

# Is Investing a form of Gambling?

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# Topics

- Impetus of study
- Constraint and rationale
- Research questions
- Methodology
- Data tabulation
  - Assumptions
  - Operational indices – gambling and investing
  - Categories of gamblers and two classes of investors
- Results
- Conclusion

# Hong Kong Securities and Futures Commission,

- A study in 2008 (from July to August)
  - To assess retail investors'
    - Profile
    - Investment knowledge
    - Behaviour
  - Findings
    - 20.6% of 18 years of age or older had invested in one or more investment products in the last 12 months,
    - 99.5 of the said investors invested in SFC-regulated products.
      - HK stocks (19.6%), mutual funds (8.3%), warrants (2.2%), bonds (2.1%)

# Profile of SFC Investors

- Demographics
  - Male (53.8%)
  - Age (62.7% younger than 50 years of age)
    - 28% between 40 and 49
  - Education (52.1% secondary education or higher)
  - Employment (64.7% employed; 21.8% home-makers or retirees)
- Investment experience
  - 37.2% of investors had 10 years or more of investment experience
  - Average experience: 7 years
  - 69.5% had invested in the last three years

# Contemporary Investment Environment

## Investment environment

- Wide range of investment activities
  - Of various degrees of transparency
  - Of various degrees of risk
- Information overload
  - Agents
  - Experts
  - Savants
  - Media
- Popularization
  - Everyone seems to engage in investing

## Technological impacts

- Easy access
- Opportunity of minute-by-minute portfolio monitoring or changes
- Investors
- Investors feel in control
  - Potential of becoming a participatory sport

## Impetus of the Study-- Apparent Similarities between Gambling and Investment

- Possible to change fortune quickly
  - Debts
- Exciting
- Distorted thinking
  - Destiny (luck)
  - In control
  - Skill or knack
- Addictive?

A casual observation:  
“Investing is  
gambling.”

Any evidential  
support?

# Assumption and Constraint--Gambling

- Constraint
  - Know more about gambling than about investing at the behavioural level
- What is known about gamblers?
  - They may be placed on a continuum gambling frequency
    - (e.g., gamble often, if not daily)
  - Take risks (big wins against high odds)
    - False sense of control
    - Cannot or would not, stop
      - Chase losses
      - Keep winning momentum
      - Debts
      - Family and self harm
  - Leung, Chow and Chan's (2003) screen: four genres: social, regular, transitional, and problem (see "Gamblers and Investors" slide)

## Assumption and Constraint-- Investing

- Not enough published data on the investor's psychology
- Different types, risks, needs and expectations
- Apply gambler characteristics to investors – frequencies, stop strategy, debts.
- Derive an index of investment intensity for comparison – high or low risks

# Gambler and Investor: Some apparent similarities

- Gambler

- Gamble often, despite debts
- Take risks (big wins against high odds)
- False sense of control
  - Cannot or would not stop
    - Chase losses
    - Keep winning momentum

- Investor

- Invest with borrowed money
- Subscribe to genres like warrants, etc,
- Portfolio monitoring
  - Cannot or would not stop
    - Hold on to losses
    - Playing the market

Respective indices of intensity derived.

# Methodology

- Prospective participants selected from (N=1000)
  - People who did not invest were excluded.
- Usable sample = 501 (both invest and gamble)
- Data collected with telephone interviews using the Computer Aided Telephone Interview system
- The interview was based on a 27-item questionnaire
  - 11 items about investment
  - 16 items about gambling

# Rationale and Hypotheses

- Rationale
  - Assuming that gamblers are adventurous, and that gambler-like investors are adventurous (as indicated by the range of investment in the portfolio),
    - **Hypothesis 1:** Those who gamble more have a portfolio with riskier or more risky components.
  - Establish indices of gambling intensity and of investment intensity
    - **Hypothesis 2:** To the extent that “investing = gambling”
      - The two indices should be correlated.
  - Gamblers differ in their gambling intensity.
    - **Hypothesis 3:** To the extent that “investing = gambling”
      - Gamblers of different intensities invest differently in terms of investment intensity.

# Operational Indices and Classifications

## An index of gambling intensity

Gambling participation

Frequency, range,  
riskiness

When or how stop

Gambling debts

Being a problem  
gambler?

Used to identify four  
levels of gamblers

## An index of investment intensity

Portfolio

Diversity, riskiness

Monitoring

Investment debts

Stop-loss strategy

Used to identify low-  
level and high-level  
investors

# Operational Indices and Classifications cont'd

## Gambling Intensity

- Points were awarded to answers to items about
  - Range (and nature) of gambling activities
  - Frequency of gambling
  - Amount of gambling debts if applicable
  - Cessation of a gambling session with reference to win or loss
  - Self assessment as to problem gambling
  - Thinking about stop gambling
- The total number of points was used as the *gambling intensity* index

# Operational Indices and Classifications cont'd

## Investment Intensity

- Points were awarded to answers to items about
  - Range of investments in portfolio
  - Riskiness of individual items in portfolio
  - Self assessment regarding willingness to take risks
  - Individual's purposes of investing
  - Issues the individual consider when building the portfolio
  - The adoption of the stop- loss order
  - Debts due to investment
    - Repaying debts versus divesting
- The total number of points was used as the *gambling intensity* index

# Weights given to different types of investment

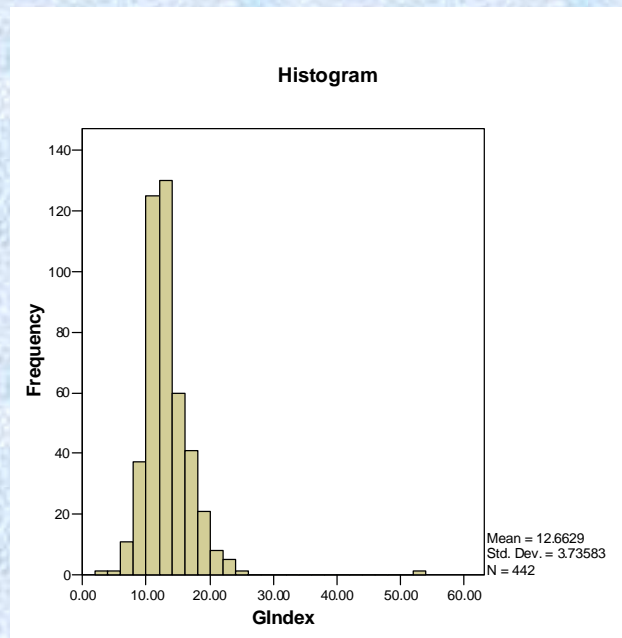
Option	Nature of Option	Weight
1	Stocks traded on stock-exchange markets	1
2	Derivatives, for example, warrants, futures and equity-linked instruments, traded on the stock markets.	3
3	Stocks traded in the UK or other foreign markets,	2
4	Derivatives, for example warrants and futures, traded in the UK or other foreign markets,	3
5	Funds <b>excluding</b> pension funds.	2
6	Leveraged foreign exchange contracts but not the same as foreign exchange deposits at banks.	3
7	Bonds excluding Certificates of Deposits bought at banks	2
8	Non-listed equity-linked instruments such as equity-linked notes, equity-linked deposits bought at banks	3
9	Certificate of deposits (CDs)	1
10	Foreign currency (FC) deposits	1

# Results

# Gambling Intensity and Four Levels of Gambling

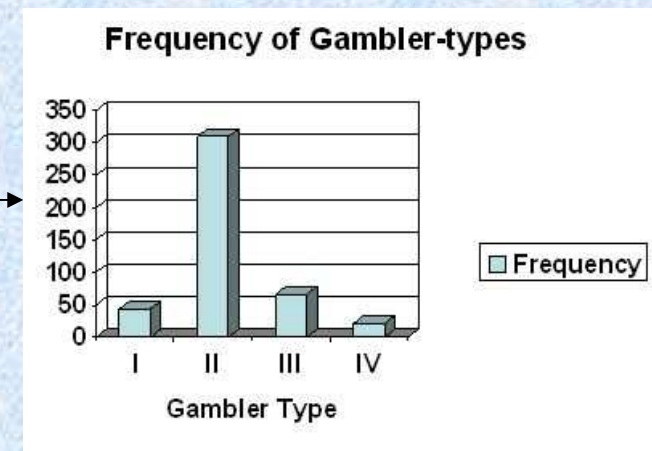
Gambling Intensity Index

		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	2.00	1	.2	.2	.2	
	5.00	1	.2	.2	.5	
	6.00	3	.7	.7	1.1	
	7.00	8	1.8	1.8	2.9	
	8.00	16	3.6	3.6	6.6	
	9.00	21	4.8	4.8	11.3	
	10.00	68	15.4	15.4	26.7	
	11.00	57	12.9	12.9	39.6	
	12.00	76	17.2	17.2	56.8	
	13.00	54	12.2	12.2	69.0	
	14.00	38	8.6	8.6	77.6	
	15.00	22	5.0	5.0	82.6	
	16.00	21	4.8	4.8	87.3	
	17.00	20	4.5	4.5	91.9	
	18.00	11	2.5	2.5	94.3	
	19.00	10	2.3	2.3	96.6	
	20.00	5	1.1	1.1	97.7	
	21.00	3	.7	.7	98.4	
	22.00	4	.9	.9	99.3	
	23.00	1	.2	.2	99.5	
	24.00	1	.2	.2	99.8	
	54.00	1	.2	.2	100.0	
	Total		442	100.0	100.0	



\*This total includes individuals who did not have investment.

Gambling Intensity	Criterion used
Level I (lowest)	$\leq 9.5$ (bottom 10%)
Level II	9.51 – 13.9 (next 70%)
Level III	14 – 18.9 (next 15%)
Level IV (highest)	$\geq 19$ (top 5%)



## A note on the four types of gamblers

- The names of the four gambler types (social, regular, at risk and problem) appear with quotation marks in the “Gamblers and Investors” slide because the types used in the present study is adopted from Leung, Chow and Chan’s (2003) screen.\*
- They were identified in terms of 95<sup>th</sup>, 80<sup>th</sup>, and 10<sup>th</sup> percentiles of the cumulative frequency distribution of the index of gambling involvement.
- “Social” represents the least involvement, while “Problem” stands for the most involvement.

\* Leung, G. M., Chan, V., & Chow, S.L. (2003). A Prediction/Screening Instrument for problem gamblers. Paper presented at Vancouver, 12th International Conference on Gambling & Risk Taking, May 2000

# Investment Intensity and Two Groups of Investors of equal size (median split)

Table 2. Cumulative frequency distribution of investment intensity index

		Investment Index			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	1	2	.4	.7	.7
	10	1	.2	.4	1.1
	11	1	.2	.4	1.5
	13	2	.4	.7	2.2
	14	3	.6	1.1	3.3
	15	2	.4	.7	4.1
	16	6	1.2	2.2	6.3
	17	18	3.6	6.6	12.9
	18	16	3.2	5.9	18.8
	19	19	3.8	7.0	25.8
	20	12	2.4	4.4	30.3
	21	22	4.4	8.1	38.4
	22	30	6.0	11.1	49.4
	23	14	2.8	5.2	54.6
	24	22	4.4	8.1	62.7
	25	28	5.6	10.3	73.1
	26	15	3.0	5.5	78.6
	27	15	3.0	5.5	84.1
	28	6	1.2	2.2	86.3
	29	12	2.4	4.4	90.8
	30	7	1.4	2.6	93.4
	31	8	1.6	3.0	96.3
	32	3	.6	1.1	97.4
33	2	.4	.7	98.2	
35	1	.2	.4	98.5	
36	2	.4	.7	99.3	
37	1	.2	.4	99.6	
42	1	.2	.4	100.0	
Total		271	54.1	100.0	
Missing	System	230	45.9		
Total		501	100.0		

Investor type	Criterion
Low level	≤ 23
High level	> 23

*Hypothesis 1: Did the four levels of gamblers differ in the range or riskiness of their portfolios?*

	I	II	III	IV
Mean no. of items	1.95	1.76	2.02	2.70
Mean riskiness of items	2.71	2.35	2.98	4.77

$$F_{(3,207)} = 2.72, \\ p < 0.05$$

$$F_{(3,207)} = 4.55, \\ p < 0.05$$

**Conclusion: Hypothesis 1 was supported. The portfolios of the four levels of gamblers differed in riskiness.**

# ANOVA and Post-hoc comparisons

Table 4. Investment weight as a function of *gambling intensity* level

Panel A. Mean index of investment weights in portfolio for the four gambler-levels

Gambling Intensity Level	I	II	III	IV
Mean investment weights in portfolio	2.71	2.35	2.98	4.77
Standard deviation	1.95	1.77	1.90	6.35
<i>n</i>	21	125	52	13

Panel B. ANOVA on investment weights

ANOVA

Inv'wt

	Sum of Squares	df	Mean Square	F	Sig.
Between Gambling Intensity levels	74.890	3	24.963	4.548	.004
Within Gambling Intensity levels	1136.086	207	5.488		

Panel C. Post-hoc comparison (Least significant difference): Pair-wise comparison between four groups of gamblers

Gambler Level		I	II	III
I	Mean of level	2.71	2.35	2.98
II		2.35	.362	
III		2.9	-.266	-.629
IV		4.77	-2.06*	-2.42*

\* = significant at the 0.05 level

The portfolios of gamblers at different levels differed in riskiness.

Level IV gamblers differed from all other levels.

Hypothesis 2: Did the *gambling intensity* index correlate with the *investment intensity* index?

They did.

Pearson  $r_{(df = 211)} = 3.12, p < 0.05$

Conclusion: The significant correlation is consistent with the assumption that similar, if not the same, mechanisms may underlie both gambling and investment.

# Hypothesis 3: Did different levels of gamblers differ in investment intensity?

Table 5. Investment intensity as a function of gambler group defined in terms of Gambling intensity

Panel A. Mean investment intensity of the four gambler-types in terms of their gambling intensity

Gambler Level	I	II	III	IV
Mea investment intensity	23.76	22.61	23.55	27
Standard deviation	4.86	5.04	5.27	5.55
n	21	125	53	13

Panel B. ANOVA on investment intensity

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.408	3	81.47	3.711	.027
Within Groups	289.502	208	1.39926.14		
Total	300.910	211			

They did.

Panel C. Post-hoc comparison (Least significant difference): Pair-wise comparison between four groups of gamblers defined in terms of their gambling intensity

Gambler Level		I	II	III
I	Mean of level	23.76	22.61	23.55
II		22.61	.15	
III		23.55	0.21	-0.94
IV		23.23	-3.24	-4.39*

Post-hoc comparisons

\* = significant at the 0.05 level

Level IV gamblers differed from other levels.

# Conclusions

- Some support for the casual “investment is like gambling” observation.
- There is a correlation between the gambling intensity and the investment intensity
  - Individual who gambled more intensely
    - had more risky items in their portfolios;
    - Invested more intensely

Are some demographic factors relevant to whether or not investing is like (similar to) gambling?

## Sex difference in gambling index, investment index, and range within portfolio

### Means and *t*-tests

	Gambling index		Investment index		Range in portfolio	
	Male	Female	Male	Female	Male	Female
Mean	15.87	14.58	32.43	34.1	1.91	1.89
Standard deviation	4.98	2.89	28.77	32.92	1.38	1.01
<i>n</i>	101	109	101	109	100	109
	$t_{(208)} = 2.32$		$t = -.408$		$t = .121$	

Statistically significant

Males and females did not differ in their investment involvement.  
They differed in their gambling involvement.

## Cross-tabulating gender, investors and gamblers

		Genres of gamblers				Total
		Social	Regular	Transitional	Problem	
Male	<i>Investment group</i>					
	<i>Risk adverse</i>	6	39	5	4	54
	<i>Non-risk adverse</i>	4	27	9	7	47
Total		10	66	14	11	101
Female	<i>Risk adverse</i>	6	37	2	3	48
	<i>Non-risk adverse</i>	12	41	2	6	61
Total		18	78	4	9	109

Chi-square test showed no significance. That is, there is no relationship among the three factors (viz., gender, investment, and gambling)..

## Involvement in gambling and investment for different ages

		N	Mean	Std. Deviation
Index of gambling involvement	1.00 (18-24)	29	15.65	3.84
	2.00 (25-44)	82	14.65	2.88
	3.00 (45-64)	85	15.56	5.16
	4.00 (65 or older)	14	15.36	2.84
	Total	210	15.20	4.07
Index of investment involvement	1.00 (18-24)	29	29.00	5.13
	2.00 (25-44)	82	30.34	4.69
	3.00 (45-64)	85	38.15	48.02
	4.00 (65 or older)	14	30.57	5.667
	Total	210	33.33	30.93
Range within a portfolio	1.00 (18-24)	29	1.97	1.30
	2.00 (25-44)	82	1.88	.96
	3.00 (45-64)	84	1.92	1.42
	4.00 (65 or older)	14	1.79	.802
	Total	209	1.90	1.199

Age did not make any difference in gambling or investment.

# A limitation of the present study

- The conclusion of investing is similar but not gambling is based on the similarities between the two indices of involvement:

- An index of gambling intensity

- Gambling participation
  - Frequency, range, riskiness
  - When or how stop
- Gambling debts
- Being a problem gambler?

- An index of investment intensity

- Portfolio
  - Diversity, riskiness
  - Monitoring
- Investment debts
- Stop-loss strategy

This assumption is more intuitive than theory-based.

Perhaps the failure to find a relationship between investment and gambling lies with the intuitive assumption.

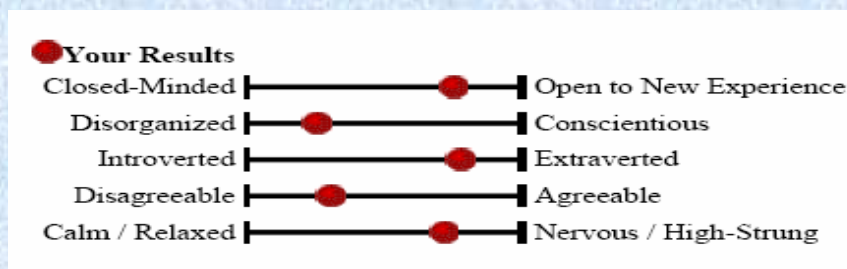
# Qualitative data from interviews

## 5 Case studies

# Mr. Man Aged 50

## level 4 gambler and high level investor

- Father - a gambler. Bad influence on him. Played Lottery since 22, he has been to Macau casino, loss over 110,000HKD , cannot stop. Losing= painful . Excited when he won, has to be no.1
- Money- wife and future child pressure
- Private business – closed down
- Strong responsibility towards family – if none then he is the problem gambler
  
- Takes Risk –now in stocks
- Claims to have knowledge . When low buys lots of stocks. Dropped – never sell
- Long term/ takes risk and has a clean baseline – lower pressure
- Moderate level of profit, no loss
- Expects 10% rise – needs in 10 years time does not worry about win/loss (Expectations on bank stock, stock was 451 and went up to \$141.Did buy insurance AIA firm – loss
- Now has 100-200,000 invested \$128 dropped to \$51.
- Sensible – rise and fall of prices do not worry him
- Rebellious
- “Hk investors cannot distinguish between gambling and investment”



# Mr. Y aged 63

level 4 gambler high level investor

- Came from Guangzhou 1992 to his aunt/uncle = street hawker doing curtains - August 08 diagnosed with brain tumour – treated

Since 1999 listened to others making easy monies, so joined in, others will introduce stocks on “banks”; won’t touch “margins” losing stocks won’t sell but sold when prices went up

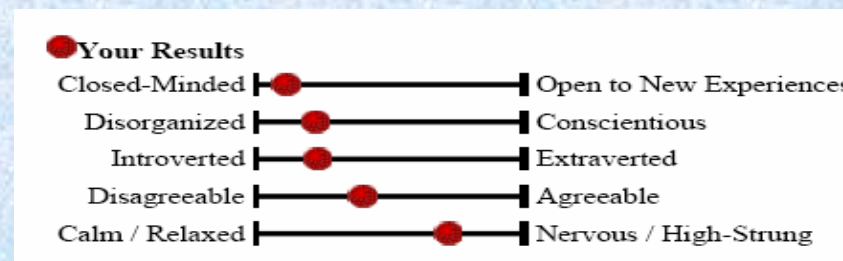
- winning gives satisfaction
- Risk taking scale 7/10
- Also goes horse racing (good luck will win) fixed amount \$1000 on a horse
- casino monthly \$10,000
- \$70 on lottery (did win 500)
- Constant Mahjong player
  
- has self control skills++ he says  
    Son (33) now stopped gambling , internet gambling
- Friend compulsive gambler. 100,000loss



# Ms. Leung Aged 38

high level investor level 3 gambler

- Started investment 25 years of age as parents, sister all got involved in 1994 Follow them and friends.
- Used to go for high risk - stocks – lost a lot of money now safer longer term Blue chips – for savings like MPF too.
- Hedging against inflation - looks at prospects of the company. Little bit of analysis on company reputation
- No skills, no time to spend on looking at investment , just follow friends
- Won't chase losses
- “Prefer moderate profit as long as risk is low (risk 5/10)
- If stock rises, see my own situation, if I need the money I sell,
- If it falls , I look at long term it will come up again”
- Still gambles on lottery, horse racing (3T) 1-3 times a month

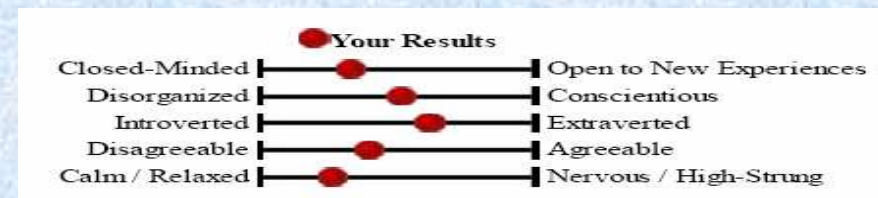


# Mr. Ng aged 41

level 2 gambler low level investor

salesman - insurance

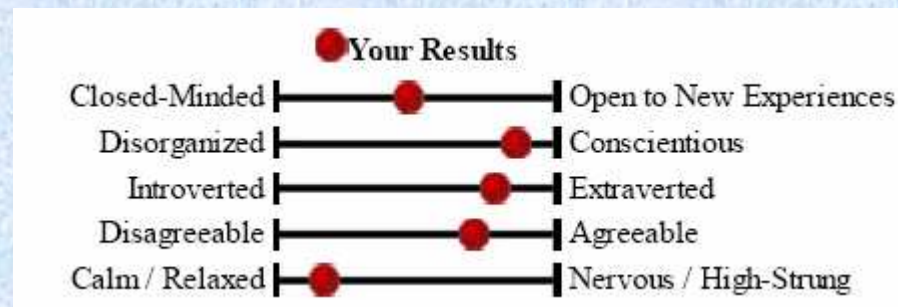
- social gambler - mahjong since secondary school, can lose 4,000 sometimes, wins 2000 (win more and lose less )
- casino – always made a loss
- sets a mark (30% profit), if stocks are rising, reaches his level 30% most probably sell, if not reached marked level, won't sell
- if less than 10% , wait and hope it will rise again (free cash and doesn't need it)
- “if I need money, win or lose I sell” Investment 1997 – lost more
- Had debts – but has managed to payback.
- Number game and has no knowledge
- Felt excited if he won, unhappy if he lost, continue to “fry” stocks – use little to aim for big fish.
- His little brother is a problem gambler, horses, casino



# Mrs. X aged 52

level 1 gambler low level investor

- Retired banker, 20 years in insurance business.
- Professional investor
- Structured Equity linked notes, blue chips
- Knowledge and track record of company important
- Calculated risk. Risk level 5/10
- HK people – looking only at short term 06-08
- Mid 90's she was naïve in wealth management
- Property investment 97/98 recovered in 2003
- Never a short term trader, if rises, sell and keep net profit first
- If down, is irrational, won't sell wait for it to go up (\* like gambler?)
- She has the Ability to hold on
- Social gambler – mahjong for atmosphere social, fixed group
- Hates casino – yelling and noisy atmosphere
- Horse racing – again social . Never over \$1000



Thank you for listening

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