

# 4 Economic Development

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The focus of this study has been the determination of whether net new output (and jobs and employment) have been created statewide in Missouri as a consequence of casino gaming.

*Leven, Phares, and Louishomme (1998)<sup>112</sup>*

Build the Stadium – Create the Jobs!

*Noll and Zimbalist (1997)<sup>113</sup>*

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**CHAPTER SUMMARY.** Those who believe that they can evaluate the social desirability of casinos by the number of associated jobs have confused one question with another. More geographically local jobs may or may not have anything to do with economic development, which is defined as the increase in the residents' **welfare** or well-being. Net export multiplier models, which are easily manipulated, estimate the number of jobs that introducing a new business to an area will attract or lose. This is a different question than asking whether casinos increase or worsen the well-being of an area's residents. Here, we correct erroneous thinking about economic development and explain the reason why **job multiplier models** are an untrustworthy tool in the hands of a user with an outcome to justify. Many examples of misuse come from another public issue – the

building of major-league sports stadiums using tax dollars – showing that the problem, though it is a concern in casino-industry studies, is not special to them. In this chapter, we do two things. In addition to explaining why jobs are independent of true economic development, we review the workings of multiplier models, which answer a separate but valid question in their own context: What is the impact of a business on the number of local jobs?

Economic development is often thought to be synonymous with job creation. Yet, nowhere on the list of theoretically correct benefits and costs of introducing casinos into an economy do jobs appear. According to experts, “it is important to realize that a metro area’s existing residents may not benefit at all from net job creation.”<sup>114</sup> An observer might be excused, therefore, for being confused about why the focus of casino proposals seems almost exclusively concerned with whether they will create “jobs.” Even economists have been drawn into making the same mistake.

How does a jobs focus reconcile with true costs and benefits? This chapter answers this question by defining what we mean by economic development and returning to basics concerning the value of a job: what the benefit to the average city resident is if an additional job is created somewhere in town, and how the *real* benefits to society – profits, taxes, direct consumer benefits, and improved prices – are related to the number of jobs, if at all. Chapter 5 then provides a theoretically accurate foundation for cost–benefit analysis applied to the casino sector.

## **JOBS AND ECONOMIC DEVELOPMENT**

**SUMMARY.** A faulty emphasis on jobs derives from an erroneous understanding of economic development. Jobs are neither necessary nor sufficient for economic development, which is the enhancement of the welfare or utility of households from given resources. Jobs might sometimes be an input

into economic development – the means to an end – but they are not the end itself.

To answer the question, “What is economic development?” recall what the creation of **wealth** is. When individuals undertake productive activity, they engage in the creation of goods and services that provide greater welfare or satisfaction than the inputs used. Paint and canvas, for example, are rearranged in the hands of a master painter into a work of art that has more value than the components had previously. A barber provides grooming that is more valuable to the customer than the value to the barber of the time given up. Consumer utility rises when activities are pursued and productive assets are used in better ways. If society can reorganize so that someone is made better off without making anyone worse off in the process, the welfare of society is enhanced. Money and prices provide a convenient measure of the value of productive activity. When paint and canvas worth \$100 become a painting worth \$10,000 a month later, the painter has generated income of \$9,900 over that month.

Income is a flow per unit time, whereas wealth is a stock. Wealth is the claim to something of value. Income that has not been used for consumption can be used to acquire wealth. Claims to some assets have value to buyers because of expectations about how the assets will produce a flow of income in the future. When these expectations change, the value of the assets may change up or down, leading to **capital gains or losses**. With proper accounting for capital gains and losses, wealth is the accumulation of unused (i.e., unconsumed) income.

Economic development is the creation of greater value by society from its available resources. Greater value can result from a greater quantity of activity, activity that is more valuable, or both. Economic development means greater income and wealth, which lead to greater utility for members of society. The following constructed examples show that job creation is neither necessary nor sufficient for economic development.

In the first example, let casinos be introduced into a community of ten thousand employed individuals. Residents are indifferent between frequenting a casino or one of the town’s racetracks, and they are indifferent

between eating at the casino or at one of the other available restaurants, so they choose randomly when they go out. The casino causes the demise of one of the nearby racetracks and takes business from neighboring restaurants. The casino hires 100 employees, but these are matched by the loss of 100 jobs at other businesses, and casino revenues are matched by reduced revenues at those other businesses. The net effect is the enlargement of the casino sector matched by an equal shrinkage of the rest of the economy. In this example, no economic development takes place because greater value is not created. Casinos in this example act much like another restaurant might in a town with many existing restaurants: the new entrant takes business from others, shifting the location of activity but not increasing it.

From this example, one might conjecture that hiring by a new business need not indicate an increase in jobs and that the failure to create jobs means there is no economic development. It is true that hiring by a firm may not represent job creation. However, the second and third examples show that economic development is not necessarily linked to job creation: development may occur with or without a net increase in jobs.

In the second example, assume that casinos attract clientele from the surrounding areas. Local residents do not gamble. Casinos hire 100 new employees who move in from surrounding regions, paying them out of casino revenues earned from outside clientele. In this example, the non-casino local economy continues to employ ten thousand people, whose earnings are unchanged and who buy and sell as before at unchanged prices.

In this case, regional net new jobs are created, but there is no economic development. The local economy is enlarged and employment rises 1 percent; however, this enlargement provides no benefits to residents. In a different example, we might have included discussion of **amenity benefits** or costs to the local residents. For example, if the casino caused congestion or noise problems to those living nearby, they would be harmed. On the other hand, if the presence of new residents due to the casino allowed a new shopping center to locate near the casino employees' homes, and some of the existing residents found it more convenient

to shop there, this would be a positive amenity benefit that would need to be valued in some way. Although the conclusions of the example would not be as precise as before, the overriding point would be the same: the increase in jobs is not the measure of utility benefit.

In the second example, as originally constructed, casinos operate de facto like a tollhouse that uses the town as a platform for conducting its business. Money enters and money leaves. Although total economic activity *in the vicinity of the town* rises, shifting the location of jobs without an increase in well-being is not economic development, even though the local economy experiences enlargement. Viewed from the national perspective, this example could be consistent with casinos operating like restaurants in the first example: increased employment in the casino sector is matched by reduced employment in other sectors. It is generally accepted, for example, that employment in Nevada is larger at the expense of lower employment in California, from where many Las Vegas clients come.

The third example shows that economic development can occur without job creation. Assume that casinos begin operation and hire 100 employees, but cause the number of jobs in other sectors to shrink to 9,900. Because gambling is so desirable to residents and outsiders alike, the casinos earn higher profits than other businesses in town and bid up the prevailing wage rate. Housing prices also rise due to the willingness of casino owners to pay higher prices. Residents are better off because they can gamble nearer to home than before – this is an amenity benefit that provides them greater welfare – and they receive higher wages for their labor, which also makes them better off, and their housing experiences capital gains. Because the work of the 100 casino-sector employees generates greater profit than the profit lost from the businesses whose employment shrank, the total of wages and profits of all business is higher. Casinos have brought economic development without a net increase in jobs.

In the first example, casinos did not increase jobs or provide economic development; in the second, casinos provided jobs but no economic development; and in the third, casinos provided economic development

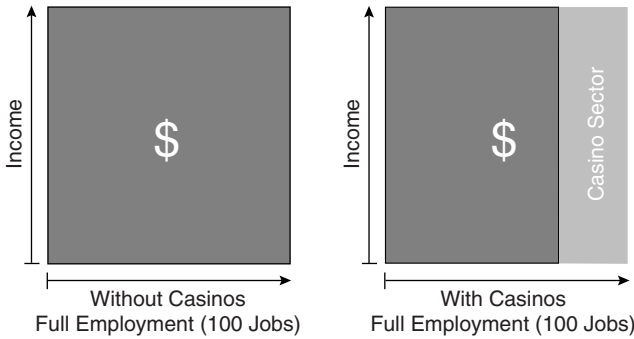


Figure 4.1. Jobless Growthlessness: Casino Employment Displaces Local Economy Jobs without Improving Resident Well-Being

but no net increase in jobs. Which principle explains the different outcomes? Anything that increases the value of social product leading to greater welfare of residents is economic development; anything that does not is not. Job creation is immaterial unless it happens to be a vehicle for increase in social value.

Schematic diagrams can be used to display the ideas presented. In Figure 4.1, the left-hand rectangle plots the number of jobs in a geographical region on the horizontal axis and plots income on the vertical axis. The area of the rectangle is the value of output – a measure of total well-being of the area’s citizens. Holding other things fixed, economic development would be reflected in an increase in the height of the rectangle.<sup>115</sup> Residents are better off when they generate a higher value of output and, therefore, have higher incomes, which convert to greater value available for consumption. The right-hand rectangle in Figure 4.1 shows the same economy with a casino sector added. Casinos employ workers, so some of the area’s jobs are now in the casino sector. However, in the figure, these jobs come one for one at the expense of jobs in the rest of the economy, and there is no increase in the height of the rectangle. Thus, there are no net jobs created and there is no economic development. Of the four logical possibilities determined by whether there is growth or no growth, job creation or no job creation, this case would correspond to our first example of “jobless growthlessness.”

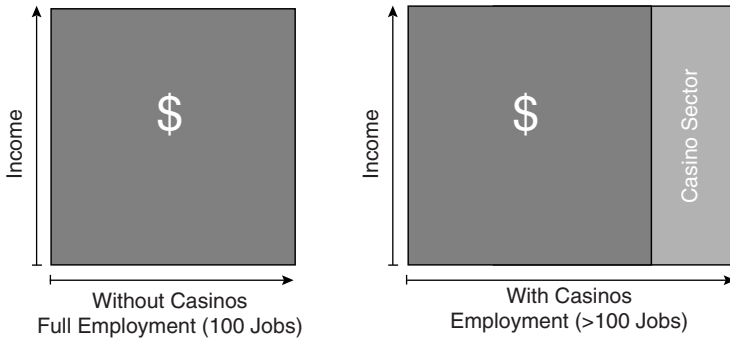


Figure 4.2. Growthless Jobs: Casinos Append Jobs to the Local Economy Without Improving Resident Well-Being

Figure 4.2 depicts the case of “growthless jobs,” which corresponds to the second example. Casinos append jobs to the local economy, but they do not represent economic development because they have no impact on improving the conditions of residents. Casinos have shifted the geographic location of employment for those workers whose original employment was outside the region. If these workers were not casino employees previously, then their sectoral location was shifted as well.

Figure 4.3 shows the third possibility, in which the new industry – in this case, casinos – represents an improvement in well-being, true

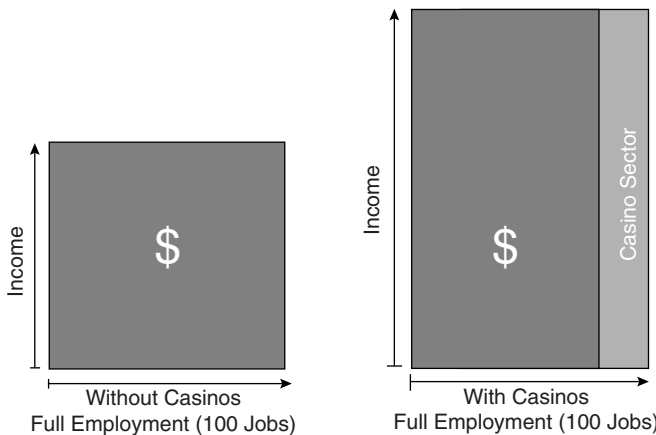


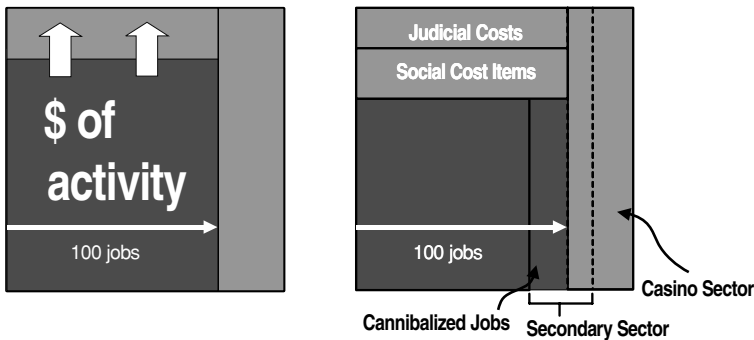
Figure 4.3. Jobless Growth: Resident Well-Being Is Improved by Casinos. (Growth is jobless in this example; net jobs are unchanged.)

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economic development, and growth because casinos are a superior activity for providing utility relative to the products and activities for which the casino resources were previously used. In the example, the total number of jobs is unchanged. For the economy as a whole, however, the average job is a “better job” in the sense that the total value of those things produced is greater.

The fourth possibility – the case in which the value of local output increases at the same time the number of local jobs increases – needs no diagram. We employ it to make the additional point, however, that measuring improvement in citizen well-being is a different question from those asked by multiplier models.

Figure 4.4 presents the fourth case in which casinos cause both an increase in the value of output and in the number of local jobs. The left-hand portion of the diagram shows an increase in employment (i.e., enlarged horizontal dimension) and an increase in value of output (i.e., enlarged vertical dimension). The right-hand side of the diagram shows that some new jobs are in the casino sector and some are in the secondary sector. Secondary and/or casino jobs that displace jobs in the noncasino part of the economy do not represent net job creation. These are referred to as *cannibalized jobs* in the profession. In the case diagrammed in Figure 4.4, some of the secondary sector jobs come at the expense of preexisting jobs.



**Figure 4.4.** Multiplier vs. Cost–Benefit Analysis: A multiplier analysis may show job and output gains, whereas a cost–benefit analysis shows that costs of the new activity exceed benefits and society is harmed.



Figure 4.4 also introduces a new element to the discussion, which is that some economic activity in the postcasino economy may not represent an increase in resident well-being. In the diagram, the relevant portion for calculating resident utility is the darker shaded area. As is clear from the diagram, this has decreased in size, meaning that citizens are worse off in the postcasino situation. The reason is that casinos cause costs to be present that must be paid by residents. The types of costs that might be present are discussed in more detail in Chapter 7. For now, Figure 4.4 represents them by judicial costs and social service costs. Judicial costs – paying for more police, judges, and government bureaucracy – for example, are not a benefit to residents, but rather a cost to them paid by their taxes. Considering costs and benefits is the function of a cost–benefit analysis. Although a multiplier model shows that both employment and output have increased, a cost–benefit analysis would show a loss in the well-being of residents. The multiplier model is not wrong, it simply is designed to answer a different question.

Presuming that true economic development takes place, meaning that citizen well-being rises, the resulting increase in social value is distributed to the members of society in different forms depending on circumstances. It could appear as higher profits to firms, greater taxes provided by businesses to cover government provision of welfare-enhancing services, capital gains to residents on their property, or a combination of these. Gains might appear as direct amenity benefits to households, such as nearer access to an activity that was already available. They also could appear in the form of better prices for consumers for their purchases. We will refer to the former amenity benefit as **distance consumer surplus** to distinguish it from the latter, referred to simply as **consumer surplus**. A firm that is located closer to the consumer provides distance consumer surplus, whereas a market entrant that causes the price for its product to fall provides consumers with greater (price) consumer surplus. A new firm might cause wage rates to rise, also providing households with greater consumer surplus – in this case, in the household's role as labor supplier. Economic development could appear in other forms as well, such as improved functioning of markets. For example, the

introduction of Internet auctions like eBay links markets, giving buyers lower prices and sellers higher prices for their goods. This also is an example of true economic development because both buyers and sellers are better off.

Nowhere in the preceding description of economic development is the creation of jobs an essential part of the discussion. Jobs matter only to the extent that they might in some cases proxy for one or more direct effects that benefit residents. Alternately, more jobs in an area might not be associated with *any* benefits to residents or even be associated with negative benefits. The point is that the worth of an additional job to residents is case-dependent.

The benefits and costs of a new business are precisely identified in Chapter 5. Using jobs as a shorthand or proxy for these other benefits and costs requires estimating how big the associated benefits and costs are, on a per-job basis. Promotional studies of the economic impact of a new business such as a casino frequently compute the effect on total jobs without completing the task of identifying how valuable to the economy the jobs are. Economists who have studied this question have found that the value to a metropolitan area of an additional job created could be zero, and tends to range from \$0 to \$1,500.<sup>116</sup> An increase in the number of local jobs may be associated with a rise in wages or house values. For those residents who are selling houses, a price increase is beneficial, just as a wage increase is beneficial to those selling their labor. Another area job, therefore, represents a gain to them. For those who do not own homes and are seeking to buy, higher housing costs represent a welfare loss. The \$0 to \$1,500 value per additional job represents an average over all of an area's residents. The value of a job could equal the lower bound of zero, and increased jobs in an area conceivably could even reduce the economic well-being of local residents.

Multiplier models – also sometimes referred to as *impact models*, *job multiplier models*, *net export multiplier models*, or *job impact models* – often conceptualize the economy as consisting of an export sector that sells to buyers outside the local region and the local sector that sells to buyers within the region. Expanding exports expands the **economic base**

by bringing new money into the local economy. If that money is spent locally, it expands the sales of local-sector firms who, in turn, increase their hiring and spending. If the local component of *their* spending increases, then the cycle continues. Increasing the economic base ultimately leads to a new equilibrium, in which output and employment in both the export and secondary sectors are enlarged. The size of the enlargement is captured in the **multiplier** that gauges how much an increase in the base results in an enlargement of the economy. If an increase in exports of \$100 leads to an increase in total output of \$200, for example, the multiplier is 2. The greater the propensity of local income earners to spend their money in the local economy, the greater the multiplier. Sophisticated input-output models divide the economy into more sectors and trace what each sector does based on its needs for inputs and the demand for its output.

Having explained that multiplier and cost–benefit analyses do different things, we turn our attention in the remainder of this chapter to pitfalls in the practice of multiplier analysis. Multiplier analysis is justified in its own context. It is objectionable only when it is done incorrectly or when it is used to address a question that it was not designed to answer. Chapter 5 discusses cost–benefit analyses.

## “MAJOR-LEAGUE LOSERS FIELDS OF SCHEMES”

**SUMMARY.** The decision by a community to host a major-league sports team is logically identical to the decision to host casinos: benefits are the presumed economic advantages that the new activity brings. Social costs are the expenditures on a stadium in the former case and the social costs of gambling in the latter. We can learn much that is relevant to the evaluation of casinos – indeed, any new industry – from studying the professional assessment of the decision to host a major-league team. In this section, we discuss why multiplier models are notoriously susceptible to manipulation, mistakes, misuse, and abuse.

Whether or not casinos cause jobs and whether or not jobs, in turn, represent economic benefits to residents is an empirical question. Like casinos, major-league sports teams have frequently been portrayed as

economic-development tools, especially by their owners. A useful analogy exists between their economics and the economics of casinos. Books with titles such as *Major League Losers*<sup>117</sup> and *Field of Schemes*<sup>118</sup> discuss the economics of sports ventures.

The social benefits of major-league sports consist of the direct consumer value to fans of a local team plus the increase, if any, in local income due to a net increase in profits and taxes, plus the effects to local residents of beneficial changes in wages and prices. Pittsburgh residents, for example, were willing to pay between \$0.83 and \$2.30 per resident to keep the Pittsburgh Penguins ice-hockey team in Pittsburgh, suggesting that the Penguins provided direct benefits to consumers.<sup>119</sup> The list for a casino is similar, except that a casino is less likely to provide consumer benefits with public-good-like positive externalities. No one expects to spend their fall afternoons watching broadcasts of professional gamblers at the local roulette table, for example, but the same individuals might enjoy watching a broadcast of their town's major-league sports team or take pride in the team's performance discussed over the office water cooler.

The social costs of a major-league sports team typically include the taxes to fund construction of a stadium for the team, plus public expenditures to deal with congestion problems such as traffic and crowd control. Since 1990, more than two thirds of the \$21.7 billion spent on stadiums has been contributed by the public.<sup>120</sup> The social cost of taxation exceeds tax collection by about 25 percent due to the economic distortions that taxes cause.<sup>121</sup> Hence, public expenditures financed by distorting taxes must be increased by 25 percent to accurately reflect the costs to society.<sup>122</sup> The social costs of casinos are not public payments for stadiums, but rather the cost of negative externalities such as crime, business and employment costs, bankruptcy, suicide, illness, social service costs, government regulatory expenditures, family costs, and the social costs of **abused dollars**. Chapter 7 discusses in detail the estimates of these social costs of gambling.

Major-league sports teams, therefore, bring entertainment to a community, but impose social costs in the form of subsidies to build and maintain stadiums. Casinos bring entertainment to a community, but

impose social costs in the form of negative externalities. Both are social issues because the costs they burden the community with must be paid even by those who may not participate in the sports events or gambling. Because the economics of major-league sports teams is so well developed, it offers a useful vehicle for discussing the economic-development aspects of casinos.

## JOBS

**SUMMARY.** Net export multiplier models are used to estimate the number of additional jobs in a region due to the introduction of casinos or other businesses. Additional jobs may or may not represent economic development. **Net exports** rise when a business causes more dollars to flow into a region than it causes to flow out. Applying a multiplier to the net-export number determines the impact on regional economic activity. For example, \$100 more flowing into a region than out, with a multiplier of 2.5, implies that there will be \$250 more income in the region and jobs will rise by the number needed to produce it.

Casinos, like sports teams, have relied heavily on the argument that they create jobs to counterbalance the perception that they create social costs. The previous discussion explained that jobs may or may not represent value to the area's residents. The same research has much to say about major-league sports teams – and, by implication, casinos – as creators of jobs.

It is possible that a casino could increase or decrease the number of jobs depending on how it operates and how it interacts with the existing economy. Consider again the different effects of a restaurant, a factory, or a tollhouse. We used these analogies when we showed that job creation is neither necessary nor sufficient for economic development. Now we use them to understand the different issue of when an industry or firm creates jobs within a specified geographical area.

A restaurant generally serves local residents and existing tourists. Adding another restaurant to a town that already has many increases employment in the new restaurant, but does not increase total employment. Because no new dollars are attracted from the outside, the restaurant re-

distributes money within the local economy, increased demand at one

location comes at the expense of demand at another. A restaurant in Central Park of New York City, for example, would employ workers and, in a small circle including the restaurant, increase the number of jobs. Some might call this economic development, but enlarging the circle to include Manhattan would mean that there is no net increase in jobs if the demand was shifted from other area restaurants.

A factory that exports its product to buyers outside the local area operates differently. New money is brought in from buyers outside the area and the revenues are used to pay local workers' wages, suppliers, and owners' profits. This money, in turn, is recycled by being spent in the region. Secondary suppliers arise to serve the secondary demands. New local jobs are created – both directly at the factory and in the secondary sectors. These represent a true net increase in local employment. A variant of the factory is a business that serves local demand that would have flowed to the outside had the local factory not been present. Meeting demand that might otherwise have been met by imports is called **import substitution**. Import substitution also leads to a net increase in local jobs compared to the no-factory alternative.

A third possibility exists whereby the firm collects money from local buyers and those outside the region, but the positive effect is negated because an equally large or larger flow of money goes out. The net effect is that the local economy is reduced to the role of being a collection booth for the industry. The impact could either be to expand or to shrink the local economy. A variant on the tollhouse is the extractive industry – one can imagine a mining operation – that produces locally and sells to the outside, but whose primary impact is to leave negative externalities to the local region, such as polluted lakes and streams. Would existing residents be better or worse off with such an industry? A casino that employed many outside workers, with owners that took their profits elsewhere and created negative consequences for the local population, might very well fail to enlarge the economic base at the same time that it left the local economy with higher costs.

No single firm or industry is essential to the achievement of full employment. The American economy has and will achieve full employment

a particular restaurant present, and so on. This means that, *within its geographical market*, major-league sports teams and casinos have no effect on the long-term level of jobs. Restaurants, factories, and tollhouses differ in their effect on the local economy because their geographical markets differ. The geographical market for a local restaurant and the local economy coincide. The restaurant shifts demand within the local economy and market, but does not increase it. The factory's geographical market is larger than the local economy and its exports of goods, therefore, shifts employment to the local economy from the rest of the geographical market. The tollhouse's geographical market could be larger or smaller than the local economy, but it has no impact on jobs because it does not redistribute revenues between the two.

Could a geographical region be so small, so isolated, and/or so devoid of resources that it could not support productive activity, and yet have residents needing work? In rare circumstances, these types of situations have occurred, but they did not create permanent unemployment. Western ghost towns that closed when their silver mines ran out of ore had residents who gradually drifted to better prospects elsewhere. Full employment was restored by the linking of labor with gainful activity in a more advantageous location. Insisting that employment take place in a particular location that has obvious disadvantages and drawbacks imposes an artificial external constraint on the system that lowers the long-term well-being of the economy. Nevertheless, let us construct such a worst-case scenario by assuming such a constraint, and let us further presume that only one business could operate in the region (e.g., a casino), so that the choice is limited to accepting the casino for employment reasons or finding work in a different location. Knowing which solution is better requires comparing the short-term costs of moving versus the long-term costs of negative externalities of the casino. Which choice is better depends on the numbers; however, we are again led not to count the number of local jobs, but rather to perform a cost-benefit analysis (discussed in later chapters).

Let us return to the discussion of how to determine the number of local jobs. The restaurant, tollhouse, and factory analogies explicate the

### The Bathtub Model<sup>1</sup>

The water level in a bathtub models the jobs-creation phenomenon. Taking water from one end of a bathtub and emptying it into the other has no effect on the tub's water level. (This is similar to the impact on jobs of a new restaurant in town that sells to preexisting demand.) If one adds more water to a bathtub than one removes, the level of water in the tub rises. The multiplier would correspond to supplementing the water in an amount proportional to the original increase. (This represents the impact of a factory in the factory example.) Finally, adding water to a bathtub and removing an equal or greater amount leaves the water level unchanged or lowers it. If water is lost to the bathtub, the multiplier works in reverse. (This explains the tollhouse case.)

<sup>1</sup> Thompson (1997b) discusses this analogy.

operate to predict the impact of a firm on the number of jobs in an economy. If a firm leads to an increase in the area's net exports (i.e., exports to the outside minus imports from the outside), and the net increase in money received is spent locally, there will be an increase in local economic activity. The increase will include the primary export activity, but it also will include the secondary businesses that spring up to meet the demand induced by the additional local spending. The net number of new jobs will include the jobs of the original enterprise plus the secondary jobs. The size of the secondary activity and the number of secondary jobs depend on the size of the multiplier, which reflects the way revenues earned by local businesses are spent in the local economy.

In the remainder of this chapter, we discuss several issues, such as reliability and manipulability, of which users of studies based on net-export models should be aware, and provide a detailed technical example of a multiplier model that incorporates relevant issues for describing the impact of a casino on area income and jobs including demand substitution



(i.e., **cannibalization**), recovered expenditures (i.e., **recapture**), demand leakages, and inflated multipliers.

## **MULTIPLIER MODELS: RELIABILITY**

**SUMMARY.** The reliability of studies based on multiplier modeling is an issue when backers (i.e., government or private business) of projects (i.e., major-league sports teams or casinos) produce the studies. Predictable abuses involve overstating the revenues gained, understating the revenues lost, and using inflated multipliers. The treatment of cannibalization, recapture, leakage, and inflated multipliers also has been criticized by outside expert reviewers.

Critiques of the ways in which net export multiplier models are misused are similar across applications. Knowing whether the business activity in question attracts more new money from outside than it causes to be lost to the outside requires knowing if the demand serviced by the business cannibalizes other local demand, whether the demand from local residents serviced by the business recaptures spending that would have gone outside the sector, how money obtained by the business is then spent outside the region (i.e., leakages), and how the entity is taxed and the taxes are used.

Errors in judgment can be introduced at each step. For example, industry promoters often treat all demand as if it were new. “The reality, however, is probably rather different.”<sup>123</sup> According to the National Research Council, “economic impact studies often fail to explain the potential for one expenditure to displace another.”<sup>124</sup> Goss & Associates concur that

many studies have exaggerated the impact of casinos due to

1. their failure to recognize offsetting negative impacts for other businesses in the area . . . [and] their recognition of each casino dollar as a “new” dollar for the area.<sup>125</sup>

Fort Wayne, Indiana, a medium-sized town of 675 thousand people, shows how this can happen.<sup>126</sup> The city is the site of a large portion

of the region's recreation. A random survey of 786 households found that 39.9 percent had made a trip to another city for a sporting event; 12.7 percent said they would cancel some trips if Fort Wayne had its own minor-league sports team. Working from the number of games that respondents said they would attend implied that only 11.9 percent of the revenues gathered by a new stadium would be new revenues for Fort Wayne. The number actually reported by promoters of the stadium project could easily exceed this number by a substantial margin, without drawing resistance or particular scrutiny by city officials or citizen bodies.

Research on the job-creating effects of major-league sports teams overwhelmingly shows that there is a difference between what independent researchers say and what the promotional research funded by the teams and team backers says. "The obvious question that arises," according to Noll and Zimbalist in *Sports, Jobs & Taxes*, "is why such [publicly paid] subsidies [to sports stadiums] exist. . . . Part of the answer may lie in a widespread belief that sports facilities are an engine of local economic development. Most of this book is devoted to demonstrating that this belief is mistaken."<sup>127</sup>

Numerous researchers have reached similar conclusions:

. . . Twenty-seven [of thirty cities studied] showed no economic impact on their local economy over a thirty-year period. . . . Far from generating new economic activity, as new stadium proposals continually assert. . . the new facilities at best seem to bring in dollars that otherwise would have been spent elsewhere in the immediate or general region.<sup>128</sup>

Few fields of empirical research offer virtual unanimity of findings. Yet, independent work on the economic impact of stadiums and arenas has uniformly found that there is no statistically significant positive correlation between sports facility construction and economic development (Baade and Dye, 1990; Baim, 1992; Rosentraub, 1994; Baade, 1996; Noll and Zimbalist, 1997; Waldon, 1997; Coates and Humphrey, 1999).<sup>129</sup>

Regardless of method, none of the academic studies has so far been able to find significant economic-development benefits sufficient to justify the large public outlays.<sup>130</sup>

[The conclusions of independent researchers] are in sharp contrast to the claims of the dozens of promotional studies that have been performed by consulting firms under contract with the affected city or team. . . . [The promotional studies] often confuse spending with spending that is diverted from other local activities . . . attribute all spending by out-of-town visitors to the sports team regardless of the motive for the visit . . . [overstate] the multiplier by ignoring crucial characteristics of sports spending . . . apply the inflated multiplier to gross spending, rather than local value added . . . [and] omit the negative effects from the taxation that is used to finance construction and operating deficits of the facility.<sup>131</sup>

[The commercial reports are] basically political documents.<sup>132</sup>

### Cannibalization

Among the reasons why the new business claims about economic development may be false are cannibalization, leakages, and multiplier mistakes.<sup>133</sup> Cannibalized dollars are revenues to a business that are taken from other local businesses. Cannibalized revenues are not new activity and should not be attributed to a casino or sports facility as net exports.<sup>134</sup> In the words of three different experts, for sporting events

“there is considerable evidence that out-of-state sports fans at most sporting events do not come to town because of the game.”<sup>135</sup>

“Economic research shows that people’s total spending on entertainment is not affected by the presence of a professional sports team.”<sup>136</sup>

“Most of the spending by fans at games is nothing more than the substitution of one form of entertainment (sports) for another (leaving the same number of dollars in the economy).”<sup>137</sup>

The importance of cannibalization varies. Among existing or proposed casino locations, New Orleans (especially during Mardi Gras), Hawaii, and Florida stand out as prime examples for cannibalization of outsider dollars. Jane Speyrer, economist at the University of New Orleans who worked on the study of New Orleans casinos, makes the point that “there’s not new money falling from the heavens waiting to be spent at the casinos. The question is: Where are you going to take it

from?"<sup>138</sup> Even if visitors to an existing or proposed New Orleans, Florida, or Hawaii casino were tourists, their demand should not be considered as new until the extent of cannibalization is known.

Eating out is particularly susceptible. "If a family eats dinner near the stadium or arena before a game, where did they not eat their dinner that night?"<sup>139</sup> Speaking for the restaurant industry, a food-industry executive expressed his concerns, "As it has evolved, I'm fearful for the [restaurant] industry. All over the country, restaurants are reporting 30, 40, and 50 percent declines. The dirty little secret is that [gambling] has become increasingly localized."<sup>140</sup> Several examples serve to make the point:

A fifty-four-year-old Des Moines eatery closed this month after more than fifty years. Owner Sue Floyd blamed Prairie Meadows, saying her inner-city restaurant lost 50 percent of its clientele to the casino.<sup>141</sup>

As soon as the casino opened a year ago, Marrero [former owner of Porto Coelli Cafe and Bakery a block from the casino] saw his business drop by half.<sup>142</sup>

The North Island Bistro, located about a block from the casino, saw its average Saturday night crowd drop from about 120 people to about 50 as soon as the casino opened, said owner Jean True. The restaurant cut its waiting and cooking staff in half.<sup>143</sup>

There does not seem to be a single source from which gamblers get their money when they gamble. Revenues to other forms of entertainment suffer, but so can nonentertainment expenditure. For example, it was the concensus of metropolitan pastors in Des Moines that casinos had a detrimental impact on charitable giving.<sup>144</sup>

### *Evidence on Cannibalization from Tax Receipts*

Some direct evidence exists showing how expenditures on other goods are affected by the presence of casinos and how far away these effects are felt.<sup>145</sup> To see which sectors are most affected by the opening of a casino, we obtained Kind-of-Business Tax receipts data collected by the State of Illinois. These data divide sales-tax collections into ten categories of expenditure: general merchandise; food; drinking and eating; apparel;

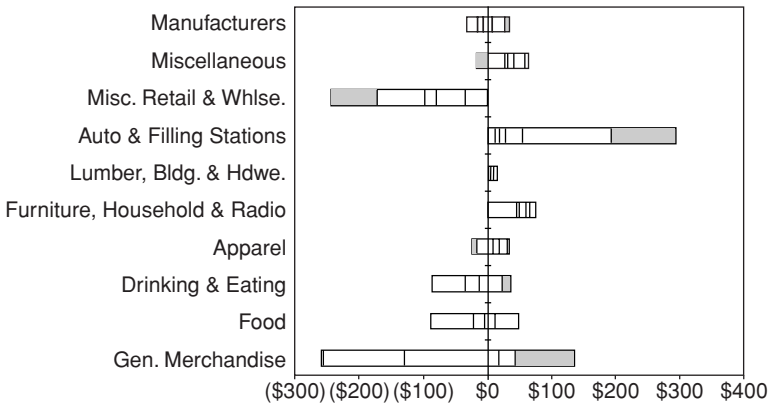


Figure 4.5. Sectoral Winners and Losers 0–10 Miles from a Casino: Sales Change per \$1,000 Increase in Casino Revenues

furniture, household, and radio; lumber, building, and hardware; automotive and filling stations; miscellaneous retail and wholesale; other miscellaneous; and manufacturers. By knowing the tax rate, we can calculate total market expenditures in each category. We collected twenty-one quarters of data, much of it by laborious hand-transcription, going back to the beginning of 1989. We separated collections into taxes reported by establishments situated within zero to 5 miles of the casino and within 5 to 10 miles of the casino. In some areas, data were collected for distances 10 to 30 miles away. Quarterly tax collections, state tax collections for the same category of expenditure, and casino revenues were adjusted for price-level changes. The sample of casino locations included Alton, Aurora, Galena, Joliet, Metropolis, Peoria, and Rock Island.

Figure 4.5 shows the average effect of an additional \$1,000 of casino revenue on the sales of the ten categories of merchandise. (The contribution to the average by each location is shown by the bar segments. Segments to the right of zero show gains; those to the left show losses.)

Three spending classifications show large effects. General merchandise as well as miscellaneous retail and wholesale trade stand out as the two categories of spending that show the greatest losses. Miscellaneous retail and wholesale revenues, showing an average loss of \$247, are also

notable in that all seven locations reported losses. General merchandise, showing a larger decrease among four locations, had three locations reporting positive effects. Net losses for the two sectors were \$367.

Losses in general merchandise and miscellaneous retail and wholesale expenditures suggest that casino revenues tend to come from a broad range of alternative expenditures rather than from one particular type of spending. This differs from the situation for the only sector showing gains in all communities.

Automotive and filling-station sales showed an average gain of \$295. Most of this effect is due to the two largest cases of Peoria and Joliet, suggesting that casinos enhance the sales of nearby gasoline stations in these locations. The impact for Peoria for this category of spending within zero to 5 miles of the casino was statistically significant, and for Joliet it was nearly so. The other locations reported smaller, statistically insignificant effects, but all were positive.

There does not seem to be an obvious pattern in the remaining seven sectors. The furniture, household, and radio category showed one positive and one negative statistically significant area, but the effects were relatively small; the other areas were statistically insignificant. More study will be needed before anything further can be said about these other seven sectors.

Figure 4.6 shows the losses in general merchandise and miscellaneous retail and wholesale trade in more detail by separating them by distance from the casino. The effect of an additional \$1,000 in casino revenue is to reduce sales in these categories by \$142 within zero to 5 miles of the casino, and an additional \$217 for businesses 5 to 10 miles away. The figure also shows the effect on these categories for distances 10 to 30 miles away based on a sample of Alton, Galena, Metropolis, Peoria, and Rock Island. The effect is small enough to be viewed as negligible. In all, the average loss for an additional \$1,000 of casino revenue was \$381 in these categories.

Figure 4.7 shows average gains and losses across all goods by distance from the casino. Distances farther from the casino generally show losses, whereas closer areas are mixed. The average lost revenue was \$195 for all

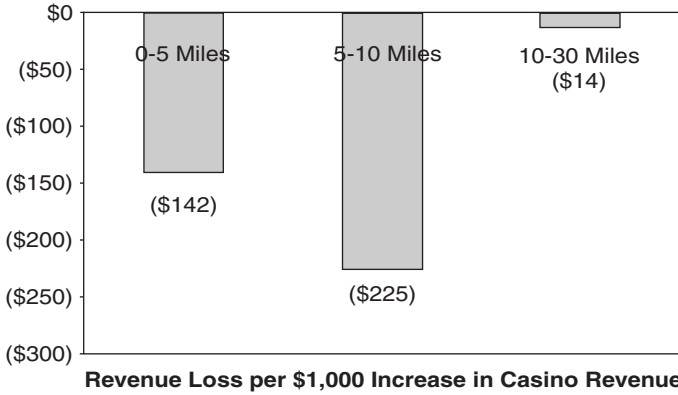


Figure 4.6. Average Losses by Distance from a Casino: General Merchandise, Miscellaneous Retail, and Wholesale Trade

sales between 5 and 10 miles from the casino. Gains occurring for sales within zero to 5 miles of the casino averaged \$170 dollars. Of the gains, \$112 is due to increased automotive and filling-station sales. The average loss for all goods zero to 10 miles from the casino is \$25.

To measure the average long-term effect of the casino on revenues for businesses between 10 and 30 miles away, total sales-tax revenues were regressed on casino revenues, total state sales-tax collections, and lagged state and local sales-tax collections for businesses 10 to 30 miles from the casino. Average revenue losses 10 to 30 miles from the casino were \$243 per \$1,000 increase in casino gross revenue. More studies of this type would have to be conducted to establish with confidence the degree of demand-shifting that occurs due to a casino. Results of the present

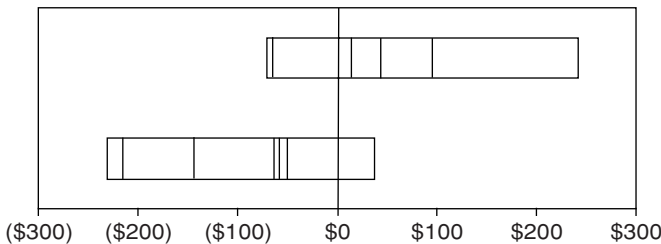


Figure 4.7. Gains and Losses by Distance from a Casino: Revenue Change per \$1,000 Increase in Casino Revenues, All Goods (0-5 Miles on Top, 5-10 Miles on Bottom)

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investigation, however, are consistent with economic theory. We did not find, for example, that consumers financed their gambling by choosing to reduce spending in a single category of spending. Rather, a range of alternative expenditures was affected. A consistent conclusion would be that sales in general near the casino tend to rise (or are mixed) at the expense of sales 5 to 10 and 10 to 30 miles away. It is possible in areas where eating and drinking *at* the casino form a part of the measured increase in revenues near the casino that eating and drinking establishments nearby actually suffer because our data do not distinguish between casino and noncasino sales.

### Leakage

Leakages to the local economy include a large portion of spending to purchase goods and services outside the metropolitan area. Many employees also may live outside the local area.<sup>146</sup> Player compensation is 55 to 60 percent of National Hockey League (NHL), National Basketball Association (NBA), and National Football League (NFL), team revenues, for example, so leakage from players who live elsewhere matters.<sup>147</sup> Casinos face similar concerns. In one location, for example, 532 of the casino workers lived locally, but approximately 400 did not.<sup>148</sup>

Profits and operating expenditures are another source of leakage. “These (casino) companies do not take their profits and throw them back into the local economy,” says Mr. Thompson, who has been a consultant to casinos.<sup>149</sup> State gambling commissions have taken to monitoring the share of expenditures that go out of state. In one case, 65 percent of vendor contracts for the state’s casinos involved out-of-state purchases. The range over the state’s casinos was 35 to 87 percent.<sup>150</sup> Two years later, a complaint by the state Racing and Gaming Commission found that only 11 percent of contracts put to the commission for approval were in-state.<sup>151</sup> The phenomenon is not restricted to one location. For instance, similar conclusions were reached in a study of casinos in Israel: “This *ex ante* evaluation shows that much of the output, income, and employment gains generated by a casino are likely to be captured outside the region, and that localized impacts are small.”<sup>152</sup>



## Multipliers

Once the effect on net exports is estimated, the net-export multiplier scales the effect to determine the ultimate impact on the local sector. Mistakes that lead to exaggerated multipliers are prevalent according to reviewers of the stadium literature. One device used to increase the multiplier involved changing the size of the area that is considered “local,” making it smaller when defining “new” spending (i.e., so a larger fraction of spending is from the outside) and making the area larger when the area of multiplier effects on production is considered (i.e., so less of the spending goes to the “outside” and the multiplier is larger). Incredibly, these assumptions have been made even in the same study!<sup>153</sup> As explained previously, if the amount spent by a casino outside the local area is underestimated (i.e., the leakage rate is high), the multiplier will be overstated. If the share of revenues earned by the casino that comes at the expense of other local spending is underestimated (i.e., cannibalization is high), the multiplier is applied to too great a base.

Moreover, multiple errors compound. If a 50 percent overstated multiplier is applied to 35 percent too high a base, the resulting estimate will be 100 percent too high. Greater errors have been made: “These studies assume that 2.5 total jobs are created for each initial observable job created from hosting a sports team. In contrast, the independent economic studies suggest that the appropriate local multiplier to apply to the gross jobs created from hosting a sports team is probably no more than 1.25.”<sup>154</sup> In a different example provided for a hypothetical baseball team, the multiplier model predicted an impact of \$760,000 where the true impact was only \$22,200, off by a factor of 34.<sup>155</sup>

## A NET EXPORT MULTIPLIER MODEL

**SUMMARY.** Although jobs multiplier analyses can be manipulated, are fraught with hazards, and do not measure what we commonly mean by economic development – the enhancement of the welfare or utility of households – we still might want to know whether a particular casino venture will increase or decrease the number of people employed in a defined geographical area.

TABLE 4.1. Representative Casino Use of Funds

Expenditures	Percent of Revenue
Payroll	32
Taxes	12
Depreciation	8
Interest & Profit	12
Other Operating Expenses	36
Total	100

Source: Arthur Andersen & Co., 1996. *Economic Impacts of Casino Gaming in the United States, Volume 1: Macro Study*.

Under what conditions does a casino create or destroy local jobs? The answer depends on the source of its revenues and how it uses its winnings.

Table 4.1 lists expenses for a typical casino. Approximately 32 percent of casino revenues goes to payroll; 32 percent goes to taxes, profits, interest, and depreciation; and the remaining 36 percent goes to other operating expenses, which include food and beverage for resale; administrative expenses; food, beverage, retail, and entertainment expenses; energy and utilities; advertising; retail goods for resale; and hotel-related expenses.

We will refer to profits plus depreciation plus interest as **gross profits**. Gross profits play an important role in the effect of a casino on the local economy. Precisely how gross profits are used in a given situation depends on how much was borrowed and what the local tax rates are. A casino operating without debt and with low taxes, for example, would pass more in profits to owners, whereas one with higher debt would pass less. In states such as Nevada, taxes on casinos are as little as 6.25 percent, whereas in states like Illinois, they are higher: in 2000, wagering taxes were \$474 million out of total revenues of \$1.66 billion, a rate of 28 percent.

To track the casino's effect on income, Figure 4.8 divides the economy into three sectors: (1) the casino sector, (2) the local (noncasino) sector, and (3) the outside sector (everything else). We are primarily interested

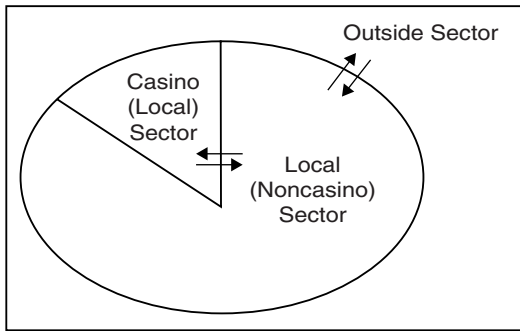


Figure 4.8. Schematic Representation of the Three Relevant Sectors for Casino Net Export Modeling

in the flows in to and out of the local sector. Table 4.2 summarizes these flows before and after the casino enters the market. The change between before and after is the effect of the casino.

A number of possibilities emerges. First, the casino might cause spending by locals that used to go to the outside to return home. Such dollars are called *recaptured dollars*, designated by  $R$  in Table 4.2. Recapture might occur, for example, if locals gamble on the outside but switch to the local casino when it begins operation. Another possibility is that spending by locals in the casino sector may be diverted from other local spending. This spending,  $C_L$ , would be cannibalized local dollars because the casino sector gains at the expense of other local firms. Spending in the casino by outsiders also may be cannibalized. For example, an area with visitors and tourists may find that they diminish their spending on other local attractions and spend it in the casinos instead. Cannibalized dollars  $C = C_O + C_L$  remove money from the local sector.

The presence of the casino may require increased police presence or infrastructure spending and maintenance by local government. This spending is captured in Table 4.2 by the term  $I$ . Next, the casino itself may leak money to the outside. Gross revenues of the casino go for operating expenses  $E$ , profits  $P$ , the wage bill  $W$ , and for taxes  $T$ . The share of each of these  $\sigma_e$ ,  $\sigma_p$ ,  $\sigma_w$ ,  $\sigma_t$  that go to the outside represent leaked dollars  $L$  that must be subtracted from gross revenues before the remainder goes to the local sector. There may be direct taxes  $T_D$  paid

to governments outside the local sector because of the casino. In our

TABLE 4.2. Effect of a Casino on Local Income Flows

Sectoral Flow Being Tracked	Before Casino	After Casino	Net (After—Before)
Local → Outside	$-R$	0	$R$ (Recaptured \$)
	0	$-T_D$	$-T_D$ (Direct Taxes to Outside)
Local → Casino	0	$-C_L$	$-C_L$ (Cannibalized Local \$)
	0	$-I$	$-I$ (Infrastructure \$)
Outside → Local	$V$	$V - C_O$	$-C_O$ (Cannibalized Outside \$)
Casino → Local	0	$G - \sigma_e E - \sigma_p P$ $-\sigma_w W - \sigma_t T$	$G - L$ (Casino Gross Revenue – Leakage to Outside)
Total			$G - L - C + R - I - T_D$ (where $C = C_L + C_O$ )
Multiplier Effect			$m(G - L - C + R - I - T_D)$

model, we assume that a small admission tax is charged that is paid to the outside. The net of all these flows, Gross Revenues – Leakages – Cannibalized Dollars + Recaptured Dollars – Infrastructure Spending – Direct Tax Payments ( $G - L - C + R - I - T_D$ ), is multiplied by the net export multiplier  $m$  to determine the change in local economic activity:  $m(G - L - C + R - I - T_D)$ . The number of jobs needed to produce this change in economic activity is the jobs impact of the casino. In more detailed analysis, different multipliers might be applied to selected components of the net flows, depending on how far the reviewer wants to track the details on how different flows enter the economy. These refinements are not necessary for our demonstration.

Based on Table 4.1, we assign the share of casino revenues  $G$  going to gross profits, taxes, payroll, and other expenses by the weights

$w_p = 0.2$ ,  $w_t = 0.12$ ,  $w_w = 0.32$ , and  $w_e = 0.36$ , respectively. Taxes paid from casino revenues based on  $w_t$  are separate from direct taxes  $T_D$ ; in our example, direct taxes are an admission tax of \$2 per patron visit. To simplify, we assume that local gamblers and those from outside spend similar amounts per visit. Thus, revenues from outsiders equal  $\theta ng$ , where  $n$  is the number of gambler visits and  $g = \$87$  is the amount spent per visit.<sup>156</sup> The casino of Table 4.3 admits 1,149.4 representative individuals so that its gross revenues are \$100 thousand.  $\theta$  will be a parameter that we adjust in our analysis, so we do not assign it a single value. We set the fraction of gambling by locals who would have gone to casinos outside the area if there were no local casino at 5 percent,  $s_R = 0.05$ ; hence, recaptured dollars are  $R = s_R(1 - \theta)ng$ . This number is intentionally small, but we include it to retain the effect it represents in the model. Many visitors to a city might be there for other purposes, stopping into a casino if one is available rather than finding other entertainment. In our example, we assume that 75 percent of gambling revenues from outsiders is spending above and beyond what they would have spent otherwise, implying that the share of cannibalized outsider dollars is  $s_O = 0.25$ . Following the literature, we set consumers' marginal propensity to consume out of income at  $mpc = 0.7$ .<sup>157</sup> Because the amount of gross profit that owners spend locally varies – owners often use money acquired in one region to finance their ventures in other regions, for example, or must pay off borrowing from outside lenders – we consider a range from zero to one for the share of gross profits,  $\sigma_p$ , spent outside. The local economy retains 25 percent of the taxes on casino gross revenue (e.g., the majority goes to the state), spending 90 percent locally,  $\sigma_t = 1 - 0.9 \times 0.25 = 0.775$ . We assume that 90 percent of payroll income is used locally:  $\sigma_w = 1 - 0.9 \times mpc$ . Casinos spend 14 percent of gross revenues on other expenses outside the local economy,<sup>158</sup> hence,  $\sigma_e = 0.14/w_e$ . We set infrastructure spending for the benefit of the casinos (e.g., crowd control by local police) at 1 percent of revenues:  $I = 0.01G$ .

The infrastructure figure does not include the social costs of harmful externalities caused by casinos; these are treated separately. If we use the

TABLE 4.3. Net Export Multiplier Model

Variables	
$G$	Casino gross revenues
$w_p, w_t, w_w, w_e$	Revenue shares for profits, taxes, wage bill, other operating expenses
$T_D$	Direct tax payments to outside
$\theta$	Share of gambling by outsiders
$n$	Number of gambler visits
$g$	Casino revenue per visit
$s_R$	Recovered local \$ (share of local gambler revenues that would have been spent outside if no local casino)
$s_O$	Cannibalized outsider \$ (share of outsider gambler dollars that would have been spent locally anyway if no local casino)
$mpc$	Marginal propensity to consume out of income used locally
$\sigma_p, \sigma_t, \sigma_w, \sigma_e$	Shares of profits, taxes, wage bill, and operating expenses spent by casino outside local sector
$I$	Infrastructure spending for benefit of casino
$C_L$	Cannibalized spending from locals
$C_O$	Cannibalized spending from outsiders
$V$	Tourist spending by visitors
Flows into Local Sector	
$G = ng$	Casino gross revenues
$R = s_R(1 - \theta)G$	Recovered dollars
Flows Out of Local Sector	
$L = \sigma_e E + \sigma_p P + \sigma_w W + \sigma_t T$	Leakage to outside from operating expenses, profits, wages spent outside, and taxes
$C = C_L + C_O$	Cannibalized dollars
$I = .01G$	Infrastructure expenditures
$T_D = n2$	Direct taxes
Identities	
$E = w_e G$	$P = w_p G$
$W = w_w G$	$T = w_t G$
$C_O = s_O \theta G$	$C_L = (1 - \theta)G$

figure for average number of visits per adult from Chapter 6 for those living near casinos of 3.64, 1,149.4 visits would represent 315 adults. Assuming that 1.3 percent of these adults become pathological gamblers – a not-unrealistic selection (see Chapter 8) – implies 4.1 pathological gamblers. Multiplying this by the annual crime, bankruptcy, and social service costs per pathological gambler in Chapter 7 implies social costs of \$17,454. Were all social costs including those borne just by the gambler included, the figure would be higher. Although these represent real resources removed from the local sector that can no longer be used for other productive purposes, the treatment specialists, lawyers, criminal justice personnel, and others whose work time must be devoted to dealing with harmful consequences of casinos do represent a part of the postcasino economy. Therefore, we continue to count their jobs and output as social product. However, the social costs are not ignored when well-being is considered. They are subtracted from the final postcasino, postmultiplier tally of domestic product. For example, assume that the casino leads to an increase in net exports of \$8 thousand and the multiplier is 2.0, so that the output of the local economy is increased by \$16 thousand. If social costs were not considered, this would look like wanted economic development. Because \$17,454 of the postcasino output represents the value of resources devoted to social costs, however, the net effect is that the remainder of the economy is smaller by \$1,454. The fact that the casino expanded the economy but required more than the expansion to pay for social costs is important for evaluating the desirability of the casino.

Table 4.3 lists model information and defines the variables and equations.

Table 4.4 shows the degree to which the local sector expands or shrinks, depending on the share of casino patrons who are visitors from outside and the share of gross profits spent outside the local sector. At one extreme, when casino patrons are entirely local residents and owners spend their profits outside the community, the model predicts that the casino drains the local economy of \$53,889 for every \$100,000 it takes in in revenues. Assuming a multiplier of 2.2 – this number might apply to a large city<sup>159</sup> – implies that the economy experiences a drop in income of

TABLE 4.4. Casino-Induced Net Exports (\$)

		Percent of Patron Visits from Nonlocals				
		0%	25%	50%	75%	100%
Percent of Gross	100%	-53,889	-36,389	-18,889	-1,389	16,111
Profits Spent Out-	50%	-43,889	-26,389	-8,889	8,611	26,111
side Local Sector	0%	-33,889	-16,389	1,111	18,611	36,111

Notes: Representative patron visits = 1,149

Casino gross revenues = \$100,000

more than \$118 thousand and loses the number of jobs needed to produce that value added. The local sector does not experience positive net exports. In fact, the break-even point for positive net exports is reached only when 77 percent or more of the gamblers come from outside the region. It was scenarios of this type that prompted *USA Today* to editorialize, “You can’t endlessly suck money from the pockets of local gamblers, send 20 percent or more to out-of-state operators, and not disrupt the local economy.”<sup>160</sup>

If the share of profits spent locally rises to 50 percent, then break-even occurs when 62 percent of gamblers are from the outside. If owners spend their profits entirely in the local sector, break-even occurs when 49 percent or more of gamblers come from outside the region. This is why it is so important to know what owners will be doing with their profits, information that is often lacking in industry impact studies and that may change over time.

Whether a casino shrinks or enlarges the local sector is sensitive to other parameters as well. For example, making a number of small adjustments – any one of which in isolation might plausibly be within the range of ignorance about the true figure, but each selected to show favorable effects of the casino – can lead to quite different conclusions. In our example, assume that the number of recaptured dollars contained in the gambling of locals is 10 percent of their spending instead of 5 percent, that cannibalized dollars from outside gamblers are 20 percent of their expenditures instead of 25 percent, that the marginal propensity to



consume out of income is 10 percent higher, that operating expenditures to the outside are 10 percent instead of 14 percent, and that all profits are spent locally. Making these combined changes would imply that just 33 percent of revenues must come from nonlocal gamblers for the casino to break even in creating net exports for the local sector.

Relative to publicized rules of thumb that two thirds or more of casino demand should be nonlocal if casinos are going to be engaged in more than redistribution and displacement of existing demand,<sup>161</sup> our model presents a more favorable assessment of casinos if we assume that profits are spent 50 percent or more locally. In general, the effect of a casino remains an empirical matter. The evidence in many cases is that demand does *not* meet even the modest bounds just identified. For example, in Montreal a study for Societe des Casinos Du Quebec found that just 9.4 percent of visitors were from outside greater Montreal and only 4.4 percent were from outside Quebec.<sup>162</sup> If the region being considered for job increase was Quebec or greater Montreal, this casino would come far short of increasing jobs. In Council Bluffs, 68 percent of casino clientele came from the Omaha Metropolitan Statistical Area and 91.7 percent from inside Iowa and Nebraska.<sup>163</sup> In Minnesota, when losses from all gamblers totaled \$590 million, only \$40 million, or 6.78 percent, was lost by gamblers from out of state.<sup>164</sup> A later study in the same state found that 80 percent of revenues in Indian casinos was from residents.<sup>165</sup> Survey research in Illinois found that about 80 percent of customers live within 35 miles of the casinos.<sup>166</sup> In the case of Elgin, only 2 to 3 percent of the Grand Victoria's customers come from out of state, according to the casino's own figures.<sup>167</sup> The concensus is expressed well in the words of a Chicago reporter: "Hopes for a tourism boom run counter to what industry experts have learned in recent years: gamblers stay close to home if given the chance."<sup>168</sup>

Although some casinos obviously do lead to increases in local jobs – Las Vegas is certainly larger at the expense of California – the claim must be examined on a case-by-case basis and the numbers carefully scrutinized. Unfortunately, studies of the economic-development effects of casinos often do not state which assumptions they are making about

necessary flows – yet, as the simulation shows, this matters greatly to the outcome. The model presented herein clarifies that the effect of a casino on local economic activity and the jobs that go with it depends on who the gamblers are, what casino owners do with their profit, and the way government uses tax proceeds. By the cumulation of small adjustments in assumptions, most or all of which the study's users would have no way to evaluate, such models can be made to give large or small predictions. Reporting to the National Gambling Impact Study Commission on the use of impact studies to evaluate the economic implications, Adam Rose and Associates (1998) commented on the lack of necessary data, imperfection of models, biased assumptions, and failure to report enough.

Most of the studies contained biasing assumptions or serious omissions. The most prevalent was the absence of negative impacts from external economic costs or substitution effects.<sup>169</sup>

They cited the use of inflated multipliers as another questionable practice,<sup>170</sup> a complaint also frequently voiced by academic reviewers of the studies of major-league sports stadiums.

## **INDUSTRY-SPONSORED RESEARCH: THE EVANS GROUP EXAMPLE**

**SUMMARY.** Multiplier models are prospective, predicting what impact a proposed business project may have. After the fact, data can be accessed using statistical and regression procedures to see if impacts materialized. The emphasis for such studies is often employment. According to research not sponsored by the casino industry, commercial casinos nationwide generated job losses in more than 42 percent of the counties with casinos.<sup>171</sup> On the other hand, no promotional study seen by the author has ever reported that a proposed casino would generate job losses. Here, we present an example of a study conducted for a member of the gambling industry, which readers can evaluate for themselves.

International Game Technology (♠IGT), a manufacturer of computerized casino gaming products and video gaming machines, and operator

of proprietary gaming systems, commissioned The Evans Group, an econometric consulting firm, to produce a study of the impact of the gambling industry in 1996. The September 9, 1996, press release for the resulting report entitled *A Study of the Economic Impact of the Gaming Industry through 2005* issued by ♠IGT reported:

States and localities that permit casino gaming have improved their overall economic performance. . . . The study. . . reports that **whenever casino gaming has been implemented, employment has risen, unemployment fallen**, and additional tax revenues have been generated. [Emphasis added.]

The Evans Group study describes impacts for individual states. We will briefly examine the findings related to Illinois, the state where the author resides. On page 4-3, the report states:

Based on these data, **it would appear that the opening of a casino reduced the unemployment rate** in that county in both the year it was opened and in the following year. The average employment in these eight counties . . . implies a total of 37,000 extra jobs. These multiplier figures are much higher than ordinarily obtained, and employment in these counties might have risen for other reasons as well. Nonetheless, **the figures do indicate that casino gaming has been a boon to these counties**, especially those that are more rural. [Emphasis added.]

Most casinos opened after 1991. The period 1991–96 covered by the study, therefore, coincided with the nationwide economic expansion coming out of the recession of 1990–91. Employment was rising and unemployment was falling in many counties, with or without the introduction of casinos. The authors, therefore, were right to feel uneasy. Their caution that “employment in these counties might have risen for other reasons” shows they knew that simple before-and-after comparisons finding declining unemployment and increasing employment proved nothing about the effects of casinos in a country recovering from recession. Figure 4.9 reproduces Figure 4-1 provided in the original study. The authors explain that the observed drop in casino-county unemployment rates exceeded the state average by 0.3 and 0.2 percentage

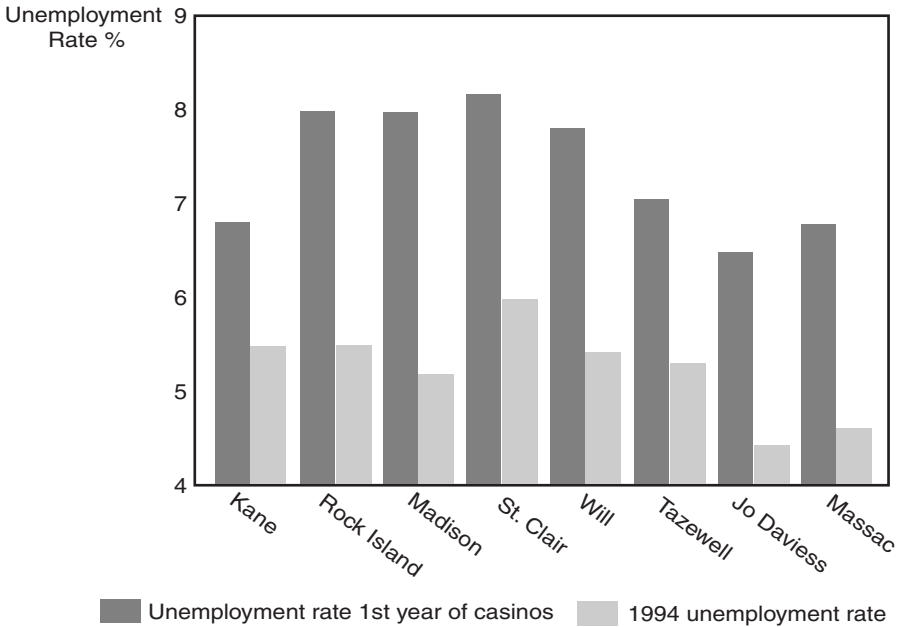


Figure 4.9. The Evans Group Study, Reproduced Figure 4-1

points on average in the first and second year after introduction, respectively. The authors’ conclusions are noted previously; the rest of the story follows.

The study gives the impression that counties that opened casinos experienced better economic performance than those that did not. However, Illinois contains 102 counties. We can select other counties that had the same unemployment rate (within 0.1 percentage point) as the casino county in the initial period and compare their performances directly (Figure 4.10). As shown in Figure 4.10, the unemployment rate dropped in all counties with similar initial unemployment. Some counties did better than casino counties, some counties did worse. From left to right, bottom row to top, the casino counties are numbers 6, 1, 3, 3, 3, 7, 3. Nineteen counties performed better than their casino cousins, nineteen performed worse.

A statistical test confirms that the drop in unemployment of casino counties is statistically insignificant from the drop experienced by the

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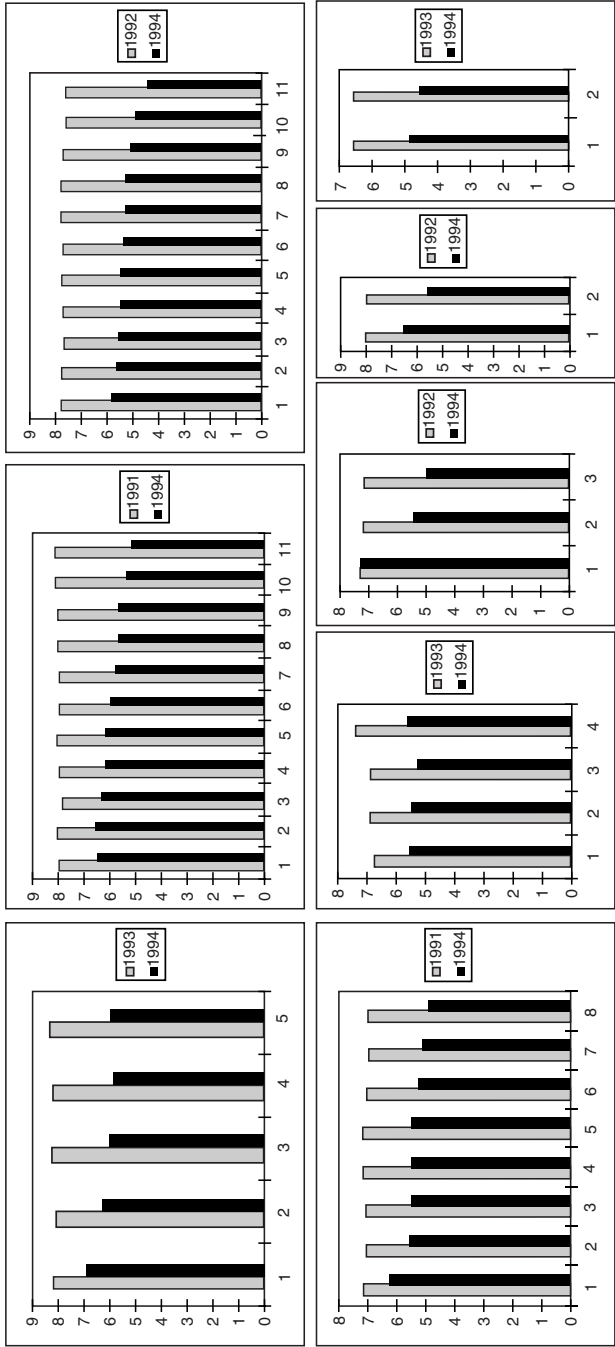


Figure 4.10. Beginning and Ending Unemployment Rates for Counties with Similar Beginning Rates: Casino Counties are Indistinguishable from Noncasino Counties

comparable noncasino counties shown in Figure 4.10. Let  $\Delta U$  denote the change in county unemployment rate minus the change in state unemployment rate for the same period, and let *Casino* identify counties that introduced casinos in the initial period (*Casino* = 1 if a county introduced a casino, 0 otherwise). Then running the following regression

$$\Delta U = a + b \text{ Casino} + \epsilon$$

reveals that coefficient  $b$  is 0.275 (consistent with the 0.2 and 0.3 percentage-point differences reported by The Evans Group), but with a standard error of 0.856, implying a P-value of 0.4. Coefficient  $b$  is, therefore, statistically indistinguishable from 0 at conventional levels.

## CONCLUSIONS

Confusion about economic development, jobs, and the social desirability of casinos is widespread. A similar confusion exists regarding the logically identical issue of the value of major-league sports teams to a community. A net export multiplier model, or a jobs multiplier model, asks:

- What is the effect on the number of jobs of introducing casinos into the economy?

A cost–benefit analysis asks:

- What are the economic costs and benefits of introducing casinos into the economy?

The first question is well defined and valid, but it is not an economic-development question because it does not ask about the well-being of area residents. The second question, phrased in cost–benefit language, is an economic-development question because it asks about the effect that the new industry has on the people. Net export multiplier models answer the first question by measuring the impact of the industry in question on revenue flows to the geographical area. If more revenues come in than leave, the industry expands the number of jobs in the geographical area.

Because it is *net new* flows that should be counted, it is easy to mistake or misrepresent flows that are not net or new for those that are and *vice versa*, making the models easy to manipulate. We constructed a model that explained the role of cannibalization, recapture, and leakages.

The difference between counting jobs and conducting a true cost-benefit analysis is easier to understand by considering that among the jobs a new industry might cause to come into being could be jobs that represent costs to society. Enlarging an area's employment base by 5 percent is not a welcome change if the new jobs are required for increased social caseworkers and police, for example. More social workers and police indicate problems that need attention. In short, counting jobs counts jobs; economic development is concerned with higher welfare. Chapter 5 discusses the question of how to measure the costs and benefits in a consistent, theoretically sound way.

