Gambling Away Stability: Sports Betting's Impact on Vulnerable Households

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This paper:

Using bank and credit card transaction data from 230,000 households, we document:

- The characteristics of sports bettors
- $1 of betting leads to a reduction of about $1 in net financial investments
- These effects are larger for financially constrained households
- This leads constrained households to run-up credit card balances and more frequently overdraw their accounts

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Bettor vs. Non-bettor Characteristics

	Bettor Status				Bettor Status		
	Non-bettor	Bettor	Overall		Non-bettor	Bettor	Overall
Pr(Ever Bet)	0	1	0.0765	Pr(Ever Buy Crypto)	0.131	0.284	0.143
	(0)	(0)	(0.266)		(0.338)	(0.451)	(0.35)
Avg. Quarterly Income	20,107	19,388	20,052	Pr(Below Median Savings)	0.47	0.494	0.472
	(15,033)	(15,192)	(15,046)		(0.345)	(0.338)	(0.345)
Pr(Ever Invest)	0.497	0.576	0.503	Pr(Ever Overdraw)	0.177	0.414	0.195
	(0.5)	(0.494)	(0.5)		(0.382)	(0.493)	(0.396)
Avg. Quarterly Investment	413	356	408	CC Debt to Income	0.237	0.22	0.236
	(1,726)	(1,459)	(1,707)		(0.369)	(0.31)	(0.366)
Pr(Ever Play Poker)	0.0052	0.0242	0.00666	Available Credit to Income	0.696	0.554	0.688
	(0.0719)	(0.154)	(0.0813)		(0.906)	(0.764)	(0.899)
Pr(Ever Play Lotto)	0.0343	0.131	0.0417	Received Child Tax Credit (%)	14.0	25.4	14.9
	(0.182)	(0.337)	(0.2)		(34.7)	(43.5)	(35.6)
Observations	230,171						

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Bettors and non-bettors are broadly similar in terms of income, savings, & debt

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But bettors are much more likely to be pre-existing gamblers

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An aside: bettors are not all young college students.

Total Number of Deposits to Sports Betting Apps
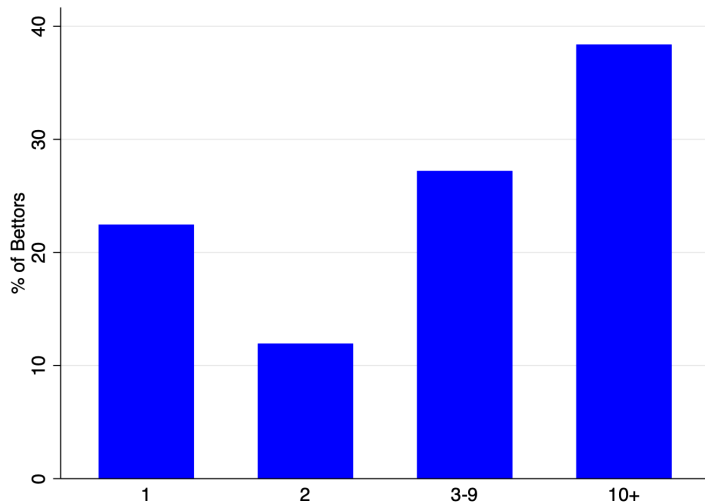
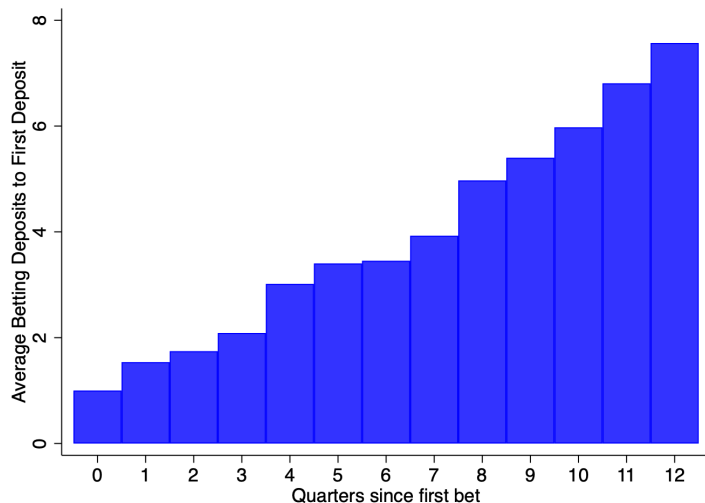Nearly 70% of bettors deposit money to sports apps 3+ times
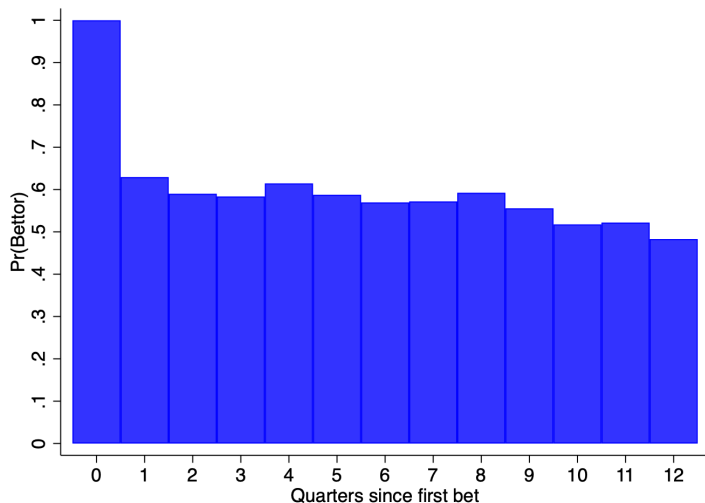
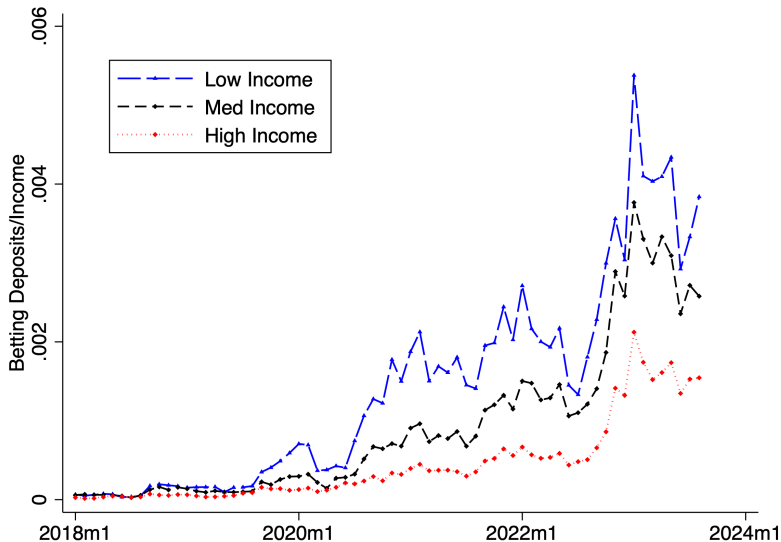Probability of follow-on deposits hovers around 50-60% for the 3 years following the first bet

Size of Betting Deposits Over Time

Conditional on continuing to bet, households increase their quarterly deposits over time, up to 8x their initial deposit

Betting exposure grows fastest for low income households

Identifying the effects of sports betting

Identification Strategy

Estimate the effect of gambling using a staggered difference-in-difference, i.e.

$$y_{ijt} = \beta_{jt} \, Treated_j \times Post_{jt} + \Gamma_{ijt} + \varepsilon_{it},$$

- Quarterly spending
- State legalized betting at some point
- Quarters when betting is legal in state
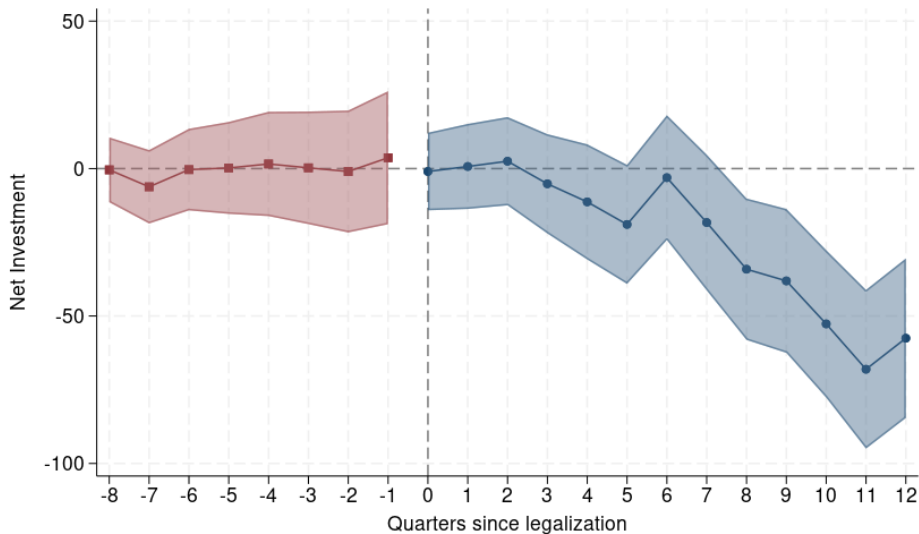- Person, state, and time FEs

First stage: Spending on sports betting

"Second stage": Net spending on investment, lotto plays, crypto investing, etc.

Legalization leads to increased betting
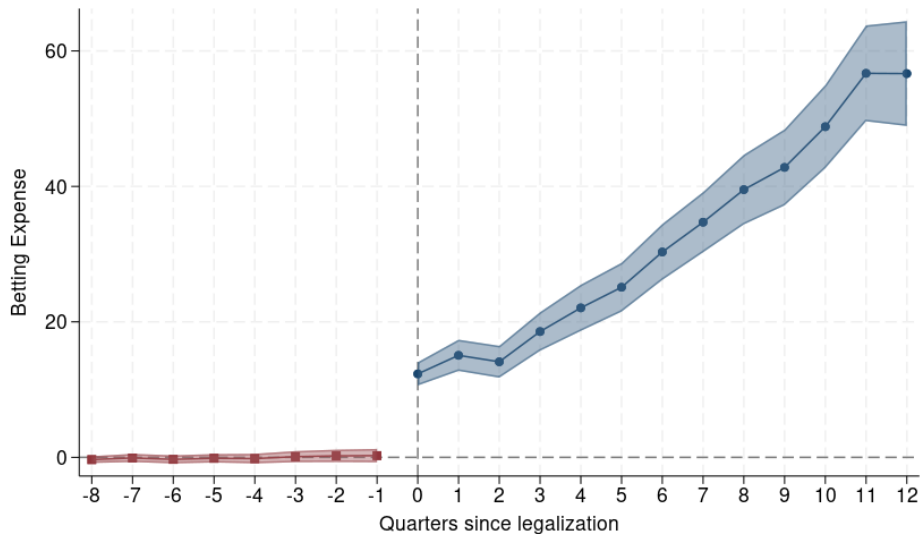
Betting leads to decrease in investment

Betting Causes Households to Invest Less

	Diff-in-Diff (1) Net Invest	Reduced Form (2) Net Invest	2SLS (3) Net Invest
Post × Treat	-53.05***		
	(-4.41)		
Top Male × Post × Treat		-41.21**	
		(-2.17)	
Bets × Post × Treat			-0.986**
			(-2.08)
Controls	Yes	Yes	Yes
Household FE	Yes	Yes	Yes
State FE	Yes	No	No
Year-quarter FE	Yes	No	No
State by Quarter FE	No	Yes	Yes
Top Male by Quarter FE	No	Yes	Yes
Observations	4,902,383	3,231,790	3,231,790
Adjusted R^2	0.245	0.242	0.003
KP F Stat			42.12

- Sports betting leads to a decline of $53 per quarter in net investments.

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- $1 of betting leads to $0.99 less of net investment

Investment cuts are much bigger for constrained households

	Net Invest			Net Robinhood			Net Robo Advisor		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post × Treat	-53.05***	27.62**	-38.15***	-4.034***	-0.157	-4.282***	-1.781***	-0.387	-1.409**
	(-4.41)	(2.01)	(-3.15)	(-3.44)	(-0.10)	(-3.54)	(-2.64)	(-0.47)	(-2.04)
Post × Treat × Low Savings		-185.4***			-9.047***			-3.062***	
		(-11.43)			(-4.88)			(-4.22)	
Post × Treat × Overdraft			-137.4***			2.169			-3.516***
			(-9.29)			(0.87)			(-3.92)
Low Savings		-86.52***			-7.265***			1.746***	
		(-16.00)			(-10.04)			(3.61)	
Overdraft			42.46***			-3.158**			-0.648
			(5.53)			(-2.57)			(-0.85)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,902,383	4,902,383	4,902,383	4,902,383	4,902,383	4,902,383	4,902,383	4,902,383	4,902,383
Adjusted R^2	0.245	0.245	0.245	0.077	0.078	0.078	0.253	0.253	0.253

Constrained households cut investments by about 3 times more than the full sample

What happens to the broader financial health of constrained households?

Betting Leads Low Savings Households to Lever Up

	(1) CC Debt	(2) CC Debt	(3) Available Credit	(4) Available Credit	(5) CC Payments	(6) CC Payments	(7) Future Overdrafts	(8) Future Overdrafts
Post × Treat	-107.1**	24.19	48.38	-64.62	334.9***	-2.501	0.0694**	-0.0326
	(-2.02)	(0.47)	(0.59)	(-0.84)	(9.66)	(-0.11)	(2.48)	(-0.66)
Post × Treat × Low Savings	368.4***		-316.3***		-889.9***		0.0612***	
	(5.63)		(-3.47)		(-14.15)		(2.62)	
Post × Treat × Overdraft		328.0		-289.0		-381.6***		0.164***
		(1.28)		(-0.73)		(-10.25)		(2.86)
Low Savings	769.7***		-533.1***		-879.1***		-0.0173	
	(32.37)		(-15.95)		(-57.70)		(-1.53)	
Overdraft		216.0*		-247.4		-4.975		0.505***
		(1.84)		(-1.42)		(-0.32)		(23.43)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	641,694	641,694	600,923	600,923	4,902,383	4,902,383	916,677	916,677
Adjusted R^2	0.677	0.675	0.862	0.862	0.677	0.672		

Betting leads constrained households to increase credit card debt, decrease available credit, and overdraft more frequently.

Conclusion

- Legalization of sports betting has far-reaching consequences for household financial health.
  - Decreases net investment
  - For constrained households: increases credit card debt, reduces available credit, and leads to more frequent overdrafts
  - Is not offset by declines in other entertainment or gambling expenses

- Suggests that there are potential benefits from a more nuanced approach to regulation of sports betting

- Some possibilities:
  - Add frictions such as requiring bets to be made in person (helps to limit compulsive betting)
  - Regulation to improve bet pricing transparency (helps individuals understand the true 'cost' of bets')