

Does Sports Betting Affect Investment Behaviour? Evidence from Ghanaian Sports Betting Participants.

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Abstract

The study sought to assess the impact of sports betting on the investment behaviour of Ghanaians, focusing on sports betting centers within the Accra Metropolis, Ghana. The objectives of this observational study were to determine how individuals perceive the risk of sports lotteries as opposed to investment, to determine if sports lottery was viewed as an alternative to investments and savings, and to understand how participation in sports lotteries affects individuals' ability to save and invest. In adopting a survey approach, 99 sports betting participants across selected betting centers were examined using questionnaires and the data subsequently analyzed through cross-tabulations. The study found that sports betting behaviour had a complementary rather than a substitutionary effect on investment behaviour. The participants were both risk-aware and risk-averse, but engaged nevertheless in betting for a chance of winning a high payoff. Thus, the findings demonstrated that sports betting participants viewed betting as a means to an end, a chance to improve their financial circumstances, rather than as a substitute for investing, and exhibited understanding of a clear distinction, with regards to behaviour, towards investing and sports betting. In return for a substantive payoff, the respondents were willing to stop sports betting, thereby indicating that the financial payoffs were the main motivation for sports betting. The findings also provided evidence that individual sports betting behaviour can be moderated by influencing one's financial circumstances.

Keywords: sports betting, investment behaviour, football gambling

Résumé

L'étude cherche à évaluer l'incidence des paris sportifs sur le comportement d'investissement des Ghanéens, en mettant l'accent sur les centres de paris sportifs au sein de la métropole d'Accra, au Ghana. Cette étude observationnelle vise à déterminer comment les personnes perçoivent le risque lié à la loterie sportive par

rapport à l'investissement, à déterminer si la loterie sportive est considérée comme une solution de rechange aux investissements et à l'épargne et à comprendre comment la participation à la loterie sportive affecte la capacité des personnes à épargner et à investir. En adoptant une approche d'enquête et à l'aide de questionnaires et de données analysées dans des tableaux croisés, on a analysé 99 participants aux paris sportifs dans les centres de paris sélectionnés. L'étude a révélé que les paris sportifs avaient un effet complémentaire plutôt qu'un effet de substitution en matière de comportement d'investissement. Les participants étaient conscients du risque et démontraient une aversion au risque, mais pariaient pour avoir la chance de remporter un gain élevé. Ainsi, les résultats ont montré que les participants aux paris sportifs considéraient ces paris comme un moyen d'atteindre une fin, une chance d'améliorer leur situation financière plutôt que comme un substitut à l'investissement. Et en ce qui concerne le comportement, ils savaient clairement faire la différence entre l'investissement et les paris sportifs. Les données ont montré qu'en échange d'un gain substantiel, les répondants étaient disposés à cesser de participer à ces paris, ce qui a permis de démontrer que les gains financiers étaient la principale motivation de ces jeux. Les résultats fournissent également des preuves étayant l'idée selon laquelle le comportement individuel lié aux paris sportifs peut être modéré en influençant la situation financière de chacun.

Introduction

Over the last decade, sports betting or gambling has gradually become a dominant part of the African sports culture, with many sports betting outlets having come into existence (Akanle & Fageyinbo, 2019; Herskowitz, 2016). Tolchard, Glovah and Pevalin (2014) explain this development. Western gambling superpowers have recognized new opportunities in emerging markets, and are consequently developing products to meet those opportunities. It is worth noting, for the purposes of our study, that the majority of these betting outlets appear to be situated in poor areas within the city or low income earning areas or suburbs.

The Gambling Regulations Act (2003)¹, introduced through Victorian legislation and regulation, purports to define a framework in which an act can be deemed Sports Betting (SB). The Act qualifies sports betting as the act of placing a financial wager on the outcome of a specific sporting match or on events that occur within the larger context, match or fixture ("Gambling legislation and regulations", 2018). In the African context, Unibet, a sports betting company, defines SB as placing a bet on the outcome of a match, and lists various types of SB, such as match betting,

¹Developed by the Victorian Commission for Gambling and Liquor Addiction, Australia. See <https://www.vcglr.vic.gov.au/gambling/gaming-venue-operator/understand-your-gaming-licence/gambling-legislation-and-regulations>

double chance, handicap betting, Asian handicap and others (“How to bet on football”, n.d.).

SB includes gambling at betting outlets on the outcome of sporting events, via the Internet or through football tipping. In Africa, few regulations are in operation on sports betting as SB is relatively new to the continent. In most African economies, SB is generally regulated by pre-existing lottery-type regulations.

The earliest form of SB was on horse races which were big sporting events that attracted masses of persons. In the early 1990s, people attended horse tracks to place bets. Later, bookmakers began taking bets over the telephone and, later still, via the Internet. Gradually, as European football matches became more and more popular, people began to bet on the matches, and with technology improving communication methods, SB grew along with it. In the United Kingdom alone, between 2010 and 2011, proceeds from gambling amounted to £5.5 billion and, more than half of that (53%) was attributed to SB (Mao, 2013).

In Africa in general and Ghana in particular, the story is the same. Aflakpui & Oteng-Abayie (2016) established that SB has seen a significant rise in the African continent in the last two decades. Wangari (2018) also studied sports betting frequency among the Ghanaian youth, here specifically within the ages 17–35, and found that about half of them (48%) place a bet at least once a month (see Figure 1). Kamara (2016) in his report on SB in Africa, revealed that SB is the main gaming operation in Ghana. His findings determined that Ghana maintains about ten sports betting outlets that use both online and retail platforms to operate. On average, these SB companies make a Net Gaming Revenue (NGR) of \$3.5m per month, with 17.5% taken by the government in taxes. The betting outlets are regulated by the National

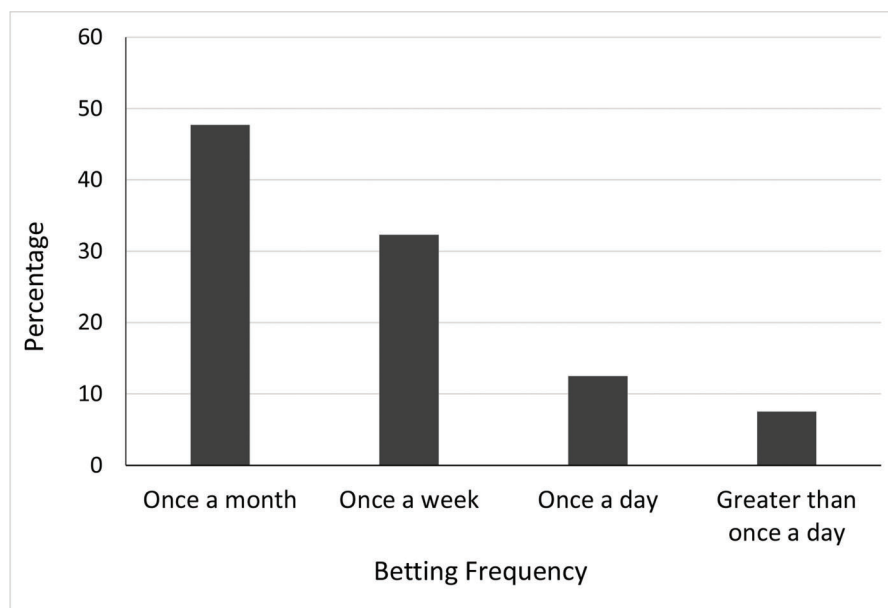


Figure 1. Betting Frequency in Ghana based on data from Wangari (2017).

Gaming Commission (NGC), which was established by the Gaming Act 2006, Act 721.

High levels of poverty linked with high unemployment, low-income levels, and low investments, have plagued many parts of the African continent (Kombui & Kotey, 2019; Kotey, 2019). The issue has mostly been tackled from a policy perspective. With the recent interest of Ghanaians in SB, a critical need exists to examine investment behaviour in light of alternative channels, such as SB. This study thus seeks to fill the gap by examining how sports lottery in Ghana affects the financial attitude, in particular the investment behaviour of the Ghanaians who engage in them.

Research Problem

The increasing popularity of European football has come with an increase in sports-related betting. This trend can be observed around the world where sports are appreciated. In the African context, increased access to technology as well as mobile phone penetration has opened more avenues for sports-related betting which were hitherto not there. In the Ghanaian context, online SB has become predominant among the male populace, who mostly are sports or football enthusiasts. Through technological improvements and infrastructure, sports betting engagements have become simple and easy for these groups. These SB participants can place bets within seconds on mobile devices or at betting centers. The bets range from the number of goals scored to fouls. Essentially, any form of uncertainty in any sports can be bet on.

Aflakpui et al. (2016) examined the demand for sports lottery in the city of Kumasi, a city in Ghana, using data from four hundred interviews. Their results indicated that 92% out of the 96% of adult males interviewed engaged in some form of sports lottery. These respondents were within the age bracket of 21–40 years. The data also revealed that 53.6% of those participants engaged in sports lottery were reported to be unemployed although a majority of them (67.2%) were first degree holders. This finding suggests a significant amount of Ghanaian youth engages in SB and this paves way for our research to further examine SB on investment behaviour.

The recent upsurge in the number of established betting centers or outlets in African economies like Ghana does confirm a rise in the demand for SB (Tagoe, Yendork, & Asante, 2018). Tolchard et al. (2014) have suggested this increment to be because of gambling superpowers taking advantage of new demand in emerging economies. With data penetration and telecom infrastructure improving sporadically, betting companies like MyBet, Supabet, Soccabet, and Eurobet among others have the leverage to affect a wider audience thereby effectively building the betting industry. Ghana has a total mobile data subscriptions of 34.57 million and a penetration rate of 119% (Jumia, 2019). This infrastructure has created the opportunity for online sports betting to thrive.

With the high incidence of unemployment and low-income levels in Ghana, investment and savings have been widely encouraged as a means to increase financial

inclusion and reduce poverty (Kombui & Kotey, 2019; Kotey & Abor, 2019; Mwakajumilo, 2011). More studies have examined the impact of savings and investment culture and financial inclusion through financial independence (Cohen & Nelson, 2011; Finlayson, 2009; Lusardi, Mitchell, & Curto, 2010). With the significantly high payoffs from sports betting, evidence exists to suspect betting participants may view betting as an investment tool. But, so far, to the best of the authors' knowledge, the literature on this subject is virtually non-existent: no one has actually looked at the effect of or the influx of sports betting on investment behaviour and savings. Thus, from a contemporary perspective, only scant proof can be found on the relationship between investment and sports betting. This paper is unique in that it seeks to fill this gap by examining sports betting contextually and how it affects investment behaviour. Specifically, the study delves into how individuals perceive the risk of sports lottery as against traditional investment, examining whether participation in sports lottery affects individuals' investment behaviour. It seeks to determine whether a sports lottery includes a substitutionary or complementary effect on participants' willingness to invest and save.

Literature Review

Empirics have examined sports lottery or betting in different contexts and perspectives. Certain authors have looked at it as a panacea for growth and development. Zhou and Zhang (2015) demonstrated that sports lottery promotes economic and social development through the provision of employment, boosting of consumer spending, generation of tax income, and promotion of various industries, such as communication, transport, manufacture, finance, and advertisement. Others researchers and groups have looked at it in a negative limelight associating sports betting to encouraging vices. The National Gaming Impact Study Commission² (1999), for example, has presented findings that support the notion that sports gambling leads to specific gambling additions linked to other vices, vices which reduce one's standard of living and well-being.

The idea of SP as an avenue for growth in countries remains controversial, with activists establishing strong arguments for and against this view. The International City Managers' Association (ICMA, 2010) put forward that SB is now legally recognized by several governments. These governments that have ensured that the industry is well regulated to (1) maximize economic benefits, and (2) limit any fraudulent activities. In certain jurisdictions, sports betting has been a source of income and employment, and a contributor to economic development. A similar view by Koven and Lyons (2010) established that, in countries where SB is legalized, betting taxes fund government projects. According to the Rockefeller Institute, revenue from gaming in those states where the activity is legalized has increased steadily over the last decade, rising as high as over \$1.5 billion per year. The institute

²The National Gaming Impact Study Commission was an independent public advisory commission established in the United States on 3 August, 1996 to study the social and economics impact of gambling. See their full report here: <https://govinfo.library.unt.edu/ngisc/reports/fullrpt.html>

also argued that SB constitutes a means of boosting tourism. As such, not legitimizing SB only diverts the potential tax revenue to either illegal gambling operations or other countries where it is legal.

Other arguments against SB have been based on religious and social grounds. Again, the National Gaming Impact Study Commission (1999) has reported that, despite the contributions to growth, dire potential negative consequences did nevertheless exist in encouraging the practice. SB, the Commission added, can become an obsessive habit, one that negatively affects the financial standing of gambling addicts. These individuals usually lose their ability to save and run into huge debts. The Commission put forward that the analysis of economic benefit derived from SB was poorly developed and incomplete. This analysis, the Commission continued, did not consider the social costs that must be considered in assessing the net benefits of SB. Such costs can justifiably be viewed from both individual and societal perspectives. The Commission listed the following as negative behaviours associated with SB: family abuse, suicide, truancy, poor academic performance, money laundering, alcohol and drug use, with poverty a frequent product of one or more of such behaviours. From the societal point of view, gambling leads to neighbourhood crime, and increases both prostitution among women and high school dropout rates. Countries that are faced with these consequences would have their economic progress impeded because education is a significant factor in poverty alleviation in an economy.

In countries where SB is legalized, revenues generated in the form of taxes from SB companies and betting gains have been used to facilitate several developmental as well as welfare projects. In China, for instance, revenue generated from SB was allocated for sports development with 60% proceeding towards the implementation of the “National Fitness Plan” and the remaining 40% contributing to complementary financing of the “Olympics Glorious Program” (Li et al., 2012). In other countries, revenues have been used for sports programs, such as sports infrastructure. Revenue from SB for governments is essentially explicit, though an implicit taxation system may also operate (Clotfelter & Cook, 1987; Clotfelter & Cook, 1990; DeBoer, 1986). Over the years, the traditional perception of SB being an unhealthy activity has been disproven by countries that have, through effective game regulation, raised funds development (McGowan, 1994).

Li et al. (2012) also established that sports lottery could be in two forms: formal and informal. In the informal context, friends bet on the outcome of a game by naming a prize for the winner. The formal lottery is usually organized by sports betting companies where the subscribers place a wager on the game. Humphreys and Perez (2010) noted that a positive correlation operated between sports lottery and sports spectatorship. These authors added that supporters of football patronize sports lotteries because of their allegiance towards the respective particular teams. Jones et al. (2004) were of the view that betting hubs offer customers the opportunity to place a financial wager on the outcome of an uncertain event usually a game of soccer. The authors added that another noteworthy segment of sports lottery is the

“betting exchange,” where customers are offered the chance to bet against other subscribers. In a betting exchange, a broker matches two subscribers, and the winning party secures the agreed price.

With regard to the investment part of this study, the researchers followed notable authors in the field, and modelled their research to reflect their perspectives on investment behaviour accordingly. These authors have defined investment behaviour as how people analyze, predict and review methods for decision making. These methods include information gathering, research and understanding of the markets (Grinblatt & Keloharju, 2000; Jorgenson, 1963; Slovic, 1972). Different scholarly works discuss the impact of sports lotteries on investment behaviour. Dupas and Robinson (2013) noted in their paper that the lack of savings culture limits the money available for investments. As such, people move towards sports betting, as it requires little income to patronize and offers a reasonable return.

Even though the tone of this research leans slightly towards the view that SB has a negative effect on individuals, scientifically, this study adopts a purely neutral stance. Specifically, the study focuses on the investment behaviour of SP participants, examining whether their SB behaviour affects their investment behaviour. With regard to investment behaviour, the authors follow the notable empirics to measure investment behaviour from a decision-making point of view, matching sampled responses against rational investment choices.

The Ghanaian Lottery Landscape. The Lottery industry in Ghana has been in existence for over six decades. The National Lottery Authority (NLA), the main regulatory body, was established under the auspices of the Department of National Lotteries in 1958 to assist and regulate raffles for the public. The Lotteries Betting Act (Act 94) was passed in 1960 to commence the lottery business, with the intent of promoting economic development and generate revenue ("NLA | Development through games", n.d.). The NLA was originally called the Department of National Lotteries (DNL), and held a legal monopoly on the organization of lotteries in Ghana. Over the years, the NLA has ensured compliance, and preserved a solid working environment for both lotto operators and subscribers (ibid). The traditional lottery kiosk has been the main modus operandi for lottery in Ghana, but in recent times, because of technological advancement, subscribers now use the online sports betting platforms. Several sports betting hubs have sprung up in popular areas throughout the country.

Although certain studies (Appiah & Awuah, 2016; Glozah, Tolchard, & Pevalin, 2019) have posited that sports betting was foreign and unwelcome in Ghana because of its strong religious background, and that betting was seen as a social vice perpetuated by people with low moral values. However, the moral compass is gradually shifting. This perception began to change in 2014, when one of the major betting organizations in Ghana, Supabet, signed a deal to sponsor Kumasi Asante Kotoko, one of the major football clubs in Ghana. Currently, sports lottery has become increasingly popular, appealing to different social classes.

Sports betting, like any other game of chance, needs to be regulated properly to prevent the possible negative effects it can have especially the male populace. The Gaming Commission is a state-owned corporation, which has carved out a dominant position in Ghana. Kaku (2017) put forward that the NGC maintains a monopoly status, one which has led to a steadily growing business because of the increase in Sports Lottery businesses across board. Gambling in Ghana can be grouped in two main categories: lottery as one division and all other games of chance as another. The NGC was formed based on the Gaming Act 2006 (Act 721)³ to monitor, control, and regulate activities of Games of Chances in Ghana. The Commission issues licenses and permits to operators who have met the necessary requirements. The NGC generates revenue for the economy through taxes and fees from sports betting hubs, casinos, promotions and operators. The NGC was also set up to protect the public from fraudulent entities that engaged in gaming activities. The Ghana News Agency (2018) has mentioned that the Commission of gaming intends to roll out initiatives to strengthen gambling in the economy. The NGC would migrate from its manual operations to a digitized platform to ensure compliance and monitoring of tax payment by licensed operators. The Commission, in collaboration with the Ghana police, is now actively working to confiscate slot machines of illegal operators in Ghana.

Factors influencing Sports Betting. A number of factors were determined to produce an effect on sports betting. A distinct view by H. Li et al. (2012) posited three main classifications for the various determinants of sports betting. The researchers included consumer characteristic variables, marketing variables, and product attribute variables. Product attributes include the jackpot, prize structure, and effective price, while consumer characteristics include demographic factors, such as income, age, sex, religion and ethnic background. The last classification, which composes the marketing variables, consists of accessibility of the venue, competition, product substitution and social responsibility marketing.

Income and Age. Humphreys and Perez (2012) determined income to be a major factor, one that influenced a person's decision to engage in sports betting. The researchers performed a comparative study among different races and cultural groups in America, including Hispanics, black Americans, and white Americans. The empirical results demonstrated that the household median was lesser than the income of an average sports bettor. The researchers also found that the older generation engaged less in SB as compared to the younger generation because the younger one, because of its overall financial situation, is able to take more risk. The older generation is limited by family responsibilities and conservative in their investment decisions. A higher probability is that people with low-income levels will engage in betting than those with higher income levels. Grote and Matheson (2011) expressed the notion that income, income changes and poverty levels affect the demand for SB. Their study indicated that bettors earning lower-level income spent

³Gaming Act 2006, (Act 721) establishes the National Gaming Commission and legalizes all forms of Games of Chance in Ghana except Lottery. See <https://www.mint.gov.gh/agencies/gaming-commission-of-ghana/>

greater percentages of their earnings on lottery products. Other schools of thought opposed the notion that lesser income resulted in increased demand for lottery. For example, Mao (2013) posited that in China people with higher income levels had a higher demand for sports lottery.

Educational Level and Gender. Perez and Humphreys (2013) put forward the idea that a negative relationship operates between education and sports lottery. People with a strong educational background were less likely to engage in sports betting and vice versa. Through their findings, the researchers proved that sports betting was popular amongst the Black and Hispanic male populace.

Effective Price. Clotfelter and Cook (1987) identified Effective Pricing as a factor that could influence SB. The authors explained that two different prices function within the SB market: (1) Nominal Price, that is, the price of the lottery ticket, and which is usually a small amount (e.g., one dollar), and (2) Effective Price, defined as the cost of buying a probability distribution of prizes that has expected value of one dollar (p. 113). Another study, by Gulley and Scott (1993), was consistent with this view. It is assumed that players form a rational mental image of the effective price and make their purchasing decisions based on it. However, Gulley and Scott also emphasized that this perspective was in fact improbable. To calculate the effective price when they wager, players would need to command a strong cognitive and complex mathematical mind—unlikely given the time involved in placing bets and the low cost of the ticket.

Jackpot Pool. An additional factor that influences SB is the concept of Jackpot Pool (Clotfelter & Cook, 1991; Forrest, Simmons, & Chesters, 2002; Garrett & Sobel, 1999). The proponents of this factor argued that, rather than the expectation of winning the prize lottery, players instead focused on the dream of winning. Thus, players are attracted to bet because of the dream of winning the largest prize money or owning the winning ticket.

Game of Attractiveness. Yet another factor put forward by Breuer, Riesener, & Salzmann (2014) is the Game of Attractiveness. The proponents stipulated that the attractiveness of a game (or gamble) influences the demand for it. The proponents explained that SB offers its subscribers, aside from monetary utility, non-monetary satisfaction. The researchers added that certain subscribers engage in SB to serve as an emotional hedge against a disappointing or unsuccessful investment outcome. Paul and Weinbach (2010) and García, Pérez, & Rodríguez (2008), in analyzing a two-year aggregated betting volumes of three major online sportsbooks (2008–2009), found similarities between betting behaviour and supporter behaviour. The researchers found that key supporter-type attributes, such as television coverage, or quality of players or teams, had a positive and significant effect on the betting volume.

Mao (2013) also discovered that the marketing strategy used by sports betting agencies affected the demand for sports betting, adding that popular leagues and games attracted more bets. Examples included matches in the German Bundesliga and

English Premier League. Both leagues attracted more bets than in the less popular ones. Statistics from the study demonstrated that sales increased by 60% during these football seasons while sales decreased by 30% during performances by unpopular leagues.

Theoretical Framework

The study rests principally on the Expected Utility Theory (EUT) and the Optimal Capital Accumulation Theory as the main theoretical underpinnings. The EUT was developed by Friedman and Savage (1948). This framework is an extension of the Bernoulli Utility Function. In a nutshell, the Bernoulli Utility Function categorizes investors into three clusters, specifically (1) risk lovers, (2) risk-neutral participants, and (3) risk-averse participants. The Expected Utility Theory validates why people prefer to consume a risky commodity, such as a lottery, when one is uncertain about his or her chances of winning. The theory also explains why people would engage in sports lottery so long as their expected utility is higher than the utility of expected income.

According to Friedman and Savage (1948), an individual can display all the above characteristics at the same time. The EUT works to delineate more clearly how a person can place a bet while also undertaking an insurance policy. The proponents establish for themselves that persons who are involved in risky consumption (e.g., lotteries) possess a utility function of convex and concave segments.

To justify investment behaviour, the authors leaned towards the theory of optimal capital accumulation as the underlying theory. Rooted in the Neoclassical Framework, Jorgenson (1963, 1967) posited that capital accumulation was principally based on one's objective of maximizing the utility of a stream of consumption. Thus, the need to delay or not to delay consumption is based on one's need objectives towards utility. To accumulate capital, an individual must therefore defer immediate consumption.

Conceptual Framework

The conceptual framework the study adopted examined the link between sports betting, its associated risk and rewards, and the perceived influence on investment behaviour (see Figure 2). The researchers postulated that SB may influence investment behaviour through two channels: (1) by SB being an investment channel in itself, and (2) where SB influences investment behaviour through the risk and rewards channel. In simple terms,



Figure 2. Conceptual Framework.

Table 1
Sampling groups

Sports betting center	Sample size
Supabet	35
Mybet	35
Soccabet	35
Euro bet	35
Total	140

the study inquires, from betting respondents, the reason for SB, and whether SB behaviour affects the decision to save or invest personal capital.

Method

The research design incorporated a quantitative approach using a questionnaire survey, which is a more effective measurement tool for studies of this nature (Vogt, 2007). Principally, the research study used open and closed research questionnaires to solicit primary data from SB respondents. The research examined the respondent's perception—that is, his level and understanding—of risk and investment, and whether gambling influences this understanding.

The research population was sports betting persons within SB outlets in and around the Greater Accra Region (see Table 1). To collect the data, the researchers visited various sports betting centers within Madina, Lapaz and Kantamanto, and handed out the questionnaires directly to the individuals who were engaged in SB. As a sampling approach, the researchers adopted a stratified sampling method to select respondents from the various sports betting centers. This choice of sampling was influenced by the need to ensure the dataset adequately captured all sub-groups pertinent to the research (i.e., ensure that the data represents a meaningful representation of the various betting centers). Because of the perceived reluctance from respondents and other difficulties, the sample size was conveniently set at 140 respondents, made up of 4 strata, with each stratum (representing a betting center) consisting of 35 responses. Out of this number, 99 of the responses were successfully retrieved, then analyzed through SPSS. The findings follow. The researchers aimed to reduce the margin of error of the data by collecting data from participants who were betting at the SB center at the time the data were collected.

Results and Discussion

In Ghana, a stigma is still attached to betting. Certain of the SB participants we contacted therefore felt uncomfortable sharing information about their betting behaviour even though they were assured of anonymity. This situation made it particularly difficult to collect the data pertinent to this research because most of the gamblers consulted were not willing to participate in the research at all. The authors

received consent to publish names of the SBs used for the study. Data used for this research were collected within the sport betting centers and a formal permission was sought before the researchers were given full and final permission.

A total of 99 respondents from MyBet, SupaBet and Soccabet sports betting centers provided data for the research. In examining the gender distribution, the researchers found that the number of males at the centers was greater than the number of females. This statistics provided evidence that sports betting in Ghana is generally a man's world. Majority of the respondents were also single, as compared to married, divorced and widowed. What was more, most of them did not hold the responsibility of taking care of a family. Thus, the data indicated that the vast majority of those who engage in sports betting are single men. The ages of the sport betting respondents confirm that the respondents are mostly unmarried. The data indicated too that the majority of the respondents (64%) were between the ages of 18 and 24 years, and those within this age group were twice as much as those above it. This was a finding which supports the idea put forward by Humphreys and Perez (2012) that older generations have family commitments and are therefore more conservative in their investment decisions. Members of such generations are thus less likely to engage in SB.

Again, following from Perez and Humphreys (2013), the authors anticipated that poverty and the lack of education would be the two reasons why many of the youth in Accra took to sports gambling. But the data disproved this. The data instead demonstrated that most of the respondents were in fact well educated, with over 60% of the respondents having either attained a secondary or tertiary education. About 13% also had junior level qualifications. The researchers found that even without asking, many respondents indicated that they engage in sports betting because the jobs are available to them are insufficient in number. Consequently, the participants considered themselves obligated to gamble as success in gambling would improve their financial situation.

Frequency of betting

As shown in Table 2, the questionnaire asked if the respondents were sports lovers. The proportion and number of Yes responses (93%) indicated that most sport betting participants maintained a strong psychological attachment to sports, and that that is why the respondents engaged in SB. Also, most of the participants engaged in sports betting frequently. Most of them claimed they bet mostly on a weekly (55%) and daily (31%) basis. The proportionally least of the respondents said they bet on a monthly basis.

The data also revealed that the respondents engaged in other forms of betting aside from football betting. Such betting included casino games, horse racing, archery and other virtual games. All the games were displayed on television sets installed within the centers. Other games were computer-based. To bet, customers used computers which were made available at the centers. The computer-based betting was online

Table 2
Data results I (N=99)

Item/Question	Percentage
Gender	
Male	97
Female	3
Marital Status	
Single	82.8
Married	8.1
Divorced	3
Widowed	1
No response	5.1
Age groupings	
18-24yrs	63.6
25-34yrs	30.3
35-44yrs	4
45-54yrs	2
Level of formal education	
Primary	7.1
Junior high	13.1
Senior High	48.5
Tertiary	28.3
Professional qualification	3
Are you a sports enthusiast?	
Yes	92.9
No	6.1
No response	1
How often do you bet on football?	
Daily	31.3
Weekly	54.5
Monthly	2
No at all	11.1
No response	1
Do you bet on other sports apart from football?	
Yes, I do	45.5
No, I do not	52.5
No response	2
Have you ever won any sports bet?	
Yes	81.8
No	15.2
No response	3

and in real-time, and, through the placement of bets, customers competed with other gamblers globally.

Sports Bets Payout Ratio

When respondents were asked whether they do in fact win any of the bets they place, more than 80% replied they had won at least one sports bet. The fact that the

Table 3
Payout ratio

Item	Ghc
Total Stakes or bets	11,975.00
Total Wins	257,274.00
Ratio of bets to wins	21.48

respondents do win occasionally explained why the respondents do bet regularly. It is worth noting, though that the matter is not the focus of this study, that the regular wins misled the respondents in believing they accrued more money than they had put in. Las Vegas, the understood contemporary home of professional gambling, maintains a 95% payout rate, which *actually* means that an average gambler loses 5% of monies invested.

The questionnaire asked the respondents how much money they won out of the bets they had staked. The data indicated that the payoffs were extremely high (see Table 3). The participants purported to have won on average 21 times more money than they had put in. The higher payoffs attracted the respondents to SB. The high payoffs, however, were unevenly distributed, in that few persons won extremely high amounts, whereas the rest won nothing.

Sports betting: Addiction or Necessity?

About 70% of the respondents agreed that sports betting was risky while the remainder of the participants did not. The questionnaire also included a number of scenario-based risk assessment questions that sought to examine respondents' risk perception and behaviour. The scenario questions also worked to capture respondent's investment behaviour against betting behaviour.

The questionnaire asked the respondents what they would do having received a large sum of money. The majority of the respondents (about 72%) replied they would invest in treasury bills rather than bet with their respective winnings. A cluster of the respondents making up 18% of the sample also indicated they would invest half of the winnings, and save the rest. This finding suggests that, ordinarily, if the participant had enough money, he or she would not then gamble with it. The respondents perceived gambling as a means or necessity to attain the riches for which the respondents hoped. This finding demonstrated that the participants engaged in SB because of the expected monetary utility from gambling and not for any non-monetary gain, a finding which refutes the game of attraction postulated by Breuer et al. (2014).

As a follow-up, the questionnaire asked the respondents if they would stop gambling if a large sum of money was given to them (see Table 4). The data revealed that most of the respondents (72%) would stop gambling if the respondents did in fact receive a sizeable sum of money—that is, enough to meet their needs. Upon interacting with certain of the respondents, they expressed financial need as the main reason, coupled

Table 4
Data Results II (N=99)

Question	Response option	Frequency (%)
Do you see sports betting as very risky or not?	Yes, it is very risky	69.7
	No, it is not	27.3
	No response	3
If you had GHC 10,000, what would you do with it?	I would invest it in treasury bills or other investments.	71.7
	I would most likely spend it.	3
	I will bet it on sports so I would triple the money.	4
	I would save half and bet the rest on sports.	18.2
	No response	3
If you are asked to stop sports betting and receive GHC 10,000, would you do it?	Yes, I would	71.7
	No, I would not	23.2
	No response	5.1
How do you feel when participating in sports betting?	I feel great	26.3
	I feel anxious	19.2
	I feel confident	31.3
	I feel very scared	16.2
	No response	7.1
Do you have any investments elsewhere?	No, sports is my only investment.	28.3
	Yes, I have investments elsewhere and I use the profits to bet on sports.	20.2
	Yes, I have other investments that I do not use for sports betting?	45.5
	No, I do not have any other investments because I do not need one.	3
	No response	3
Which of the following are you able to do more because of betting?	I am able to save more from my betting gains.	30.3
	I spend more of my money on betting, one day I will win big.	36.4
	I am able to have a more fulfilling and happy even though I do not win all my bets.	24.2
	No response	9.1

with a lack of jobs as to be why they bet regularly. The respondents believed, through gambling, they could turn around their financial needs. Evidence exists to suggest that those respondents who participate in sports betting are doing so for the sake of winning a huge amount of money, and not necessarily as an investment, or as part of a savings habit, or because they enjoy doing it.

Investment Behaviour

The questionnaire asked the respondents how they felt each time they engaged in betting. More than half of the respondents expressed enthusiasm, claiming they felt

confident about themselves when betting on sports. Those gamblers who expressed negative emotions, such as anxiety and fear when sports betting, were in the minority relative to their fellow gamblers.

The authors then determined whether the respondents had had other investments, or if they put them into betting, or both. The data revealed that the larger chunk of the respondents had investments elsewhere, ones they did not put into sports betting. That finding accounted for close to half of the respondents. But 20% of the respondents indicated they held investments elsewhere, the profits of which they put towards sports betting, while another 28% of respondents claimed their only investment was in sports betting.

Respondents Expectation from Sports Betting

When the researchers asked respondents their expectations from sports betting, 36% of the participants indicated they wanted to put more money into their betting, with the hope of substantial future winnings. About 30% of the respondents claimed they were able to save more of their betting gains. Other respondents expressed personal fulfillment even though they had not expected to win all their bets.

Cross tabulations

In examining the respondents' interest in sports as against their investment decisions (see Tables 5 and 6), the researchers found that respondents who were sports supporters would consider investing in treasury bills if they possessed a lump sum of money. The SB enthusiasts who said they would bet the money on sports were extremely small in number. The respondents who claimed they were not sports enthusiasts were negligible, and more than that half of that number still opted to invest in a T-bill. This finding, coupled with the earlier discoveries, indicated that the respondents, although SB participants, when given a lump sum would behave differently than expected (i.e., invest the monies in a less risky venture). Such a finding implied that the betting behaviour and investment behaviour of the respondents were different relative to each other, and that the former does not influence the later.

When the authors cross-tabulated the data on those gamblers who (1) were sports enthusiasts, and (2) had investments elsewhere, the data demonstrated that, of the sports enthusiasts, more than half had other investments. They did not use these investments for SB.

The findings demonstrated that, even though the respondents engaged, in SB which is exceptionally risky, when it came to investing, they preferred investments that did not carry as much risk. Also, the respondents separated their real investments from their sports betting. The respondents perceived sports betting as a means to make great gains that they would then invest elsewhere.

Table 5
Cross-Tabulation I

Item	If you had GHC 10,000, what would you do with it?					Total frequency
	I would invest it in treasury bills or other investments.	I would most likely spend it.	I will bet it on sports so I would triple the money.	I would save half and bet the rest on sports.		
Are you a sports enthusiast?	Yes 69	2	4	17		92
	No 2	0	0	1		3
Total frequency	71	2	4	18		95

Note. The table cross-examines the data from two items from the study questionnaire. "Are you a sports enthusiast?" is presented in a horizontal manner (row form) while "If you had GHC 10,000, what would you do with it?" is presented vertically (column) form.

Table 6
Cross-Tabulation II

Item	Do you have any investments elsewhere?				Total frequency
	No, sports is my only investment.	Yes, I have investments elsewhere and I use the profits to bet on sports.	Yes, I have other investments which I do not use for sports betting?	No, I do not have any other investments because I do not need one.	
Are you a sports enthusiast?	Yes 27	19	43	2	91
	No 0	1	2	1	4
Total frequency	27	20	45	3	95

Note. The table cross-examines the data from two items from the study questionnaire. "Are you a sports enthusiast?" is presented in horizontal (row) form while "Do you have any investments elsewhere?" is presented in vertical (column) form.

Conclusion

The study sought to assess the impact of sports betting on the investment behaviour of Ghanaians, focusing on selected sports betting centers within Accra. Data from 99 respondents, all of whom participated in SB, were used for the study.

The findings determined that majority of the respondents who engaged in sports betting were well-educated, with most of the respondents having attained formal education at the secondary and tertiary level, with most of the respondents die-hard sports supporters who bet regularly on a daily and weekly basis. Majority of the respondents were not married, and were young men. The payoffs from the bets could be as high as 21 times the stake.

When it came to risk perception, the researchers found that the respondents were well aware of the risks associated with sports betting. Most of the respondents proved to be risk-averse, preferring to invest in a treasury bill if they were in command of a lump sum. The respondents demonstrated evidence of understanding the risky nature of sports betting, and owned investments elsewhere, with which they refused to gamble. Also, most of the subjects opted to stop sports betting if they were given a lump sum, in this case, Ghc 10,000, a finding which demonstrated that they viewed gambling as a means to an end, a form of financial gain.

The participants also revealed more general confidence than did those persons in the larger society who were not gamblers. Negative emotions, such being afraid or anxious, were extremely minimal with the respondents who engaged in sports betting. When the respondents were asked what they would do after betting, most of them indicated they wanted to continue to bet in order that they might invest their winnings. Thus, the research demonstrated that those respondents who engaged in SB distinctively separated their betting from investment. The respondents perceived SB as a means to an end, one to make money, which they planned in turn to invest elsewhere. SB participants did not see SB as a substitute for investment, but rather as a complement towards becoming financially stable. In implementing macro-level decisions or policies that affect sports betting in the country, a strong grasp of this complementary effect is necessary to achieve the desired results.

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