Gamblers as Personal Finance Activists

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This paper addresses three questions

- When do people gamble?
- Why do people gamble?
- Who are the gamblers?

Specifically

- When do people gamble?
  - The relationship between gambling and income fluctuations
- Why do people gamble?
  - Gambling and other expenditure
- Who are the gamblers?
  - Not limiting to demographics
  - What are the behavioral traits gamblers have?
  - Observable implications of such behavioral traits

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Results Preview I: Discretionary, instead of compulsive, gamblers

- People tend to gamble when income is higher than its normal levels.
- When people gamble, other expenditures tend to be higher, not lower, likely due to higher income.
- On balance, gamblers do not appear to have a lower saving rate.
- Some people appear to perceive buying lotteries as making a donation (mental accounting).

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Results Preview II: Personal finance activists, not necessarily experts.

- Active investors—owning stocks and a second home.
- Active borrowers: owe (various types of) debt and accumulate new debt.
- Actively manage their debt (refinance).
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Results Preview III: Excessive risk taking, active insuring

- More likely to drink, to drink heavily, and to smoke.
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- More than 50% of all consumers gamble in a given year.
- Gambling revenue topped $100 billion.
- Most gambling games are unfair by design and winning chances are slim (WSJ).
- Then, why do people gamble at all?
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Contributions

The first comprehensive study on gamblers' expenditure, balance sheet, risk taking and management

- Speak to the welfare effects on rank-and-file gamblers.
- Financial markets aversion (Amromin, Huang, and Sialm) versus personal finance activism
- Participation does not imply higher net worth
  - overconfidence (Barber and Odean, and many others)
- Gamblers' investment strategies (Kumar)
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Data Description: No Special Sauce

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  had expenses for lotteries and games of chance?”

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  - large nationwide representative survey
  - rich demographic and socioeconomic information and some balance sheet information
  - very detailed expenditure data
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Summary Statistics: Share of Gamblers and Gambling Expenditure

			Among gamblers	
% Gamblers	% Occasional	% Frequent	Gambling costs ($)	Ratio to income (%)
29.3	11.3	5.6	201 [57]	0.35 [0.13]

Measurement Errors: Comparing with the NORC Statistics

CE statistics understate the prevalence and average expenditure of gambling.

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Measurement Errors: What Factors Accounted for the Differences

- The CE is a general purpose survey that collects information on all aspects of household expenditures, not focusing gambling costs.
- The CE asks only one question on the total costs for all gambling activities.
- The CE asks one member on the expenditure of the household. In contrast, the NORC surveys individual consumers.

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Measurement Errors: Implications

Assuming the true gambling costs GC^T and the reported costs GC^R follows

$$GC^R = \mathbb{P} \times \kappa \times \ GC^T, \tag{1}$$

$\kappa < 1$ is a constant

$\mathbb{P}$ is an indicator function that is equal to zero with probability $p(GC^T)$,

$$\frac{dp}{d\ GC^T} < 0.$$

The gambler sample is not diluted. Measurement errors imply underestimating the "gambler's effects."

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Measurement Errors: validations

- Consumers in states without state lotteries have much lower gambling expenditure.
- Gambling costs increased noticeably in states after state lotteries were introduced (South Carolina 2002, Tennessee 2004, North Carolina 2004, and Arkansas 2009).

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Do Gambling Costs Crowd out Other Expenditures? Cross-sectional Level Analysis

$$Exp_i^c = \alpha + \beta GC_i + \gamma \widehat{\mathbb{Y}}_i + \theta Z_i + \xi Year_i + \varepsilon_i.$$

$\widehat{\mathbb{Y}}$ is the Mincer-equation imputed permanent income $\widehat{Y}$ interacted with the decile it belongs to.

Z is a vector of demographic characteristics, with education and occupation being the excluded variables for instrumenting the permanent income.

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Level Analysis

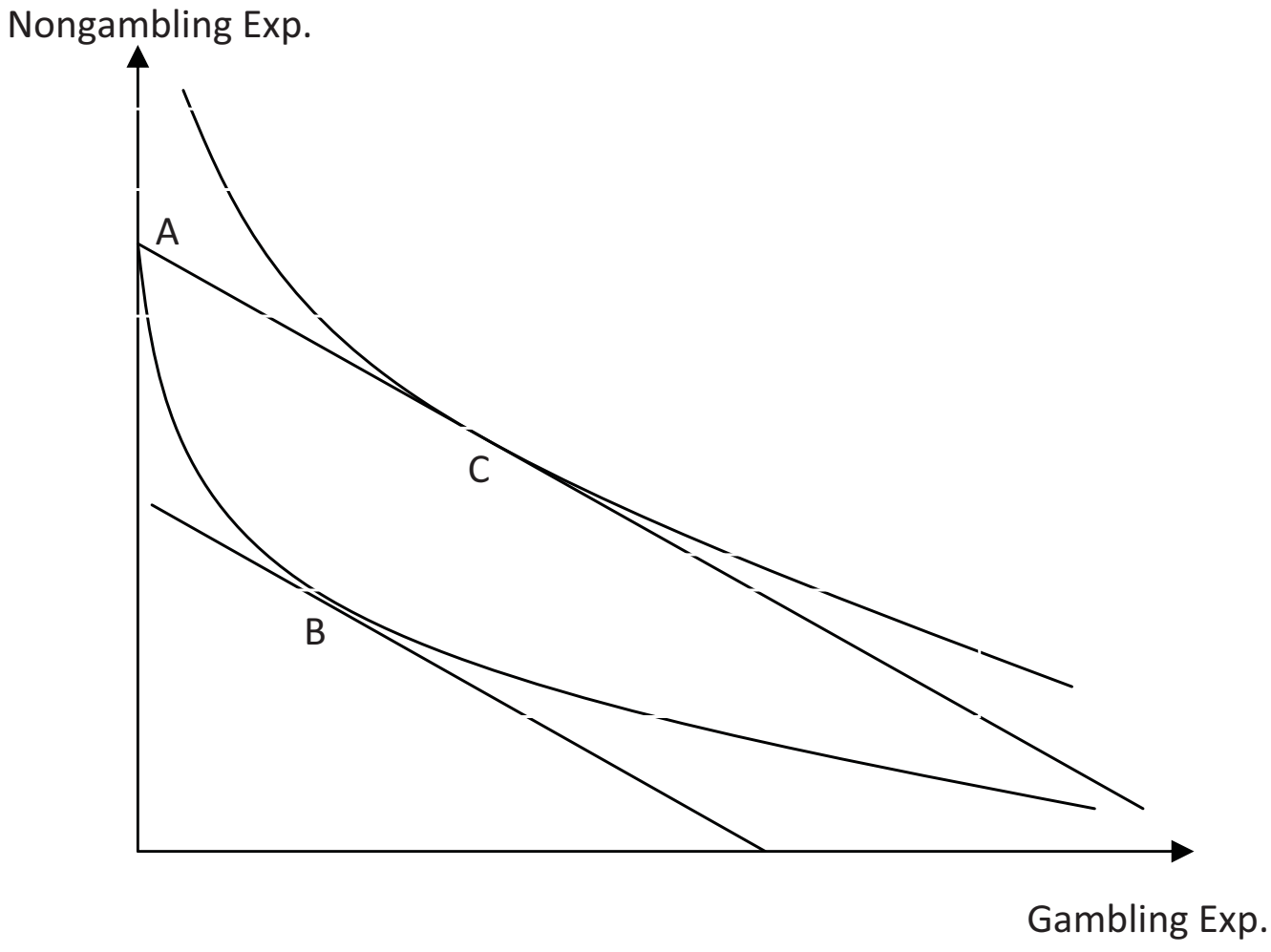
Exp. Category	All Households		All Gamblers	
Total expenditure	3.02***	(0.35)	1.78***	(0.37)
Food	0.37***	(0.04)	0.28***	(0.04)
Alcohol	0.10***	(0.01)	0.07***	(0.01)
Tobacco	0.11***	(0.01)	0.07***	(0.01)
Apparel	0.18***	(0.02)	0.11***	(0.02)
Housing	0.60***	(0.13)	0.38***	(0.13)
Transportation	0.61***	(0.14)	0.24*	(0.15)
Health care	-0.00	(0.02)	-0.02	(0.02)
Entertainment	0.29***	(0.03)	0.15***	(0.03)
Personal care	0.03***	(0.00)	0.01***	(0.00)
Reading	0.01***	(0.00)	0.00	(0.00)
Education	-0.01	(0.03)	-0.01	(0.03)

Panel Analysis

$$\Delta Exp_{i,q}^{c} = \alpha + \beta \Delta GC_{i,q} + \theta_1 f(Age_i) + \theta_2 \Delta Famsize_{i,q} + \xi Year_i + \zeta Month_{i,q} + \varepsilon_{i,q},$$

Exp. Category	All Households		All Gamblers		Frequent Gamblers	
Total expenditure	2.71***	(0.56)	2.68***	(0.60)	1.44	(1.27)
Food	0.37***	(0.07)	0.37***	(0.07)	0.45***	(0.14)
Alcohol	0.08***	(0.01)	0.08***	(0.01)	0.11***	(0.02)
Tobacco	0.02***	(0.01)	0.02*	(0.01)	0.03	(0.02)
Apparel	0.23***	(0.04)	0.23***	(0.04)	0.16**	(0.08)
Housing	0.21	(0.14)	0.20	(0.14)	0.14	(0.29)
Transportation	0.47	(0.42)	0.46	(0.46)	0.26	(1.01)
Health care	0.09*	(0.05)	0.09*	(0.05)	0.09	(0.10)
Entertainment	0.25***	(0.06)	0.25***	(0.06)	0.15	(0.11)
Personal Care	0.04***	(0.01)	0.04***	(0.01)	0.03**	(0.01)
Reading	0.01***	(0.00)	0.01***	(0.00)	0.01	(0.01)
Education	0.05	(0.05)	0.05	(0.05)	-0.02	(0.10)

Reconciling with Kearney



What Predicts Gambling?

- $p(gamble) = \alpha + \beta[log(Y) - \widehat{log(Y)}] + \gamma\widehat{log(Y)} + \theta Z + \varepsilon$
- $\beta = 0.32(\chi^2 > 100)$, whereas $\gamma = 0.02(\chi^2 = 0.25)$

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Does Gamblers Save Less?

Average Propensity to Consume

	Nongamblers	Gamblers
Relative to $\widehat{Y}$	88.3%	97.6%
Relative to Y	96.2%	93.0%
Memo: $log(Y) - \widehat{log(Y)}$	-0.033	0.072
	(0.005)	(0.004)

Implications: Consumers tend to gamble when their income is higher than it normal levels.

Charitable Giving

"When you buy DC lotteries, lots of people win!"
"Benefitting New Mexico's future"

	Logistic regression Probability of making a donation			OLS regression (subsample of donors) Value of donations		
	Charitable	Religious	Political	Charitable	Religious	Political
Gambler	0.62***	0.02	0.13**	-97.3***	-616.2***	-121.9
	(0.03)	(0.03)	(0.06)	(30.3)	(48.2)	(80.1)
	[1.85]	[1.02]	[1.13]			

Summary Statistics of Household Balance Sheets

	Nongamblers	Gamblers
Assets ownership		
Liquid financial assets	12,942	16,104
Securities ownership(%)	14.0	21.6
Home ownership (%)	71.8	75.5
Homeowners with a second home (%)	6.5	7.7
Car owners leasing a car (%)	4.4	5.7
Household debt		
Homeowners having refinanced (%)	31.3	37.9
Have credit card debt (%)	35.4	47.2
Have added credit card debt (%)	21.9	27.8
"Credit card puzzle" (%)	8.9	13.5
Partial net worth†	163,005	164,399
Annual income	57,392	62,527

Need to do

Do gamblers trade stocks more often?

A rider on the Household Financial Stability Survey (currently in the field)

Gamblers' Risk Management I

	Risky Behavior		Insurance		
	Heavy drinker	Smoker	Health	Life	Home
Gambler	0.72***	0.58***	0.17***	0.39***	0.27***
	(0.05)	(0.03)	(0.03)	(0.03)	(0.07)
	[2.06]	[1.79]	[1.19]	[1.47]	[1.31]
Memo: propensity among nongamblers (%)	4.9	29.5	44.7	45.4	57.8

Gamblers' Risk Management II

Concurrent behavior	Health insurance (1)	Life insurance (2)	Health insurance (3)	Life insurance (4)
Smoker	-0.09***	-0.19***		
	(0.03)	(0.03)		
	[0.91]	[0.83]		
Smoker × gambler	0.19***	0.29***		
	(0.04)	(0.05)		
	[1.21]	[1.34]		
Drinker			0.16**	0.06
			(0.07)	(0.07)
			[1.17]	[1.07]
Drinker × gambler			0.15	0.18*
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Intrinsic Traits or Careful Reporting?

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- We argue that different carefulness of survey responses is unlikely the main reason for the observed differences between gamblers and nongamblers.
- Use the paradata of the CE.
- Gamblers and nongamblers are similar regarding referring to documents when responding to the survey.
- Gamblers on average have longer survey time. However, trimming the nongamblers with short survey time, our results are qualitatively the same.
- UCC level data suggest that the expenditure items not reported by nongamblers are not likely those survey participants tend to skip.

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