White Paper

Sports Betting Exchange

Wagering and Wall Street, An Inevitable Encounter

This paper discusses the similarities between options and futures with sports betting and touches on how casinos can use a betting exchange to hedge their risks. The paper also introduces a new class of bets called composite bets that will generate additional revenues and explains how placing exchange tradeable bets at the state level and trading them through a national exchange can comply with both state and federal laws.

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Introduction

This paper covers some of the similarities and differences between the securities and the wagering industries, two industries that are legally treated very differently, are highly regulated and have their own separate set of regulators. The paper discusses how the gaming industry can utilize the technologies developed for the securities industry during the last couple of decades when the growth of U.S. online gaming and wagering was held back by laws and regulations while it was thriving in Europe. The paper also touches on the history of sports wagering and development of options and futures by the financial industry and the resemblance of the two, one being a bet on a financial event and the other, a bet on a sporting event. The paper also introduces a new class of bets called composite bets that spans over a period time that could generate new gaming and tax revenues and explains how a securities style betting exchange and adoption of a convention for creating unique betting and trading symbols can standardize the process between different bookmakers and the exchange. Currently the industry uses a rotational convention which stays unique only for a period of time and then rotates again. The paper also cites legal references as to how two types of distinct transactions, placing bets and trading bets, could help the industry comply with both the state laws and the federal laws.

Wagering Vs. Investing

Wagering is a contract between two parties and is structured to be a zero-sum game with one party losing and the other party winning. On the other hand, investing is not a zero-sum game, and is structured to generate a return on the capital invested with the caveat that that there is a trade-off between risk and return, the higher the risk, the higher the chance of losing all or some of the money invested but also the higher chance of a larger return. Both wagering and investing are intended to reward those that are successful in their predictions and are regarded to be very different activities, however some financial products with high risks and high rewards are closer to wagering than investing. With these types of products, the difference between wagering and investing gets blurry, making them attractive to the same demographics that have the desire for higher rewards and the tolerance for higher risks.

Different Opinions Creates a Market

We all have different opinions and express ourselves by our actions and the financial positions we take. In the case of investing, the position we take is a wager on the success or failure of a company and in the case of wagering, the position we take is a wager on outcome of an event. A wager is event based, has a definite or definable time window and has a finite number of possibilities. Once an event is completed and its outcome is determined, the win or loss amount of the wager can be established. On the other hand, investments in securities can have a long-lasting life and the value of the capital invested can be judgmental and could fluctuate over time. Some securities traded on options and futures markets are event based and are essentially wagers on future price of a stock or a commodity. Overall, what makes a market is the difference in people's opinion, and the price of the product traded in a marketplace is determined based on people's opinion regardless of whether it is predicting the score of a sporting event or future price of an asset. Currently once a bet is placed it is a restricted asset and has no liquid and competitive market to trade it. Fortunately, the securities industry has already created the legal framework and the technology for people to electronically trade with each other, an opportunity that bookmakers can capitalize on.

Birth of Stock Markets and Derivatives

In the early days, people were only investing in their own businesses. Over the years, legal frameworks were developed for investing in other people's companies which led to creation of stock markets and electronic trading. Rules and regulations were created for different segments of the stock market's ecosystem to be conducted by separate organizations, licensed stockbrokers to handle the investor's orders, matching engines to execute the trade orders and market makers to compete on prices in an auction style format. To facilitate the process of taking and executing orders, exchanges assigned unique symbols to each security and automated the process with electronic trading which reduced trading costs and eliminated the need for people handling and executing the orders. Lower costs created opportunities for a new breed of investors who became day traders, bringing stock trading and gambling closer to each other. Day traders added to market volatility, leading to deployment of derivative products as insurance policies for portfolio managers to reduce the volatility of their portfolios by passing on some of their risks to others, creating a new market for speculators, giving birth to the world's biggest gambling house, The Chicago Board Options Exchange (CBOE).

Wagering in Europe

Betting shops have been around in Europe for many decades, in countries such as England there were more betting shops on its high streets than any other businesses such as banks or supermarkets. Walking to a betting shop to place bets on horses or sporting events was built into the European culture with soccer fans placing small bets on their favorite teams before the start of a match to have a skin in the game while watching the match on TV at their homes. Prior to the birth of online gaming, people consider placing a bet at a betting shop a much different entertainment experience than going to a casino. Historically, casinos in Europe have been small and more glamours establishments geared towards the more affluent, while betting shops have been more like retails stores aimed towards the working class. For a long time, the two businesses stayed separate and did not encroach on each other territories, casinos did not offer sports wagering and betting shops did not offer casino games such as slots or electronic games. A more relaxed gaming laws and regulations created a booming online gaming and wagering industry targeting the global market including the U.S. Introduction of slot machines disguised as fixed odds betting terminals into the betting shops pushed the envelope by turning them into min-casinos. Having slot machines in walking distance from peoples' homes and businesses combined with online gaming resulted in gambling addictions caused the recent push back by UK lawmakers to introduce a slew of legal changes to the business. Another phenomenon that happened in Europe was introduction of peer-to-peer wagering which created its own set of cross border money laundering and taxation issues.

Wagering in the U.S.

What makes the United States, a country of many different states, unique is its strict laws and regulations at the federal and state levels that evolve with time to keep the country united in moving forward. During the last several decades while the federal government was keeping an anti-sports betting stand, the local industry stayed stagnant in its traditional rudimentary format while the European online gaming companies were thriving by taking bets around the globe including the U.S. Strictly speaking, sports betting is not similar to any other casino games and there is no rational to justify that it should be conducted by casinos. The business fell on Nevada casinos' laps by default since it had nowhere else to go. When other states and Indian tribes followed Nevada and introduced casino style gaming, they stayed away from sports betting due to strict prohibition laws against any form of wagering except for horse racing which had its roots going to ancient days. Now with the recent legalization of sports wagering across the country, the landscape is changing, creating an opportunity for the wagering industry to revamp itself and follow the securities industry's ecosystem by introducing a betting exchange and a new class of bets that will generate additional revenues for all stakeholders.

Not a Traditional Casino Style Game

The casino industry is built based on the foundation of combination theory. Casinos' best friend is the house advantage, the difference between the bet amount and its expected payout, and for other games such as poker that are skilled based, casinos take a rake for facilitating the game. Sports betting on the other hand is not a casino game by any means as they do not host the games, have no control over their outcomes and can be susceptible to major losses on their outcomes if they don't balance their books. Historically, Nevada casinos considered race and sports as amenities to their operations and treated them as an ancillary product and a marketing tool to bring customers to their properties. For decades, Nevada had monopoly over legal sports betting and since they had a captive market, they were managing to recoup their losses on one or more games from the rest of the events of the season. This will be a much more difficult task to achieve when neighboring states such as California start legalizing sports betting.

The East Coast Followed Nevada

In 2018, following the reversal of PASPA, casinos on the East Coast started offering sports wagering and followed Nevada's format of offering odds. The current state-by-state and fragmented structure of the business presents a number of challenges. Currently a stand-alone book is in a disadvantage position as its potential market is limited only to those who are within its borders but is exposed to teams of savvy bettors across the country who can collaborate as a group to hedge their bets on several books across the country. Also, if an operator is licensed only in one state, it can have volatile results versus a larger operator that is licensed in several jurisdictions across the country. Moreover, with today's competitive market, if a customer wins on a large bet, she now has many choices to place her next bet and might not come back to give the book the opportunity to recoup its loss from that customer.

An Obscure Fee and Odds Structure

Nevada casinos have developed a wagering scheme that is not obvious to consumers and sounds strange to those that are not used to betting and might even consider it as a scam. In fact, most people who regularly wager are not able to calculate the fee percentage, commonly called the juice, that books charge. The odds and the fees are offered in different obscure formats, in the case of point spreads and over/under one needs to bet $11 to win $10 for even odds and to differentiate who is the favorite, a minus sign is placed before their handicap points. In the case of moneylines, the odds for the favorites have a minus sign to indicate the amount of money one needs to risk for winning $100 and for underdogs the odds have a plus sign to indicate the money one can win for every $100 wagered. The presentation of the odds and hiding of the fees in the odds is very confusing and maybe was done on purpose, however now that the business is mainstream it has its own drawbacks. Casinos set the initial lines based on what they believe would split their customers' opinions in half and change them in tandem on both sides of the event when their books get out of balance. Bookmakers tend to offer their odds closer to the event date to avoid random risk factors such as injuries and weather that could affect the odds which prevents early betting and suppresses full potential revenues.

Parlays and Teasers

Casinos offer parlays and teasers which essentially are a chain of single events combined into one bet requiring every bet in the chain to win. In other words, if one of the bets does not win then the chain is broken and there is no payout to be parlayed to the next game thus making the entire bet to lose. Teasers are a form of parlays that allows a bettor to adjust the point spreads between two or more events by adding points to one game and subtracting it from another game. The premise behind parlays and teasers is to offer a chain of single bets that bookmakers already offer to arrive at the theoretical payouts by multiplying the probability of winning in each event and using it as a wager into the next event which results in a low probability of occurrence but a high payout. These types of wagers appeal to those who want to gamble big and are willing to go for a long shot but in return expect to receive a larger payout if they win. Bookmakers typically shave off some of the potential returns on these kinds of bets from their theoretical payout calculations knowing the type of customers that place them are gamblers and not mathematicians.

Introducing Composite Bets

To avoid being exposed to added risks, casinos only take bets on single events and as mentioned in the above paragraph parlays and teasers are essentially a chain of single bets requiring each bet in the chain to win. Bookmakers can offer a new type of bet, which I call composite bets, made up of a number of events that span over a period of time and unlike parlays and teasers do not require every bet in the group to win. By issuing composite props, bookmakers can generate new revenues without jeopardizing their current offerings of single, parlays and teaser bets. Bookmarker can adopt the process that market makers use in the securities industry and offer a variety of composite props and still be able to manage their risks by using an exchange that offers bid and ask prices. Some of the composite bets can be fantasy style bets and some could be a combination of single bets that the bookmakers already offer. The fact that a bettor can win based on a combination of outcomes should be familiar and appealing to the gaming industry which drives most of its revenues based on the combination theory used in slot machines and table games. Offering composite bets and managing risks through a betting exchange will bring a new angle to the casino industry.

Single Bets and The Exchange

Traditionally casinos offer single bets, also called head-to-head bets, in various formats, the most common ones being moneylines, point spreads and over/under. Sportsbooks change their odds if their books get out of balance with the goal of minimizing their risks to the outcome of the game. Operators can use the betting exchange to sell their risk exposures as financial contracts to other casinos or licensed financial institutions that are members of the exchange in a liquid and auction style market. The orders could be packaged as contracts and can have similar instructions used in the securities industry such as limit, market, day order or good till cancelled orders. Sportsbooks could also offer their current wagers, moneylines, point spread, over/under, parlays and teasers, using an app which interfaces with the exchange. The app sends the info of the bets placed with the operator to the exchange in real time making them available for trading, creating a liquid market for buying and selling derivatives of the bets already placed with licensed bookmakers and thus establishing market prices for them. Books can also participate as market makers to balance their risks. If sportsbooks simplify the presentation of their lines and follow the stock market's format whereby the opening lines are treated as IPO prices and instead of hiding their juice in the odds, they charge a commission, they can manage their books by changing their bid and ask prices on both sides of an event based on supply and demand of orders coming from their customers within their own states and the market price of the national exchange.

Future Bets and The Exchange

Sportsbooks may also use the exchange in offering what is commonly called futures such as which team will win next year's Superbowl, and let people buy or sell the top contenders rather than the current practice of taking the risk on one side of the prop. For example, if Chiefs were given 10% chance to win the Superbowl before the season started and the odds is now 30% at the playoffs, then any contract which was originally issued at $10 per contract before the season is now worth three times of their issued price and maybe traded around $30 per contract on the exchange. The Book can issue new contracts with the new 30% chance, which translates to +233, and may decide to buy the original contracts, in a competitive market, at $30 per contract through the exchange to cancel some of its potential liabilities on the bets issued before the season at the opening lines.

Bookmakers are Issuers, Brokers and Market Makers

Casinos must be the envy of the securities industry, they have the monopoly to be market makers, brokers and issuers of bets which economically and legally are contingent contracts. In the securities industry, market makers create liquid and orderly markets for orders coming from stockbrokers and use bid and ask prices and the spread between the two as their tools to minimize their risks and balance their positions. Bookmakers, on the other hand, issue bets on both sides of an event and offer them with the same odds and change them in tandem if their books get out of balance. Bookmakers issue two types of contracts for each event, one is to buy the favorite and the other is to sell the favorite, which translates to taking bets on one team and taking bets on the opponent. It makes more sense if bookmakers follow the footsteps of the market makers in the securities industry and create spreads between buy and sell odds which effectively are the market prices for the betting contracts to balance their books rather than issuing them both at the same price.

Placing and Trading a Bet

Bookmakers can offer composite bets to their online and mobile customers by using an app that is similar to those offered by stockbrokers. Bookmakers take their customers' trading orders for issued composite bets that are already sent to the exchange for executions. What gets sent to the exchange and traded are not bets to violate the 1961 Wire Act, they are rather derivative financial instruments that derive their values from the bets that are already placed with licensed operators. Moreover, Title 31 U.S. Code § 5362(1)E(2), specifically states that any transaction conducted on or subject to the rules of a registered entity is not a bet or a wager. Also, since bets are issued by licensed operators, they comply with the issuing state's blue-sky laws and because derivatives of the bets are traded on a national exchange, they are exempt from registration under federal securities laws. The app that takes the bet order and the trade order can be integrated into the operator's existing sports wagering app or it can be on a sperate app similar to how some Nevada operators offer race and sports on two different apps. Casinos can generate new revenue streams by charging a commission when they take a composite bet and also charge a commission when a trade is executed for an already placed bet. By offering different bid and ask prices they can balance their books.

The Mechanics of the Exchange

The process starts with licensed bookmakers that are members of National Association of Sports Betting Exchange (NASBE) offering bets using an app that is interfaced with the exchange. The bets could be composite prop contracts that cover a number of events spanning over a week, a month or a season or bets such as single bets and parlays that casinos currently offer to their customers. The props are standardized within the ecosystem with unique ID's as the betting and trading symbols and are offered at $10 per contract. As events are completed and their results are established, they are automatically posted to the system from an official source to determine the outcome of the wagers. In the case of composite bets any deviations of actual results from the pre-match expectations will create a trading opportunity for those who have an account with the participating bookmakers to trade already placed bets that still contains one or more events to be played. The process of letting the supply and demand for a bet to establish the odds and prices for a composite bet helps casinos to offer new props that will generate new revenue streams while minimizing their risks by trading their risks through the exchange.

Examples of Composite Bets

A composite bet can be in many different forms and may even cover fantasy style bets. As a simple example, casinos may offer the following prop: "Will this week's total NFL point spreads exceed 97 points?". Those who bet "Yes" are betting the favorites will beat the underdogs by more than 97 points and those who bet "No" are betting they won't. This is no different than buying or selling a futures contract on CBOE and is somewhat similar to bets offered by PredictIt.org, a political prediction site. If the expected point spread for the first game of the week on Thursday was 7 and the favorite actually won by say 27 points, then those who bought the favorites may place orders to sell their positions at a profit through the exchange because the favorites as a group are now ahead and need 20 points less to cover their spreads. Another example would be: "Will Russel Wilson have more than 30 TD during 2021?".

Seamless Pre-Match and InPlay Trading

Similar to Initial Public Offering (IPO) of securities, NASBE members price a composite prop at the same price, say $10 per contract, and start taking buy and sell orders from their registered users who have already funded their composite betting accounts by transferring funds from their main sportsbook app or if the two apps are integrated, say using Iframe, then the main app's wallet is used. In the case of the prop mentioned in the above paragraph, whether the NFL's favorites cover their 97+ point spreads, bookmakers start the IPO process by offering buy and sell contracts at $10 per contract. The computer trading built into the bookmaker's App creates a spread between the buy and sell prices if the orders on both sides exceed a certain limit. The program does not have to be anything complicated, it can be a simple instruction that gets triggered based on parameters that the bookmaker establish, for example if the bets on one side exceeds the bet on the other side and the difference is higher than a certain percentage of the total bets then change the bid or ask price and create a certain amount of spread between the two. Once a bet is placed with a casino, the app sends the info on the bet in real time to the exchange which makes it available to the person who owns the bet with the option to sell it to other account holders within the ecosystem at a competitive price established by the exchange. After the first game starts on Thursday, accountholders can trade their already placed bets similar to how securities are traded on an exchange. Trading bets can be made at any time during the life of the bet, before a match or during a match until the last event in the composite bet is completed.

Betting on esports

Esports has been extremely popular with the younger generation who grew up with computer games with some finding single bets on sporting events not exciting enough and have recently gravitated towards gambling on certain stocks such as GameStop. Casinos have been slow in offering wagering on esports mainly because they still haven't figured out how to offer the odds and manage their risks on these types of events. Composite bets and exchange tradeable bets can be the ideal methodology for offering wagering on esports and letting the market to establish the odds for these types of events.

A Service Provider, Not a Book

The betting exchange is a matching service for NASBE members, it is not a sportsbook and does not handle customer funds, it tracks, executes and records trade orders. Bettors open accounts with licensed operators in their state and fund their accounts using the operator's funding mechanism. As part of its services, the exchange provides real time trade execution information to the operators and accountholders. The exchange also provides accounting records available to the operators to periodically settle their net payables and receivable with each other. As an example, if customer A places a bet with casino X and buys 15 contracts at $10 per contract, casino X deducts $150 plus commission from the bettor's account. If customer A then sells the contracts to customer B of casino Y for $20 per contract through the exchange, casino X credits customer A with $200 and casino Y debits customer B's account with $200. If the bet loses, casino X keeps the $150 that was wagered by customer A and casino Y owes casino X for the $200 it collected from customer B. If the bet wins then casino Y credits customer B with $300 and has a receivable for a similar amount from casino A, the issuer of the bet. All of these transactions happen and recorded at the exchange level and will not affect a bookmaker's current traditional sportsbook.

Sale of Existing Bets Over the Internet

PropSwap, a company based in Las Vegas, has been offering physical betting tickets that are already issued by licensed bookmaker for others to bid and purchase over the internet. The company has been offering its service for the last three years and effectively acts as an offline exchange and as the agent for both the sellers and the buyers of already issued bets. The company states in the FAQ section of its website: "Is this legal? Yes, it's legal. Once your bet is made at a licensed sportsbook, it's your property, and you may do as you please with it, including sell it!". The process of listing and selling a physical betting ticket is labor intensive but demonstrates two interesting points, one is that there is a market for an already issued bet by a casino and the other is the legal aspect of selling bets over the internet through an exchange that uses an auction style bidding process.

Peer-to-Peer Exchanges

Certain states such as Nevada do not allow peer-to-peer (P2P) wagering, however State of Colorado recently allowed Smarkets, a UK based company to offer P2P betting in the state. In the U.S., The 1961 Wire Act is an obstacle for a P2P exchange to be offered in multiple states, thus it limits them to have enough liquidity and longevity to compete with casinos who have the lobbying power and lower customer acquisition costs. Also, even if the Wire Act gets updated, it will only address issues such as betting information and credit card processing. It will be unlikely, due to the nature of how the U.S. is structured as a country of 50 different states, the revised law to allow the residents of one state to place a bet with the operators and residents of other states. The updated law will likely be in line with the securities industry which requires brokers to be licensed by their states in order to solicit and take orders from the residents of the state. In peer-to-peer exchanges, casinos act as facilitators, while in fixed odds betting, casinos act as the gate keepers taking bets on both sides of the event exerting some control. Casinos will lose some of their controls if they only act as the facilitators, making it easier for fraudsters to launder money through the exchange or use it as a conduit to pay each other for an illegal act and disguise the payoff as a bet.

Close Encounter of First Kind

On December 14, 2020, SportsHandle published an article titled "Innovative Financial Exchange May Enable Sportsbook Operators To Hedge Risk, Limit Volatility". According to the report, ErisX, a regulated futures exchange, has requested regulatory approval from U.S. Commodities and Futures Trade Commission to trade betting imbalances of NFL games on behalf of sports betting operators. The request for approval should alarm the gaming industry which could lose full control of the business by letting some of the margin of the business to escape to the securities industry. Under the proposed model, rather than trying to hedge their risks through their own ecosystem and keep all the margin for themselves, sportsbooks pay the financial industry to take on some of their risks. Overall, things get blurry between options and futures markets and sports wagering as one can argue that entities such as CBOE and ErisX are involved in gambling activities. The U.S. regulatory system is set up for one oversight body, the SEC for regulating securities that relate to economic activities and state gaming and lottery commissions for regulating anything that is wagering related. It is understandable that ErisX as a financial institution has gone to its regulators to get approval for trading something that is outside its ecosystem. However, trading derivatives of sports wagers on an exchange falls within the jurisdiction of the gaming and lottery industry.

Conclusion

Sportsbooks could offer composite bets that include a combination of different events and unlike parlays and teasers that require all events in the bet to succeed, a composite bet can win based on positive outcomes of some of the events. Composite bets and future bets offered as exchange tradeable bets can create new revenue streams, their derivatives can be listed on a betting exchange to allow bettors to trade their bets and casinos can manage their risks by acting as market makers and using the spreads between the bid and ask prices of a bet. Also, instead of charging a juice that is hidden in the odds of an event, casinos can charge a transparent commission such as a percentage of the transaction in line with other financial industry. The betting exchange will utilize the technologies developed by the securities industry which are already at a mature stage similar to apps that are developed by stockbrokers such as ETrade, Schwab, Interactive Brokers, Robbinhood that interfaces with exchanges such as Nasdaq and other matching engine service providers developed for the securities industry to execute trade orders for already placed bets.