
SPORTS BETTING’S IMPACT ON CASINO GAMBLING: CANNIBALIZATION OR EXPANSION?

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In 2018, the Supreme Court overturned The Professional and Amateur Sports Protection Act, enabling state governments to pass regulations to implement legal sports gambling. The recency of this ruling leaves the economic impact of sports gambling legalization unknown. This study uses Iowa—which added sports betting to casino offerings in August 2019—as a case study to explore potential national implications of sports gambling legalization.

The key dynamic that this study investigates is cannibalization: the possibility that introducing sports betting will cause revenues to be drawn from other forms of gambling, which could potentially result in decreased overall casino profits and decreased tax collections from casinos. Historically, the introduction of other forms of gambling—like a state lottery—has resulted in observable cannibalization within the larger gambling market,¹ suggesting that the implementation of sports betting should result in some degree of cannibalization within the Iowa gambling market.

Estimates from regression results show that sports betting did not produce cannibalization of nonsports betting gambling revenue but instead increased nonsports casino gambling revenues. Additionally, this study finds that mobile sports betting did not alter the relationship between sports betting, and casino adjusted gross revenue (AGR).

TABLE OF CONTENTS

I.	INTRODUCTION	1732
II.	IOWA SPORTS BETTING	1735
III.	DATA ANALYSIS.....	1737
IV.	CONCLUSION	1743

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1. See Douglas M. Walker & John D. Jackson, *Do U.S. Gambling Industries Cannibalize Each Other?*, 36 PUB. FIN. REV. 326–27 (2008).

I. INTRODUCTION

Until 2018, The Professional and Amateur Sports Protection Act of 1992 (PASPA)² restricted sports betting across the United States.³ PASPA restricted legal sports betting that existed at the time—some form of sports betting was available in seven states—and prevented other states from beginning to offer sports betting.⁴ While PASPA was in place, bettors illegally wagered an estimated \$150 billion annually on sports in the United States.⁵

In May of 2018, the Supreme Court overturned the PASPA, enabling state governments to pass regulation to implement legal sports gambling in their states.⁶ Following this decision, eighteen states considered passing sports betting legislation, and seven states—Delaware, Mississippi, New Jersey, New Mexico, Pennsylvania, Rhode Island, and West Virginia—successfully adopted legal sports betting by the end of 2018.⁷ During this limited time of legal sports gambling expansion, industry-wide revenue increased from \$261.3 million in 2017 to \$430.2 million in 2018.⁸ Even so, the total sports betting revenue for 2018 was only 1.03% of the U.S. commercial casino industry's total 2018 gaming revenue of \$41.68 billion.⁹ Considering the illegal sports betting market's estimated annual handle of \$150 billion, and as more states pass laws to regulate sports betting, industry-wide revenue is expected to grow exponentially in the years to come.¹⁰

Due to the recency of the legalization of sports gambling, there has not been research on the economic impact of states legalizing sports gambling. The issue, however, is important to provide casino supporters, critics, and policymakers with data on the impact of sports betting on overall casino gambling. The present study examines one state casino market, Iowa, which was one of the states to

2. Professional and Amateur Sports Protection Act, Pub. L. No. 102-559, 106 Stat. 4227 (1992).

3. Adam Thew, *PASPA Repeal: What Does It Mean for the American Sports Betting Market?*, MEDIAWRITES (May 22, 2018), <https://mediawrites.law/paspa-repeal-what-does-it-mean-for-the-american-sports-betting-market/#page=1> [<https://perma.cc/A8FW-ENWE>]; Gary Martin, *Supreme Court Strikes Down Law Banning Sports Betting Outside Nevada*, LAS VEGAS REV.-J. (May 14, 2018, 7:23 AM), <https://www.reviewjournal.com/sports/betting/supreme-court-strikes-down-law-banning-sports-betting-outside-nevada/> [<https://perma.cc/TX7K-7UGV>].

4. See Online Gaming Sites, *Professional and Amateur Sports Protection Act—PASPA*, OGS, <https://www.onlinegamblingsites.com/law/paspa/> [<https://perma.cc/NZY3-ASDL>]; see also Eric Meer, *The Professional and Amateur Sports Protection Act (PASPA): A Bad Bet for the States*, 2 UNLV GAMING L.J. 281, 287 (2011).

5. AM. GAMING ASS'N, STATE OF THE STATES 2019: THE AGA SURVEY OF THE COMMERCIAL CASINO INDUSTRY 7 (2019), https://www.americangaming.org/wp-content/uploads/2019/06/AGA-2019-State-of-the-States_FINAL.pdf [<https://perma.cc/2DVV-ZVGW>].

6. See *Murphy v. Nat'l Collegiate Athletic Ass'n*, 138 S.Ct. 1461, 1484–85 (2018).

7. AM. GAMING ASS'N, *supra* note 5, at 6.

8. *Id.*

9. *Id.*

10. See *id.* at 7.

open its casino market to legal sports betting.¹¹ Iowa enacted legislation to legalize sports betting in May of 2019, implementing its law on August 15, 2019 and becoming the eleventh U.S. state to offer legal sports betting.¹²

Will Iowa's legal sports betting increase or decrease overall casino revenues? It is certainly possible that dollars supporting sports betting could be drawn or cannibalized from nonsports betting casino revenues. This becomes an important public policy issue since the tax rate on sports betting revenues generally is significantly lower than that on other casino gambling revenues.¹³ For example, Iowa taxes sports betting revenues at 6.75% while levying a much higher average 22% rate on nonsports betting gambling revenue, or AGR.¹⁴ On the other hand, to the degree that sports betting increases overall casino gambling, critics of casino gambling will be concerned about the sociological and economic development issues accompanying sports betting.

One of the most important considerations to examine is the extent to which cannibalization—the reduction of a firm's sales due to the introduction of a potential substitute—could have significant implications on tax revenues. Given this gap in the current literature, the goal of this study is to identify the national implications of sports gambling legalization by determining how Iowa's adoption of legal sports gambling influences the distribution of Iowa gambling revenue and by extension, how it impacts tax revenues from gambling and the related legislation.

Recent research provides valuable context and theory that apply to sports betting both in Iowa and at the national level, given the organizational structure of commercial casinos. Literature on the specific measures Iowa took in implementing legal sports betting provides insight into the incentives of casinos offering sports betting, the role of mobile sports betting, and the potential tax implications.¹⁵ A review of the state practices indicates that different tax rates apply to sports betting compared to previously offered gambling outlets.¹⁶ The low tax rate on sports gambling may incentivize casinos to prioritize sports gambling even at the expense of other forms of gaming may revenue.

Some of the most relevant literature comes from public economics and its evaluation of decentralized firms that offer inherently competing products. Casinos fit this description given how introducing sports gambling can be viewed as

11. See Erin Murphy, *Sports Betting in Iowa Now Is Legal. Here Are the Basics You Should Know*, GAZETTE (Aug. 15, 2019), <https://www.thegazette.com/subject/news/sports-betting-iowa-rules-casinos-20190815> [https://perma.cc/8FUL-WELU].

12. Danny Lawhon, *Iowa Sports Betting: What to Do Now That It's Legal to Wager*, DES MOINES REG. (Aug. 15, 2019, 2:16 PM), <https://www.desmoinesregister.com/story/sports/2019/07/30/iowa-sport-betting-start-date-legal-sports-gambling-app-ncaa-college-football-spread-rule-how-to-bet/1857134001/> [https://perma.cc/5PB2-BJGS].

13. See AM. GAMING ASS'N, *supra* note 5, at 20.

14. See PLAYIA.COM, *State, Federal Taxes for Gambling in Iowa*, <https://www.playia.com/taxes/> (last visited July 26, 2021) [https://perma.cc/N5E5-ATEQ] [hereinafter PLAYIA]; see also *Iowa Casinos*, ONLINE U.S. CASINOS, <https://www.onlineunitedstatescasinos.com/states/iowa-gambling/> (last visited July 26, 2021) [https://perma.cc/D9JW-L8ZN].

15. See *infra* notes 25–28, 30–31, 33–34 and accompanying text.

16. See PLAYIA, *supra* note 14.

a product that satisfies a consumer's desire for entertainment, just like other forms of gambling.¹⁷ Thus, literature that explores the cannibalization caused by firms introducing competing products is applicable to casinos, and it effectively highlights the incentives faced by casinos and suggests how a profit-maximizing casino will incorporate sports betting. Lastly, literature on the larger U.S. sports betting market supplies the context needed to discuss the national implications from the conclusions reached regarding Iowa's sports betting implementation.

While the current research explores these different aspects of sports gambling implementation, this study's contribution will come from the synthesis of these factors into one cohesive exploration through its application of relevant theory and statistical analysis of the Iowa sports betting market as a case study. Furthermore, this study will evaluate how mobile sports betting alters the relationship between sports betting and nonsports betting gambling revenues.

Given the goal of determining the extent that the offering of sports betting by casinos draws away revenue from other forms of gambling, looking at the potential cannibalization between other forms of gambling can provide insight into how sports gambling might affect the casino market as a whole. For example, Siegel and Anders found evidence that there was cannibalization in the Arizona casino market caused by tribal casinos introducing more slot machines, which drew away revenue from the state lottery.¹⁸ Elliott and Navin found evidence of cannibalization when comparing riverboat gambling and the state lottery, as a \$1 increase in riverboat casino revenue per capita in their model decreased state lottery revenue per capita enough that it resulted in a net tax revenue loss of \$0.83.¹⁹ Thalheimer and Ali found that as casinos increased their number of table games, overall casino revenue increased, but slot revenue decreased.²⁰ This conflicts with Levitsky, Assane, and Robinson, who concluded that increasing the number of casino table games decreased overall casino revenue.²¹

Altogether, past research suggests that there may be cannibalization between gambling outlets due to sports gambling, but the magnitude of the effect and its tax implications are unknown given the lack of relevant sports gambling literature. Furthermore, the mobile aspect of sports gambling adds another dynamic to traditional in-person table, and slot gambling in casinos.

This study uses statistical regression modeling to identify the degree of cannibalization caused by introducing sports betting into the gambling market.

17. *Why Bet on Sports—The Risks & Rewards of Sports Betting*, GAMBLINGSITES.COM, <https://www.gamblingsites.com/sports-betting/introduction/why-bet-on-sports/> (last visited July 26, 2021) [<https://perma.cc/CRB9-WVVX>].

18. Donald Siegel & Gary Anders, *The Impact of Indian Casinos on State Lotteries: A Case Study of Arizona*, 29 PUB. FIN. REV. 139, 144 (2001).

19. Donald S. Elliot & John C. Navin, *Has Riverboat Gambling Reduced State Lottery Revenue?*, 30 PUB. FIN. REV. 235, 244 (2002).

20. Richard Thalheimer & Mukhtar M. Ali., *Table Games, Slot Machines and Casino Revenue*, 40 APPLIED ECON. 2395, 2401 (2008).

21. Ina Levitzky, Djeto Assane & William Robinson, *Determinants of Gaming Revenue: Extent of Changing Attitudes in the Gaming Industry*, 7 APPLIED ECON. LETTERS 155, 157 (2000).

These results provide a more holistic examination of the impact of sports gambling legalization on the Iowa gambling market and allow for a discussion that assesses the implications of nationwide sports gambling legalization.

The status of legal sports betting in every state is shown in Figure 1.²² Using data from the American Gaming Association (AGA), twenty states currently offer legal sports betting, five more have approved sports betting legislation, and seventeen other states have active sports betting legislation.²³ In Iowa, the Iowa Racing and Gaming Commission (IRGC) led the implementation and launched both casino-based and mobile sports betting, becoming the first state to launch both simultaneously and only the fifth to offer mobile sports betting.²⁴

FIGURE 1 U.S. SPORTS BETTING LEGALIZATION AS OF MARCH 10TH, 2021



II. IOWA SPORTS BETTING

Most forms of sports gambling are available in Iowa with the primary exception of individual player prop bets during games involving in-state collegiate sports competition.²⁵ A prop bet is nearly any wager that is not a conventional moneyline, spread or total.²⁶ Participating casinos pay the state 6.75% of their sports betting hold,²⁷ a rate tied with Nevada for the lowest nationally.²⁸ This tax

22. *Interactive Map: Sports Betting in the U.S.*, AM. GAMING ASS'N, <https://www.americangaming.org/research/state-gaming-map/> (last visited July 26, 2021) [<https://perma.cc/KC4D-QSDW>].

23. *Id.*; see also AM. GAMING ASS'N, STATE OF THE STATES 2020: THE AGA SURVEY OF THE COMMERCIAL CASINO INDUSTRY 1 (2020), https://www.americangaming.org/wp-content/uploads/2020/06/AGA-2020-State_of_the_States.pdf [<https://perma.cc/3YJC-96HY>].

24. Eric Ramsey, *Iowa Sports Betting Launch: What You Need to Know*, LEGAL SPORTS REP. (Aug. 15, 2019), <https://www.legalsportsreport.com/35141/iowa-sports-betting-launch/> [<https://perma.cc/UY3L-S7R6>].

25. *Id.*

26. *Id.*

27. AM. GAMING ASS'N, *supra* note 23, at 46. Sports betting hold represents gross sports betting revenue minus sports betting payouts to gamblers.

28. Lawhon, *supra* note 12.

rate is significantly lower than Iowa's gaming tax distribution for nonsports betting revenue, which operates under a graduated tax system.²⁹ A 5% tax rate is applied on \$0-\$1 million in gaming revenue, a 10% tax rate is applied on \$1-\$3 million in gaming revenue, and gaming revenue beyond \$3 million is taxed at a 22% rate.³⁰

Under the IRGC's lead, eighteen of Iowa's nineteen casinos have sportsbooks in place.³¹ Eight of the nineteen Iowa casinos launched mobile betting platforms, but until January 1, 2021, bettors had to first visit the casinos in-person to set up mobile betting accounts.³² After January 1, 2021, bettors no longer must visit an Iowa casino to register to bet. Mobile sports betting apps, however, remain geofenced, so bettors could only place mobile bets from within state lines.³³ Iowa was the first Upper Midwest state to offer legal sports betting, and so the state appears primed to capitalize on a largely untapped section of the gambling market.³⁴

Casinos that choose to offer sports betting could be expected to experience cannibalization because sports betting is a product that competes with their current gambling offerings like slot and table games.³⁵ Cannibalization within a multi-product firm can lead to a variety of outcomes depending on several factors like the relative profitability of the respective products. Meredith and Maki concluded that cannibalization reduced profitability in cases where a low-profit product cannibalized sales of a high-profit product and increased profitability in instances where a high-price product cannibalized sales of a low-price product.³⁶

Firms can minimize the effect of cannibalization between their products by decentralizing—helping their products to operate in different sub-environments, say by targeting different customer demographics—to reduce competition between their products, but even decentralized firms still find their products to be interdependent and experience cannibalization.³⁷ Thus, decentralized multi-product firms like casinos are faced with the challenge of managing cannibalization. A modern approach to this problem focuses on using the incentives of the firm's individual product managers to minimize cannibalization, a solution that comes from public economics.³⁸

29. See AM. GAMING ASS'N, GAMING REGULATIONS AND STATUTORY REQUIREMENTS: IOWA 3 (2019), https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Iowa-1.pdf [<https://perma.cc/ZYY8-KFNN>].

30. *Id.*

31. See Lawhon, *supra* note 12.

32. See Ramsey, *supra* note 24.

33. See *id.*

34. See Lawhon, *supra* note 12.

35. Virve Marionneau & Janne Nikkinen, *Market Cannibalization Within and Between Gambling Industries: A Systematic Review*, 37 J. GAMBLING ISSUES 1, 2 (2018).

36. See Lindsay Meredith & Dennis Maki, *Product Cannibalization and the Role of Prices*, 33 APPLIED ECON. 1785, 1792–93 (2001).

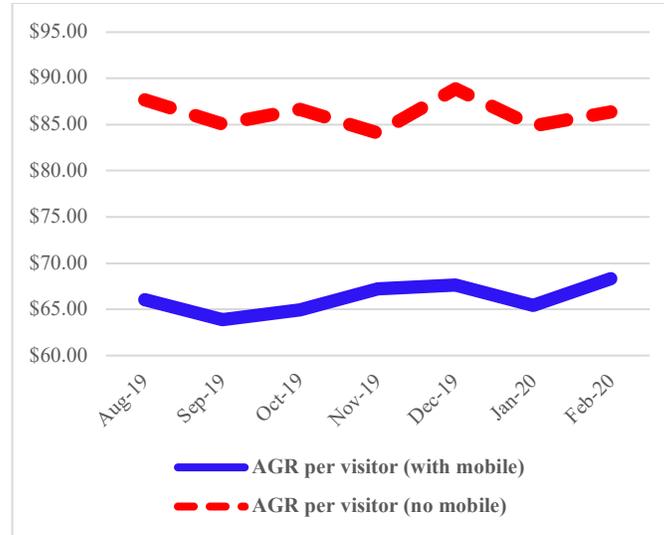
37. See JAY R. GALBRAITH & ROBERT K. KAZANJIAN, STRATEGY IMPLEMENTATION: STRUCTURE, SYSTEMS, AND PROCESS 52–62, 142 (2d ed. 1986).

38. Robert F. Bordley & Aneel Karnani, *Using Incentives to Address Cannibalization*, 51 LONG RANGE PLAN. 641, 642 (2018).

III. DATA ANALYSIS

The IRGC provides monthly gambling data for every casino in Iowa, including data on sports, slot, and table games, which can be used to create a model to assess the impact of sports betting.³⁹ Figures 2, 3, and 4 compare AGR and sports handle per visitor for Iowa casinos for the period August 2019 to March 2020.

FIGURE 2: AGR PER VISITOR

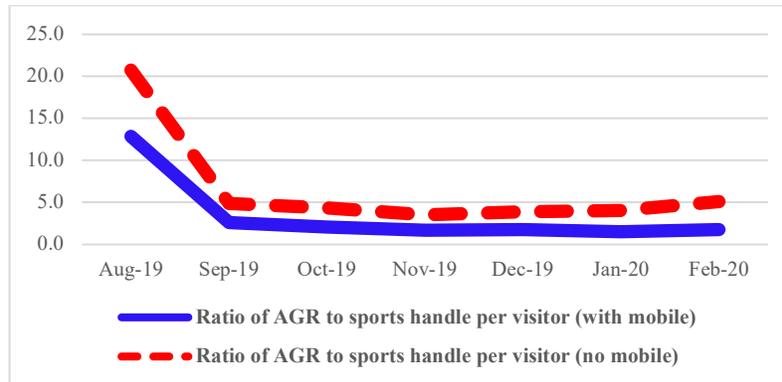


39. See e.g., IOWA RACING & GAMING COMM'N, GAMING REVENUE REPORT – FYTD 2020 27–40 (2020), https://irgc.iowa.gov/sites/default/files/documents/2021/01/fy2020_gaming_revenue.pdf [<https://perma.cc/YBK9-A2QB>] (Iowa gaming data in 2020). In March 2020, Iowa closed all casinos as a result of COVID-19.

FIGURE 3: SPORTS HANDLE PER VISITOR



FIGURE 4: RATIO OF PER VISITOR AGR TO SPORTS HANDLE



AGR per visitor as presented in Figure 2 indicates that casinos without mobile sports betting exceeded that of casinos with mobile sports betting. As expected, and presented in Figure 3, casinos with sports betting achieved a higher sports handle per visitor than casinos without mobile sports betting. Figure 4 indicates that as expected, the ratio of AGR to sports betting per visitor declined as college and professional football began. This is the case for both with and without mobile sports betting.

In order to account for important demographic control variables, these data are supplemented with data from the Bureau of Economic Analysis (BEA).⁴⁰ Data from the BEA on the population and per capita income for the counties in which Iowa's casinos, along with the variables of interest from IRGC gambling data, are described in Table 1. Data on population and per capita income are from 2018, the most recent year of available data. The 133 observations represent the nineteen casinos per month for the seven months of available data, going back to sports gambling's Iowa launch on August 16, 2019, until closure in March 2020.⁴¹

40. See *Personal Income by County, Metro, and Other Areas*, BUREAU OF ECON. ANALYSIS (Nov. 17, 2020, 8:30 AM), <https://www.bea.gov/data/income-saving/personal-income-county-metro-and-other-areas> [https://perma.cc/B5R8-3C6P].

41. See IOWA RACING & GAMING COMM'N, *supra* note 39.

TABLE 1: VARIABLES USED TO MODEL IOWA CASINO REVENUES,
AUGUST 2019 TO MARCH 2020

Variable	Description	Mean (Standard deviation)	Minimum/ Maximum
AGR	The slot and table revenue generated by the casino in the given month (casinos net receipts seasonally adjusted)	\$6,465,544 (\$4,465,544)	\$1,413,937/ \$19,000,000
AGR_PC	AGR per gambling visitor	\$73 (\$17)	\$46/ \$117
SportsHandle	The sports betting revenue generated by the casino in the given month	\$2,459,828 (\$3,927,739)	\$0/ \$21,569,234
Mobile	A binary variable indicating if the casino offered mobile sports betting in the given month	0.4737 (0.5012)	0/1
Population18	The 2018 population of the county in which the casino is located	90,262 (108,164)	7,453/ 487,204
PcIncome18	The 2018 per capita income of the county in which the casino is located	\$49,299 (\$5,032)	\$42,321/ \$60,892

To examine the impact of sports gambling on casinos, the two equations used to model casino AGR are presented below with both including *SportsHandle* as the primary explanatory variable. Both include a quadratic term for *SportsHandle* to test for the potential that the cannibalization caused by sports gambling varies at different levels of sports betting revenues. Given that cannibalization is expected, the coefficient on the quadratic term should be negative. A positive coefficient on the original *SportsHandle* variable would indicate that until the quadratic term dominates the equation at high levels of sports gambling revenues, sports gambling leads to more revenues from slot and table games combined.

Both equations also include two key explanatory variables: the population and per capita income for the county of the casino. Both are expected to have positive coefficients as they indicate the potential revenue provided by the local gamblers from which casinos can draw upon. The first equation is shown below. In the estimations that follow, two assumptions will be used for the AGR—a linear model with variable elasticity and a logarithmic model with constant elasticity.⁴²

42. Elasticity is defined as the percent change in AGR due to a one percentage point in the independent variable.

EQUATION (1)

$$AGR_{it} = \beta_0 + \beta_1 SportsHandle_{it} + \beta_2 SportsHandle^2_{it} + \beta_3 population2018_{it} + \beta_4 pcIncome2018_{it} + \epsilon_{it}$$

The estimation of Equation 1 is expected to produce a positive sign for β_1 and a negative sign for β_2 , or a hump-shaped relationship between *SportsHandle* and AGR.⁴³ Estimates for Equation 1 are contained in Table 2. Linear estimates are listed in Column 2 and logarithmic (constant elasticity) are listed in Column 3.

As listed, the variable, *SportsHandle*, has a statistically significant impact on AGR, while the variable, *SportsHandle*², does not have a statistically significant impact on AGR. The logarithmic estimates produce similar results with the variable *SportsHandle*, having a positive and statistically significant impact on AGR. Thus, the hypothesis that sports betting does not cannibalize nonsports betting gambling cannot be rejected. Additionally, each sports betting dollar is estimated to produce another \$0.24 of AGR according to linear estimates. According to the logarithmic estimates, a 10% increase in sports betting results in a 0.6% increase in AGR.

43. A hump-shaped relationship between Sportshandle and AGR indicates that increases in sports betting adds to AGR to the point where AGR is maximized. Beyond this maximum AGR, increases in sports betting reduce or cannibalize table and slot machine revenues.

TABLE 2: AGR REGRESSION EQUATIONS, RANDOM EFFECTS MODEL,
LINEAR AND LOGARITHMIC

	Equation (1)	
Variables	Random effects model	
	Coefficients (Standard error)	
	Linear (2)	Logarithmic (3)
SportsHandle	0.23851** (0.10602)	0.06188*** (0.01494)
SportsHandle^2	-0.00001 (0.00001)	
Population2018	20.87700*** (6.21582)	0.23929*** (0.05997)
PCapInc2018	-109.5942 (129.0643)	-0.24360 (0.71446)
Constant	9,759,860 (6,328,934)	14.74449* (7.72762)
R-Square	0.4837	0.4175
Number of observations	133	133
Number of casinos	19	19
<p>Note: Robust standard errors in parentheses; *** p<0.01 (statistically significant at 99% level), ** p<0.05 (statistically significant at 95% level), * p<0.1 (statistically significant at the 90% level).</p> <p>The random effects estimation used here assumes that the individual-specific effects are uncorrelated with the independent variables. The fixed effect assumption is that the individual-specific effects are correlated with the independent variables. If the random effects assumption holds, the random effects estimator is more efficient than the fixed effects estimator.</p>		

The second Equation builds off the first by adding in the binary variable, *mobile*, to indicate if a casino offers mobile sports betting. Theoretically, this is an important variable to consider because mobile sports betting is expected to have a stronger cannibalization effect than sports gambling within casinos because of how mobile betting distances gamblers from slot and table game outlets. Equation 2 also includes an interaction term between the binary *mobile* variable

and *SportsHandle*, which allows for the evaluation of how mobile sports gambling impacts AGR at varying levels of sports gambling revenues. Equation 2 is specified below.

EQUATION (2)

$$AGR_{it} = \beta_0 + \beta_1 SportsHandle_{it} + \beta_2 SportsHandle_{it}^2 + \beta_3 mobile_{it} + \beta_4 mobile * sportsHandle_{it} + \beta_5 population2018_{it} + \beta_6 pcIncome2018_{it} + \epsilon_{it}$$

Results from estimates of Equation 2 are provided in Table 3. As presented, mobile sports betting has no impact on AGR, both linear and logarithmic estimations. Furthermore, mobile betting has no statistical impact on the relationship between sports betting and AGR. Next, Equation 2 is estimated to detect the impact of mobile betting on the relationship between sport betting and AGR. In conclusion, mobile betting has no impact on AGR, nor does it influence the relationship between sport betting and AGR.

TABLE 3: ESTIMATION OF EQUATION (2) RANDOM EFFECTS MODEL, LINEAR AND LOGARITHMIC

Variables	Equation (2)	
	Random effects model	
	Coefficients (Standard error)	
	Linear	Logarithmic
SportsHandle	0.4676 (0.3797)	0.0614*** (0.0224)
Mobile	592,460 (362,262)	0.194 (0.387)
Mobile*SportsHandle	-0.339 (0.396)	-0.00726 (0.0290)
SportsHandle^2	-8.64e-09 (8.04e-08)	
Mobile*SportsHandle^2	1.08e-08 (8.04e-08)	
Population2018	22.03*** (4.585)	0.0236*** (0.0502)
PCIncome2018	-110.9 (95.24)	-0.443 (0.609)
Constant	9.257e+06** (4.690e+06)	16.89** (6.627)
R-Square	0.5574	0.4021
Observations	118	118
Number of casinos	18	18

Note: Robust standard errors in parentheses. *** p<0.01 (statistically significant at 99% level), ** p<0.05 (statistically significant at 95% level), * p<0.1 (statistically significant at the 90% level)

IV. CONCLUSION

The goal of this study was to identify the national implications of sports gambling legalization which had previously been unexplored due to the recency of sports gambling legalization. Relevant literature suggested that a cannibalization effect would be observed in the Iowa gambling market due to the implementation of sports gambling. The results of this study largely support the hypothesis that the introduction of sports betting in Iowa has not resulted in the cannibalization of nonsports betting gambling as suggested by the literature. Mobile sports betting offering was also found to have no significant impact on AGR or the relationship between sports betting and AGR. These findings have increasing importance due to the trend of more casinos offering mobile sports betting, as over half now offer mobile sports betting, while only seven of nineteen casinos did at launch.⁴⁴

Given that sports betting revenue is normally taxed at a much lower rate, the findings of this study have important implications for tax collections. That is, results from this study support the hypothesis that introducing sports betting, both mobile and in-person, does not reduce higher tax AGR. Thus, sports betting is expected to increase overall casino tax collections.

A caveat to the conclusions from estimations included here is the closing of the Iowa and other casinos across the nation due to COVID-19. As a result of the closings in March 2020, longer term impacts were not observed. For example, mobile sports betting will become more of an issue as more and more gamblers sign up for this capability. A further limitation of this study is the question of external validity. While these results do not indicate cannibalization within the Iowa gambling market, there are relevant implications for both casinos and the state. Conditions within the state of Iowa may limit the applicability to other states. For example, the varying tax brackets across gambling forms differ from casino taxing in other states.

One way to evaluate this specific concern would be to determine the elasticities associated with sports betting, but this study was unable to do this given how the state of Iowa has held tax rates constant. Therefore, while these results are of significance in Iowa, their applicability nationwide needs examination.

The goal of identifying the implications of sports gambling legalization would be furthered by performing a similar analysis on other states with sports gambling legalization given how each state's unique set of institutions like their casino tax structure and mobile sports betting legalization could influence the role of cannibalization in the state's casino market. The importance of such further exploration is highlighted by both the significant number of states currently offering sports betting—seventeen—but also by the increasing number of states that are considering legalizing sports betting, with nineteen currently proposing legislation.

44. See AM. GAMING ASS'N, *supra* note 23, at 1.

