A Theoretical Analysis Of The Mechanisms Of Competition In The Gambling Market

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In this essay, Rory McStay describes the the effects of information asymmetries in the gambling market and outlines the ways in which firms design products to take advantage of this asymmetry. A number of different regulations are suggested, as he argues that Government intervention in the gambling market is essential to protect consumers, correct for inefficiencies and maximise economic surplus. He concludes by highlighting the scale and complexity of the industry, which may call for EU intervention.

Introduction

Legislation and government intervention in the gambling industry is generally dismissed as a lucrative tax revenue stream. In order to properly investigate the regulation present in the gambling industry, we should ask whether governments are simply trying to maximize tax revenue or are there other, perhaps even benevolent, motivations? This paper intends to identify the forces present in the market which reduce competition and will seek an efficient regulatory mechanism, which maximizes competition in the market, in order to maximize the economic surplus.

The Gambling Market

The market consists of a product of satisfaction derived through the participation in a game of chance with many buyers and sellers; the gamblers and casinos respectively. Bookmakers offer games of chance to consumers in the form of an odd or a payout. We will refer to these games of chance as events. The events consist of two outcomes, Success or Failure. We will assume that the outcomes of events are independent in the long run. In the long run, the gambler can either win or lose and events are distributed by a Bernoulli trials distribution. If the gambler is successful, they will receive a payout;

$$r = ay, \text{ if successful, } r = -y \text{ otherwise}$$

With the existence of a $P\{S\}$, we can derive the price (p) of the product as the expected return;

$$P = Ec\{r\} = P\{S\}ay - (1-P\{S\})a$$

Similarly, the firm also faces an expected return - $Ef\{r\}$;

$$Ef\{r\} = a(1-P\{S\}) - P\{S\}ay$$

The firm faces a cost of offering the event. The marginal revenue received by the firm is equal to the $Ef\{r\}$. In the long run, firms must cover all costs, therefore $Ef\{r\} > 0$. As $MR = P$, the consumer will experience $Ec\{r\} < 0$. At lower prices, the consumer can afford to place more bets. Firms seek to differentiate their products in order to maximize bets placed. Does this description of the market warrant interference? Are there mechanisms present, which cater for a dominant player in the market?

Analysis of Competition

First we will examine the information available in the market. No gambler has an advantage over another, but their knowledge is uncertain. The firms however, know for certain the information about their own event and have reasonable knowledge of competitors' events. This means that the consumer cannot see the cost of the product until after it has been consumed while firms can predict $Ef\{r\}$.

Firms can design the events to alter the consumer's perceived $P\{S\}$. The firm can then artificially inflate the odd, causing the consumer to make irrational decisions. This is possible because of the lack of certainty amongst the gamblers. Virtual chance simulations are designed with the intention of making them as easy to use as possible and to stimulate the gambler to bet. In order to maximize bets placed, the software behind the games is designed to make the player play fast. This leads to the consumer making irrational decisions and minimizes the risk involved with expected returns.

Firms do not compete on price, as consumers cannot see it. This means that firms heavily differentiate their products as well as using loss leader techniques and incentives to sign up (ie. 'Free' bets, money back). Firms develop sophisticated lines of credit, which are intended to speed up play by making funds readily available. The consumer tops up an account instead of paying for bets on an individual basis. This also masks the cash value of bets placed, making the consumer gamble more (Schüll, 2014).

The play rate of a gambler is an important factor as the faster the gambler plays the more outcomes of the event will occur. Intelligent software encourages fast play but also matches the speed of the player. This way a slow player is not intimidated and a fast

player will not get frustrated.

In a typical slot machine or any simulated chance terminal, the consumer sees all the events that imply a success. If the gambler plays a particular order or combination of symbols, they will win the bet. By increasing the amount of possible winning combinations as well as the total number of possible combinations, it will look more attractive when compared to a game with the same P{S} but only a few events that imply success. This artificially inflates the consumers' perceived P{S}.

These dynamics of the design are purely intended to maximize revenue, they are not necessarily in the consumer's favour and may not directly improve the experience received by the consumer. Can these aspects of product differentiation be deemed unfair? Are they taking advantage of the consumer ignorance present in the market? Does it warrant regulation?

There is another key aspect to the design of the product, which is the user interface and game play. Gambling by nature is addictive. Firms take advantage of this by making the games attractive and fun to play. They are making the games more enjoyable and disassociating it with a chance element. This takes advantage of the gamblers natural addictive tendencies. It can however be argued that this improves the quality of the product, which is paid for by the gambler through an increased deficit in their expected return as a result. One must ask, are the actions taken by the online casinos to make their events addictive to the consumer fair? Or is it a product of the free market and allowing competition?

Regulatory Mechanisms

We have just described the main challenge facing the market. We will now look at how it is possible to regulate this challenge. The fundamental problem with this market is the lack of information. The consumer cannot know the price upon consuming the good. It is only until after where they can see the cost of consuming the good. Can we regulate the expected loss experienced by the gambler on each event by altering the odd and the P{S}? This can be done through regulating the design of the software. However, to do so would be to impose a maximum price on the market. This is a contradiction to EU competition policy.

Suppose the government applies an excise duty of t per cent of the stake $T=t\%*y$. Let us assume that the tax is regressive in a conditional sense. If you win the bet, you get taxed. If you lose the bet you do not incur the tax.

In order to investigate the effects of the tax, we must examine the relative elasticities. The good is addictive by nature as well as by the actions taken by the firms. This implies that the relative elasticity of Supply and demand;

$$(PES/PED < 1)$$
$$\Rightarrow Pt = Ec\{r\} = P\{S\}(ay\text{-}t\%y) - (1\text{-}P\{S\})a$$
$$Pt > P$$

The government's ability to discourage consumption is less effective because of the lack of information available. It also further distorts the implied $P\{S\}$, making it harder for the consumer to make a rational decision. This means it is counterintuitive to apply a tax as we are trying to protect the consumer. The tax will only increase the loss experienced by the consumer. It is clear to see how this proves to be an effective tax revenue stream, as the consumer is ignorant as to how much tax they are paying.

Suppose that the government instead, forces firms to advertise the actual $P\{S\}$. Then, the consumer can make a rational decision as to whether or not it is worth the risk. The consumer is now aware of the price of the product. As a result of this complete transparency consumers will be able to directly compare prices. This will cause a fall in price and lead to Demand becoming a function of the market price.

With perfect information consumers can now make smarter decisions and the loss experienced by the consumer is minimized. Information has been made available in the market, reducing the firm's ability to distort the consumer's interpretation of the event. The consumer is no longer vulnerable as the market price now shows the true cost of chance. The firm's cost of offering an opportunity to make money, and the opportunity cost of potential profit is displayed.

Criminal Activity

There is a criminal aspect to the market, which may warrant regulation. If a gambler is successful, it allows them to explain receiving a large sum of money by chance whereas someone deem it suspicious to receive such a sum of money. This allows concealment of the origins of large sums of money. With the ever-increasing technological aspect to online gambling operations. It is growing increasingly easy to launder money in this manner. How is it best to regulate this aspect without altering the competition now present in the market?

Suppose you limit the success rate of events conditionally. This implies that the chance of success is reduced after a series of successes (This will reduce the ability of firms to strategically pay large sums of money to a consumer. However, this is altering the $P\{S\}$ and leaving the events non-independent. A contradiction. As a result of this they are altering the price offered to the gambler and reducing competition in the market.

Suppose governments regulate by analyzing the distribution outcomes of events that occurred. If it does not match the advertised distribution, then they may suspect the firm is altering the outcomes of events possibly to launder money. This will then warrant

investigation. Regulation in this manner will also ensure that the firms are advertising the correct P{S}.

The Market

The EU gambling market is estimated at around €84.9 billion and grows at a yearly rate of around 3 per cent. Online gambling is particularly popular with around 6.8 million consumers in the EU and a wide variety of operators offering services. In 2012, online gambling services represented more than 12 per cent of the EU's gambling market with annual revenues of over €10 billion. Annual revenues in 2015 for online gambling are expected to increase to €13 billion (European Commission, 2014).

In order to investigate the effectiveness of current regulation on competition in the market, we will assume the non-existence of externalities as a result of public consumption, which may not directly alter competition.

Bookmakers in Ireland offer two types of products/events. They consist of natural events which have a P{S} outside the power of firms in the market (i.e. Card games, Horse Racing and Football). In this form of gambling there is a presence of expertise in the market. Information is readily available so the consumer can make rational decisions. This does not warrant regulation, as knowledge of the event is available to the gambler allowing them to have reasonable knowledge of the price.

Alternatively, the bookmaker offers an event in which they control the P{S}. (i.e. Virtual sports gambling, virtual stock markets, virtual slot machines and games.) There is no information of the determining factors of the outcome available. Outcomes are purely generated by computer simulations whose P{S} are predetermined by the firm. An odd is determined by the firm and is the only information available to the consumer.

Online gambling was prohibited in Ireland until 2001, when the Horses and Greyhounds Act stated that a gambler could place a bet with a bookmaker outside of Ireland, allowing Irish consumers to gamble online. The growing complexity and size of the gambling market means prohibition simply will not work. Since 2001, Ireland has passed a new act, the Irish Betting Act (2015). However, to date legislation has failed to address the firm's ability to determine a P{S} of the events offered (Oireachtas, 2015).

The nature of the online marketplace reduces the Irish government's ability to regulate the market in all respects. This is where the EU needs to step in to appropriately regulate the market to allow competition and therefore protecting the consumer by making information freely available.

Conclusion

Demand in the gambling market is not a function of the price of the good and firms are

able to affect demand by their own actions in differentiating their products. In order to maximize competition in the market, knowledge must be made available in order to allow demand be a function of price. This will allow for price competition and reduce non-price competition, minimizing the price and therefore the expected loss experienced by the consumer. As a result economic surplus would be maximized, competition increased and the consumer made less vulnerable.

The increasing size of the online marketplace, technological advancements and unification of the EU are making the regulatory challenges harder for national governments to tackle. This difficulty and the current inefficiencies present in the market have increased the need for industry specific regulation from the European Commission.

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