people employed, nor the drop in payroll. In fact, just the opposite occurs.”<sup>9</sup>

However, a recent Canadian study warns,

The evidence presented in this paper suggests that a skeptical approach be taken regarding the use of employment and earnings gains to justify the legalization or expansion of casino gambling within a locality. Any expectations of new jobs or earnings

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<sup>8</sup> Some of the material in this section is adapted from past work by the author, including (1) Walker, D. M. (2013). *Casinonomics: The Socioeconomic Impacts of the Casino Industry*. New York, NY: Springer. (2) Part 2 of Spectrum Gaming Group (2013), *Gambling Impact Study*. Tallahassee, FL Florida Legislature. Employment and earnings estimates are based on the analysis by Cotti, C. (2008). The effect of casinos on local labor markets: A county level analysis. *Journal of Gambling Business and Economics*, 2(2), 17-41.

<sup>9</sup> Hashimoto, K., & Fenich, G.G. (2003). Does casino development destroy local food and beverage operations? Development of casinos in Mississippi. *Gaming Law Review*, 7, p. 101-109. Other studies that examine the employment and/or wage effects of casinos include: (1) Morse, E.P. & Goss, E.A. (2007). *Governing fortune: Casino gambling in America*. Ann Arbor, MI: University of Michigan Press. (2) Garrett, T.A. (2004). Casino gaming and local employment trends. *Federal Reserve Bank of St. Louis Review*, 86(1), 9-22. (3) Humphreys, B.R., & Marchand, J. (2013). New casinos and local labor markets: Evidence from Canada. *Labour Economics*, 24, 151-160.

enhancement should be considered short-term and narrowly-focused within the gambling and hospitality industries. Broad employment and earnings gains in other local industries outside of gambling and hospitality should not be expected.<sup>10</sup>

Perhaps the most comprehensive and authoritative study to be published on the employment and wage impacts of casinos in the United States is by Cotti.<sup>11</sup> Cotti also finds positive employment impacts of casinos along with very small or insignificant wage impacts. After a review of this study, we use the estimated employment and wage effects by Cotti to predict the likely impact of casinos in the Hampton Roads area, in each of three locations: Virginia Beach, Portsmouth, and Hampton City/Newport News.

Cotti (2008) collected employment, wage, and operating firm count data for 28 quarters (1990-1996) on all counties in the United States, except in Nevada and New Jersey. Among his sample, there were 161 counties which had casinos open within their borders during his sample period. Cotti used a variable in his model to indicate each county and each quarter during which a casino was opened. There was no distinction made between tribal casinos and commercial casinos.

Cotti's estimates focus on two types of county-level data. He analyzes "All Industries" in the counties, as well as a sub-set of industries, categorized as "Leisure and Hospitality." The leisure and hospitality industries include two sub-sectors, "Arts, Entertainment, and Recreation" (NAICS 71) and "Accommodation and Food Service" (NAICS 72). The former classification includes:

- (1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing;
- (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and
- (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby and leisure-time interests.<sup>12</sup>

The Accommodation and Food Services sector includes "establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption."<sup>13</sup>

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<sup>10</sup> Humphreys, B.R., & Marchand, J. (2013). New casinos and local labor markets: Evidence from Canada. *Labour Economics*, 24, 151-160.

<sup>11</sup> Cotti, C. (2008). The effect of casinos on local labor markets: A county level analysis. *Journal of Gambling Business and Economics*, 2(2), 17-41.

<sup>12</sup> <http://www.bls.gov/iag/tgs/iag71.htm> (Accessed 25 March 2015)

<sup>13</sup> <http://www.bls.gov/iag/tgs/iag72.htm> (Accessed 25 March 2015)

One important factor in estimating the likely employment and wage effects of a new casino is the casino hosting county's population. A casino resort would represent a large business in a county that has a small population, such as a rural county in Virginia. In such a case, the estimated county-level impact of casinos on employment and earnings would be relatively large. Alternatively, a casino resort would represent a relatively small component of the economy in a very populous county, such as that in Virginia Beach, and would therefore be expected to have a small impact on employment and earnings, in percentage terms. Cotti's results bear this out.

When controlling for county size, Cotti find much smaller impacts for large population counties. The potential casino locations considered in this report for Virginia (i.e., Virginia Beach, Portsmouth, Newport News/Hampton City) all fall into the large population county group. The estimated impacts Cotti found for large population counties are shown in Table 3. These are the estimated employment and earnings effects that would apply to a casino opening in Hampton Roads.

**Table 3:** Estimated large population county effects of casinos

Sector	Employment Effect	Earnings Effect
All Industries	+ 0.28%	- 0.12%
Entertainment (NAICS 71)	+17.6%	+ 7.89%
Hospitality (NAICS 72)	+ 0.65%	+ 1.1%
Weighted Average of Entertainment and Hospitality Sectors*	+ 3.61%	+ 2.28%

Source: Cotti (2008, p. 34).

\* Weighted average calculations by Walker.

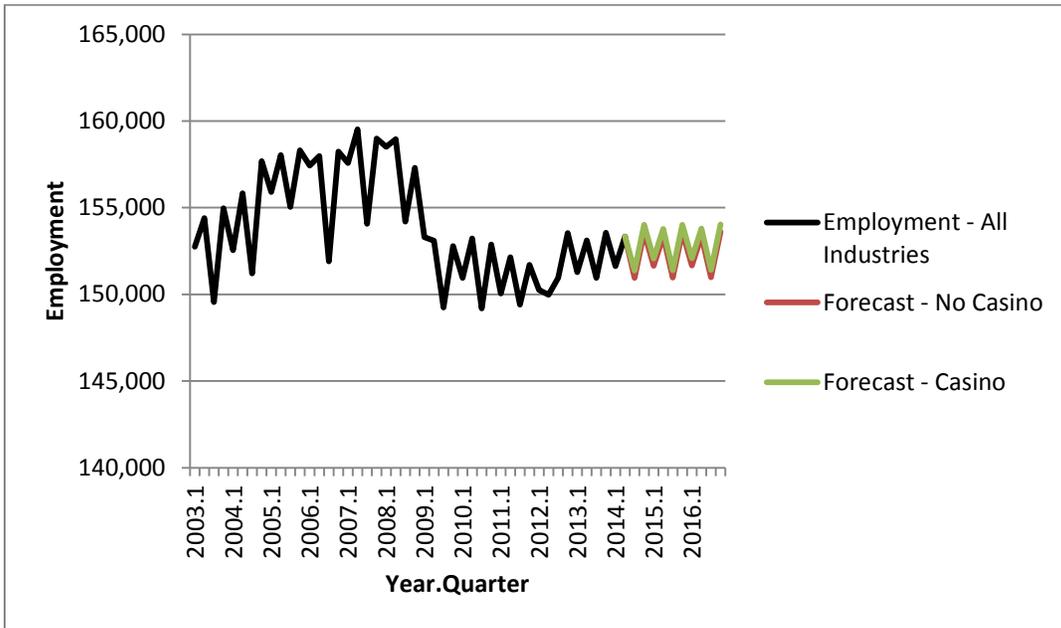
As indicated by the results above, the likely overall impacts on employment and earnings from a Hampton Roads casino are relatively small. However, the results indicate that there would be a modest positive impact on the entertainment/hospitality sector of the economy. These results echo those of the Canadian study quoted above.

It is important to note that, according to Cotti's results, there would not likely be any significant employment or wage effects on neighboring counties to the casino county. This means that the modest employment and wage effects shown above are assumed to be confined to the particular county hosting the casino.

Next we use data from Newport News/Hampton City to illustrate. Figures 2 and 3 show the employment and earnings impacts if a new casino was opened. The figures show projected impacts on All Industries and the Entertainment & Hospitality sectors, using the weighted average impact on the entertainment and hospitality sectors (Table 3). The graphs illustrate actual data through the last available quarter, 2014.2. The forecast data assume a casino opens during the 3<sup>rd</sup> quarter of 2014, and there is a one-time casino effect on employment and wages.

**Figure 2. Newport News/Hampton City – Employment effects of a casino**

**A. All Industries**



**B. Entertainment & Hospitality Industries**

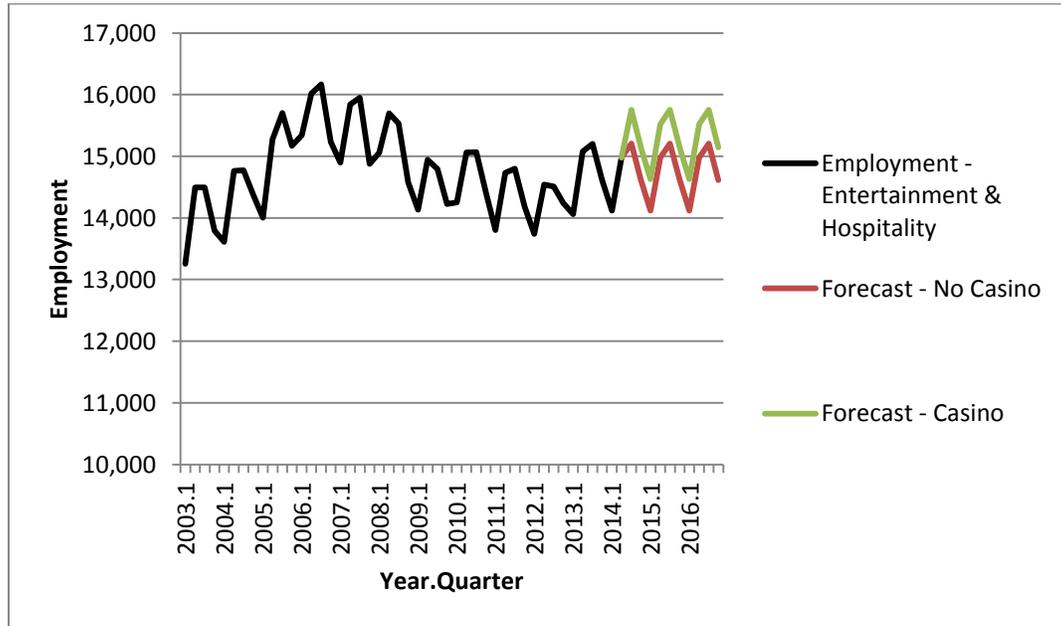
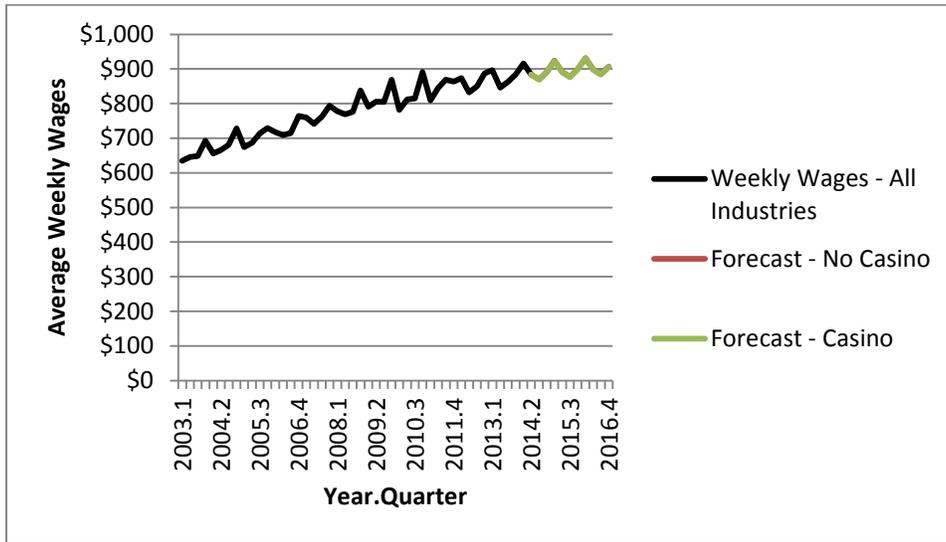
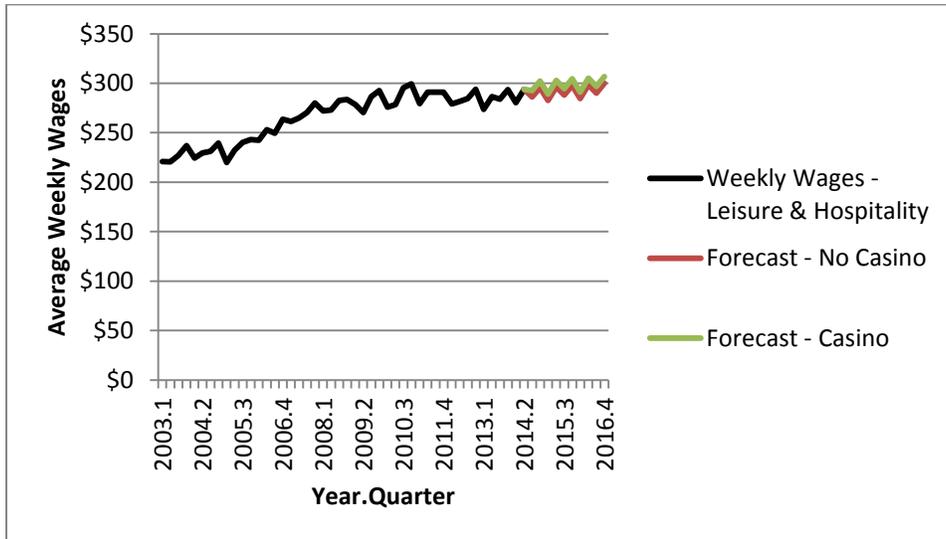


Figure 3. Newport News/Hampton City – Wage effects of a casino

A. All Industries



B. Entertainment & Hospitality Industries



The figures make it clear that there is likely to be a very modest impact on employment – mainly confined to the entertainment and hospitality industries – and a very small earnings effect from a new casino.<sup>14</sup> Nevertheless, the new employment would be a benefit.

Table 4 provides projected “All Industry” employment and earnings effects for three Hampton Roads jurisdictions, again assuming the impacts estimated by Cotti, as shown in Table 3, above. Table 5 follows, showing the projected impacts only on the “Entertainment & Hospitality” sector.

**Table 4:** Projected “All Industry” change in employment and earnings with casino opening

Jurisdiction	Employment Effect (Number of Jobs)			Earnings Effect (Weekly Wages)		
	No Casino (2015Q3)	With Casino (2015Q3)	Est. Change	No Casino (2015Q3)	With Casino (2015Q3)	Est. Change
Newport News/ Hampton City	150,972	151,395	423	\$877.75	\$876.69	-\$1.06
Portsmouth	44,098	44,222	124	\$932.47	\$931.35	-\$1.12
Virginia Beach	172,136	172,618	482	\$744.60	\$743.71	-\$0.89

**Table 5:** Projected “Entertainment & Hospitality” change in employment and earnings with casino opening

Jurisdiction	Employment Effect (Number of Jobs)			Earnings Effect (Weekly Wages)		
	No Casino (2015Q3)	With Casino (2015Q3)	Est. Change	No Casino (2015Q3)	With Casino (2015Q3)	Est. Change
Newport News/ Hampton City	15,206	15,754	548	\$288.09	\$294.66	\$6.57
Portsmouth	2,792	2,893	101	\$285.31	\$291.82	\$6.51
Virginia Beach	30,508	31,609	1,101	\$328.67	\$336.17	\$7.50

Based on the employment and wage projections here, we can safely assume that a casino would have a modestly positive impact on employment, particularly in the entertainment and hospitality sectors. However, the overall employment and wage impact of a casino on a large community in the Hampton Roads would be minimal. Most of the job expansion in the entertainment and hospitality sectors would likely come at the expense of other industries.

<sup>14</sup> The projections use each variable’s trend, based on average quarterly change from 2003-14. Future values were projected by taking the last same-quarter observation and adding the trend. So if employment increased at a 0.5% rate, and the 2014Q2 employment was 10,000, then we predict the 2015Q2 employment at 10,050, calculated as 10,000\*1.005.

## *Inter-industry Impacts*<sup>15</sup>

Whenever a state or locality is considering the expansion of legalized gambling, it should consider the likely impact a casino will have on other gambling industries. This is because, from the consumer's perspective, one type of gambling may be a good substitute for another. That is, a person who routinely purchases lottery tickets may decide to frequent a new casino, rather than buy lottery tickets. Such an effect on a large scale could have a real impact on the state's tax receipts. In Virginia the only other significant form of legal gambling is the state's lottery.

There have been a variety of studies that have examined the relationships among different gambling industries, particularly between lotteries and casinos. Most of these studies indicate that there is, in fact, a "substitute" relationship between the two gambling industries. In particular, the introduction of casino gambling is likely to have a negative impact on lottery ticket sales.

The most recent, and perhaps more "micro-level" analysis of the impact of casinos' impact on the lottery, was recently done in Maryland.<sup>16</sup> The analysis used zip-code level monthly lottery sales data in Maryland to determine the impact that casinos have had on lottery sales. Their analysis concluded that casinos in Maryland had a negative impact of about 2.75% on annual lottery sales. Two additional casinos that will be opening in Maryland are forecast to cause another 2.6% decline in lottery sales. Then all together, the six Maryland casinos are predicted to cause a reduction in lottery sales of around 5%.

If a casino were to be opened in Hampton Roads, there would likely be some negative impact on local lottery sales, perhaps a decline of 2-5%. However, the total impact would not be as large as what was found in Maryland. This is because Maryland has casinos located throughout the state, so that most of the state's population has easy access to casinos. A single casino in Hampton Roads would only impact local casino sales which would be insignificant with respect to the state's total lottery sales. It is worth noting, however, that the casino at National Harbor is likely to dampen Virginia sales near that casino.

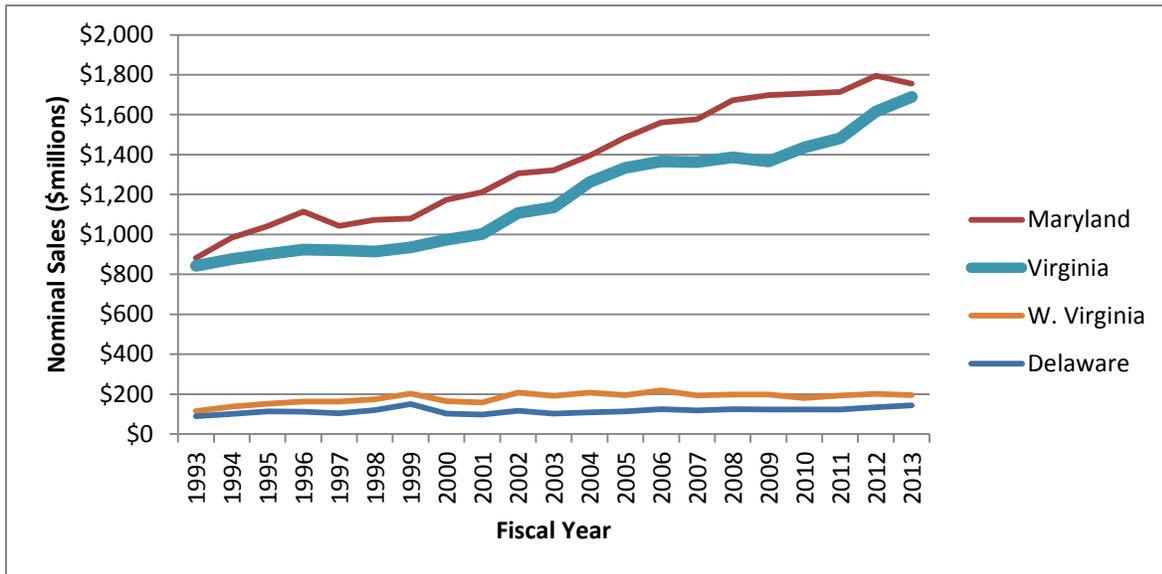
The lottery in Virginia has been successful relatively to nearby states and states across the U.S. Figure 4 illustrates nominal lottery sales for fiscal years 1993-2013. As shown in the figure, since the recovery from the 2007-09 recession, the Virginia lottery has seen a strong increase in sales from about \$1.37 billion in 2009 to \$1.69 billion in 2013. A new casino in Hampton Roads would have very little impact on the state-level lottery performance in Virginia.

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<sup>15</sup> For a detailed analysis of this issue, see chapter 18 of Walker, D. M. (2013). *Casinonomics: The Socioeconomic Impacts of the Casino Industry*. New York, NY: Springer.

<sup>16</sup> See Walker, D.M., & Cummings, W.E. (2015). The effect of casino proximity on lottery sales: Zip code-level evidence from Maryland. College of Charleston working paper.

**Figure 4.** Nominal lottery sales, fiscal years 1993-2013\*



Data source: Walker, D.M., & Cummings, W.E. (2015). The effect of casino proximity on lottery sales: Zip code-level evidence from Maryland. College of Charleston working paper.

\* The data include traditional lottery sales only; VLT revenues are excluded.

### III. Social Costs of Gambling

Casinos can be beneficial to a local economy because they provide an additional entertainment option for consumers, may attract tourists, and may stimulate local employment and tax receipts as discussed above. Yet, casinos are not a panacea for economic woes. As noted earlier, some of the benefits of casinos may be offset by losses in other industries. In addition, one of the key arguments against casinos is that they may be responsible for significant social costs.

The social costs of gambling have received a lot of attention in the literature, especially during the 1990s when casinos were first beginning their spread across the United States. Most of these costs, which we describe in more detail below, are attributable to individuals who develop a gambling problem akin to alcohol or drug abuse. That is, problem gamblers are individuals who gamble to an extent that it disrupts their personal or professional life, or causes them financial stress or ruin.<sup>17</sup>

<sup>17</sup> The terminology for and diagnosis of this condition has changed over time. “Disordered gambling” is the latest term adopted by the psychology profession.

Problem gamblers often engage in anti-social behavior. Studies that have attempted to measure the social costs of gambling have included negative impacts including crime, political corruption, bankruptcy, drunk driving, suicide, divorce, incarceration and problem gambling treatment.

Although there have been several studies that have attempted to provide monetary estimates of the social costs attributable to problem gambling, most of these studies are seriously flawed. This is because the studies have not defined “social cost” prior to estimating their values. The result is that most social cost estimates are derived from completely arbitrary assumptions.<sup>18</sup>

### ***Comorbidity and Problem Gambling***

The fundamental reason that nearly all social cost estimates in the literature are arbitrary is that they do not take into consideration that pathological gambling, more often than not, occurs simultaneously (“comorbidity”) with other disorders. This means that individuals who have a gambling problem often have another disorder, such as alcohol or drug abuse, or compulsive shopping. One study estimated that 73% of pathological gamblers also have an alcohol use disorder.<sup>19</sup> In addition, the researchers found that 38.1% of problem gamblers have had a drug use disorder at one point or another in their lives. Mood disorders affected roughly 50% of pathological gamblers, 41% had anxiety disorders and almost 30% had obsessive-compulsive personality disorder. Other studies find similar results.

There are very serious implications of these comorbidity issues, with respect to the social costs of gambling. Specifically, if *most* problem gamblers also have at least one other psychiatric disorder, then it is inappropriate to attribute all of the social costs – however we may define or measure them – to the gambling disorder alone. Moreover, the fact that in most cases the gambling problem follows the onset of other disorders, suggests that the gambling may not be the primary disorder.<sup>20</sup> Yet, I am unaware of any social cost study that has attempted to partition costs among the various disorders that commonly afflict problem gamblers. This means that virtually every social cost study has overestimated the social costs of gambling. For this reason, it may be more enlightening to focus on problematic behaviors and effects of gambling disorders, rather than focusing on their monetary measurement.

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<sup>18</sup> For a full discussion, see chapters 13 and 14 of Walker, D.M. (2013). *Casinomics: The Socioeconomic Impacts of the Casino Industry*. New York, NY: Springer.

<sup>19</sup> Petry, N.M., Stinson, F.S., & Grant, B.F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiological Surveys on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 66(5), 564-574.

<sup>20</sup> For a more detailed discussion, see Shaffer, H.J., Hall, M.N., Vander Bilt, J.V. (1997). Estimating the prevalence of disordered gambling behavior in the United States and Canada: A meta-analysis. Kansas City, MO: National Center for Responsible Gaming.

### ***Prevalence Rate***

Approximately 0.4 to 2.0% of the general public is thought to be afflicted with a gambling disorder. This rate does not seem to vary by region or through time.<sup>21</sup> Although there is some evidence that the introduction of a new casino may lead to at least a short term increase in the rate of problem gambling, evidence indicates that this rate falls back to around the previous rate as time passes.<sup>22</sup>

The Hampton Roads area is home to about 1.7 million people, so it is safe to assume that there are already between 8,500 and 34,000 problem gamblers in the area (the range calculated as 1.7 million times 0.5% and 2.0%). The number may rise somewhat if a casino is introduced, but would return to about this level in the long run, according to the adaptation theory of problem gambling prevalence. Therefore, one could argue that any increase in the social costs of gambling attributable to a new casino in the region would be of temporary duration.

### ***Casino and Crime***

As noted above, pathological gamblers may engage in criminal activity to finance their gambling activities, they may be more likely to file for bankruptcy and get divorced. In addition, they may face higher incarceration rates, accumulate debts they cannot pay, and be less productive on their jobs. Psychologists have studied the problematic behaviors associated with gambling problems, and are continuing research on treatment options. These negative impacts of problem gambling are worth consideration prior to the introduction of casino gambling to an area.

By far, the most common concern about a new casino is whether a new casino will act as a catalyst for crime. There have been numerous studies of crime rates before and after the introduction of casinos. There are at least two theories of crime that suggest there may be a link between casinos and crime. One is the economic theory, which suggests that criminals are rational, and that the decision to commit crime is based on a comparison between expected costs and benefits.<sup>23</sup> Casinos may be a catalyst for criminal behavior since they may attract criminals because casino patrons are likely to carry large amounts of cash. The routine activities theory of

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<sup>21</sup> Petry, N.M., Stinson, F.S., & Grant, B.F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiological Surveys on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 66(5), 564-574.

<sup>22</sup> This is referred to as an "adaptation effect." See Shaffer, H.J., LaBrie, R.A., & LaPlante, D. (2004). Laying the foundation for quantifying regional exposure to social phenomena: Considering the case of legalized gambling as a public health toxin. *Psychology of Addictive Behaviors*, 18, 40-48.

<sup>23</sup> Becker, G.S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76, 169-217.

crime explains that three simultaneous conditions – likely offender, suitable targets, and a lack of enforcement against crime – create the ideal atmosphere for criminal activities.<sup>24</sup>

In a recent review of casino and crime rate studies, I provide an overview of sixteen different studies of casinos and crime that were conducted from the mid-1980s until about 2010.<sup>25</sup> The markets studied included cities such as Atlantic City, Biloxi, and Reno; states including Colorado, Wisconsin, and Indiana; and various counties in various states. Among the sixteen studies reviewed, eight studies found no casino-crime link, six studies find that casinos unambiguously increase crime, and two find mixed results.

Among the six studies that find a casino-crime link, I argue that *none* adjusted the population measure by the number of tourists. This suggests that in these studies, the estimated crime rate overstates the actual crime rate. However, among the eight studies that found no casino-crime link, seven did adjust properly for the visiting population. Thus, it appears that how the crime rate is measured may be a critical determinant of whether casinos lead to more crime.

The published evidence is mixed. But given the controversy over how crime rates have been calculated, it appears that there is no solid evidence that casinos in fact cause higher crime rates.

#### **IV. Summary and Conclusion**

Every market is different, so it is difficult to project exactly how a casino might affect the Hampton Roads area. But over the past two decades research has provided an increasing array of empirical evidence on the economic and social impacts of casinos. In this chapter we have examined some of the key costs and benefits that would potentially accompany a new casino in Southeast Virginia.

Among the benefits typically sought with the introduction of a casino are the tax revenues and employment. Research has suggested that, although the tax benefits may be modest, they may be politically advantageous for policymakers and taxpayers. Casino taxes are a type of voluntary tax; if a person wishes not to pay, they can simply avoid the casino. In the case of Hampton Roads, a new casino could surely reduce the burden of various bridge and transportation fees.

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<sup>24</sup> Cohen, L.E., & Felson, M. (1979). Social change and crime rate trends: A routine activity approach. *American Sociological Review*, 44, 588-608.

<sup>25</sup> Chapter 16 of Walker, D.M. (2013). *Casinomics: The Socioeconomic Impacts of the Casino Industry*. New York, NY: Springer.

Recent empirical evidence suggests that casinos do have a positive impact on local employment, at least at the county level, in casino markets. However, this effect is very modest. At the aggregate level, one should not expect much change in employment or wages at all. However, there would be somewhat larger positive impacts on hospitality and entertainment industry employment and wages, but these advances may come at the expense of other industries, at least to an extent.

Perhaps the largest benefit of a casino in the Hampton Roads area would be the benefits to consumers who like casino gambling. The new casino would provide a new entertainment option for them, and would reduce the travel time for them to the closest casino.

On the cost side, there is really sparse evidence that casinos cause much in the way of social costs. However, measurement of social costs is fraught with methodological problems, the most serious of which is the fact that most problem gamblers also have other psychological problems such as drug or alcohol abuse. Research suggests that, although the introduction of a casino may lead to a short-term increase in the prevalence of problem gambling in the area surrounding the casino, the rate would be expected to fall back to the pre-casino level in the future.

Many casino critics have suggested that casinos may cause an increase in crime rates. However, most of the studies that have found such a link have failed to adjust their crime rate for the tourist population, with the likely result of over-stating the crime rates in casino jurisdictions. Therefore, there is not sufficient evidence to believe that casinos have an impact on local crime rates.

Taken as a whole, research suggests that there are likely to be a variety of effects of a new casino. There are some economic benefits and some negative social impacts. But overall, the magnitude of these impacts are likely overstated by both casino advocates and opponents. The largest impact is likely to be benefits to consumers who like casino gambling. But policymakers are typically more concerned with creating new jobs and tax revenues. Although the evidence suggests that there would likely be such benefits from a Hampton Roads casino, their magnitude is likely to be insignificant.

Ultimately, the best factor to consider in deciding whether to welcome a casino to the Hampton Roads area might just be whether most residents would like having convenient access to casino games. However, there will also be a significant number of people who have NIMBY (“not in my back yard”) concerns who believe that a casino might change the character of the community for the worse. Although there are no definitive answers, in this chapter we have reviewed most of the issues that will arise in the debate over whether Hampton Roads should have a casino or not.

## Appendix

Summary of SB 716 Virginia Casino Gaming Commission; regulation of casino gaming, penalties.

Creates the Virginia Casino Gaming Commission as the licensing body for casino gaming. The bill specifies the licensing requirements for casino gaming and imposes penalties for violations of the casino gaming law. Under the bill, casino gambling shall be limited to localities in which at least 40 percent of the land area is exempt from local real property taxation pursuant to federal law or subdivisions (a) (1) through (a) 5 and (a) 7 of Section 6 of Article X of the Constitution of Virginia. The bill requires proceeds of the gross receipts tax and admission tax imposed on casino gaming operators to be paid as follows: (i) 10 percent to the locality in which the casino gaming operation is located and (ii) 90 percent into the Toll Mitigation Fund, which shall be used to mitigate the tolls established to support construction and maintenance of the Dominion Boulevard Bridge and Roadway Improvement Project and the Downtown Tunnel/Midtown Tunnel/Martin Luther King Freeway Extension Project.

Source: <http://leg1.state.va.us/cgi-bin/legp504.exe?151+cab+SC10114SB0716+SBREF>