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Platform Competition: Betfair and the U.K. Market for Sports Betting*

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Abstract

We examine two episodes of strategic interaction in the U.K. betting industry: (i) Betfair (an entrant multi-sided platform, or MSP) vs. Flutter (also an MSP), and (ii) Betfair vs. traditional bookmakers. We find that although Betfair was an underfunded second mover in the betting exchange space, it was able to attract punters at a much faster rate than the better-funded first mover, Flutter. Moreover, while Betfair and traditional bookmakers competed aggressively for market share, they also developed a highly complementary relationship that favored all parties. We discuss implications for research in the economics and management of MSPs. Specifically, we argue that the literature would benefit from work that endogenizes platform design and that considers the possible competitive and cooperative interactions between the business models of traditional incumbents and those of potential innovative MSP entrants.

Classification-JEL: D21, D43, L13, L83, L86

Keywords: platform design, network effects, betting, complements, competing business models, co-opetition, entry.

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1 Introduction

In the early 2000s, online betting exchanges entered the British market for sports betting. These exchanges had adopted a new relationship to their customers—rather than laying bets for punters, like traditional bookmakers, they provided a platform to match individuals willing to lay and back the same outcome.¹ Betfair was the firm most successful at implementing this business model innovation. Despite competition from better-funded rival exchanges such as Flutter, and political attacks from traditional bookmakers such as Ladbrokes or William Hill, Betfair managed to create and capture substantial value, turning a handsome profit.

We analyze two episodes of platform competition in Betfair’s history: i) new platform (Betfair) vs. new platform (Flutter), and ii) new platform (Betfair) vs. established one-sided business (traditional bookmakers such as Ladbrokes or William Hill), and find two surprising results. First, because betting exchanges exhibit strong network effects, we would expect that a first mover would become the dominant betting platform. However, although Flutter entered the market first and was better funded, Betfair managed to quickly become the betting exchange of choice and ended up cornering the market with a market share of nearly 90%.

Second, betting exchanges are substantially more price competitive than traditional bookmakers: odds offered through the exchange have lower over-rounds than those offered by the one-sided businesses operated by bookmakers, since those punters can only back but not lay bets.² Given the price differential and the convenience of betting through online exchanges, we would have expected Betfair to substantially undermine the profit pool of bookmakers and perhaps even eliminate them completely. To the contrary, however, traditional bookmakers thrived while competing against Betfair.

Through careful consideration of the facts surrounding these two episodes of platform competition, we conclude that distinctive platform design choices—based on a stock exchange analogy—played a major role in the early success of Betfair vs. Flutter, and that although the relationship between Betfair and traditional bookmakers was confrontational, the two business models exhibited substantial complementarity. Over time, in fact, they developed a mutu-

¹To ‘lay’ a bet means to wager money against an event outcome, whereas to ‘back’ a bet or to ‘punt’ means to wager money on that outcome. In horse racing, the outcome of interest is the winner of a given race. Punters, then, are the gamblers who sign a contract that pays out if a particular horse wins, and layers are the gamblers who sign the same contract, but agree to be paid if the horse loses. Traditionally, a customer would back an outcome, while the bookmaker laid against it.

²The “over-round” is defined as the book percentage minus 100%. The closer the over-round is to 0%, the more competitive are the odds offered for an event (the closer are implied probabilities to true probabilities). Over-rounds of 12% were usual for bookmakers. Betfair bets would typically exhibit over-rounds of less than 3%.

ally beneficial relationship that allowed both Betfair and bookmakers to create considerable economic surplus.

The Betfair case suggests two areas of research on MSPs that would benefit from additional work. The first is the study of platform design as a strategic choice. The usual approach to studying platform design is to begin by assuming a particular class of allowed platform designs, and then let the platform owner optimally configure the platform within the implicit constraints of the assumed class. The Betfair case suggests adding an earlier stage in which the platform owner first chooses a class of platform designs, possibly from the set of all possible classes of designs. Then, in a second stage, the owner may optimally configure the platform within the constraints implied by the chosen class.

A second direction for future research is the consideration of potentially positive interactions that may occur between an MSP entrant and established incumbents who may be operating one-sided business models. This includes the examination of reasons why firms that have willingness to pay and cost advantages, as well as the capacity to develop strong network effects, may wind up not pushing incumbents out.

This paper contributes to the literature on platform competition and focuses on the case of Betfair within the sports betting industry. Much of the information on Betfair comes from Casadesus-Masanell and Campbell (2008). Betfair functions as a platform, matching users who wish to back a particular outcome with users willing to lay the same outcome. Much of the early work on firms acting as intermediaries between buyers and sellers is influenced by pioneering contributions by Spulber (1996, 1999). Early work on platform competition includes Rochet and Tirole (2003) and Armstrong (2006), which study price allocation between the two sides of the market under platform competition and network effects; Caillaud and Jullien (2003), which considers the impact of matching technology on platform competition; Guthrie and Wright (2007), which examines a model specialized to the study of competition between credit card associations and between merchants, and Hagiu (2009), which investigates product variety and pricing structures in a setting with competing two-sided platforms that provides insight into the interaction between providers of video game systems.

We observe that distinctive platform design choices—shaped around the analogy of the stock exchange—played a major role in the early success of Betfair vs. Flutter. In our focus on platform design, we take up a discussion developed in Hagiu (2014), a practitioner-oriented article which identified four key strategic decisions for multisided platforms, namely 1) number of sides, 2) design, 3) pricing structures, and 4) governance rules. Other managerial work on platforms includes Parker et al. (2016) and Hagiu and Rothman (2016). Parker et al. (2016)

suggests that the design of any platform should begin with the design of the *core interaction* it enables between producers and consumers, which consists of three main components: the participants; the value unit (e.g., videos on Youtube, tweets on Twitter, or profiles on LinkedIn); and the filter (the software-based tool that enables the platform to show users only the value units that are relevant and valuable to them). Over time, successful platforms tend to scale by layering new interactions on top of the core interaction. Hagiu and Rothman (2016) argues that the importance of the first-mover advantage for marketplaces is overstated. The authors note that instead of simply being early entrants, businesses must first prove—by the design of their platforms—their value to the multiple sides they serve. Otherwise, they remain vulnerable to competition from later entrants.

There is also a growing literature on platform design in economics. Hagiu and Jullien (2011) studies the tendency of market intermediaries to be designed in such a way that they increase the search cost of consumers. The authors identify two original motives for these intermediaries to divert search (i.e., to induce consumers to search more for sellers than they would like). First, an intermediary may divert search in order to trade off higher total consumer traffic for higher revenues per consumer visit. Second, an intermediary may use search diversion as a tool to influence the strategic choices made by affiliated stores (sellers).

Casadesus-Masanell and Hałaburda (2014) presents a theory for why platforms may choose to limit the number of applications they make available to users. The authors observe that although users often prefer application variety, when applications exhibit direct network effects, users prefer to consume the same applications in order to take advantage of consumption complementarities. The combination of these preferences can lead to a commons problem, an equilibrium selection problem, and a coordination problem. The platform can resolve these problems and create value by limiting the number of applications available.

Hałaburda et al. (forthcoming) explains how a two-sided matching platform can successfully compete by limiting the number of choices it offers to its customers, even while charging higher prices than platforms with unrestricted choice. Using a stylized model of online dating, the authors show that increasing the number of potential matches has a positive effect (the choice effect), since agents are more likely to find desirable candidates, but also a negative effect (the competition effect), since their probability of being accepted by their preferred candidate is lowered. Agents with high outside options tend to prefer an unrestricted-choice platform, while agents with low outside options have higher willingness to pay for a platform that restricts choice, as it also restricts the choice set of their potential matches. Only agents with low outside options self-select into the restricted choice platform, thereby mitigating the competition effect

and allowing multiple platforms with different numbers of choices to coexist in the market.

Finally, Hagiu and Wright (2018) analyzes platforms' incentives to promote exploration (i.e., the purchase of new and untested products or services) by current buyers. By exploring, buyers generate valuable information about new products and sellers, which they can convey to future buyers through the platforms' rating and review systems. Although we might expect platforms to induce buyer exploration, e.g., by making new products or sellers more prominent in searches, there is little evidence of them doing so. The authors explain this discrepancy by describing conditions under which platforms have little incentive to induce exploration.

The second part of this paper analyzes the competition between Betfair's betting exchange and the established one-sided business of traditional bookmakers. In doing so, it builds upon the existing literature on mixed duopolies, or firms competing with different business models. The Betfair case suggests that competitors may, in fact, act as complements, an idea that has remained relatively unexplored in the literature. An example of early work in management that tackles this notion is Brandenburger and Nalebuff (1996), which presents an example in which two competitors increase their bargaining power with suppliers by acting as a single entity when negotiating prices for inputs: "From the perspective of American Airlines, Delta is both a competitor and a complementor. American and Delta compete for passengers [...] but complement each other when commissioning Boeing to build a new plane." Our paper illustrates that the complementarity can also be due to (i) the traditional business (bookmakers) transacting with the new entrant MSP (Betfair) to reduce its cost of conducting business, with both businesses benefiting from the transaction, and (ii) selection effects by which the least profitable customers of the traditional business depart to join the new platform, conferring benefits to both businesses. In this case, the customers departing from bookmakers provided elements essential for the smooth functioning of the betting exchange: liquidity and a thriving lay side of the market.

Most of the theory work studying competition and complementarity between rivals operating dissimilar MSPs involves attempts to examine interactions between particular cases and organizations. For example, Casadesus-Masanell and Hervás-Drane (2010) studies competitive interaction between two alternative models of digital content distribution over the internet: peer-to-peer (p2p) file sharing—such as eMule or BitTorrent—and centralized client-server distribution—such as the iTunes store. This paper shows that, as record companies lower their prices in centralized client-server distribution, users move away from p2p networks. As a consequence, there is less content available on networks, but also less congestion, which results in faster downloads. Thus, lowering prices to fight p2p networks might result in an endogenous

increase in the quality of the p2p network. In other words, cheaper legal distribution may help illegal p2p networks function better, increasing their users' satisfaction and allowing them to survive longer.

Relatedly, Casadesus-Masanell and Yoffie (2007) studies interactions between Intel and Microsoft, two complementary firms that compete with different business models: Intel earns money from the flow of sales of new PCs (since each one contains a microprocessor), while Microsoft earns income both from the same sources (every PC also has an operating system) and from sales of applications (such as Office) to the installed base. The paper shows that Microsoft's desire to exploit the profit potential of the installed base means that it will release new operating systems (and updates to its proprietary software) less frequently than Intel will want to release new microprocessors. Thus, two complementors may have conflicting incentives, not only in capturing value (which is to be expected), but also in creating it.

2 Betfair vs. Flutter

The following section discusses Betfair's entry into the British sports betting market and its early competition with Flutter. Both Betfair and Flutter were MSPs that functioned as betting exchanges, matching individuals willing to lay and back the same outcome. Although Flutter was better funded and entered the market earlier, Betfair managed to create and capture substantial value and to turn a handsome profit. Despite its first-mover advantage, the management of Flutter had made a number of design choices—modeled after eBay—that prevented it from exploiting network effects. Betfair, in contrast, modeled its platform after a stock exchange, which led to choices that put in motion a strong feedback loop. We argue that Betfair's business model choices—the design of its website and the way data was presented, its revenue model, what punters were allowed to do on the platform, and the workings of its matching and punter's exposure algorithms—were responsible for its success. In the following section, we detail the choices made by each firm.

Edward Wray and Andrew Black launched Betfair in London in June 2000.³ As a betting exchange, Betfair provided a platform where the public could anonymously place bets among themselves, cutting out the middleman role that was traditionally played by the bookmaker. (Betfair's elimination of the middleman drew much criticism, which will be discussed further in Section 3.) With its long history of gambling, the U.K. was a prime location for such an enter-

³Betfair 2004 annual report; Bloomberg; Capital IQ.

prise; in 1999, the country staked about £7.84 billion (or £134 per capita) on sports betting.⁴ Horseracing was especially popular, accounting for about 70% of total sports bets placed in the U.K. in 1999. Off-course betting (i.e., bets placed away from the actual racetrack/sporting area) was legalized in 1960, and in 1999,⁵ there were more than 8,000 betting shops in the U.K.⁶ In addition, the Betting and Gambling Act of 1960 legalized person-to-person betting, as between coworkers in an office environment, which was not the case in many other countries. This legislation provided support for Betfair’s operations, since it matched ordinary consumers backing and laying bets.

When Betfair set out to enter the market, all the available venture capital had been captured by Flutter, a rival U.K. firm set up by Josh Hannah and Vince Monical. In pitching their firm to venture capitalists, they had billed Flutter as the future “eBay of betting.”⁷ Flutter received £27.1 million in start-up capital,⁸ while Betfair raised only £1 million, mostly from family and friends. Flutter went live in May 2000,⁹ a month before Betfair, and claimed to have 35,000 registered accounts by October 2000.¹⁰

Betting exchanges are characterized by the presence of *direct* network effects. Indeed, there is a same-side network effect for punters: given a distribution of agents who hold diverse beliefs about the probabilities that certain events will occur, and who decide to back or lay bets depending on current odds, the more such agents participate in the exchange, the more liquid the exchange becomes. While a few large liquid punters may be particularly valuable to the exchange, attracting a larger number of punters helps the exchange. With more punters, the exchange gains in capacity, but also—and most importantly—it obtains a wider variety of willingnesses to pay (based on diverse information and beliefs). This increased heterogeneity helps boost liquidity and thus benefits the network. Given the presence of significant network effects, we would expect these circumstances to favor the growth of Flutter.

Flutter’s favored position was due mostly to its funding advantage. In 2000, the United Kingdom did not have a large venture capital (VC) business, but it was the most attractive market in which to launch a gambling start up, due to the size of the industry and the welcoming

⁴Mintel Report—“Sports Betting—U.K.—October 1999”; World Bank. Figure is based on £7.14 billion in gross off-course wagers, March-April 1998/99, an estimated £700 million in on-course betting in 1997, and a total population of 58.68 million in 1999.

⁵Mintel Report—“Sports Betting—U.K.—October 1999.”

⁶Mintel Report—“Sports Betting—U.K.—October 1999” and “Betting Shops—U.K.—July 2001.”

⁷See Will Buckley, “The Man Behind a Betting Revolution.”

⁸Mintel Report—“Sports Betting—U.K.—May 2001.”

⁹International Directory of Company Histories; “Fancy a little flutter?” Computer Weekly, Dec. 6, 2001.

¹⁰Mintel Report—“Sports Betting—U.K.—May 2001.”

regulatory environment.¹¹ When Flutter raised £27.1 million, it took up the lion's share of VC money available for a betting exchange. Betfair was left with the scraps. The better funding should have allowed Flutter to develop a better website with better algorithms and—importantly—to ensure better liquidity in its platform early on.

Moreover, switching and multihoming costs related to timing and convenience should have led to a durable advantage for Flutter. If a punter had several thousand pounds in a gambling account, then to move it to another account took time. S/he had to transfer money to her/his bank account, which took two to three days, and then deposit it again. The time spent in this process was time in which s/he could have bet with that money, and for sports such as horse-racing, which held events every day, such wasted time was costly. In addition, these betting exchanges gave punters volume discounts. Thus, multihoming meant less of an opportunity to exploit the discounts, since funds would be spread across platforms. Despite the funding disadvantage, however, Betfair succeeded in becoming the chosen website of professional gamblers.

Our explanation for this unexpected outcome is that Betfair and Flutter built their exchanges using two different analogies, which led to different sets of platform choices. Specifically, Flutter thought of the betting exchange platform as similar to eBay—essentially, anyone could come in and place any bet they wanted. Betfair, in contrast, thought of its platform more as a stock exchange. From a distance, the betting exchanges looked similar, but in reality, they were shaped by dissimilar sets of choices, which are critical in explaining the outcome of their competition. The result was that Betfair's choices made it substantially more attractive to the lay side of the exchange, which helped unleash strong network effects.

Both Black and Wray, the co-founders of Betfair, were experienced gamblers. Black worked as a trader and later as a programmer at GCHQ, the U.K. government's secret intelligence organization. While employed at GCHQ, he developed the idea of applying the competition and trading of the New York Stock Exchange to the betting market. He reasoned that allowing people to trade freely with one another via an intermediary (the exchange) would be much more efficient than a system in which one protected group of people (the bookmakers) accepted all bets. Betfair earned revenue through a 5% commission on the net winnings from any one market. High-volume gamblers, however, were rewarded with a reduced commission rate, and paid as little as 2% commission on their net winnings. Losing punters paid nothing to the site. Thus, Betfair accepted no risk in the outcome of the event, and only profited on the winnings of individual punters.

As in a financial market, no participant on Betfair was considered solely a buyer or seller.

¹¹Flutter's founders Josh Hannah and Vince Monical moved to the U.K. from San Francisco specifically to benefit from the less stringent gambling legislation.

The website featured a number of sporting events. Within each event, punters were given a choice of “markets,” e.g., they could bet on the winner of a match, or the total number of goals scored. A list within each market detailed all possible outcomes. If they liked the odds offered, they could choose to either back or lay a particular outcome by clicking on one of the prices available. To aid in their decision making, a price history chart was available for any particular outcome.

In keeping with its vision of a stock exchange for gambling, Betfair’s platform was designed to appeal to “traders.” Betfair restricted all betting to markets created by its staff, which initially covered only major sporting events. Flutter, in contrast, was more similar to eBay in that it allowed punters to create any event on which they would accept bets.¹² For example, punters could create betting events on next week’s weather. Flutter was aimed at small, casual bets—also known as “flutters”—of around £10. The site deducted 2.5% of the total amount staked by both sides, with the winner getting the remainder.¹³

By restricting betting to specific sporting markets, Betfair ensured that any money available for betting was concentrated in fixed events, thus boosting the liquidity within those events. In addition, the focus on only pure sporting bets gave the site a more sophisticated feel, in contrast to the user-generated feel of a site like eBay. This air of sophistication was vital to its success, since customers had to trust it to hold their money, and thus needed to be reassured of its creditworthiness.

The sites differed, too, in their presentation of betting odds. Flutter followed the traditional pattern in the industry of expressing betting odds as fractional odds, such as 5/2.¹⁴ Betfair, however, chose to present all odds as decimal odds (just as stock prices are presented in financial exchanges), with conversion available via a separate help screen. Decimal odds were calculated by adding 1 to the fraction odds; for example, odds of 5/2 became $5/2 + 1 = 3.5$. They represented the total return to a punter, including the return of their original stake, from a £1 bet.¹⁵ The choice of decimal odds was criticized in the British press, which predicted that the break in tradition would fail to appeal to the British public, who had long been familiar with fractional odds. However, Betfair’s decimal odds reduced the trading increments, allowing for finer-grained movements in price, which were essential to an efficient market.

¹²Mintel Report—“Sports Betting—U.K.—May 2001.”

¹³Mintel Report—“Sports Betting—U.K.—May 2001.”

¹⁴Under this system, if a punter was offered odds of 5/2 for Liverpool to win and placed a £1 stake, then if Liverpool *did* win she would receive $5/2 \times 1$, or £2.50, plus the return of the original £1 stake, for a total return of £3.50. If Liverpool did not win, she would lose the £1 stake, which was the bookmaker’s profit.

¹⁵For example, if a punter backed a horse with £1 at 7/4, the decimal odds would be $7/4 + 1$, or 2.75, meaning that if the horse won, the punter would receive £2.75 in total.

Another key difference between the sites was that Flutter matched each punter's bet to another specific person willing to accept it, whereas Betfair aggregated all bets to keep matching anonymous. For Betfair, this increased the likelihood of finding a match, thereby boosting the liquidity of its markets. In addition, if there was not enough demand to fulfill a particular request on Betfair, the punter could choose to have his bet only partially met. In this case, the remainder of the bet would be posted, with the possibility of acceptance at a later date. Flutter, in keeping with the eBay analogy where exchanges happen person-to-person, did not provide this option.

Andrew Black's background in programming allowed him to work directly on the development of the Betfair site, while co-founder Ed Wray used his experience as an investment banker to handle the legal and financial side of the business. In contrast, both founders of Flutter were former Bain & Co. consultants who had moved from the U.S. to the U.K. in order to benefit from its less stringent gambling legislation. While Flutter did employ some IT experts at the top, much of its technical team was comprised of relatively unskilled junior employees. After the website went live, the firm experienced problems with its IT infrastructure, which were exacerbated by increased traffic to the site. Flutter aimed for transaction times of no more than 2 seconds, but sometimes saw delays of as much as 10 to 12 seconds. Moreover, although Flutter's main office was in London, its technical office was initially located in San Francisco, leading to added costs and communication problems. In April 2001, the firm relocated its technical office to London.¹⁶

Betfair used an algorithm, developed by Andrew Black, to calculate a punter's total exposure to any one event, and required only that their account have enough credit to cover this amount. For example, if a punter chose to lay three horses in the same event, the algorithm recognized that only one of these horses could win, so in the end the punter would have to pay out on only one horse. That is, if the punter laid £500 on each horse, Betfair would only require him to have £500. Flutter, in contrast, would require an account balance of at least £1,500.

Following its stock market influence, Betfair offered a constantly updated trading platform and website, which enabled a fluid dynamic market. The site also offered in-running/in-play trading on certain events, where punters could bet in real time after an event had started, with prices fluctuating widely in response to the changing situation. Its in-play gaming allowed punters to manage their exposures and trade in and out of their positions (by backing a team and then laying if the price shortened, or vice versa) in response to a changing market sentiment. When combined with Betfair's maximum-exposure algorithm, in-play gaming allowed Betfair

¹⁶“Fancy a little flutter?” Computer Weekly, Dec. 6, 2001.

to release capital for betting in other events.

Betfair’s model succeeded in attracting “market makers,” punters who were willing to expose themselves to a book of bets by laying bets. Without these market makers, the ordinary punter would have come to the website and found a narrow set of betting opportunities available for matching. Thus, Betfair made an explicit strategic decision to focus on this customer segment. “Market makers” comprised a small group in terms of number of customers, but they were sophisticated gamblers who bet much more often than the average customer and provided large levels of liquidity. Betfair’s maximum-exposure algorithm was essential in attracting these customers because it allowed them, by carefully adjusting prices offered, to create a lot of liquidity with only a small amount of required capital. The choice of decimal odds also helped target this customer segment, since the smaller trading increments they created allowed market makers to profit by trading in and out of positions as the prices moved. Although more casual customers, conditioned to fractional odds from years of betting with bookmakers, may have been initially deterred by the decimal odds, they were soon attracted by the liquidity and efficient prices provided by the market makers. In addition, the availability of online help and tutorials made it fairly easy for those everyday punters to adjust to the decimal odds once they joined the site.

In combination, the choices made by Betfair created more liquidity within its markets, allowing Betfair to grow its user base and match bets faster than Flutter. In just nine months of trading, Betfair’s revenues reached £1 million per week.¹⁷ In December 2001, Betfair merged with Flutter in a deal that was rumored to value Betfair at 10x as much as Flutter. In April 2006, Betfair sold 23% of its equity to the Japanese technology group Softbank, a transaction that valued Betfair at £1.5 billion, well in line with its largest incumbent rivals, Ladbrokes (valued at £1.96 billion) and William Hill (£1.43 billion). Between 2003 and 2007, Betfair’s revenue grew at an annual rate of more than 54%. In 2007, the firm reached £182 million in revenue and £19.3 million in profits. By 2008, having outperformed more than 40 rival start-ups in the early 2000s, it had an approximately 90% share of the betting exchange market.

It is worth pointing out that in the early 2000s, the big internet success was eBay, and its model of “let anyone sell anything” was how people envisioned the power of the internet. With its initial proposition of “letting anyone bet on anything,” Flutter’s approach to a betting exchange was compelling, and it looked like the right approach. Instead, Betfair’s founders appear to have had more insight into how exchanges worked at their core, and designed a consistent platform around that knowledge. Betfair’s early design was vital to its later success.

¹⁷Mintel Report—“Online Betting—U.K.—May 2001.”

Despite being massively under-funded compared to Flutter, Betfair got a foot in the door because it had the design of the exchange right.

Specifically, Betfair’s business model choices provided the liquidity needed for the betting exchange to work effectively. This is evident in the way it calculated a punter’s total net exposure to a market, which was less than the total exposure if the punter was backing and laying odds, making the rest of the money available to bet elsewhere. It is also evident in Betfair’s decision to limit the number of events available for betting. This illustrates the finding of Casadesus-Masanell and Hałaburda (2014) that limiting choice may be beneficial in platforms that exhibit direct network effects. As noted, betting exchanges enjoy direct network effects, and the source of value is the improved liquidity that results from having more punters laying and backing odds. However, betting exchanges may also exhibit a benefit from having more events to bet on (since punters prefer a broad selection of betting events). This indirect effect is first positive (when there are few betting events offered) and then negative (when there are many betting events offered), because having too many events comes at the cost of liquidity.

Moreover, Betfair made choices to lock in punters and increase the likelihood of becoming the dominant betting exchange in the U.K. In particular, for those market makers who were high-volume traders on the platform, Betfair had the advantage of open APIs that allowed them to place bets. This meant that large market makers could build software solutions that automated bet placement on Betfair. Once they were working in that set-up, these punters would not want to go back.

The above discussion is consistent with Hagiú (2014) who argues that the likelihood of success of MSPs depends, to a large extent, on choices regarding: 1) number of sides, 2) design, 3) pricing structures, and 4) governance rules (who is allowed to participate, and what members are allowed to do). The Betfair vs. Flutter case presents an example of how dissimilar design choices (decimal odds vs. fractional odds, anonymous partial matching vs. person-to-person matching, allowing in-game trading vs. not, and the algorithm to calculate a punter’s total exposure) and governance rules (restricting the number of betting events vs. allowing punters to create any betting event they wished), can lead to significant differences in performance and a late entrant cornering a market characterized by the presence of strong network effects.

3 Betfair vs. Traditional Bookmakers

In the following section, we examine Betfair’s interaction with traditional bookmakers. We observe that Betfair (an MSP) and traditional bookmakers (a one-sided business) interacted as

both competitors and complements. Although bookmakers responded aggressively to the entry of Betfair, accusing it of unfair or illegal practices, the same bookmakers soon learned to benefit from betting exchanges, and from Betfair in particular. While price competition did occur between the two entities, it did not actually hurt the large bookmakers, which simultaneously enjoyed increased trade. Thus, the interaction between traditional bookmakers and Betfair grew into a mixture of competition and cooperation.

In a 2000 publicity stunt, Betfair paraded an actor dressed as a bookmaker in a coffin through the streets of London. Through hyperbolic, the stunt was indicative of a real threat Betfair posed to bookmakers. Bookmakers are individuals or firms, such as Ladbrokes or William Hill, who take bets from punters and pay them out after an event occurs. They profit when an outcome on which they have accepted a bet fails to materialize. Under bookmakers' one-sided business model, punters can back but not lay bets; each bet is matched (or laid) by the bookmaker. In other words, bookmakers create value by managing risk, and capture it through the odds they offer to punters. In contrast, betting exchanges bear no risk. Betfair creates value by matching the two sides of the market, and captures it by taking a cut of the punters' net wins. By cutting out the middleman, it was able to create a more efficient market with lower over-rounds than those offered by bookmakers.

Initially, the internet had seemed to be a natural fit with the bookmakers' business model. Bookmakers already offered telephone betting, and the internet provided another low-cost distribution channel. However, in the early 2000s, many people still did not trust the internet for financial transactions. This trust decreased among people in lower socio-economic groups,¹⁸ who were also the more frequent customers of betting shops. Moreover, online competition among bookmakers was intense. Major players like Ladbrokes and William Hill benefited from brand recognition and their ability to afford marketing expenses, but even established firms struggled to differentiate themselves, even introducing unusual events such as snail or hamster racing.

Upon its entry, Betfair was perceived as a major threat by traditional bookmakers. A group of bookmakers in Australia even called Andrew Black "a parasite on racing." Betfair created a fragmented betting market, where price competition among its many punters led to odds that were significantly more generous than those created by the oligopoly of bookmakers.¹⁹ The strong price competition that Betfair brought to the industry resulted in a downward trend of bookmaker over-rounds.

¹⁸Mintel Report—"Online Betting—U.K.—May 2001."

¹⁹Bowers, S., "Interview—Andrew Black, Founder of Betfair—Odds-on Favorite," *The Guardian*, June 7, 2003.

In the U.K., bookmakers were required by law to obtain a government license before they could operate. This law was intended i) to protect the public from unscrupulous bookmakers who might lack the financial resources to pay out on the bets they took; ii) to curtail the spread of high street bookmakers, whom middle-class residents often saw as “bringing down the tone” of an area; and iii) to protect incumbent bookmakers from increased competition that would damage their livelihoods. Since Betfair matched ordinary consumers as both backers and layers, these individuals were able to essentially act as bookmakers without possessing a license. Thus, in their attempt to close Betfair down, bookmakers alleged that the majority of Betfair’s liquidity must come from unlicensed bookmakers who were using the site to conduct illegal operations.

Although critics were most likely correct in their claim that the majority of liquidity on Betfair came from unlicensed bookmakers, Betfair’s own setup addressed many of the underlying issues that licenses were meant to fix. The problem of inadequate funds, for example, was prevented by Betfair’s algorithm, which required punters to have sufficient funds in their accounts to cover their exposure. Punters who were unable to meet their obligations were not allowed to participate in the exchange. The second issue—the spread of brick-and-mortar betting shops—arguably did not apply to Betfair, since it was purely an online business. Thus, the bookmakers’ real objection was mainly that of increased competition, since Betfair represented a competitive threat that could run them out of business. In response to this claim, Betfair contended that the technology which enabled its platform was also available to bookmakers, who could use it to complement their one-sided business model. Indeed, some bookmakers did eventually avail themselves of this opportunity, which will be discussed further below.

A second set of accusations against Betfair focused on the claim that Betfair’s system would lead to cheating; e.g., a jockey might lay himself in a race and then lose on purpose by not pushing his horse during the race. To counter this claim, Betfair took out full-page national newspaper advertisements explaining that cheating was equally possible with traditional bookmakers. A punter could profit from one horse losing by backing every other horse in the race, avoiding detection by placing multiple bets with multiple bookmakers. Betfair argued that a single lay bet with Betfair was much more traceable and transparent, especially given its willingness to work with various sports governing bodies. The firm signed numerous “memorandums of understanding”—agreements designed to facilitate the exchange of information in the case of suspected corruption—with such governing bodies. It made clear to punters in its terms and conditions that it would share any information believed to suggest fraudulent activity.

Finally, bookmakers claimed that Betfair enjoyed an unfair price advantage by avoiding

the taxes and levies required of all bookmakers. When Betfair was first founded in 1999, members of the public were taxed via a 9% charge on their winnings, while bookmakers paid the standard corporation tax on their operations. The 9% betting tax had led some of the larger bookmakers to relocate abroad. William Hill and Ladbrokes, for instance, set up offshore operations in Gibraltar and the Channel Islands, so that U.K. punters could avoid the tax by using their non-U.K.-based sites.²⁰ The betting tax had been in place for over 30 years, but due to the internet and other changes, was increasingly viewed as irrelevant. In 2001, new legislation abolished the 9% tax, replacing it with a gross-profits tax whereby operators paid the government 15% of their gross win.²¹

Although Betfair paid the gross profits tax beginning in June 2003,²² it did so only on commissions that it earned from its customers—which were 2%-5% of a user's gross win on a particular market—rather than on the gross win itself. However, applying the 15% tax on gross profits directly to Betfair's customers would be problematic, since it would be difficult to set hard-and-fast rules that identified which customers were everyday punters versus unlicensed bookmakers. In this realm, bookmakers were correct that Betfair paid a much lower level of tax. However, as discussed above, the price differential between Betfair and bookmakers was predominately due to factors other than the tax advantage, such as price competition.

Bookmakers also claimed that Betfair was not paying the required levy, consisting of 10% of its gross winnings from horse racing, to the British Horseracing Board. This levy, legally required of all bookmakers, helped to cover costs in the horse-racing industry such as prize money, training programs, and the upkeep of racecourses. Other sports, such as greyhound racing, had voluntary levies, which all major bookmakers also paid. This claim was untrue; although the levy was previously based on turnover, in 2001 the country adopted a gross profits basis, and Betfair paid the same levy (10% of its gross profit) as other U.K. bookmakers. It was also active in paying the nonstatutory levies of other sports.

Despite their criticism, over time bookmakers learned to benefit from Betfair. Traditionally, bookmakers would reduce their exposure to any one outcome by hedging their bets with other bookmakers. If that outcome occurred, they could use the profit from their own bet to pay part of their obligations to punters. Bookmakers would also shorten the odds on the outcomes they had hedged. This made it so that they would attract less money on that outcome, and also served as a signal to other bookmakers that they had taken a lot of money on that

²⁰Mintel Report—"Online Betting—U.K.—May 2001."

²¹The gross win is the net profit that bookmakers make from gambling. It is the amount of money that a bookmaker accepts in bets (i.e., the total amount staked) minus any winnings paid out to punters.

²²Betfair 2004 annual report.

outcome. Those bookmakers would then adjust their prices accordingly. However, because Betfair provided much better prices/odds (a lower over-round) than bookmakers, bookmakers could now hedge their exposures via Betfair at a lower cost. This made it possible for smaller bookmakers to operate their entire business via Betfair, using it as another channel in which to apply their skills and knowledge. Moreover, Betfair's transparent price information allowed bookmakers to more accurately gauge market sentiment and price their risk accordingly.

Because of the freedom it provided by allowing unlimited numbers of bets, the extensive data it made available, and its open APIs, on which punters could build software applications that automated bet placement, Betfair was particularly attractive to sophisticated high rollers who were skilled at correctly estimating the probabilities of various outcomes and using bookmakers' services to their advantage through sophisticated hedging algorithms. In fact, bookmakers preferred not to trade with these high rollers, and to the extent that they could identify them, they would bar these customers from betting with their firms.²³ These punters were drawn to Betfair because they could utilize the betting exchange as essentially a way to run their own small business—to act as bookmakers within the site. In drawing unwanted customers away from bookmakers, and benefiting from those customers itself, Betfair acted as a complement to bookmakers.

In fact, as Table 1 below illustrates, while the gross win percentage²⁴ of Ladbrokes and William Hill declined markedly after Betfair's entry, likely due to the impact of price competition, the actual gross win amounts increased. The increase indicates that the price competition has not actually hurt the large bookmakers, and that increased trade has more than compensated for it. In a system with lower prices, punters essentially received more of their money back. Since customers tended to re-gamble a portion of this money (and received more back on those bets, too), the lower prices had a multiplicative effect that boosted the overall market size of the gambling industry.

²³This is similar to casinos in Las Vegas restricting the activities of blackjack players who count cards.

²⁴The gross win percentage is defined as the gross win (total money staked minus payouts to punters) divided by the total amount staked. It represents the profitability (or price competitiveness) of the bookmaker's bet taking.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Amount Staked												
Retail	1,721.6	2,460.4	4,751.8	7,020.7	9,285.5	11,486.0	13,022.5	13,567.0	13,670.2	14,763.0	15,640.0	15,945.8
Online	273.7	389.3	592.6	696.3	826.0	1,060.3	1,182.0	1,414.8	1,281.8	1,272.7	1,874.2	2,498.5
Phone	419.5	489.1	570.8	540.8	605.8	659.9	559.2	545.0	507.7	457.6	370.9	279.2
Total	2,414.8	3,338.8	5,915.2	8,257.8	10,717.3	13,206.2	14,763.7	15,526.8	15,459.7	16,493.3	17,885.1	18,723.5
Gross Win												
Retail	416.7	418.9	505.6	548.1	623.4	736.0	802.6	710.7	757.5	783.1	789.7	837.9
Online	35.4	54.9	84.9	106.1	123.3	130.5	119.8	125.1	203.5	251.5	321.3	406.7
Phone	48.0	50.9	56.5	60.3	53.4	57.5	53.0	39.8	29.7	30.3	18.2	16.0
Total	500.1	524.7	647.0	714.5	800.1	924.0	975.4	875.6	990.7	1,064.9	1,129.2	1,260.6
Operating Profit												
Retail	93.2	111.9	152.4	165.5	181.6	225.9	229.8	240.1	194.5	210.1	194.9	211.5
Online	9.2	20.5	37.1	51.7	61.2	61.5	61.5	49.2	58.7	87.5	103.2	145.3
Phone	15.5	17.3	22.2	22.1	13.0	16.7	16.7	5.9	(36.6)	(5.2)	(50.9)	0.5
Total	117.9	149.7	211.7	239.3	255.8	304.1	308.0	295.2	216.6	292.4	247.2	357.3
Gross Win %												
Retail	24.2%	17.0%	10.6%	7.8%	6.7%	6.4%	6.2%	5.2%	5.5%	5.3%	5.0%	5.3%
Online	12.9%	14.1%	14.3%	15.2%	14.9%	12.3%	10.1%	8.8%	15.9%	19.8%	17.1%	16.3%
Phone	11.4%	10.4%	9.9%	11.2%	8.8%	8.7%	9.5%	7.3%	5.8%	6.6%	4.9%	5.7%
Total	20.7%	15.7%	10.9%	8.7%	7.5%	7.0%	6.6%	5.6%	6.4%	6.5%	6.3%	6.7%
Operating Margin												
Retail	22.4%	26.7%	30.1%	30.2%	29.1%	30.7%	28.6%	33.8%	25.7%	26.8%	24.7%	25.2%
Online	26.0%	37.3%	43.7%	48.7%	49.6%	47.1%	51.3%	39.3%	28.8%	34.8%	32.1%	35.7%
Phone	32.3%	34.0%	39.3%	36.7%	24.3%	29.0%	31.5%	14.8%	-123.2%	-17.2%	-279.7%	3.1%
Total	23.6%	28.5%	32.7%	33.5%	32.0%	32.9%	31.6%	33.7%	21.9%	27.5%	21.9%	28.3%

Table 1: William Hill Segment Operating Information.

The total amount staked/wagered reflects all bets that are taken from punters. The gross win is the net profit that bookmakers make from gambling, as it reflects the total amount staked minus any winnings paid out to punters. The gross win is therefore the best measure of a bookmaker's "revenue." The trading/operating profit reflects the profit made by gambling operations after accounting for costs such as store rent, staff costs, and so on, but excluding central corporate costs. The gross win percentage is simply the gross win divided by the total amount staked and represents the profitability (or price competitiveness) of the bookmaker's bet taking. The operating margin is the operating profit divided by the gross win.

Source: Company annual reports

Meanwhile, Betfair’s users (and hence Betfair) benefited from the bookmakers’ knowledge in terms of setting initial prices for an event. Through decades of experience, bookmakers had built up huge amounts of knowledge, maintaining statistics on horses, jockeys, and sports teams, which they used to develop odds and to set prices that could be used to attract the bookmakers’ first bets. Betfair’s market makers used the information gleaned from bookmakers as a seed to set their initial bids and attract punters. Thus, the interaction between traditional bookmakers and Betfair grew into a mixture of competition and cooperation that led to an increasingly accommodating response by the established bookmakers.

The interaction between Betfair and traditional bookmakers illustrates that two organizations competing in dissimilar ways may become partners in value creation by jointly growing the economic pie in their sector. Although Betfair’s business model, with its lower over-rounds and greater convenience, was perceived as being highly disruptive and with the potential to displace traditional bookmakers, both business models have continued to thrive to date.

4 Discussion and Conclusion

Each of the phases of Betfair’s history described and analyzed above points to a different aspect of platform competition that, we believe, has not received sufficient attention in the economics and management literature on MSPs. First, the interaction between two betting exchanges—Betfair and Flutter—suggests that “details matter”; that is, that the design choices made by managers in setting up the platform can have major implications when it comes to actual market competition. Because economic models of platforms tend to exogenously assume the design of the platform and then allow platform owners to make choices (such as price levels or access fees) within the constraints of the assumed platform, the issue of endogenous platform design, which is a critical element in the minds of managers, has not played a major role in the literature.

A high-level approach to the modeling of platform competition suggested by the Betfair vs. Flutter episode involves the set-up of a two-stage game. In the first stage, that of “platform design,” the platform owners determine the rules by which the platform will operate. In the second stage, that of “market competition,” platforms interact in the marketplace, making choices within the constraints imposed by their stage-one choices. In the case of Betfair vs. Flutter, stage 1 platform design choices include whether or not to restrict the number and nature of betting events and determine who will create them; whether to use decimal or fractional odds; how the matching algorithm will function (e.g., whether it will be anonymous, or whether it

will allow for partially met bets); the funds required to lay odds against a number of related bets; and whether or not to allow for in-game betting. In stage two, Betfair and Flutter, as well as platform participants, would choose which particular betting events to offer, as allowed under their platform design elections in stage one. In addition, participants would choose what decimal or fractional odds to offer, as well as the size of their bets and what amount of funds to put up for matching, and whether or not to change their betting positions while the betting event is in play. Essentially, the Betfair vs. Flutter episode calls for work that endogenizes platform design.

An economic model of endogenous platform design and entry in the presence of strong network effects that produces a winner-take-all dynamic should lead to equilibria with one entrant only that makes the most desirable design choices and captures the entire market. In actual business situations, however, the universe of platform design choices is often too broad for decision makers to consider all the possible combinations and competitive implications of such choices. In an influential practitioner-oriented piece, Hagiu (2014) lists four categories of choices that MSP designers must consider when setting up their platforms: (1) number of sides, (2) design, (3) pricing structures, and (4) platform governance (who is allowed to join and what participants are allowed to do on the platform). Of course, each of these categories has myriad possible configurations, which makes the first stage of the game proposed above terribly complex and hard to solve (since one would need to solve all the corresponding subgames). The Betfair vs. Flutter case suggests that, when faced with such complex optimization problems, managers may reason by analogy, and that an ability to spot the correct analogy (such as a stock exchange, rather than eBay, in the case of betting platforms) can lead an MSP to develop an advantage.

Second, the interaction between a betting exchange and one-sided bookmakers—Betfair vs. Ladbrokes or William Hill—suggests that the creation of novel MSPs characterized by strong network effects, and with important cost and price advantages compared to incumbent one-sided players, does not necessarily imply the disappearance of the old, traditional business model. The analysis points to two reasons. First, there is a straightforward horizontal differentiation explanation. Put simply, there are individuals who appreciate the social aspect of betting, and thus enjoy placing bets at brick-and-mortar stores surrounded by other punters engaged in similar activities. These individuals are not attracted to impersonal exchanges such as Betfair or Flutter, where betting often takes place in solitary environments by use of a personal computer, and are thus willing to place bets with higher implied over-rounds in order to enjoy the social/personal aspect that betting through bookmakers offers.

The second reason, which has been much less explored in the literature, is that new business models that on the surface may appear to be strong substitutes to existing ways of satisfying demand (Betfair attacked the very core of the bookmakers' business model and potentially cut them out of the betting process while pushing down prices and implied over-rounds), may exhibit important complementarities with the traditional model, allowing incumbents to create and perhaps capture additional value. As noted, Betfair allowed traditional bookmakers to more cheaply hedge their positions, thereby reducing their operating costs. Moreover, Betfair attracted sophisticated high rollers, drawing them away from bookmakers, for whom they were the least profitable customer segment. In fact, bookmakers would often restrict the most successful high rollers from doing business with them. These high rollers were delighted to join a platform that enabled them to take on the lay side of the market without restrictions. As they gravitated towards Betfair, they brought liquidity to the exchange while simultaneously improving the profitability of bookmakers.

The lack of a general model that examines competitive and cooperative interactions between organizations that operate possibly different business models (including MSPs), and where equilibrium business models are endogenously chosen as part of the game, might be due in part to the implied loss of symmetry in objective functions which is often assumed for tractability in order to solve noncooperative games. Indeed, the extant literature lacks a formal analysis of the conditions under which platforms lose or gain from the presence of another competing platform, one which may operate a different business model. We believe that such a general model would be a wonderful addition to the literature. In addition to contributing to our understanding of why we observe particular industry configurations with diverse business models, it would have major managerial implications. The Betfair case suggests, for example, that configuring an entrant's business model in such a way that there are significant complementarities with the business model of the incumbent firm will likely result in a more accommodating response.

The Betfair case has illustrated that two platforms that appear at a distance to be similar (e.g., two betting exchanges) may in fact be quite distinct under close examination, and that platform design choices may have major implications on their likelihood of success. Moreover, we have seen that an entrant MSP and a competing one-sided incumbent may develop a symbiotic relationship with the potential to expand the value they create. It is our hope that the above analysis will inspire future contributions to the management and economics of MSP design and to the development of a theory in which business models are endogenously derived from primitives.

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