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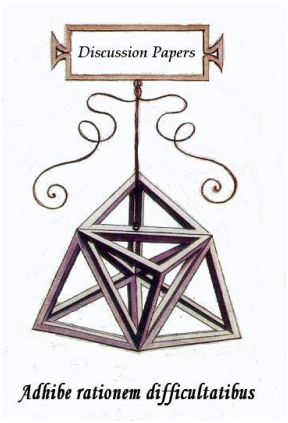

Alessandro Gandolfo and Valeria Debonis

Motivations for gambling and the choice between skill and luck gambling products: an exploratory study

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Motivations for gambling and the choice between skill and luck gambling products: an exploratory study

Abstract

We analyze differences in gambling motivations for skill and luck gamblers on the basis of a questionnaire distributed to a sample of university students. We find that the probability of playing skill rather than luck games is positively correlated to being a male, to the socialization motive and to having a planning attitude, that we use to define the kind of amusement experienced in gambling, while it is negatively correlated to the money motive, the perceived risk of losing social esteem, and age. Results are then applied to marketing strategies and public policies, with particular attention to the online environment.

Classificazione JEL: M31, M38; H31, H27
Keywords: Motivational aspects of gambling; Online gambling; Skill and luck games; Marketing and public policies in the gambling sector

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1. Introduction

The gambling industry has undergone a relevant expansion in recent years, reaching a net worth of over $125 billion in 2013 worldwide; expected growth for 2013-15 is, for instance, 3-5% in Europe, 8-9% in Latin America, 2-4% in Canada (Repetti and Jung, 2013). As a consequence, the sector has attracted the interest of both marketers and policy makers, even though «*…there is little agreement among researchers about the appropriate way to conceptualize and quantify the effects of gambling on society* (Walker, 2007; p. 609)».

As for marketers, being part of the entertainment sector, gaming services are subject to a product life cycle: tastes and preferences of customers change and firms have to adapt or renovate their offer to keep on being competitive and "appealing". Thus, innovation and marketing are needed to keep up with a market that constantly evolves and avoid losing customers. This is even more true now that technological changes have introduced new ways of distributing gambling products (through digital online platforms) and new types of games. Together with the fall in trade barriers, this has increased the number of available substitutes and operators, opening national markets to foreign competition.

As for the policy makers, traditionally (Eadington, 2004; Smith, 2000; Taylor and Kopp, 1991), the disquiet towards the social costs of gambling activity, in particular the effects on excessive gamblers and the ease of criminal involvement, has explained the regulatory role of the state in the sector as a social guardian and a consumers' protector. While proving more effective than prohibition in reducing illegal gambling, legalization and regulation have produced a base for taxation, introducing a fiscal stake of governments in the gambling industry (this ambiguity was pointed out at least since De Viti De Marco, 1936).

Online gambling has brought new arguments to the debate. The revolutionary technological and commercial development of the internet enabled operators to create new gambling platforms, virtual spaces in which customers can easily gamble online behind screens via a mouse click (Gariban *et al.*, 2013). As expected (Brindley, 1999), this market segment has undergone a rapid growth,

reaching a gross gaming win of $30 billion and a number of almost 3.000 internet sites in 2012 (Repetti and Jung, 2013).

Among the new problems introduced by remote gambling, there are the ease of access to 24 hour open virtual facilities, the potential for consumers' fraud (Miller, 2006), the strong participation of younger adults (Griffiths *et al*., 2010) and underage gambling. Moreover, online environments may exacerbate the risk of compulsive behavior, with the connected loss of money and time, since they influence mental processes driving spending decisions and gambling experiences (Siemens and Kopp, 2011).

Though not completely legalized in the US (according to the Unlawful Internet Gambling Enforcement Act of 2006, in force since 2010, online gambling is not prohibited *per se*, but it is illegal for US based financial services providers to accept, distribute or otherwise honor transactions related to internet gambling), government control is impaired by the ease of access to facilities in countries that are outside the US law enforcement power, the presence of loopholes in the law, the contrast of some norms with international trade agreements, but also by the ambiguity created by the presence of active bills in several states within the US (Siemens and Kopp, 2011).

It can thus be of help to look at countries, like Italy, where online gambling liberalization, though inserted in a highly regulated context, is more pronounced than in the US. In Italy remote gambling has been legalized in 2008, with new games, especially card ones, being introduced in 2011. Also

because of the reduction of gambling on illegal sites, remote skill games have become the second segment of a € 85.400 billion market by 2012.

We believe that the interest of the Italian experience lies particularly in the new market segmentation brought about through the link between online gambling and skill games, given that in the US the most played online games are sport betting and card games. This connection should be taken into account when shaping policies and marketing strategies to be applied to different types of gamblers and distribution channels.

In this exploratory study, we analyze the different motivational aspects that characterize skill and luck games gamblers among college students, in order to derive elements useful in shaping both marketing and public policies in the new gambling environments. The choice of the sample is motivated by the social relevance of the impact of gambling on young people, by their exposure to the internet and by the fact that they will be the future protagonists of the gambling market due to demographic reasons.

2. Research Objective and Methodology

Under an economic perspective, gambling consists in putting a given amount of money at stake, bearing the risk of losing it, but with the chance of winning a larger amount. Given that the amount of money staked by gamblers is lower than that distributed in winnings, the activity entails an expected loss. This feature has originated a cognitive-based explanation of gambling motivations based on the existence of a faulty reasoning: gamblers behave as if they could

control the outcome of unpredictable events and/or think that an event is more predictable than it actually is (Ladouceur and Walker, 1996; Miyazaki *et al*., 2001). Clotfelter and Cook (1993) coined the term *gambler's fallacy* to denote the belief that the probability of a gambling event is lower once that event just occurred, even if the probability of its occurrence is independent across periods. Recently, the link between probability estimation and personality type has also been explored: Capra *et al*. (2013) find that "motivated" people, that is, people who are controlled and emotionally stable, consider gambling more attractive than impulsive people, since, though being risk averse, they positively focus on payoffs.

However, winning money is not the only motive why people gamble: several studies have shown that people gamble also for excitement, challenge, socialization, escape (see, for instance, Walker, 1992; Browne and Brown, 1994; Griffiths, 1995; Rogers, 1998; Aasved, 2003; Lam, 2007). Besides these functional motives, also the personality traits antecedents of different gambling products have been studied by means of hierarchical models of motivations and personality (e.g., Fang and Mowen, 2009).

Factors others than money may represent a sort of reward, which may well exceed the expected loss from gambling. Under this perspective, regular gambling (not problem gambling) might look less irrational even if the expected monetary gain from it is negative: gambling is a leisure activity and, in order to undertake it, people are willing to spend money.

Since gambling motivations differ across games, their understanding can help marketers in promoting gambling products and policy makers in detecting and contrasting gambling problems and reduce social costs. For instance, Lam (2007) finds that consumers were motivated by excitement, challenge and money for lottery and sport betting, by socialization for card room and bingo; Fang and Mowen (2009) find that slots gamblers have the motives of excitement and escape; sports bettors of money, challenge and social contact; card gamblers of money, excitement, social interaction and challenge.

While the literature has focused on the motivational aspects concerning single gambling product, in this study we test whether the same kind of analysis allows to identify two broader categories of gamblers: skill games gamblers and luck games gamblers. The defining characteristic is that the result is only connected to the occurrence of a random event for the former, while it may depend also on the gambler's abilities for the latter.

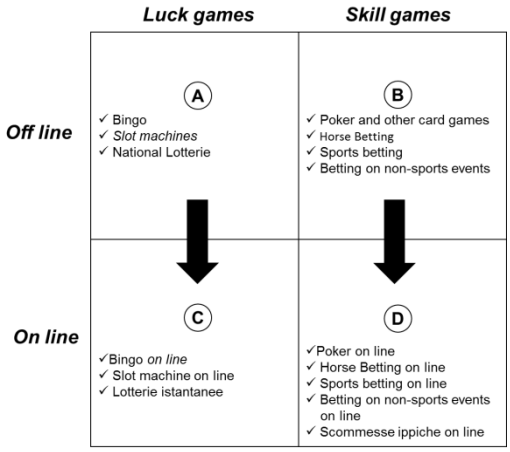
The interest in the subject also stems from the recent evolution of the market, that appears to be pointing at a marked segmentation with respect to the "nature" of the games (skill or luck) and the distribution channel (online or offline) (Figure 1).

Actually, the technological evolution in the supply of gambling products makes the traditional distinction between games "in the casino" and "out of the casino" obsolete. In fact, even though the data show that offline luck games (segment A) are still the leaders of the worldwide market, it is very likely that over the next years a drastic reshaping of the strength relationships between

different market segments will take place. If, on the one hand, a decrease in the interest for traditional games has been recorded (in particular lotteries and games based on drawing numbers), on the other hand, we witness the success of skill games, especially those played on the internet (segment D), that currently represent the most interesting market segment, both for the amount of gross gaming revenues and for the strategic developments that will take place in the European countries where online gaming is legalized.

In addition to this, a new type of products is expected to grow exponentially over the next years, that is, online luck games available on internet digital platforms (segment C). Their spread will speed up the entrance in the maturity and decline phases of traditional luck games (segment A).

Figure 1 - The segmentation of the gambling market and the "digital migration process"



Source: Adapted from Gandolfo and De Bonis (2011).

Gambling on the internet implies that one no longer has to go to a casino, a betting shop or a racetrack. Instead, one downloads a simulation of the gambling facility on the preferred device at a preferred gambling place, for instance, at home.

A relevant factor enabling the digital migration process has been the diffusion of technologic platforms that have made online gambling possible: in countries where it has been liberalized, skill games are now played prevalently on the internet. In Italy, for instance, remote skill games are the second market segment as for gross gaming revenues, while skill games played in traditional environments are steadily losing market shares (AAMS, 2012). One relevant factor for this evolution has been the fact that remote skill gambling is a market segment characterized by a higher degree of competition and, therefore, lower taxation and take out rates.

However, the growth of the market cannot depend only on the ability of providers to launch new games or to encourage the migration of gamblers towards digital channels. The choice of improving the variety of games by making the supply multi-product (luck games and skill games) and multi-channel (online and offline) has been, until now, successful.

But the excessive fragmentation and the out of control proliferation of the number of products could turn out to be a dangerous boomerang for suppliers, because of the increase in fixed costs of web management, of the disorientation of customers due to the supply overload and, most of all, of the inescapable

cannibalization that would take place between games available online and offline at the same time.

For this reason, a better understanding of the different profiles of skill and luck gamblers becomes of crucial importance, since it can help in defining both marketing and public policies, also with respect to the new problems and opportunities characterizing the internet environment.

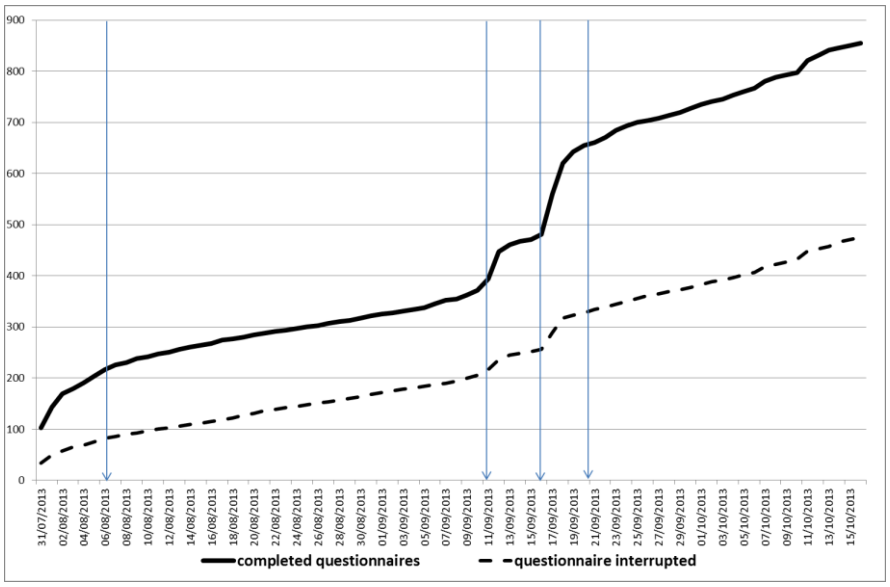
The objective of this exploratory study is thus to provide a better understanding of regular gambling (i.e., not problem gambling), in particular the motivational aspects of the behavior across two broad categories of games, skill and luck ones. In particular, we examine whether consumers choosing either type differ with respect to attitudes towards gambling, perceived risks and motives, in order to measure the predictive impact of demographic, cognitive and behavioral variables on the choice of the game type.

The basis of our research is a self-reporting survey conducted among students of the University of Pisa (Italy). The choice of a sample composed by university students is due not only to the ease of contacting them as members of the same institution, but also to the relevance of the impact of gambling on youth. This is especially true for the current generation, that is the first one having been exposed to a largely liberalized environment and is known to exhibit a high diffusion of gambling (Williams et al, 2006); a further reason is given by the diffusion of the internet among younger people, also as a platform for gambling (Griffiths *et al*., 2010).

In the period 31st July – 17th October 2013, we administered an online questionnaire to all enrolled students who had taken at least one exam among the courses taught in the Department of Economics and Management. The link to the questionnaire was sent by e-mail to 8.942 students, obtaining 855 answers.

Figure 2 shows the dynamics of the students' participation in the survey along the 78 days in which they had access to the online questionnaire. The solid curve represents the number of questionnaires completed at 11.00 p.m. of each day, while the dashed curve shows the number of questionnaires the compilation of which was interrupted before ending. Only data from completed questionnaires were used in our analysis. It is possible to distinguish five phases in the dynamics of responses. The first phase is characterized by a consistent inflow of questionnaires (200 of them were completed in 7 days). The second phase, coinciding with academic vacations, is characterized by a moderate participation in the survey. The third and fourth phases were triggered by a reminder sent by e-mail to students (on the 11th and on the 16th of September 2013, respectively), followed by the ending phase (the survey was closed on October 16th). Overall, 1.069 questionnaires were registered on the server, of which 855 were completed ones and 476 had been interrupted before the end.

Figure 2 – Dynamics of responses



The average age of respondents was 25.29 (s.d. 5.04); 57.63% were women. Actual gamblers were 43.27% (24.21% were men, 18.95% women); among actual gamblers, 27.64% played exclusively skill games (23.31% were men, 4.34% women), 36.59% exclusively luck games (9.76% men, 26.83% women); the rest played both types of games: 9.21% (men: 7.32%, women 1.90%) played skill games more than 50% of the times, while 4.61% played luck games more than 50% of the times (men: 3.25%, women: 1.76%); 4.07% (men: 2.98%, women 1.08%) played both types of games with the same frequency. Finally, 17.89% (9.49% men, 8.40% women) did not answer the relevant question.

The questionnaire was divided into eight sections, each of them concerning a particular aspect (attitudes towards gambling, motives for gambling, perceived risks, types of games played, amount of money spent, gambling frequency,

socio-demographic variables, attitudes towards risk); filter questions allowed to delineate specific paths for each respondent's profile (gambler, not gambler, online gambler, etc.).

2. Data Analysis and Results

2.1. Attitudes Towards Gambling

From a public policy viewpoint, the debate on gambling is centered upon weighing its entertainment value against the social ills it might generate. It is thus important to assess the consumers' point of view with respect to the amusement derived from gambling vis-à-vis their perception of risks being run and their assessment of state involvement.

Instead of the commonly used Gambling Attitude Scale, a three-item scale developed to study gambling in adults (see, for instance, Williams et al, 2006), we have used a nine item 0-10 scale to measure perceived entertainment value and dangers connected to gambling, together with attitudes towards different forms of state intervention. The most relevant outcomes are the following ones:

- The majority (52%) of respondents preferring luck games does not consider gambling exciting; 69.7% considers it an entertainment different from other leisure activities, with a negative connotation. For those preferring skill games, these shares decrease to 40.4 and 48.5 respectively. As we shall see, this outcome is in line with the results concerning the motives why people choose to gamble, excitement and amusement being more relevant for skill games gamblers.

- More than one third (36.8%) of luck games gamblers would agree on banning games (vs. 27.2% of skill games ones); 61.2% of luck games gamblers and 47.1% of skill games gamblers consider gambling a legalized fraud against consumers, with the less negative attitude of skill gamblers possibly deriving from the higher payout that these games usually grant with respect to luck ones.
- Collecting revenues from taxing games is considered an example of fiscal illusion by 84.2% of luck gamblers and 71.3% of skill ones (the somehow less negative attitude of the latter possibly induced by the lower fiscal burden on skilled games) and not a valid way of financing public expenditure (54.4% of luck gamblers, 57.3% of skill gamblers), unless it helps avoiding the introduction of new taxes (44.1% of luck gamblers, 43.4% of skill ones). These results cast doubts on the possibility of increasing the acceptability of the government financial stake in the gaming industry by ear marking its proceeds for charity and the like.

2.2. Values

By means of a 0-10 scale, respondents were asked to measure the importance in their lives of: being well off, self-realization, social esteem, success in sport, love, friendship, solidarity, passion, health, beauty, fitness, spirituality, being a winner. Love, passion and health resulted to be the most highly scored items on average. Skill and luck gamblers do not differ much under this respect, unless for two items with low average score: success in sport and being a winner.

The former obtained an average score of 3.53 (max 9.06, min 0, s.d. 1,93) for those playing exclusively skill games and of 3.47 (max 8.06, min 0, s.d. 1.89) for those playing prevalently skill games, while for luck games gamblers the value was lower: 2.63 (max 9.66, min 0.06, s.d. 1.98) and 2.48 (max 8.35, min 0.06, s.d. 1.89) for those playing prevalently and exclusively luck games, respectively.

The latter scored on average 4.37 (max 9.89, min 0.06, s.d. 2.5) for students playing prevalently skill games and 4.43 (max 9.89, min 0.06, s.d. 2.53) for those playing exclusively skill; while average score was 3.46 (max 9.82, min 0.05, s.d. 2.5) for those playing prevalently luck games and 3.34 (max 9.82, min 0.05, s.d. 2.42) for those playing exclusively luck games.

Skill games gamblers thus appear to be more competitive and interested in sports than luck ones. These two characteristics, however, are also gender specific: for men, the average score of the importance of being a winner was 4.61 for those playing only skill games and 4.39 for those playing only luck games; for women, these values decrease to 3.47 and 2.97, respectively. As for success in sport, it scored, on average, 3.62 (only skill) and 3.35 (only luck) for men, 2.70 (only skill) and 2.17 (only luck) for women.

2.3.Motives

Different motivations for different gambling products have been found in the literature. For instance, Fang and Mowen (2009) find that slot gamblers are characterized by the motives of excitement and escape; promotional games gamblers are motivated by money; sports bettors and skilled cards gamblers by

money, social contact and challenge. Lam (2007) finds that consumers are motivated by excitement, challenge and money for lotteries, casino and track betting; by social factors for card room and bingo.

In our survey, respondents were asked to measure the strength of eight motives along a 0-10 scale. Table 1 summarizes the results ("Skill" comprises exclusively and prevalently skill games gamblers, "Luck" exclusively and prevalently luck games gamblers).

Table 1 - Motives for gambling: average score (min-max-s.d.)

Motive	Skill			Luck		
	Average score	Min-max	Standard deviation	Average score	Min-max	Standard deviation
1. Challenge	2.46	0.30 - 9.66	2.53	0.94	0.00 - 7.96	1.55
2. Escape from boredom	1.76	0.00 - 9.14	1.96	1.1	0.01- 8.72	1.58
3. Money	4.33	0.02 - 9.81	2.79	5.90	0.00 - 9.92	2.81
4. Excitement	3.34	0.04 - 9.18	2.31	1.84	0.01 - 9.47	2.04
5. Escape from sadness and depression	1.19	0.02 - 9.40	1.66	0.87	1.32 - 7.96	1.32
6. Socialization	3.08	0.06 - 9.75	2.56	1.25	0.01 - 9.67	1.87
7. Relax	1.65	0.02 - 8.60	2.01	1.0	0.00 - 7.45	1.53
8. Entertainment	3,00	0.05 - 9.77	2.59	2.38	0.00 - 9.74	2.51
9. Other reasons	--	--	--	--	--	--
Number of respondents	136			152		

The main result is that winning money is the strongest motive for both types of gamblers, but, if it is undoubtedly "the" motive for luck gamblers, for skill ones other motives are also relevant: excitement, social interaction, challenge.

It should also be added that challenge, escape and excitement are highly linked to gender, average values being consistently higher for men than for women across all game types.

In addition to motives for gambling, we also consider the motivations for initially starting participation in gambling activities. Though having received attention for their implications in generating problem gamblers (Tse *et al.*, 2005), these aspects have not been considered much as for regular gambling. We think, instead, that the initial motive may represent an important element both for marketers and policy makers, as it will be argued in the last section. We asked respondents to evaluate the strength of the following motives: 1. Presence of a gambler in the family; 2. Friends who already gambled; 3. Invitation to participate to group bets; 4. Excitement; 5. Winning money; 6. Curiosity about the game; 7. Popularity of the game; 8. Commercials promoting the game. 9. Challenge. **Errore. L'origine riferimento non è stata trovata.** summarizes the results.

Table 2 - Motives for starting gambling activity: average score (min-max-s.d.)

Initial motive	Skill			Luck		
	Average score	Min-max	Standard deviation	Average score	Min-max	Standard deviation
1. Family	1.44	0.00 - 9.21	1.89	1.15	0.01 - 9.70	1.82
2. Friends	2.04	0.00 - 9.88	2.24	3.66	0.07 - 9.90	2.32
3. Invitation to group betting	0.91	0.00 - 9.35	1.46	1.71	0.02 - 9.89	2.12
4. Excitement	1.96	0.03 - 9.30	2.22	2.48	0.03 - 7.70	1.91
5. Money	5.00	0.09 - 9.90	2.58	3.85	0.03 - 9.90	2.60

6. Curiosity	2.22	0.00 - 9.88	2.10	2.84	0.05 - 8.79	2.31
7. Popularity of the game	2.27	0.01 - 9.80	2.16	2.03	0.01 - 8.93	2.16
8. Advertising	1.63	0.01 - 9.92	2.04	1.06	0.01 - 8.44	1.56
9. Challenge	0.89	0.00 - 8.89	1.49	2.46	0.02 - 9.68	2.59
10.Other motives	--	--	--	--	--	--
Number of respondents	136			152		

Money is again the most important motivation. A comparison between **Table 1** and **Errore. L'origine riferimento non è stata trovata.** shows a different evolution of the strength of this motive as for skill and luck gamblers: its relevance increases through time for the latter group, while it decreases for the former one.

As for the social interaction motive, it should be noted that it is almost as strong as the money one for skill games gamblers and that it does not decrease with time; this is in contrast with the case of luck games gamblers, for whom social contact significantly decreases.

The result for challenge is much similar to that of Table 1. **Errore. L'origine riferimento non è stata trovata.** also shows how peer influence is stronger than parental one in influencing initial gamblers.

2.4. What Excitement Is About

In order to better understand and differentiate the motivational aspects of skill and luck games gamblers, we have also investigated the entertaining content of the two different forms of games, i.e. the type of amusement being derived by playing them.

To do this, we have asked which moment respondents considered the most exciting one in the process of gambling. The most frequent answers were "*when waiting to know the results*" and "*when imagining what to do with the amount won*", the second one having been indicated by the absolute majority of women playing luck games. "*When challenging other gamblers*" resulted to be an important reason of amusement for male skill games gamblers.

The main difference between luck and skill games gamblers, irrespectively of the gender, was the relevance for the latter of the moment "*when the game strategies are chosen*". Besides confirming the importance of motives other than money for skill games gamblers, we believe that this aspect helps defining the skill games gambler type, especially once it is associated to another characteristics, that is, the planning attitude when gambling. In fact, respondents were asked to mark, on a 0-10 scale, by how much their decisions of playing were well planned (with 0 corresponding to an absolutely impulsive decision). The average (max-min-s.d.) value was 3.21 (9.97-0-3.4), which increased to 5.2 (9.97-0.64-3.43) for respondents playing exclusively skill games – 4.89 (9.97-0.04-3.43) for those playing prevalently skill -, while falling to 2.62 (9.69-0-2.6) for those playing exclusively luck games – 2.8 (9.69-0-2,8) for those playing prevalently luck.

This factor thus appears a relevant one in explaining the choice between skill and luck games rather than the more generic excitement motive.

2.5. Perceived Risks

Another aspect possibly differing between skill and luck games gamblers is their perception of risks connected to gambling. Respondents were therefore asked to evaluate five risks: loss of control, developing a dependency similar to drug addiction, loss of family/friends esteem, becoming indebted, loss of time.

In general, people gamble despite a clear perception of the dangers being involved, which is typical of behaviors at the risk of creating an addiction. This appears in line with the attitude towards state involvement: many gamblers would welcome more intervention, as illustrated above.

We find that skill gamblers underscore risks with respect to luck ones; however, other variables are involved: gender, with men consistently underscoring risks with respect to women; and family influence, with people having gamblers in their families underscoring risks with respect to people coming from non-gamblers' families.

Moreover, average values do not differ much between skill and luck games gambler, with the exception of the risk of losing social esteem, with an average value of 4.48 (9.9-0-2.96) for those playing prevalently skill games and of 4.25 (9.9-0.02-2.89) for those playing exclusively skill games, while people playing prevalently or only luck games consider this risk to be higher, with average

scores of 5.76 (10-0.05-2.91) and 5.81 (10-0.05-2.99), respectively. Our interpretation of this finding is that, given that social interaction is an important motivation for those playing skill games, they would be less likely to do it, should the behavior be associated by them with some sort of social stigma.

3. Regression Analysis

According to the above analysis, the respondents' gambling motivations can vary significantly across the two categories of gambling products. To test the significance of these and other factors in explaining the choice between skill and luck games, we use regression analysis. The choice of the explanatory variables is suggested by the results illustrated in the previous sections.

First of all, money and social interaction appear to have a different importance for skill and luck games gamblers. Then, also the kind of amusement derived from gambling differs: skill games appear to better respond to the preferences of people displaying a planning attitude; finally, people perceiving that gambling would induce a negative social perception would not choose games characterized by a relevant social contact motive, as it is generally the case for skill games. Therefore, all these factors appears to be explanatory variables of the choice between skill and luck games.

Differences in other motives, in particular excitement, challenge and escape, appear to vary more across gender than across game type. Gender appears thus to be an explanatory variable of the choice of the game type, in that it summarizes traits and motives that specifically characterize men with respect to women (among which, competitiveness, challenge, excitement, escape). The

higher propensity to gamble that characterizes men with respect to women, already pointed at in the literature (see, for instance, Volberg, 2003; McDaniel and Zuckerman, 2003; Welte *et al*., 2002), can in part be explained by the different strength of these factors.

Age is also a variable with an explanatory power tested in the literature (see, for instance, Fang and Mowen, 2009; Lam, 2007), even if mainly in samples containing both young people and adults; even if our sample concerns university students, we think it might be a relevant explanatory variable because of the age dispersion of the sample and because of the already mentioned correlation between skill games and the internet: many skill games have lately been introduced on the online platform and possibly younger students have more easily got in touch with them. Given the focus on university students, we do not use other demographic variables, like instruction level and income (for an analysis of the influence of these and other demographic variables on gambling behavior see, for instance, Herring and Bledsoe, 1994; Abbot and Cramer, 1993, Brown *et al*., 1992).

Our dependent variable is being a skill games gambler or not (that is, a luck games one). It is, therefore, an indicator variable, which reflects a qualitative rather than a quantitative description of the data; to be included in the regression, it must be represented numerically, which is achieved by defining a variable S, that takes the value 1 in the case of a skill games gambler, 0 in the case of a luck games one. In particular, S is equal to 1 if the respondent played skill games exclusively or more than 50% of the time, while it is equal to 0 if

the respondent played luck games exclusively or more than 50% of the times (other profiles being excluded from the sample).

The explanatory variables are a constant, the money motive, the social interaction motive, the risk of losing social esteem, the planning attitude, gender and age. Apart from gender, all other variables are quantitative ones, the value being given by the score attributed to it by the respondent on a 0-10 scale, as explained above; age is number of years. Gender is a qualitative variable, which takes the value 0 if the respondent is a woman and 1 if he is a man. Being a woman is a benchmark, the coefficient of the variable gender estimating the impact of being a man rather than a woman on the probability of being a skill games gambler.

Given the discrete nature of the dependent variable, we use a logistic regression (the results with a probit model are, as one would expect, very similar, apart from a scale factor); coefficients estimate the impact of the relevant variable on the probability of being a skill games gambler. Results are summarized in Table 3.

Table 4 summarizes the results for the subsample of those playing exclusively either skill or luck games.

Table 3 - Regression coefficients for motivators and demographics of gambling behavior (exclusively or prevalently skill games gamblers).

	Coefficient	Std. Error	t-value	t-prob
Constant	3.22399	1.09700	2.94	0.004
Age	-0.149024	0.03792	-3.93	0.000
Money	-0.386166	0.07381	-5.23	0.000

Social factor	0.389446	0.08530	4.57	0.000
Loss of social esteem	-0.151251	0.06330	-2.39	0.018
Planning attitude	0.228789	0.05708	4.01	0.000
Gender	2.659200	0.42390	6.27	0.000
Log-likelihood:	-98.2223452			
No. of states:	2			
No. of observations :	280			
No. of parameters:	7			
Baseline log-likelihood:	-193.5022			
Test Chi^2(6):	190.56 [0.0000]**			
AIC:	210.44469			
AIC/n:	0.75158818			
Mean (S):	0.467857			
Var (S):	0.248967			
Newton estimation (eps1=0.0001; eps2=0.005):	Strong convergence			
	Count	Frequency	Probability	loglik
State 0	149	0.53214	0.53214	-48.19
State 1	131	0.46786	0.46786	-50.03
Total	280	1.00000	1.00000	-98.22

Table 4 - Regression coefficients for motivators and demographics of gambling behavior (exclusively or prevalently skill games gamblers).

	Coefficient	Std. Error	t-value	t-prob
Constant	3.09813	1.25900	2.46	0.015
Gender	3.10335	0.54660	5.68	0.000
Age	-0.157635	0.04368	-3.61	0.000
Money	-0.405347	0.09092	-4.46	0.000
Social factor	0.552212	0.12120	4.56	0.000
Loss of social esteem	-0.240759	0.08153	-2.95	0.003
Planning attitude	0.282878	0.07366	3.84	0.000
Log-likelihood:	-64.0125179			
No. of states:	2			
No. of observations :	230			
No. of parameters:	7			
Baseline log-likelihood:	-156.9016			
Test Chi^2(6):	185.78[0.0000]**			
AIC:	142.025036			
AIC/n:	0.617500155			
Mean (S):	0.426087			
Var (S):	0.244537			
Newton estimation (eps1=0.0001; eps2=0.005):	Strong convergence			

	Count	Frequency	Probability	loglik
State 0	132	0.57391	0.57391	30.54
State 1	98	0.42609	0.42609	33.48
Total	230	1.00000	1.00000	64.01

As the results show, the respondents' gambling motivations vary significantly across the two forms of gambling products, in a way that is consistent with the analysis of the previous sections. All explanatory variables are highly significant. To summarize:

- Being a skill game gambler is positively correlated to being a male and to the socialization motive, while the result on the money motive confirms its positive correlation with the choice of playing luck.
- Also the risk of losing social esteem is inversely related to the probability of playing skill, which, as argued above, can be connected to the social interaction motive.
- The planning attitude, that we use to define the kind of amusement experienced in the particular form of game, is positively correlated to the probability of playing skill.
- The negative effect of age on the probability of playing skill might derive from the recent diffusion of online skill games. One can compare this result with the findings by Herring and Bledsoe (1994), Brown *et al*. (1992), and Aasved (2003), showing that older people are more likely to buy lotteries than younger people.

4. General Discussion

The current success of gambling products distributed through digital channels is justified by their ability to meet the expectations and tastes of a relevant component of demand that traditional channels are not able to satisfy, namely, that of consumers who are younger and more familiar with digital technologies.

With respect to this, a more individualistic gambling behavior is establishing itself: people gamble in front of the PC or the television, often alone; they play in a decontextualized way, as the access to online platforms is possible at whatever time and place, provided that an internet connection is available; and in a globalized way, since gamblers can connect from all over the world. It is evident that this type of supply makes access to gambling behavior much easier, especially for the younger customers, with relevant social implications for the risk of increased pathologic behavior, in particular among teenagers.

In addition to this, the migration towards digital gambling causes evident effects on the supply side. Digital gambling, in fact, contributes to extending the range of available products and encourages the entrance on the national market of new comers, who focus on the online segment. Moreover, it drives several multi-product suppliers in the offline market to equip themselves to supply also online products, thus becoming multi-channel operators.

4.1. General Implications

The different characteristics of skill and luck gamblers illustrated in the previous sections call for different promotion strategies on part of marketers.

For skill games, the aspects on which commercial messages should focus on are, besides money, challenge and social interaction, already indicated for some skill games in the literature (Lam, 2007; Fang and Mowen, 2009); our analysis also shows that the allure of a game consisting in elaborating a strategy aimed at victory in a sport-like competition could be an effective way of characterize advertising.

In the case of luck games, instead, the possibility of winning money should be the predominant aspect, together with the attraction exerted by what one could do with it.

However, the design of commercial strategies should be aware of the problem of excessive gambling, which also represents the main justification for public intervention in the sector. In particular, it is widely recognized that the challenge and money motives are among the roots of problem gambling, the former being the most important motive for luck games gamblers, both being relevant for skill games gamblers; as for socialization, it is considered a double-edged motive: it can act as a safeguard against excessive gambling, but it can also be the way in which people are led into gambling, because of family or peer induction.

To evaluate these aspects in the two forms of games being analyzed, one should also consider how motivational aspects change through time. In terms of our analysis, this implies considering how the relevance of motives changes between the phase of being introduced into gambling and the phase in which gambling behavior is consolidated.

For gamblers playing luck games, we found, as illustrated above, that the strength of the money motive increases, which confirms the connected risk of degenerating into problem gambling once you are inside the activity; for skill games gamblers, both the money and sociality motives decrease in strength, while the challenge motive remains unaltered, so that the risk of problem gambling does not look less relevant for them with respect to luck games gamblers.

These results call for a cooperation between companies providing gaming services and regulators to fight the risk of problem gambling. First of all, the possibility of winning large amounts of money should not be exaggerated in commercial messages, for both types of games. As for skill games, the role of the socialization motive could be used to find ways to involve friends and family members in tackling excessive gambling problems, once detected. However, when shaping the intervention for skill games gamblers, one should consider another factor that emerges from our analysis, that is, the extensive use of the internet when playing.

4.2. Implications for Online Gambling

One of the results of our survey is the strong correlation between game type (skill or luck) and gambling environment (online or traditional). As shown in Table 5, while luck games gamblers use the traditional channels, skill games gamblers prefer the internet. When considering policies directed to the latter, therefore, the implications of online playing cannot be overlooked.

Table 5 - Gambling environment and type of game (skill or luck)

Environment/ Game type	Prevalently and exclusively online	Mixed	Prevalently and exclusively traditional
Prevalently and exclusively skill	94,8%	---	5,2%
Mixed	---	100%	---
Prevalently and exclusively luck	---	---	100%

A first observation concerns the role of the socialization aspect in the case of skill gamblers. In fact, for internet gamblers, social interaction does not take the form of physically playing together as in traditional cards or bingo rooms: in our sample, less than 7% of online gamblers usually plays together with other people around. Thus, the positive role of sociality as a safeguard against problem gambling appears jeopardized by its 'virtual' character. On the contrary, the negative effect of being introduced into gambling by friends appears very relevant, since this is the case for about 50% of internet gamblers. Thus, once the peculiarity of their playing online is taken into account, for skill games excessive gambling might represent a risk much higher than expected.

Besides this, one should also consider the problems deriving from the online environment itself, referred to in the introductory section. Our survey confirms the perception of operating in a risky environment pointed at in the literature.

The risk connected to having an all day long open virtual facility is confirmed by the fact that the most highly scored motives for preferring online are the possibility of playing at home and whenever one likes it, with 6.29 (9.87-0.6-2.43) and 6.26 (9.83-0.6-2.63) average score (max-min-s.d.) on a 0-10 scale, respectively.

Also, the risks of losing the sense of money and time being spent, and of being victims of illegal control, are all scored more than 5.0 on average. The loss of control of "virtual" money being spent can be a reason for cooperation between gaming companies and regulators to enhance systems that allow self-exclusion and betting limits for consumers, or even systems slowing–down or even briefly stopping betting activity, once it exceeds given limits (Siemens and Kopp, 2011).

Those not using the internet have similar, although stronger, fears; differently from online gamblers, however, the most risky aspect is considered to be that of financial fraud, which obtained an average score of 6.44 (9.93-0.02-3.25) beside the score 4.78 (9.7-0.08-2.6) given by online gamblers. This fear might explain the preference of online gamblers for domestic providers (75% of our sample only played on Italian sites). It thus appears that a strict control on gambling performed by the player's jurisdiction represents a way to enhance reputation for providers. Even if it might increase the number of online gamblers, it would also allow regulators to better intervene to protect consumers.

Internet gambling is a young market that rapidly expanded during the first decade of the twenty-first century (Williams *et al.*, 2012). Since the first online casinos were launched in 1995, a rapid expansion of the internet gambling industry has taken place.

The future of the gaming sector seems, therefore, characterized by important challenges that private operators and policy makers have to face to ensure a regular and socially responsible development of this important component of the national economy of many countries.

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