

Do increased financial resources predict gambling behaviour - Large-scale evidence from Finnish online horserace betting?

(co-research with Niko Suhonen, Jani Saastamoinen, David Forrest and Thomas Epper)

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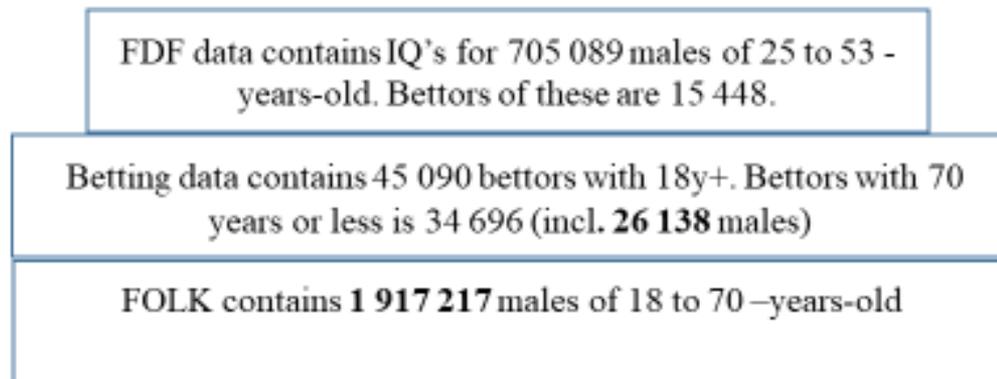
This study

- Our aim is to explore on population level how increased financial resources on payday predict betting consumption. We also analyse how the tax refund day predicts daily stakes in betting. In particular, we are interested whether individuals with diverse IQ reacts differently on increased financial resources.
- How increased financial resources on a payday predicts consumer behaviour is rather intensively studied research topic in literature. The consumer behaviour on a payday has gained attention in economic studies (e.g. Carvalho et. al (2016), Huffman & Barenstein (2004), Kaplan & Violante (2014), Andersson et. al (2015), Olafsson & Pagel (2018) and Dahan (2021) in gambling studies). Previous research mainly employs with survey or experiment data. Our main contribution to this research is employing with the actual gambling data and measured IQ.

Data sources

- This paper employs with data set that combines three data sources
 1. Online horse race betting data for a period of one year (2015-2016) from Fintoto
 2. FOLK Registry data on socio-economic background (e.g. income, education) for 2015 from Statistics Finland
 3. IQ data from the Finnish Defence Forces (FDF) covering years 1982-2010 (visuospatial, verbal and mathematical ability test scores)
- *Betting data and data of socio-economic background is from the same year (2015), whereas IQ is measured 6-34 years prior to that time.*
- The limitation of this data set is that we had to exclude females, since the number of female bettors that has conducted military service was low.

Flowchart of our data



→ Age

- In 2015 the population of 25 to 53 years-old males in Finland was 992 636 , thus our data covers around 71 % of it.

Data handling (1/2)

- The last weekday of each month is the most common payday for workers in Finland.
- During our data set the possible tax refunds of previous calendar year were returned to all taxpayers (despite the job status) once a year on a same day. [This study uses taxation in 2014, thus the proxy for tax refund day is December 3rd, 2015. Then the average returned sum by receiver was 665 euros. Further, 79% of the tax refunds received were between 5 and 1000 euro. Around 3.3 million Finns received tax refunds and the total amount refunded was around €2.2 billion.]
- Our data does not include information about the actual payday of each individual, we use the last weekday of each month as a proxy for payday. The data does not include information whether individual has achieved tax refund or not.
 - We simplify the dataset by excluding bettors who are not classified as blue-collar or white-collar workers from the analysis (i.e., 1,871 unemployed, 1,826 entrepreneurs, 384 pensioners, and 328 students are dropped from the analysis). This leaves us with 10,583 individual bettors.

Data handling (2/2)

- Further, we use several control variables in our analysis to find a pure 'payday-effect'. For instance, we control for:
 - Weekdays, months
 - 'Special events', such as Finnhorse Championships, price promotions, and days with cancelled racing events etc.
 - Socio-economic background variables (e.g., income, education, marital status)
- We use a one-year balanced daily panel data (between September 1, 2015 and August 31, 2016) from online horse race betting. In practice, this means that we have a combined data set of around 30GB's with around 8.85 million rows and around 700 columns.

Results

Table 1. Regression results for total betting volume for workers

	(1)	(2)
	ln(daily stakes)	ln(daily stakes)
Focus variables		
D Day before Payday	-0.100*** (0.022)	-0.100*** (0.022)
D Payday	0.123*** (0.022)	0.131*** (0.023)
D Payday Composite IQ	- (0.023)	-0.042* (0.023)
D Day after Payday	0.008 (0.021)	0.008 (0.021)
D Tax refund day	0.367*** (0.077)	0.396*** (0.078)
D Tax refund day Composite IQ	- (0.080)	-0.153* (0.080)
Composite IQ	0.218*** (0.024)	0.218*** (0.024)
Constant	0.664 (0.564)	0.665 (0.565)
Price controls	Yes	Yes
Day-related controls	Yes	Yes
Individual level controls	Yes	Yes
Week day controls	Yes	Yes
Month Controls	Yes	Yes
R ²	0.0143	0.0143
No. bettors	10,583	10,583
N	546,417	546,417

Standard errors in parentheses. Statistical significance: ***Significant at 1%, **Significant at 5%, and *Significant at 10%.

Conclusion

- The main findings are:
 1. We find that betting volumes on a payday are around 12-13% higher than on other days. Also, a sharp increase in financial resources on the Tax refund day predicts an increase of almost 40% in daily stakes.
 2. We also find some indication that these effects are more pronounced for low-IQ as opposed to high-IQ individuals.
 3. Further, we find day before payday stakes are typically substantially lower than any other day, perhaps due to budget constraint?

Thanks!

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