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The Effect of Inequality and Prosperity on the
European Market for Gambling Machines: A
Socioeconomic Panel Analysis

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Theoretical Background

- Few studies have analyzed the effect of inequality on gambling (Barry et al., 2007; Bol et al., 2014; Canale et al., 2017; Pabayo et al., 2023).
- Surprising because higher inequality = higher risk taking (Payne et al., 2017).

Assumption:

If people have a general preference for gambling, low income earners should feel more restricted in their ability to play than high income earners.

Theoretical Background

- Bol et al. (2014) find a positive effect of inequality on lotteries and an inverse u-shaped effect of inequality on pary-mutual betting in the US.
- They assume the following reasons: increasing mobility aspirations; availability of ressources (upper part of the distribution); status anxiety (lower part of the distribution).
- Pabayo et al. (2023) find similar effects for a sample of Canadian students.
- Furthermore, higher prosperity should lead to more gambling on the country level because of increases in purchasing power.

Goal of the study

Research question: Is the amount of/demand for gambling in a country dependent on prosperity and inequality?

- We expect opposite effects compared to previous US-based studies because:
- 1) the leapfrogging explanation should not hold for gambling machines (no major change in standard of living can be expected)
- 2) A decrease in inequality (more income/wealth for the poor) should increase the ability of the low income groups to spend money on gambling.

Hypotheses

H1a: Lower levels of wealth inequality and income inequality lead to an increase in the number of gambling machines in a country. This effect follows a u-shaped distribution.

H1b: More income in the lower quintiles of the income distribution leads to an increase in the number of gambling machines in a country.

H2: Greater prosperity leads to an increase in the number of gambling machines in a country

Data

3 data sources

- Number of gambling machines per country - Yearly reports of the Gaming Technologies Association
- Independent variables (inequality, prosperity, other controls) – Eurostat database
- Wealth inequality – yearly global wealth reports from the Credit Suisse
- Final dataset contains data from 20 countries from the EU from 2010-2019.

Descriptive Statistics part 1

Statistic	N	Mean	St. Dev.	Min	Max
Gambling machines (per 1000 inh.)	188	2.62.	1.87	0.02	7.66
Gini (share)	188	30.08	4.06	20.9	40.8
Gini wealth	186	69.12	8.65	44.6	90.2
GDP (pc)	188	25,741.52	7,637.83	11,821.76	41,098.84
Median wealth (in thousand USD)	188	57.68	45.6	10.95	195.21

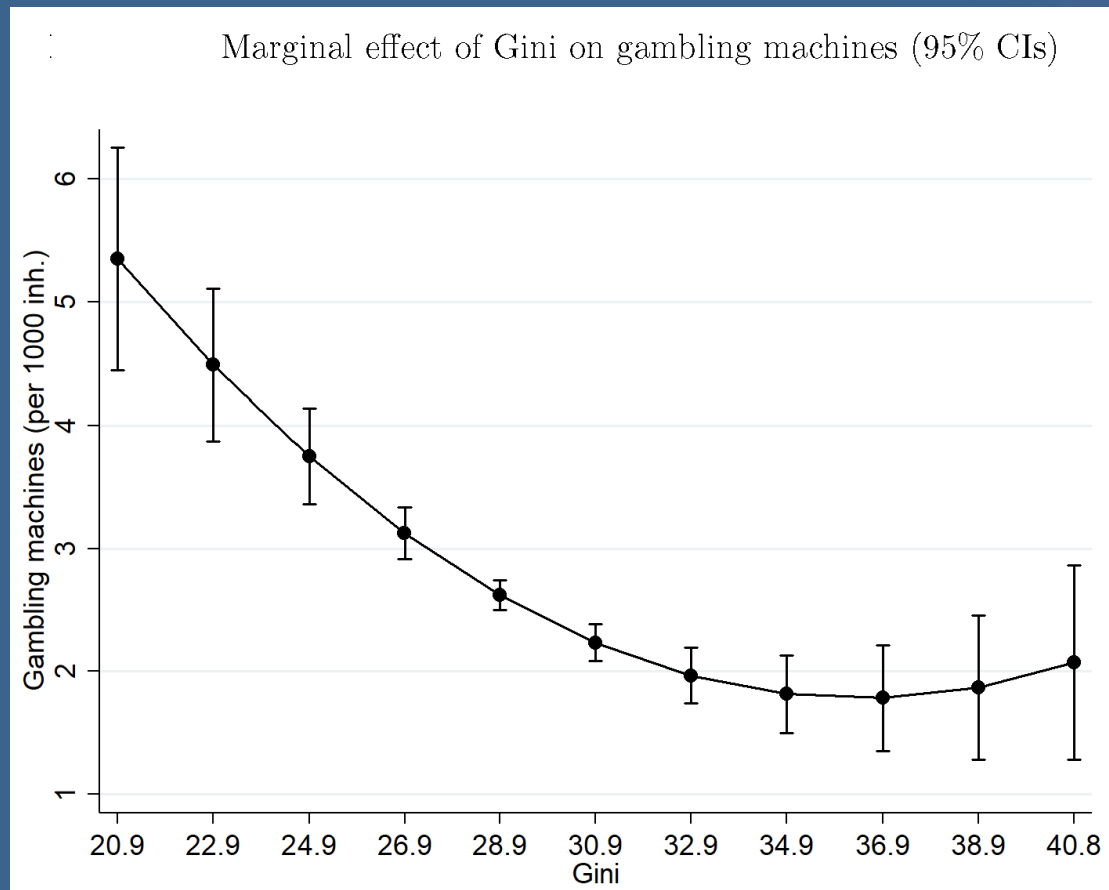
Descriptive Statistics part 2

Statistic	N	Mean	St. Dev.	Min	Max
Foreign-born (share)	188	9.58	5.33	0.92	19.75
Unemployment rate (share)	188	8.7	4.54	2.0	26.1
Low education (share)	188	28.34	13.82	11.08	70.4
Leisure expenditure (share)	188	3.21	0.59	2.0	4.8

Fixed effects regression results

	Main model	Gini wealth	Q1	Q5
Gini	-1.075 (0.227)			
Gini squared	0.015 (0.004)			
Gini wealth (ln)		-1.452 (0.616)		
Q1 (ln)			2.281 (0.962)	
Q5 (ln)				-6.47 (1.547)
GDP (pc, ln)	0.81 (1.135)	-.232 (1.226)	-0.104 (1.218)	0.044 (1.175)
Median wealth (ln)	0.733 (0.438)	0.756 (0.485)	0.571 (0.475)	0.659 (0.459)
Foreign-born (ln)	0.794 (0.247)	0.74 (0.282)	1.024 (0.258)	1.074 (0.249)
Unemployment (ln)	1.232 (0.270)	1.076 (0.292)	0.888 (0.279)	0.913 (0.269)
Low education (ln)	-0.867 (0.798)	-0.701 (0.883)	-0.807 (0.872)	-1.092 (0.837)
Leisure expenditure (ln)	1.829 (0.596)	1.902 (0.646)	2.187 (0.632)	2.312 (0.610)

Results: Marginal effect of Gini



Summary

- Income inequality has a significant negative effect that flattens for high values
- Negative effect of wealth inequality
- Increases in the income of the lower three quintiles have a significant effect on the number of gambling machines
- An increase of one percent in the share of available income in Q1 leads to an increase of 0.02281 gambling machines per thousand inhabitants.
- No effect of prosperity (GDP) on the number of gambling machines.

The studies approach to Inter country comparisons

- Aggregates country-level data accross Europe
- Estimates mean effects across countries rather than comparing countries directly
- Intercontinental comparison to the US for example is possible but the regulatory envoronment and available data sources are very different

Literature

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