

Hold'em or fold'em': Shareholder reaction following the adoption of anti-internet gambling legislation

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ABSTRACT

The effects of gambling have been widely examined from the consumer perspective, however, academic literature is lacking in understanding the influence of the regulatory effects on investor behavior and its relationship to firm stock price. Using a sample of the largest casino firms based in the United States, it was found that those firms experienced average abnormal returns of 2.53% on the first trading day following the passage of anti-internet gambling legislation. Large cap casinos experienced larger abnormal returns (2.77%) than small cap casinos (1.81%), and casino suppliers failed to experience significant abnormal returns on the first trading day following the passage of anti-internet based legislation. However, when examining casino suppliers over a longer event window, those firms did experience positive abnormal returns, showing that investors may reward not only firms directly affected by such legislation, but process information in such a way as to reward suppliers as well. Results and limitations are discussed.

Keywords: Sports economics, gambling, event-study, sports recreation, legislation

INTRODUCTION

Gambling is big business throughout the world, with many geographical destinations having as their primary tourist attraction gambling and gambling-related activities. Such destinations include the region of Macau in China, the Principality of Monaco, and various destinations throughout the United States, including Las Vegas, Atlantic City, and the coastal region of Mississippi. There's no doubt that gambling is big business and there are profits to be reaped from these activities, with direct beneficiaries consisting of the casinos themselves, hotels, and local and federal governments receiving the indirect benefit of taxes from the activities directly and indirectly associated with gambling.

In the U.S., there is a long tradition of gambling, with some of the first gambling activities in the U.S. taking on the form of lotteries dating back to the 1700's to raise funds for the construction of early infrastructure projects. In fact, one of the founding fathers, George Washington, was well-known to organize and participate in these early gambling activities (Shelley 1986). Along with this long tradition of gambling in the U.S. comes the income from gambling activities. This is supported by the fact that casinos realized revenue in excess of \$37 billion in 2012 (<http://news.yahoo.com/us-casino-revenue-nearly-5-153141313.html>) and that nearly 65% of the adult population participates in some form of gambling during any given year (<http://www.gallup.com/poll/104086/one-six-americans-gamble-sports.aspx>). This once mostly regional activity has grown into full-fledged operations that include land- and river-based casinos, horse and dog tracks, and state lotteries operating in 28 states across the United States (Humphreys 2010). Several distinct groups benefit from gambling activities. Casinos reap large sums of money from consumers in the forms of bets and wagers, and in-turn, the Federal Government benefits directly from taxes on the casinos and activities surrounding gambling activities, such as lodging, entertainment, and food expenditures.

Consumers are also hypothesized to benefit in some form or fashion from their gambling activities, either through the enjoyment of the experience of gambling or the social interaction offered by many of the games. One group which has the potential to reap hefty benefits from these activities has remained largely unaddressed within the marketing literature; investors. In the marketing literature, the primary viewpoint that gambling has been examined from is the consumer behavior perspective, either through the psychological and pathological consequences (Netemeyer et al. 1998) to the consumer, or what personality traits predisposes one to gambling behavior (Xiang & Mowen 2009). Despite these advances in the literature examining the consumer as it relates to gaming activities, examination of investor behavior in the gaming context is lacking in marketing literature. This study addresses this deficiency in the literature by examining under what conditions and in what contexts the investment community chooses to invest or divest in gaming firms as a result of the passage of governmental gambling regulatory policies.

There are many different factors which have been hypothesized to affect investor behavior. Moir (1999) hypothesizes that investors rely upon data such as historical returns, firm risk, and liquidity in determining which securities to invest funds. These are generally considered long-term measures which individual investors use as information to decide where to invest. In addition to these measures, investors rely upon short-term firm information that is available through financial and other news outlets. For example, following the announcement of firm agreements and changes, such as green initiatives (Mathur & Mathur 2000), sports sponsorships (Cornwell et al. 2001), and changes in CEO leadership (Warner et al. 1998),

investors either rewarded or punished the firm based upon their evaluation of the strength and veracity of the corresponding news. So, in addition to long-term financial measures, investors use daily firm financial information to guide their investment decisions. An additional nontrivial issue for investment-oriented audiences is regulatory issues which remain important for investors (Humphreys 2010). Because investors serve as the lifeblood of the firm and provide capital to meet daily operational expenditures, to fund projects which have a positive net present value, and to otherwise provide for the overall financial stability and liquidity of the firm, understanding under what circumstances investors react to industry financial news and regulations is crucial. To better understand the effect of governmental regulations on the investor is important for the firm and marketing managers as well, as marketing budgets are derived not only from operating income, but, also from the capital investments of investors. As such, this study seeks to examine the effects of the passage of anti-internet based gambling legislation in the U.S. on investor behavior through firm market returns.

ONLINE GAMBLING

To say that the internet revolutionized the way many firms conduct their business operations would be an understatement. As many traditional bricks-and-mortar firms struggled to utilize the internet in their operations, several industries quickly succeeded in making the internet a preferred medium of delivery for their products and services. Among those leading in the utilization of this delivery medium were those firms involved in music and pornography. Their services could be quickly and confidentially delivered online in the privacy of the consumers' own home. For music, practically any song that has ever been recorded could be delivered quickly in a format which could be played on a computer or stored on an eternal device such as an MP3 player. Pornography could also be delivered in the privacy of one's home without the stigma or effort once required to access such material.

Gaming firms quickly followed the trend to move to an internet-based system of delivery, and in October of 1996, InterCasino went online to become the first internet casino to accept real money wagers online (http://www.gamblingplanet.org/history_main.php). By the year 1999, the number had grown to an estimated number of 1,400 websites offering internet-based gambling (Schopper 2002). However, online gaming was quite different from music and pornography in that an individual would be unlikely to log-on and empty their bank account in purchasing music or pornography as there were many sites and programs offering the delivery of such material at little or no cost to the consumer. But with online gaming, in the stroke of a key, an individual could transfer hundreds, perhaps thousands of dollars to an online gaming site. In the event that any type of issue arose as to claiming winnings or challenging charges and transfers, individuals had little recourse as most of these firms were located in foreign countries which had different rules and regulations regarding these types of transactions.

Because of such issues as mentioned above, gaming is one of the most controversial and highly regulated industries in the U.S. and has been the subject of many legislative and governmental constraints (Bin et al. 2009). One reason for this oversight is that gaming is well known for its side effects to not only the consumer, either through financial or psychological harm, but, gaming also has been shown to have a strong effect on businesses operating within a gaming site's market. For example, Przybylski et al. (1998) found that the placement of a casino gambling facility displaced pre-existing local business demand for similar or substitute services. Also, it has been found that locating a gaming facility in a community can have an economical

cannibalization effect on local economies and there are additional social costs to local and surrounding communities in the form of additional law enforcement as well as increased social support costs through preventive, counseling, and other outreach programs (Moore & Ohtsuka 1999). Governmental regulation and oversight seeks to preempt and curb the effects of these individual and community issues.

ANTI INTERNET-BASED GAMING LEGISLATION

The internet fundamentally changed the business structure of how many firms operate. The services industry was quick to adopt this type of delivery of system as it now became relatively easier to provide the end consumer with delivery of their services. For example, now customers could check banking balances via the internet as opposed to phoning or visiting their local bank branch, and orders for goods and services could be placed more easily and accurately via the internet than over the phone. Because of the ease of delivery of these types of services, and the potential for profit of offering gaming services online, there seemed to be a natural fit between gaming and the internet. The gambler wouldn't have to travel to a land- or river-based casino in order to gamble, and the casinos wouldn't have to invest billions of dollars in capital outlays to build traditional bricks and mortar casinos. The ability to gamble without travelling to a gambling site now became possible. However, as with many legal and regulatory issues in the early days of the development of internet-based business, many firms operated in "gray" areas for long periods of time while legislative efforts sought to clarify and come up to speed on the regulation of how firms operated in an internet-based environment.

Because the early days of the internet were described as operating in a state of anarchy, it was widely accepted that "anything goes" and that businesses operating online were out of reach of governmental and legislative efforts. However, this was not true as early legislative efforts at challenging online operations were targeted at regulating pornographic material and businesses online with the Communications Decency Act of 1996. Although portions of this act were overturned in several United States federal court districts, and upheld by the United States Supreme Court, the heart of the legislation remained and was subsequently amended by Congress to comply with judicial rulings.

Just as with online pornography, online gaming was the target of legislative efforts. However, unlike the Communications and Decency Act of 1996, which sought regulatory control, legislative efforts in the form of the Internet Gambling Prohibition Act (IGPA) were aimed at wholly outlawing the act of online gaming. Although there was support from the two majority parties for the act, debate on the legislation continued for years on whether to amend the legislation to legalize online gaming with heavy regulation or to entirely outlaw the activity. The IGPA was defeated, and in March of 1999 Senator Jon Kyl introduced another bill whose intent was to ban internet gaming, with the exception of online betting on horse racing, state run lotteries, and sports betting. Like the previously introduced legislation, it failed to garner the necessary support to be passed into law as a vote in July of 2000 failed to garner the necessary majority and the legislation was rejected.

However, the attempts to ban internet gaming didn't end there; in fact, the road was quite convoluted, but, business as usual in Washington, D.C. On September 30, 2006, on the day Congress was to be adjourned prior to the 2006 congressional elections (Bin et al. 2009), an updated version of the IGPA called the Unlawful Internet Gambling Enforcement Act of 2006 (UIGEA) was attached to the Security and Accountability For Every (SAFE) Port Act of 2006.

The intent of the SAFE Port Act was to provide funding and support for port security in the United States in addition to creating the Domestic Nuclear Detection Office within the Department of Homeland Security, and, although the UIGEA seemed to have little to do with the SAFE Port Act, it was attached to the bill. The act passed by a vote of 409-2 in the House and received a vote by unanimous consent in the Senate. The ultimate language of the legislation prohibited the transfer of funds from a financial institution to an internet-based gambling site, effectively ending internet-based gambling by individuals located in the United States. As the attempts to ban internet-based legislation had been long and drawn out, and every previous attempt had been unsuccessful, the passage of this legislation came as a surprise to the financial community and investors as well.

EVENT STUDY METHODOLOGY

As the purpose of this paper is to assess investor reaction to the unexpected passage of the UIGEA, it is important to apply the proper methodology to capture this type of reaction. Event study methodology has been applied extensively in the finance and accounting literatures, and more recently in the marketing literature (e.g. Cornwell et al. 2005; Author 2013), and is designed to measure the extent of the effect of an unanticipated event on firm stock prices. The underlying theory which supports the use of event study methodology is the efficient market hypothesis (Fama 1970). The basis of this theory is that the firm stock price reflects and incorporates the present value of all future cash flows expected to be earned by the firm, and that the stock price reflects all available information that could influence the firm's current and future profitability. As unexpected and new information is made available to the market, the idea is that investors will then judge the quality and strength of that information and react accordingly. For example, if an investor believes that the information has the potential to have an effect on a firm's current or future profitability, the stock price will change quickly to absorb and incorporate that information. Brown & Warner (1985) explain that the magnitude of the change, relative to the pre-event price would be reflective of the economic value of that event (Agrawal & Kamakura 1995).

The standard approach to event study methodology is the use of a regression model that is used to predict expected returns for the firm based upon an estimation period preceding the unanticipated event. Based upon these expected returns, abnormal returns (i.e., residuals) are calculated as the difference between the observed and expected returns predicted by the regression model. These abnormal returns are then aggregated across firms and over time to perform statistical test to determine whether or not the abnormal returns are significant in relation to the expected returns. The use of this methodology rules out the use of accounting-based measures which have been criticized for their ability to be manipulated as they are also generally not always good indicators of firm performance (Author 2010).

The rationale for the use of this methodology is that this approach is increasingly used to assess the impact of events and managerial decision in marketing and economics. In the case of the passage of the UIGEA, it was an unexpected event that provided new information to the marketplace that had the potential to have an effect on firm's current and future cash flows and profitability. Due to this announcement, investors will immediately judge the impact of this news and that judgment will be reflected in the firm's stock price and returns. Because of this, it is possible to judge the economic worth to casino firms due to the passage of UIGEA. The use of event study methodology as an appropriate methodology to examine this phenomenon is

further supported by the fact that it has been used previously in the literature to examine investor response to the passage of health care cost containment legislation (Jacobson 1994), energy tax legislation (Gilligan & Krehbiel 1988), and corporate governance reforms (Black & Khanna 2007).

DATA AND METHODOLOGY

The event date for the passage of the UIGEA was gathered from the LexisNexis Academic database. Casino firms were chosen from the COMPUSTAT database and screened based upon their standard industrial classification (SIC) code. Additionally, only firms with a market share exceeding 5% were included in the study. Casino suppliers were chosen in a similar fashion from the COMPUSTAT database. Firms with the appropriate standard industrial code were collected and screened as casino suppliers to include in the data sample as casino suppliers. In an effort to see if there was an effect based upon firm size, casino firms were also further subdivided into large cap and small cap firms. Following the precedence of Bin et al. (2009), firms were divided into two groups with firms exceeding \$1 billion in market capitalization being classified as large cap casino firms while those with less than \$1 billion in market capitalization being classified as small cap firms. Additional financial data was gathered from the Center for Research in Security Prices (CRSP) and COMPUSTAT databases via the Wharton Research Data Services (WRDS) website.

RESULTS

Table 1 presents a summary of the daily abnormal returns for the various groups studied in this paper for event days between $t = -5$ to $+5$. Because economic theory suggests that the expected daily return should be zero (French & Roll 1986), any deviation from a daily return of zero are generally considered unexpected although not always significant. As can be observed, all casinos (2.53%), including large (2.77%) and small cap (1.81%), experienced significant positive abnormal returns on the event day of $t = 0$, indicating that investors reacted positively to the passage of the Unlawful Internet Gambling Enforcement Act (UIGEA) of 2006 by rewarding casino firms with positive abnormal returns to firm shareholder value, indicating that governmental regulation could have an effect on investor behavior.

One of the assumptions of event study methodology is that investors react quickly to the event under investigation and the reaction is reflected almost immediately in the stock price. However, as suggested by McWilliams & Siegel (1997) and Author (2013), sometimes investors trade on information that may be leaked prior to the actual event, or the reaction may be delayed due receipt of news of the event either at a later date or after financial markets have closed.

Therefore, it is important to examine various event windows surrounding the event to capture these premature and delayed reactions. Table 2 shows the results of investor reaction to the news of the passage of the UIGEA over various event windows that are generally accepted and recommended by the marketing literature (e.g. Author 2013) for all casino firms examined in this study. Results show that over every event window examined, investors reacted favorably to the news of the passage of the legislation. Table 2 also shows the number of firms which experienced positive returns during the event windows examined, showing that a majority of firms experienced positive abnormal returns during the windows examined.

Prior accounting, finance, and marketing literature (Author 2010) have found that small and large cap firms often react either differently, or with different magnitudes to new regulations. For example, following the passage of the Sarbanes-Oxley in 2002, legislation which was designed to implement improved corporate governance and internal firm controls, the environment for small cap firms to compete and grow in that new regulatory environment became more difficult than for large cap firms (Wolkoff WSJ August 15, 2005). One reason for this hypothesized relationship is that larger firms generally have additional resources such as human and financial resources on a larger scale not possessed by smaller firms, allowing them to better meet and withstand the additional expenditures required for compliance with new legislation. Also, larger firms have been found to be more profitable than relatively smaller firms (Majumdar 1997). Tables 3 and 4 present the results for the two different groups of large cap and small cap firms. Both large and small cap firms experienced positive abnormal returns for all event windows examined. Using a *t*-test to determine whether the returns for large cap and small cap firms for event days -5 to +5 were significantly different shows that there are no significant differences between the two types of firms ($t = -0.719$, $p = 0.488$).

Previous studies in the marketing-finance interface that use event study methodology as a means to measure the financial effect to the firm as the result of specific announcements have only examined the direct effect the firm. For example, Cornwell et al. (2005) examined the influence on the stock price of firms announcing official sports sponsorships while Agrawal & Kamakura (1995) examined the effects of the announcement of celebrity endorsements to firm stock price as well. The unintended implication of these studies is that the effect of the phenomenon under examination stops with the firm of interest. While the direct effect to the firm have been examined, the effects beyond the firm extending to firm suppliers have yet to be examined. As such, we also examined the effects to major casino suppliers. Analysis shows that casino suppliers didn't experience positive abnormal returns immediately following the announcement of the passage of the UIGEA as shown in Table 5. However, when viewed over an extended time frame (-5 to +5), casino suppliers did experience positive abnormal returns, and they did experience positive abnormal returns on day +3 of 2.44%.

DISCUSSION

This study sought to examine investor reaction to the passage of anti internet-based gambling legislation through changes in stock price around the time of the passage of the UIGEA. This study also addressed the calls by senior marketing researchers (Reibstein et al. 2009; Rust et al. 2002) to further examine under what circumstances investors choose to reward or punish firms. While previous research in the marketing-finance literature had examined investor reaction to such announcements as celebrity endorsements (Agrawal & Kamakura 1995), sports sponsorship (Cornwell et al. 2005), and brand extensions (Lane & Jacobson 1995), examination of investor reaction to the passage of legislation prohibiting a business activity, in this case online gambling, had yet to be examined. Findings indicate that investors reacted favorably to the passage of anti internet-based gambling legislation by rewarding casino firms with positive abnormal returns to stock price and shareholder wealth.

This study also extended the marketing-finance literature by examining reaction to not only to the firms directly involved in the industry affected by the legislation, but, also examined reaction to suppliers to those firms. Findings indicated that although there was not an initial significant positive abnormal return to shareholder wealth following the announcement, three

days after the announcement those casino suppliers did experience significant positive abnormal returns to firm stock price. This implication may mean that investors take time to process information regarding firms that aren't directly involved or affected by the phenomenon under investigation. As news of the passage of the legislation spread, the reaction to casino suppliers may be due to published news regarding positive returns to casino stocks. For example, the passage of UIGEA surely prompted examination of casino stocks. News and financial organizations would then report on that news and the logical link between the financial relationship between casinos and casino suppliers would then be made and investors would respond accordingly.

LIMITATIONS

Limitations to this study primarily include the firms utilized in the study. Only firms with a market share greater than 5% were utilized in an attempt to capture the effect to those firms who potentially could benefit the most from the passage of this legislation. Perhaps the inclusion of all casino firms and those firms who have casino subsidiaries would change the outcome of the results. Attributing the shareholder reaction to only the event under consideration rather than considering the possibility that those shareholders were reacting to a different incident within the same event windows studied is an additional limitation. Finally, the methodology employed to examine shareholder reaction to the event under consideration, event study methodology, has been criticized for the fact that utilization of small data sets are often necessary to examine the phenomena under examination. Despite this limitation, this methodology is widely accepted in the accounting, economic, finance, and marketing literatures.

FUTURE RESEARCH

The examination of investor response to various regulatory issues is not new to the literature, however, with the current state-by-state debate of allowing gambling in states where gambling was previously banned, it is important to inform the literature and the investment community of possible reactions to such legislation. As such, future research would include the examination of in what contexts and under what circumstances do investors react to news from external and internal announcements. The examination of internal announcements publicizing the formation of relationships with outside entities through sponsorships (e.g. Cornwell et al. 2005), new product announcements (Lane & Jacobson 1995), and celebrity endorsements (Agrawal & Kamakura 1995) have been widely studied. However, the reactions of investors to events which are not within the control of the firm have received less examination, and warrant further examination. Finally, the pairing of consumer and investor reaction to examine what types of governmental regulation and firm initiatives and news exerts the greatest influence on their respective behavior would allow managers to plan and coordinate programs to respond accordingly.

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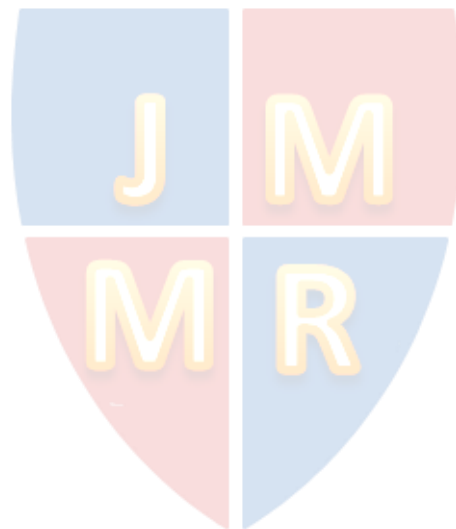
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APPENDICES

TABLE 1
DAILY ABNORMAL RETURNS FOR ALL FIRMS STUDIED
FOR EVENT DATES $t = -5$ to $+5$

Event Date	All Casinos	Large Cap Casinos	Small Cap Casinos	Casino Suppliers	DJIA Index
-5	-0.98%	-1.13%	-1.82%*	0.98%*	0.58%
-4	-0.01%	-0.43%	0.56%	-1.89%	0.81%
-3	-0.22%	-1.10%*	1.15%*	0.70%	0.16%
-2	0.56%	-0.22%	1.22%	0.87%	0.25%
-1	0.81%	1.43%*	0.38%	1.10%	-0.33%
0	2.53%***	2.77%***	1.81%**	0.06%	-0.07%
1	0.19%	-0.23%	-0.11%	-0.05%	0.49%
2	0.65%*	0.20%	0.65%	0.25%	1.09%
3	2.15%***	2.87%***	2.26%**	2.44%***	0.19%
4	-0.50%	-0.44%	-0.09%	0.78%	-0.13%
5	0.01%	0.10%	0.29%	0.29%	0.07%

*Significant at the ten percent level or less

**Significant at the five percent level or less

***Significant at the one percent level or less

TABLE 2
 MEAN CUMULATIVE ABNORMAL RETURNS (MCAR) FOR ALL CASINOS EXAMINED
 AROUND THE PASSAGE OF ANTI-INTERNET GAMING LEGISLATION

Event Window	N	MCAR	Z-statistic	N+	Z-statistic
0 to +1	15	2.49%	3.430 ***	13	2.948***
0 to +2	15	3.46%	3.779***	12	2.431***
-1 to +1	15	3.26%	3.623***	14	3.464***
-2 to +2	15	4.82%	4.094***	13	2.948***
-5 to +5	15	5.98%	3.179***	12	2.431***

*Significant at the ten percent level or less
 **Significant at the five percent level or less
 ***Significant at the one percent level or less

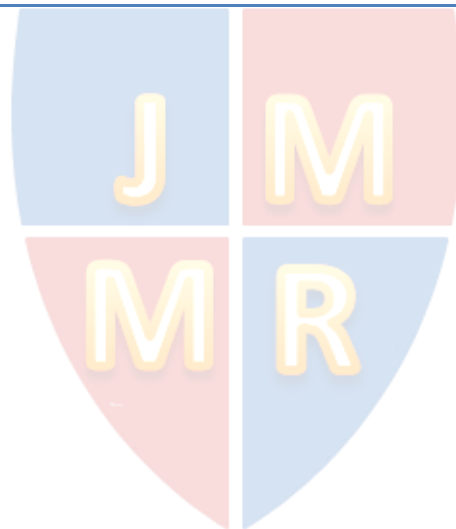


TABLE 3
 MEAN CUMULATIVE ABNORMAL RETURNS (MCAR) FOR LARGE CAP CASINOS
 AROUND THE PASSAGE OF ANTI-INTERNET GAMING LEGISLATION

Event Window	N	MCAR	Z-statistic	N+	Z-statistic
0 to +1	8	2.72%	2.885***	7	2.231* *
0 to +2	8	3.71%	3.027***	8	2.939***
-1 to +1	8	3.88%	3.363***	8	2.939***
-2 to +2	8	4.80%	3.072***	8	2.939***
-5 to +5	8	5.58%	2.280**	7	2.231**

*Significant at the ten percent level or less

**Significant at the five percent level or less

***Significant at the one percent level or less

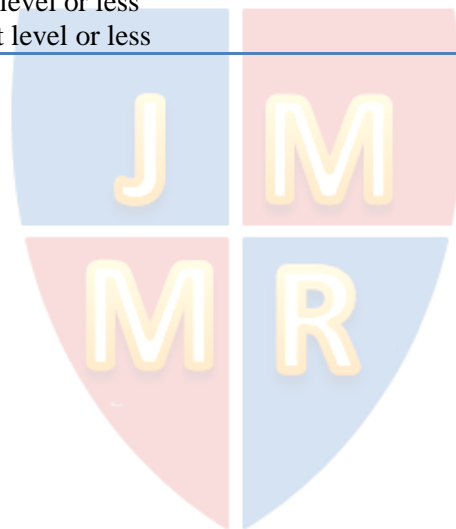


TABLE 4
 MEAN CUMULATIVE ABNORMAL RETURNS (MCAR) FOR SMALL CAP CASINOS
 AROUND THE PASSAGE OF ANTI-INTERNET GAMING LEGISLATION

Event Window	N	MCAR	Z-statistic	N+	Z-statistic
0 to +1	7	2.23%	1.936*	6	1.930*
0 to +2	7	3.17%	2.296**	4	0.418
-1 to +1	7	2.54%	1.708*	6	1.930*
-2 to +2	7	4.85%	2.710***	5	1.174
-5 to +5	7	6.44%	2.216**	5	1.174

*Significant at the ten percent level or less

**Significant at the five percent level or less

***Significant at the one percent level or less

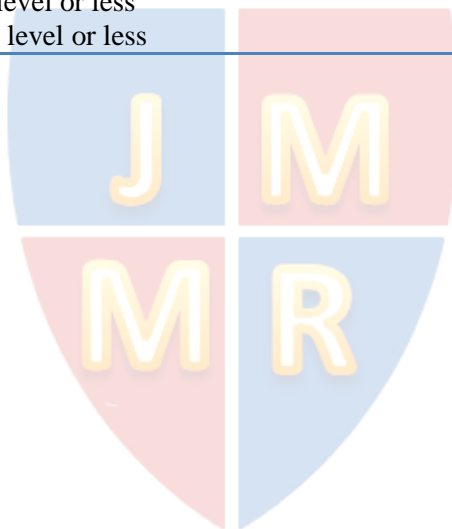


TABLE 5
 MEAN CUMULATIVE ABNORMAL RETURNS (MCAR) FOR CASINO SUPPLIERS
 AROUND THE PASSAGE OF ANTI-INTERNET GAMING LEGISLATION

Event Window	N	MCAR	Z-statistic	N+	Z-statistic
0 to +1	9	0.44%	0.225	4	-0.171
0 to +2	9	1.08%	0.617	4	-0.171
-1 to +1	9	1.43%	0.821	7	0.669*
-2 to +2	9	3.06%	1.450	9	3.168***
-5 to +5	9	6.77%	2.446**	9	3.168***

*Significant at the ten percent level or less

**Significant at the five percent level or less

***Significant at the one percent level or less

