October 10, 2012

Jocelyn Evans
Chair, Department of Economics and Finance
College of Charleston
66 George St.
Charleston, SC 29424

Dear Dr. Evans:

This letter represents the cover letter portion of my application for sabbatical during the 2013-14 academic year. I would like to apply for a full year sabbatical term. My project title is The Incidence of Casino Gambling Taxes.

I propose to spend my sabbatical developing a theoretical model, collecting the necessary data, and testing the model, in order to provide evidence on the incidence of gambling taxes. The product of this research will be a significant contribution to the economics of gambling literature. It will also help to answer a very important public finance question related to a fast-growing industry in the U.S. and around the world. Finally, the project will expand my understanding and expertise in this research area.

The details of the project are provided in the attached sabbatical proposal, which includes a timeline indicating my estimates of how long each portion of the project will take. My research may be conducted partially in Charleston, but I am also looking at options for visiting short-term to work with gambling research colleagues. For example, I have been invited to be a visitor at the Division on Addictions at Harvard Medical School, which has an ongoing research program related to gambling. However, at this point, I do not have firm plans for where I will spend the sabbatical year.

Thank you for your consideration.

Sincerely,

Douglas M. Walker
Professor of Economics
THE INCIDENCE OF CASINO GAMBLING TAXES
Douglas M. Walker, Professor of Economics
October 10, 2012

Introduction

Legalized casino gambling has been an important policy issue over the past two decades. Almost all states have some form of legalized gambling, but commercial casinos operate in only 15 states.\(^1\) Casino legalization at the state level continues to be controversial, but casinos have received renewed interest among policymakers eager to find new sources of tax revenues and jobs. This interest has grown since the recession that began in late 2007. One of the controversies surrounding the expansion of legalized casinos is the impact gambling taxes have on the poor. Many authors claim that the burden of casino taxes falls heavily on those with lower incomes, making these taxes “regressive” in the terminology of the existing literature. Although numerous studies have examined the tax revenue, labor market, and regional economic growth impacts of casinos, many of the economic impacts of casinos appear to depend on region-specific characteristics.

I have been studying the economic impacts of gambling since 1996. This was the subject of my dissertation, and since then I have published more than 30 journal articles and one book on the topic. (I am currently working on a second book.) As one of only a handful of economists who study gambling, I am an internationally known expert in this area of research. Because I have been working in this area since it began to develop in the mid-1990s, I am very familiar with the literature, what issues have been addressed, and the issues that still deserve attention from researchers. My proposed sabbatical project addresses one of the most important, previously unexamined, issues: the incidence of casino taxes. That is: On which income groups or segments of the population do these taxes have the greatest burden?

Background on Excise Tax Theory

An excise tax is a tax similar to sales taxes. However, while a sales tax typically applies to all goods purchased, for example, at a Target store, an excise tax applies only to one specific good. For example, there is an 18.3\(^\text{c}\) federal excise tax on gasoline (per gallon) and a 16\(^\text{c}\) state tax in South Carolina. So when one pays \$3.55 for a gallon of gas, that price includes a 34.3\(^\text{c}\) excise tax which the gas seller must pay to federal and state governments.

Governments may impose excise taxes for several reasons: 1) to raise general revenues; 2) to pay for the cost of offering a specific good or service; or 3) to discourage the consumption of a certain good. The gas tax is used to finance the construction and maintenance of roads. State governments typically impose excise taxes on cigarettes and alcohol; these are called “sin taxes,” the aim of which may be to reduce consumption of the taxed goods. Taxes on gambling could be classified as sin taxes, but a major reason for legalizing gambling is to increase tax revenues.

One important tax issue that has received literally no attention in the gambling literature is the incidence of casino taxes. Tax incidence refers to the demographics of the individuals who bear the burden of a particular tax. Economists and policymakers judge the fairness of taxes, in part, on the extent to which the burden of the tax falls on relatively poor and relatively wealthy individuals. A “regressive” tax is one for which the relatively poor bear a disproportionate share of the tax burden relative to their income. As an example, suppose a \$1,000 tax is imposed on all people, regardless of their incomes. This tax is regressive because for a person with \$10,000 income it is a 10% tax. For an individual who has income of \$100,000, the tax represents only 1% of income. Most people would view such a tax scheme as unfairly burdening the poor. Social justice requires that the

\(^1\) This includes land-based and riverboat casinos, but not “racinos” (i.e., racetracks with slot machines).
wealthy pay a higher proportion of their income in taxes ("progressive" taxes). For example, if the person with $10,000 income pays a $1,000 tax (10% of income), and the person with $100,000 income pays a $15,000 tax (15% of income), this would be a progressive tax. The U.S. federal income tax is designed to be a progressive tax.

Tax incidence is an important public finance issue because it deals with tax fairness. One interesting and important fact about excise taxes is that the actual tax burden has nothing to do with the legal tax burden. Rather, what determines the actual tax burden is the relative elasticities of supply and demand (i.e., relative responsiveness to changes in price). In short, this means that whichever side of the market - supply or demand - is less responsive to changes in price will ultimately bear a larger share of the excise tax burden, regardless of the legal tax burden. For example, although the gas tax is imposed on companies, gas stations are able to partially shift the tax burden to consumers by raising gas prices.

Gambling Taxes

State lotteries are designed so that for each $1 lottery ticket sold, about 50¢ is returned to players in prizes, 20¢ pays for administration, and the remaining 30¢ is kept by government. This revenue is referred to as the "lottery tax." The overwhelming evidence from the literature suggests that the lottery tax is highly regressive. That is, lower income individuals spend a higher proportion of their incomes than higher income individuals on lottery products. This means that the lottery tax falls more heavily on lower income individuals. This fact is one of the most troubling aspects of state governments offering lotteries. Since now more than 40 states have state lotteries, the regressivity question may seem moot. However, with only 15 states with legal commercial casinos, the incidence of casino taxes is still a very important policy issue.

Although policymakers raise the tax regressivity issue when considering the introduction of casinos, most commentators have simply assumed that "gambling is gambling" so that the casino tax will mimic the lottery tax vis-à-vis incidence. In most states a tax is levied on the "gross gambling revenue," or the gambling revenue retained by the casino after paying winning customer bets. Tax rates vary by state, from around 7% in Nevada, up to 55% in Pennsylvania. Gambling taxes can represent up to 10% of a state's tax revenues.

There are good reasons to suspect that the incidence of casino taxes is different from that of the lottery tax. The purpose of this project is to study this issue and determine the incidence of casino taxes. The project should represent a significant contribution to the literature. I am not aware of any recent published study, or any researcher currently doing work, on the incidence of casino taxes.

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2 See Clotfelter and Cook (1989) and Stranahan and Borg (1998) for some examples. Garrett (2012) shows that different lottery products have different levels of regressivity and that, generally, higher priced games (e.g., $20 scratch-off tickets) are less regressive than lower priced games. Garrett finds that some lottery products are proportional (i.e., neither regressive nor progressive).

3 In most states lotteries were passed in part because their revenues were earmarked for some good purpose. For example, we have the South Carolina Education Lottery which supports education in various ways. However, as Rubenstein and Scafidi (2002) have shown, such earmarks may increase the regressivity of the lottery because the benefits of subsidizing college tuition, for example, generally accrue to higher-income individuals. In effect, then, the lottery taxes poor people disproportionately and subsidizes rich people.

4 The casino also pays federal and state income taxes, as applicable, but these taxes are not the focus of this project.

5 For several years the rate was 70% in Illinois, but it is now 50%. In many states the casino taxes are graduated, so that casinos with lower revenues pay a lower tax rate than casinos with higher revenues.

6 For a general discussion of casino taxes, see Anderson (2005).

7 The one exception is the study of Nevada casinos by Suits (1977). Suits found that casino taxes were progressive. But this study was done when Nevada was the only state in which casinos operated. Most casino patrons flew in to Nevada from other parts of the country and stayed in hotels. These customers would have relatively high incomes, of course. When Suits isolated Nevada residents, however, he found the casino tax to be highly regressive.
Technical Details & Timeline

In the case of casino taxes, whose statutory burden is placed on the supply side of the market, consumers may end up bearing a large share of the tax burden if demand is more inelastic than supply. If the tax is passed on to consumers, the casino tax would be regressive if lower income individuals represent a disproportionate share of casino patrons.

Determining the incidence of casino taxes will require a careful conceptual analysis, which will be much more complicated than analyzing the incidence of lottery taxes. This is because the lottery tax is collected by government directly from the consumer.8 So any tax revenue raised is certainly borne by the lottery consumers. The price of a lottery ticket is also very obvious (say $1 per ticket). In the casino case, although the casino bears the statutory tax burden (i.e., is required by law to pay the taxes to government), it is possible for the casinos to shift the tax burden to consumers by increasing the “price” of casino games. The extent to which casino prices rise as a result of the casino tax is a measure of the tax burden borne by casino customers. Demographics, then, would be used to determine the extent to which casino taxes are regressive.

The project will require several separate steps. [Estimated times are shown.]

1) [1 month] Detailed literature review.

2) [1 month] A theoretical model of the market for casino gambling must be developed, including how it is impacted by a tax. From this I will derive the equations which I will estimate using the data discussed in (3) and (4), below.

3) [2 months] Data on state-level casino taxes must be collected. These are generally available at the states’ gaming commission websites.9 The tax rate data may be somewhat complicated because, as mentioned previously, many states have graduated tax rates. It may be necessary to compare casinos in simple tax structure states, and omit more complicated taxing states.

4) [2 months] The price of casino games must be determined. The measure used should be one that can be aggregated at the state-level. This issue is potentially much more complicated than it might first seem. While it is simple to think of the price of a lottery ticket as $1, nothing tangible is being received from a casino bet. It seems inappropriate to think of the amount bet as the price, because if the consumer wins, they have more money than they started with. The expected value of the bet may be one way to conceive of the price. However, most casino gamblers do not just place one bet. They continue to bet their winnings.

Only one paper in the literature has seriously addressed the price issue (Siu 2011), and this paper helps to show how complicated the issue is. Siu (2011, p. 271) argues that the best conception of casino game price is product of the house advantage (negative expected value) and the minimum bet for the casino game. I have questions about this conception of price, and as a practical matter, it may be difficult to use for analyzing the incidence of casino taxes.

Another complicating factor regarding the price is that it is not immediately obvious what the casino “product” is. Should it be narrowly defined as the casino bet? Or should it include other amenities offered by the casinos, such as free drinks, meals, and other entertainment offered?10 Once casino price is established, an index comparing casino prices across different tax jurisdictions must be developed.

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8 There is, of course, the middle-man. But lottery ticket sellers are paid a commission by government, rather than setting ticket prices. Lottery revenue is effectively transferred directly from the customer to government, minus sellers’ commission.

9 For a previous study I collected tax revenues, but not rates, from commission websites (Walker and Jackson 2011).

10 For example, many casinos give patron alcoholic beverages as long as they are gambling. In a growing number of casinos, female dancers perform on a stage surrounded by casino games. This may be part of the casino “product.”
The development of a theory of casino price, which can be applied in empirical analyses will be a significant contribution of this project. I expect that the concept of price developed, and the data collected, could be used in a variety of studies on casino economics in the future.

(5) [2 months] Once data on casino tax rates, casino prices, and the demographics of casino patrons have been collected, the analysis of tax incidence can be started. A key to the analysis will be to determine the extent to which casino taxes fall on the patrons rather than the casinos themselves. This issue hinges on the extent to which casino games vary by tax jurisdiction (i.e., state). While the games themselves, such as blackjack and roulette, do not vary across states, if one includes other amenities in the casino product, then it becomes more complicated.

(6) [2 months] Write papers for journal publication.

Hypothesis and Anticipated Outcomes

My hypothesis is that casino taxes are progressive, or at least proportional. This finding, if supported by empirical evidence, would represent a major contribution to the literature and would suggest that casino taxes are perhaps preferable to lotteries, with respect to tax incidence. A key determinant of the tax incidence is whether or not casinos are able to shift the excise tax to their customers. My initial hypothesis is that casinos are not able to shift taxes to their customers.

The data collection and analysis in this project should result in high quality research papers. I can imagine at least two papers, one on casino prices and one on tax incidence, that could be published in good economics journals. After drafting the papers I will present each at an academic conference to receive feedback from other researchers. After revision, the papers will be submitted to journals. There are several high quality economics journals that would be appropriate targets for this work: Contemporary Economic Policy, Public Finance Review, National Tax Journal, and Journal of Public Economics. (I have published in the first two of these journals.)

As an additional outcome from this project, my understanding and expertise on gambling taxes would be expanded. This would be valuable in my service to the College, both contributing to an improved “economics of gambling” course, and to my research scope. The data developed through this project could be used in a variety of other research applications in the future.

References

Douglas M. Walker  
Curriculum Vitae – October 2012

Contact Information

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Charleston, SC 29424  
United States  

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Email: WalkerD@cofc.edu  
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Office Location  5 Liberty Street, Beatty Building, Room 427

Academic Employment

College of Charleston  
Charleston, SC  
Professor of Economics  
2012 - present

Georgia College  
Milledgeville, GA  
Associate Professor of Economics  
(Tenured 8/2010)  
2007 - 2012

Louisiana State University  
Baton Rouge, LA  
Instructor of Economics  
1997 - 1998

Auburn University  
Auburn, AL  
Graduate Research/Teaching Assistant  
Department of Economics  
1993 - 1997

Current Editorial & Professional Appointments

Asia-Pacific Assoc. for Gambling Studies  
Taipa, Macao, SAR, China  
Vice President  
2011-present

Nathan Associates  
Washington, DC  
Academic Affiliate  
2009-present

International Gambling Studies  
Regional Assistant Editor  
2012-present

Gaming Law Review and Economics  
Economics Editor  
2010-present

UNLV Gaming Research and Review Journal  
Editorial Board Member  
2010-present
Education


B.S., Business Administration (Accounting), Kansas State University, Manhattan, KS. May 1993.

Teaching

Introductory-level: Survey of Economics, Honors Economics Survey, Microeconomics


Graduate-level: International Trade Theory, Managerial Economics

Principles classes from 18 to 120 students; upper-level classes from 7 to 40 students. Teaching evaluations and statement of teaching philosophy available on request.

Teaching/Research Awards

“Distinguished Research Award,” College of Charleston, School of Business and Economics (2008-09)
“Honor Professor,” Phi Kappa Phi (2001)

Research

*Interests*

Economic/social impacts of legalized gambling; Public economics; Applied microeconomics

*Books*


Papers Under Review

“Casinos and Political Corruption in the United States,” with P. Calcagno

“Casino Revenue Sensitivity to Competing Casinos: A Spatial Analysis of Missouri,” with T. Nesbit

Research in Progress

“How Do Casinos Make Money?” with S. Litvin

Casinomics – Social and Economic Impacts of Casino Gambling (book manuscript under contract)

Articles Published in Refereed Journals


Book Chapters (Original)


Book Chapters (Reprinted from Journal Articles)


Articles in Other Publications


Book Reviews


Working Papers That Will Never Get Published

“A Comment on Hoppe’s Note on Preferences and Indifference.” (January 2007).

Consulting and Funded Research

Academic/Government Projects

College of Charleston, School of Business Research Grant. “Casino Revenue Sensitivity to Competing Casinos.” (Summer 2012)

College of Charleston, School of Business Research Grant. “Casinos and Corruption.” (Summer 2011)

College of Charleston, Initiative for Public Choice & Market Process Research Grant. “Casino Tax Rates and the Economic Impact of Casinos at the State Level.” (Summer 2010)

French Embassy, Department of Economic Affairs, Washington, DC. Claire Meyer. Consulting on U.S. gambling industry. (November 2009, pro bono)


Harrah Hospitality Research Center Grant. “Profitability and Return-on-Investment from Casino Amenities,” with L. Bryant. (2009-10)


College of Charleston, Faculty Research Grant. “Do Gambling Taxes Over-Burden the Poor?: The Case of Casino Taxes.” (Summer 2008)

State of Missouri, Office of the Attorney General. Social cost of gambling literature. (June 2008)

College of Charleston, Carter Real Estate Center Research Grant. “Casino Revenues and Retail Property Values: The Detroit Case,” with J. Wiley. (Summer 2008)

College of Charleston, SURF Grant. “An Experiment on Small Changes in Appearance, Academic Performance, and Attractiveness Ratings,” with C. Blair and A. Colao. (Summer 2008)

Canadian Centre on Substance Abuse. “A Simple Model to Explain and Illustrate the Definition of ‘Social Cost’” (May 2000)

**Industry Consulting Projects**


State of Massachusetts Economic Impact Study for Casinos, with Spectrum Gaming. (May 2008)


Invited or Externally Funded Presentations


College of Charleston, Department of Economics & Finance. "The Economics of Casino Gambling." Charleston, SC. (February 2007)

University of Alberta, Department of Economics. "The Economics of Casino Gambling." Edmonton, Canada. (February 2007)


Harvard Medical School, Cambridge Health Alliance, Division on Addictions. 7th NGRG Conference on Gambling and Addiction. "What Happens When We Ignore Science? Risks to Public Policy and Public Health." Las Vegas, NV. (November 2006)

Harvard Medical School, Cambridge Health Alliance, Division on Addictions. 7th NGRG Conference on Gambling and Addiction. "The Real Costs: How to Effectively Measure Social and Economic Impacts." Las Vegas, NV. (November 2006)


Radio Presentation / Guest


Research Presentations


"Missouri Casino Revenue Sensitivity to Competing Casinos" with T. Nesbit. 37th Annual Conference, Association of Private Enterprise Education. Las Vegas, NV. (April 2012)


70th International Atlantic Economic Conference. Charleston, SC. (October 2010)
84th Annual Western Economic Association International Conference. Vancouver, Canada. (July 2009)
14th International Conference on Gambling and Risk-Taking. Lake Tahoe, NV. (May 2009)


Southern Economic Association Conference. New Orleans, LA. (November 2007)


"The Regressivity of Gambling Taxes: The Case of Casinos." 74th International Atlantic Economic Conference. Montréal, Québec, Canada


"Do Casinos Cause Economic Growth?" with J. Jackson.
Southern Economic Association Conference. Charleston, SC. (November 2006)
13th International Conference on Gambling and Risk-Taking. Lake Tahoe, NV. (May 2006)


Southern Economic Association Conference. New Orleans, LA. (November 2002)
11th International Conference on Gambling and Risk-Taking. Las Vegas, NV. (June 2000)


“Is Gambling a DUAP Activity?” 11th International Conference on Gambling and Risk-Taking. Las Vegas, NV. (June 2000)


“Legalized Gambling and Economic Growth.”
Southern Economic Association Conference. Atlanta, GA. (November 1997)
LSU Department of Economics Seminar Series. Baton Rouge, LA. (October 1997)
10th International Conference on Gambling and Risk-Taking. Montréal, Québec, Canada. (May 1997)


Professional Service and Memberships

Editorial & Refereeing Activities


Ad Hoc Referee: Administration & Society
American Journal of Economics and Sociology
Annals of Tourism Research
Atlantic Economic Journal
Contemporary Economic Policy
Econ Journal Watch
Economic Inquiry
Economics Letters
Gaming Law Review & Economics
Growth & Change

Reviewer: Addison Wesley | Cengage/Thomson
McGraw-Hill/Irwin | Worth

International Gambling Studies
International Journal of Regional Science
Journal of Business Research
Journal of Gambling Studies
Journal of Quantitative Criminology
Journal of Social Economics
Regional Studies
Review of Regional Studies
UNLV Gaming Research & Review Journal
Southern Economic Journal

Alberta Gaming Research Institute |
Elsevier | Ontario Gambling Research Centre
Professional Conference Activities

Session organizer: Southern Economic Association conference, sessions on the economics of gambling (2006, 2007, 2012); Western Economic Association conference, session on the economics of gambling, co-organizer with B. Humphreys (2009); International Atlantic Economic Association (2 sessions, 2010)

Discussant and/or session chairman: Various conferences, 1997-present

Attendee: Various academic conferences on economics and gambling (1997-present)

Student Advising/Supervision

College of Charleston Economics Club (founding faculty advisor, spring 2011)
Omicron Delta Epsilon, College of Charleston Chapter (faculty advisors, spring 2012-present)
Undergraduate/Funded Student Research Supervision at CofC:
Alex Colao (summer 2008 SURF project)
Patty Grant (spring 2009 Independent Study; May 2009 MAYS Grant; summer 2009 IPCMP Research Award)
Kenneth Chandler (summer 2009 IPCMP Research Fellowship)
Emily Clayton (spring 2010 Independent Study)
Whitney Whitson (spring 2010 Bachelor’s Essay)
Shannon Kelly (fall 2010 IPCMP Research Fellowship)

Georgia College Student Organizations: Economics & Investment Club (2001-07); Omicron Delta Epsilon (2001-07); Student Judicial Board Faculty Advisor (2000-03)

Committee Work

College of Charleston: Faculty Senate (2010-12); Honor Board (2010-11; 2012-13); Curriculum committee (2009-10); School of Business Faculty Development Committee (2009-2012; chair, 2011-12); School of Business Community Outreach Committee (chair, 2008)

Georgia College (1998-2007): Member of various university, school, and department committees.

Membership in Professional Organizations

Leadership Position

Asia Pacific Association for Gambling Studies (Vice President, 2011-present)

Current Memberships

Association for Private Enterprise Education (2000-01; 2010-present)
International Atlantic Economic Association (2007-2010; 2012-present)
Southern Economic Association (1996-present)
Western Economic Association (2008-2012)

Previous Memberships

Society for the Advancement of Behavioral Economics (2003-04)
Administrative Experience

Interim Director, Initiative for Public Choice & Market Process, College of Charleston (spring 2010)

Selected Public Service Activities

“Westie Award 2011,” for public service in West Ashley Community
Lowcountry Senior Center lectures: Economic impacts of legal casinos (June 2009; August 2011)

Business Experience

Walker Brothers Co., Olathe, KS. Co-owner, 1988-1993. The family business includes six car washes in Kansas City and distributorships for Hydro-Spray equipment and Blue Coral Systems chemicals. The company has an annual gross income of over $1 million.

International Travel

Austria, Bahamas, Belgium, Canada, Cayman Islands, China (Hong Kong; Macao) France, Germany, Greece, India, Italy, Mexico, Netherlands, Slovenia, Switzerland, Turkey

Other Interests

College football; fine dining; scuba diving; skiing (snow and water); Stoic philosophy; tennis; travel
Evidence from most recent sabbatical:

- None. I have not taken a sabbatical before.

Disclosure of additional salary to be received as a result of sabbatical leave:

- None. No additional funding has been sought or secured at this point in time. Any changes will be reported, as required in Section 3.2 of the Sabbatical Leave Policy memo.