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Similarities between Business Models of Gaming and Gambling

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Gaming and gambling is treated differently

- Gambling is highly regulated in all jurisdictions while gaming is not
    1. Offering of gambling is often highly limited to state-owned operators or a few license holders
    2. Offering gambling without a license is criminalized
    3. Gambling is highly taxed, gaming is taxed like any other product
- The reason for the different regulation is that gambling leads to social costs and gaming not
- Is that (still) true?

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Four heuristics to distinguish gaming and gambling

- Heuristic 1: Gaming is based on skill, gambling is based on chance
    - Contradiction: Some games (mostly board games) involve 100% chance. Some gambling forms – e.g. poker or Black Jack – involve skill
- Heuristic 2: Only gamblers can win money
    - Contradiction: Prize money in sports and e-sports is common; gambling can also be played with play money
- Heuristic 3: Only gamblers pay a consideration
    - Contradiction: Gaming products cost money, entry fees to tournaments are possible; gambling can also be played with play money
- Heuristic 4: Gambling is addictive, gaming is not
    - Contradiction: Gaming and gambling can both be addictive

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Flat Fee and Pay2Play

- Flat Fee
    - Traditional business model
    - Pay once, play as often and long as desired
    - Example: Super Mario on a Nintendo console
- Pay2Play
    - Developed for arcade halls
    - Player has to pay to get game started and for each successive game
    - Example: Street Fighter in arcade hall

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Money spent and number of plays in Flat Fee and Pay2Play

- In flat fee games, money spent is independent from number of plays, in Pay2Play money spent is dependent on number of plays
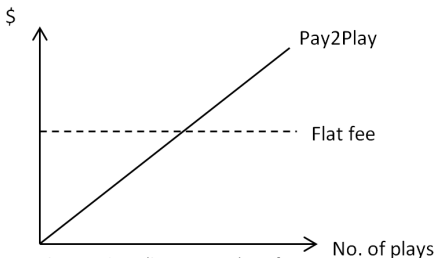

Figure 1: Spending per Number of Plays for Flat fee and Pay2Play.

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Addon

- Initially a game is sold for a fixed price, later addon(s) are sold also for a fixed price
- Similar to flat fee model, difference is that spending per head is not identical but "'staired"'
- Example: Diablo

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Free2Play

- Free2Play is a rather new business model, evolved with mass adoption of internet, rise of social networks, smartphones, tablets, and micropayments
- Playsers can play as often as they wish without paying
- Revenues come from advertisement and players, who pay voluntarily
    1. Payments as donations
    2. Payments to stop of advertisements
    3. Payments to obtain in-game items (which do not give an in-game advantage)
- Only a fraction actually pays, but Free2Play games attract more players, which can make it more profitable than a flat fee game
- League of Legends

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Pay2Win

- Pay2Win games can most often be played for free, but players need to pay in order to advance in the game
- Payment is typically made for a temporary boost, an item which gives more strength or health to the player's avatar, or just to unlock the next stage
- Similar to Free2Play games, most players do not pay for playing
- Attracts fewer players than Free2Play, but average spending per head is higher
- A small fraction of players ("whales") pay huge amounts to stay on top of the game (some gamers report to have paid >$10,000 in one month for a game)
- "'Whales'" are responsible for a significant part of the revenues
- Financial incentive of the producer is to attract "whales"
- Prominent business model in puzzle games (e.g. Candy Crush Saga) and in competitive games where players and/or guilds play against each other and are ranked (e.g. The Hobbit, Kingdoms of Middle Earth)
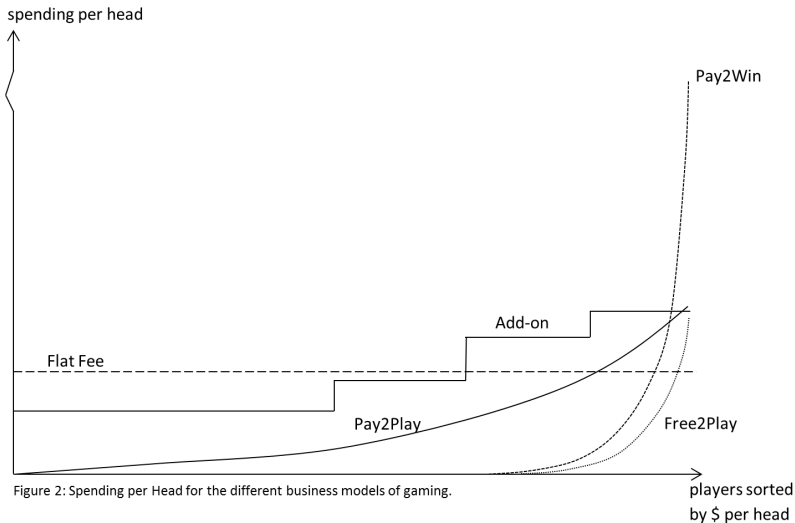
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Concentration of Gaming Revenues

Figure 2: Spending per Head for the different business models of gaming.

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Gambling: Pay2Play and Pay2Win

- Gambling (for money) is Pay2Play – but other than in gaming, the price is not fixed per participation but variable
- Gambling is also Pay2Win: the more is spent, the higher the likelihood to win (of course, only from a gross not a net perspective)
- Similar to Pay2Win gaming: most gamblers play only for small money, a small fraction – "highrollers" or "most intense gamblers" – gambles for huge amounts
- "Most intense gamblers" are responsible for a significant part of the revenues
- Financial incentive to attract and sustain "most intense gamblers"
- Hypothesis: concentration of gambling revenues is lower for lotteries than for casino gambling or sports betting

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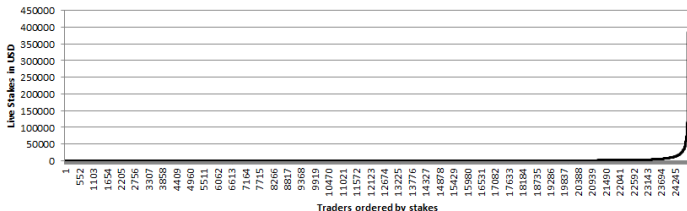# Concentration of online Fixed Odds betting

Figure: Fixed Odds betting stakes in $ (bewin dataset, n=39,719)
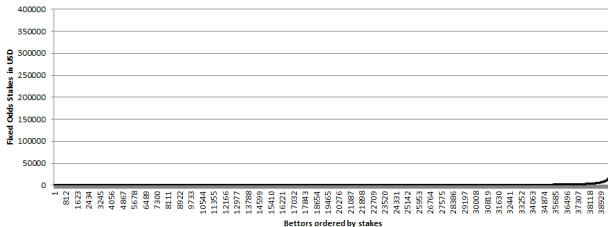
Player group	Share of total playing volume
Top 1%	31.41%
Top 5%	58.49%
Top 10%	71,25%
GINI-coefficient	79.82%

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Concentration of online Lice Action betting

Figure: Live Action betting stakes in $ (bwin dataset, n=24,794)

Player group	Share of total playing volume
Top 1%	48.99%
Top 5%	80.14%
Top 10%	89.40%
GINI-coefficient	91.87%

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Concentration of online poker revenues 1/2

Table: Concentration in online poker playing behavior at PokerStars
(n=2,127,887)

	O	Median	σ	Top 10%	Top 5%	Top 1%
Number of sessions	24.03	7	49.3	63	108	247
Session length in min.	50.27	42	37.76	94.78	118.6	182.3
Total playing time in h	25.28	4.88	65.21	62.78	117.6	318
Number of tables	1.31	1.05	1.04	1.65	2.36	6.03
Playing intensity (US/$ rake/h)	2.4	0.87	4.46	6.12	9.9	19.75
Playing volume in US/$	177.5	4.86	1,935	173.9	460.1	2,685
Playing duration	55.32	27	60.83	160	175	182
Sessions/day	0.74	0.6	0.66	1.5	2	3
Playing time/day	38.7	20	53.62	98.34	142.03	259
Playing volume in US/$/day	2.48	0.27	14.45	4.42	9.15	35.42

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Concentration of online poker revenues 2/2

Figure: Playing volume in $ rake paid over six months by percentiles (n=2,127,887)
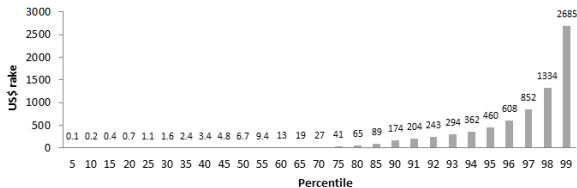
Player group	Share of total playing volume
Top 1%	59.59%
Top 5%	83.10%
Top 10%	91.06%
GINI-coefficient	91.67%

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Concentration of slot machine revenues

Table: Concentration of German slot machine revenues by number of visits

	Several times/week	Several times/month	Once a month	<Once a month	Never
Share of adult pop.	0.30%	1.20%	2.20%	8.30%	87.80%
Player Share	2.50%	10.00%	18.33%	69.17%	0.00%
No. of Players	154,256	617,026	1,131,214	4,267,762	45,145,726
Visits per player	16	4	1	0,5	0
No. of visits per month	2.47	2.47	1.13	2.13	0
Share of revenues	30,.09%	30.09%	13.79%	26.02%	0%
Revenues in mil. €	1,315	1,315	603	1,137	0
Spending per head in €	8,525	2,131	533	266	0

- It is sensible to assume that frequent players also play longer sessions and more intensely –> revenues are even more concentrated

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- Gambling is characterized by a few players being responsible for a significant proportion of revenues
- The Pay2Win business model of gaming is also characterized by a few gamers being responsible for a significant proportion of revenues
- One part of the gaming world becomes similar to gambling
- Financial losses in gambling are precipitating, that is, an important reason for gambling problems
- Hypothesis1: financial losses in gaming are – besides losses in time – an important reason for gaming problems
- Hypothesis2: Business models like Pay2Win lead to social costs like gambling and have thus to be eyed by regulators

Thank you for your kind attention!
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