Human Frictions in the Transmission of Economic Policy?

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Summary

- This paper studies relationship between the cognitive abilities and households' reaction to fiscal and monetary policies.

- Use rich administrative data from Finland including both cognitive ability, durable goods consumption, and debt.

- Explore reaction to both fiscal policy and monetary policy

- Results:
  - High IQ individuals are twice as likely to take up "cash-for-clunker" car scrappage scheme in Finland
  - For an increase in interest rate, high IQ individuals are less likely to take out a new loan and more likely to pay down existing loan

Overall Comments

- Important question:
  - Study the human frictions about how fiscal policy and monetary policy pass through households

- Link individual level cognitive ability data with individual level demographics, consumption behavior and debt data

- Comprehensive analysis about both fiscal and monetary policy with various datasets

Contribution

- Understanding fiscal and monetary policy transmission through households is important

- However, there are many frictions.

- Financial frictions: there are interest rate rigidity due to
  - Financial contract (Di Maggio et al. 2017)
  - Financial intermediaries (Wang et al. 2018; Daniel et al. 2021)

Contribution

- Human frictions:
  - Bounded rationality: level-*k* (Farhi and Werning 2017)
  - Limited attention
  - Hyperbolic discounting: procrastination
  - Financial literacy
- This paper:
  - Document a new dimension of human frictions to explain the non-response behavior to policy
  - cognitive ability—IQ

Interpretation: Fiscal policy

- Preference for cars
  - Already control for many factors and still observe the effect from IQ.
- Suggestions:
  - Can you find the buyers who buy the eligible cars outside the programs so they did not claim the subsidy?
  - If yes, this is "leaving money on the table"
  - You can analyze the relationship between IQ and claim the subsidy in the sample who buy eligible cars
- Opportunity cost of time
  - Do High IQ people manage time more or less efficiently?
- Suggestion: use income to proxy opportunity cost of time and analyze the heterogeneity of program take-up

Interpretation: Alternative frictions

- Is it an independent friction or correlated with other frictions?
  - Limited attention
  - Hyperbolic discounting: procrastination
  - Financial literacy
  - Peer effects: "Ranking high in these tests provides access to high-quality training and to elite social networks"

- Can we link IQ to these frictions so we can reduce dimension, unifying a few factors

Interpretations: monetary policy

- What does low reaction to monetary policy mean?

- Is it low reaction in the overall balance sheet or react in other channels?

- The paper currently focus on liability side of household balance sheet

- In theory, after interest rate drops, individuals might
  - Increase consumption: intertemporal substitution
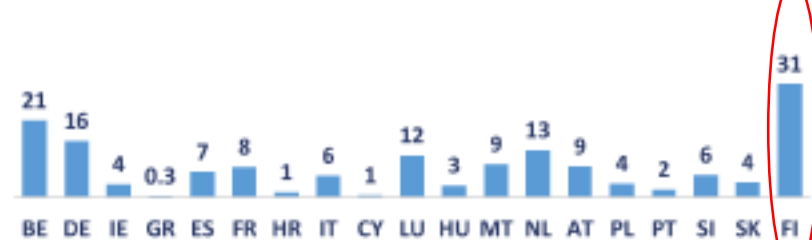 - Increase risky investment: portfolio rebalance (Kaplan et al. 2018;Daniel et al. 2021; Agarwal et al. 2022)

Finland Stock Market Index (OMX Helsinki) 10899.660 -243.090 (-2.18%)

16: Percentage of Population Holding Voluntary Pensions/Life Insurance

BE	DE	IE	GR	ES	FR	HR	IT	CY	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI
43	43	16	0.3	23	38	6	8	24	18	6	19	26	12	39	13	15	16	30

17: Percentage of Population Holding Investment Funds

BE	DE	IE	GR	ES	FR	HR	IT	CY	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI
21	16	4	0.3	7	8	1	6	1	12	3	9	13	9	4	2	6	4	31

18: Percentage of Population Holding Listed Shares

BE	DE	IE	GR	ES	FR	HR	IT	CY	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI
10	11	10	1	12	11	5	3	16	8	1	10	5	5	2	4	6	2	21

19: Percentage of Population Holding Bonds

BE	DE	IE	GR	ES	FR	HR	IT	CY	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI
3	3	7	0.1	0.4	1	0.4	10	1	1	6	22	1	3	1	1	1	1	1

Source: ECB Household Consumption and Finance Survey
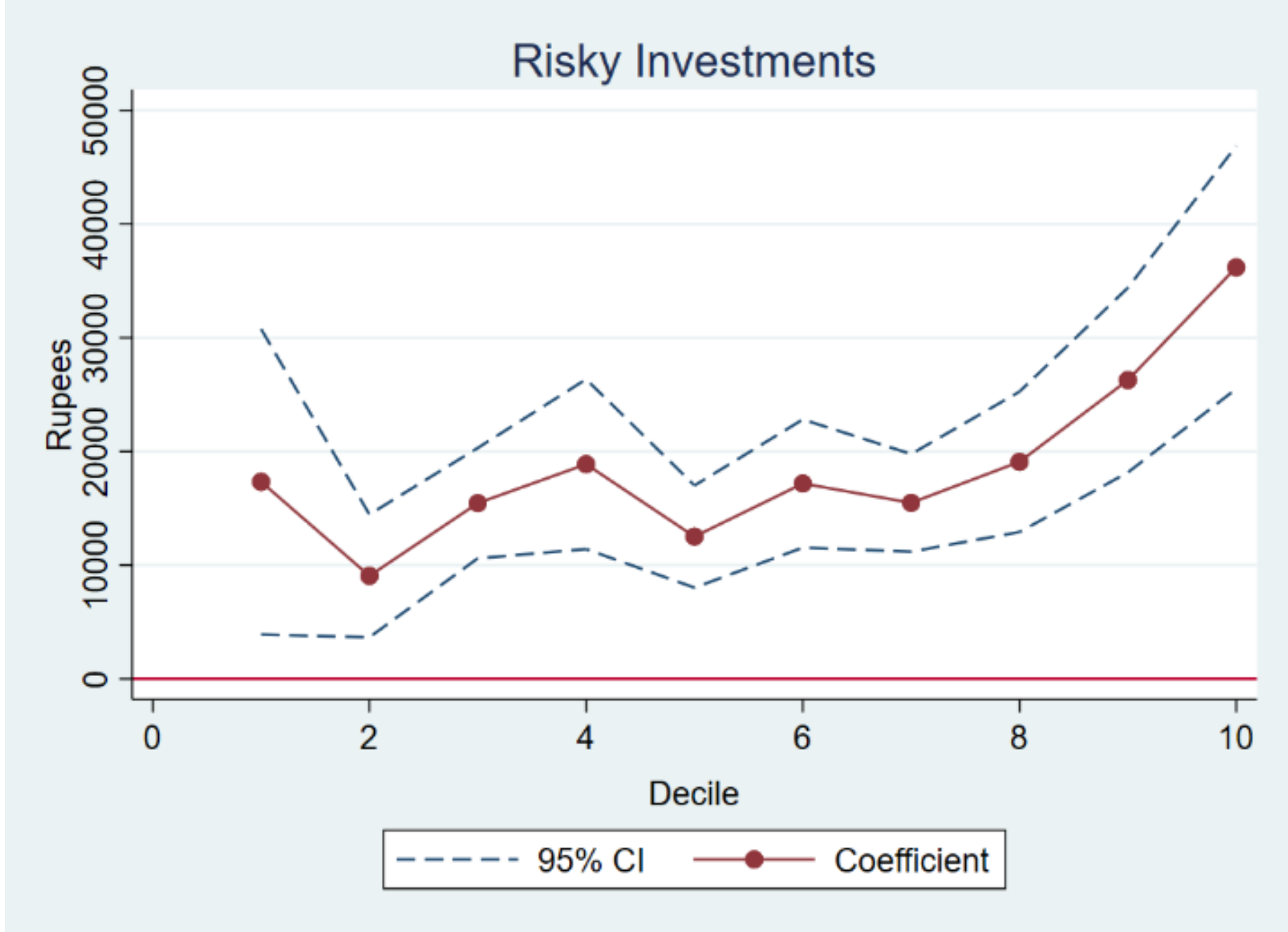
Source: Agarwal et al. 2022

Interpretation: monetary policy

- Are high IQ individuals more like to hold stocks?
- Yes: Cole 2009; Grinblatt et al. 2011

- Are high IQ people more likely to conduct portfolio rebalance after interest rate change?
- Probably. Depends on the direction, it might under or overestimate the non-reaction effect.
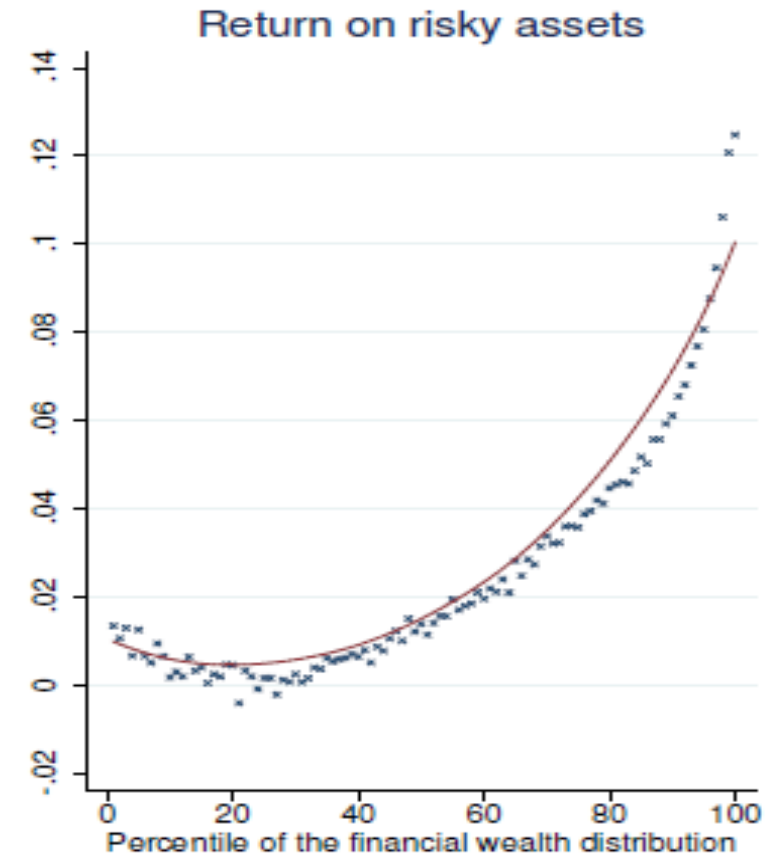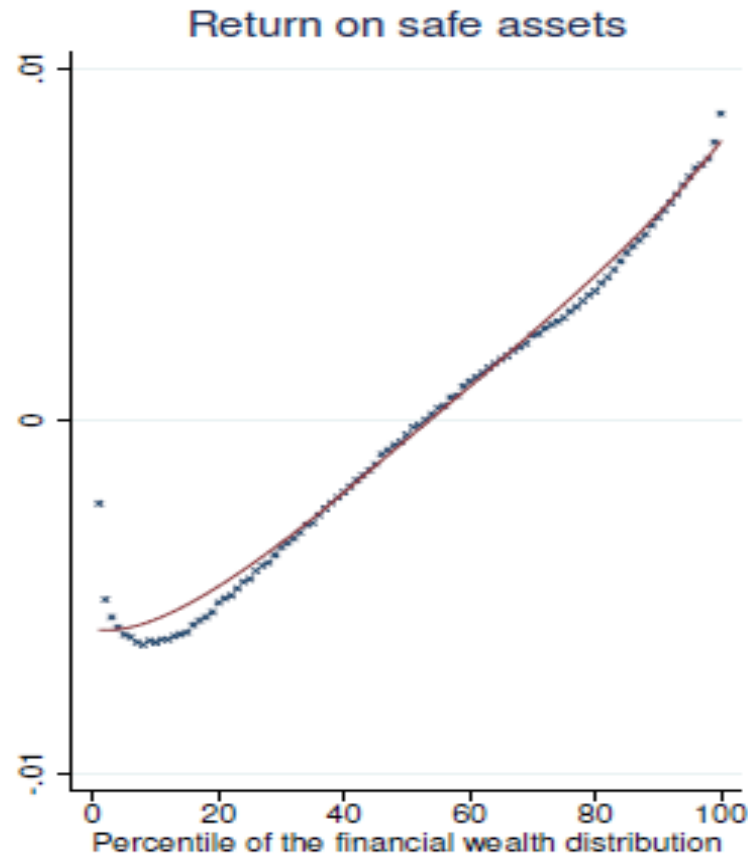
Suggestion 1

Can you analyze reaction to monetary policy
- Similar to Table 5
- Use a figure with deciles of financial constraint

	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A. Unconstrained			
		Below-median Debt-to-Income			Above-median Income	
High IQ × Clunker	10.52**	11.23***	10.34**	6.45***	6.64***	6.45**
	(4.27)	(4.24)	(4.24)	(2.35)	(2.32)	(2.75)
High IQ	1.47	3.62*	3.79*	3.15***	4.62***	4.56***
	(1.91)	(2.08)	(2.08)	(1.13)	(1.28)	(1.23)
Clunker	21.52***	19.72***	20.25***	23.33***	22.57***	22.81***
	(3.68)	(3.68)	(3.67)	(1.99)	(1.95)	(2.39)
Constant	12.93***	132.19***	135.30***	12.12***	85.98***	86.49***
	(1.66)	(25.07)	(25.15)	(0.94)	(20.50)	(17.97)
Nobs	2,683	2,680	2,680	6,997	6,988	6,988
Controls		X	X		X	X
District			X			X
R2	0.111	0.123	0.132	0.098	0.104	0.109
			Panel B. Constrained			
		Above-median Debt-to-Income			Below-median Income	
High IQ × Clunker	1.59	2.04	1.67	4.69	4.69	4.07
	(3.75)	(3.76)	(3.77)	(8.23)	(8.23)	(9.79)
High IQ	4.40***	5.41***	5.56***	2.82	1.03	−0.77
	(1.59)	(1.66)	(1.66)	(4.51)	(4.47)	(5.50)
Clunker	27.07***	26.27***	26.78***	29.98***	28.60***	33.26***
	(3.20)	(3.24)	(3.25)	(6.38)	(6.46)	(7.54)
Constant	11.94***	74.51***	73.70***	17.27***	118.08***	128.96***
	(1.35)	(22.22)	(22.26)	(3.62)	(40.26)	(47.04)
Nobs	3,585	3,578	3,578	551	546	478
Controls		X	X		X	X
District			X			X

Suggestion 2: check portfolio rebalance

- Use tax data from the Finnish Tax Administration to infer risky assets
- Any questions in Consumer Climate Survey of Statistics Finland about investment plan?

Panel B: Return to components of financial wealth

Source: Fagereng et al. 2020

Specification

$$ROPA_i = \alpha + \beta High\ IQ_i \times Clunker_i + \zeta High\ IQ_i + \gamma Clunker_i + X'_i \delta + \eta_s + \epsilon_i,$$

- High IQ equals 1 if normalized IQ is larger than 5.

- Suggestions: also show the result in non-parametric regression so we can see clearly the relationship over full distribution of IQ.

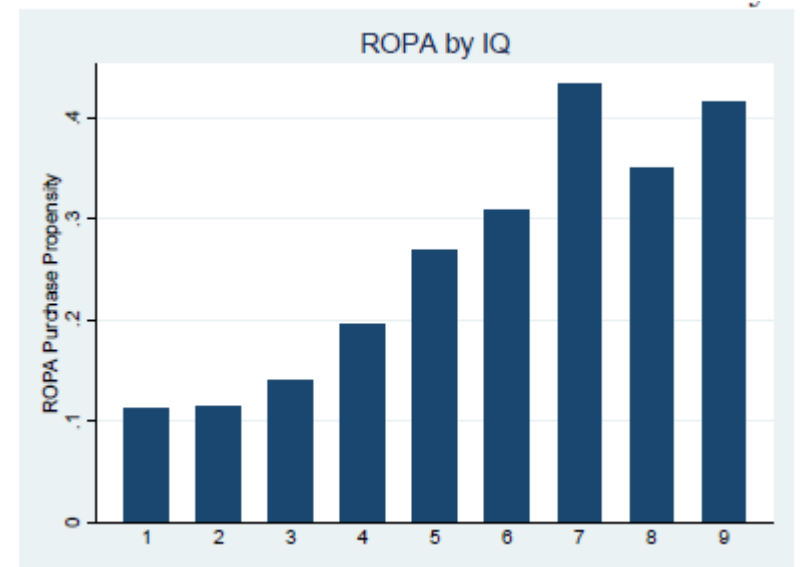- Similar to Figure 2 but show the coefficients

Table 5

	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A. Unconstrained			
	Below-median Debt-to-Income			Above-median Income		
High IQ × Clunker	10.52**	11.23***	10.34**	6.45***	6.64***	6.45**
	(4.27)	(4.24)	(4.24)	(2.35)	(2.32)	(2.75)
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District			X			X
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			Panel B. Constrained			
	Above-median Debt-to-Income			Below-median Income		
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District			X			X

Heterogeneous effect
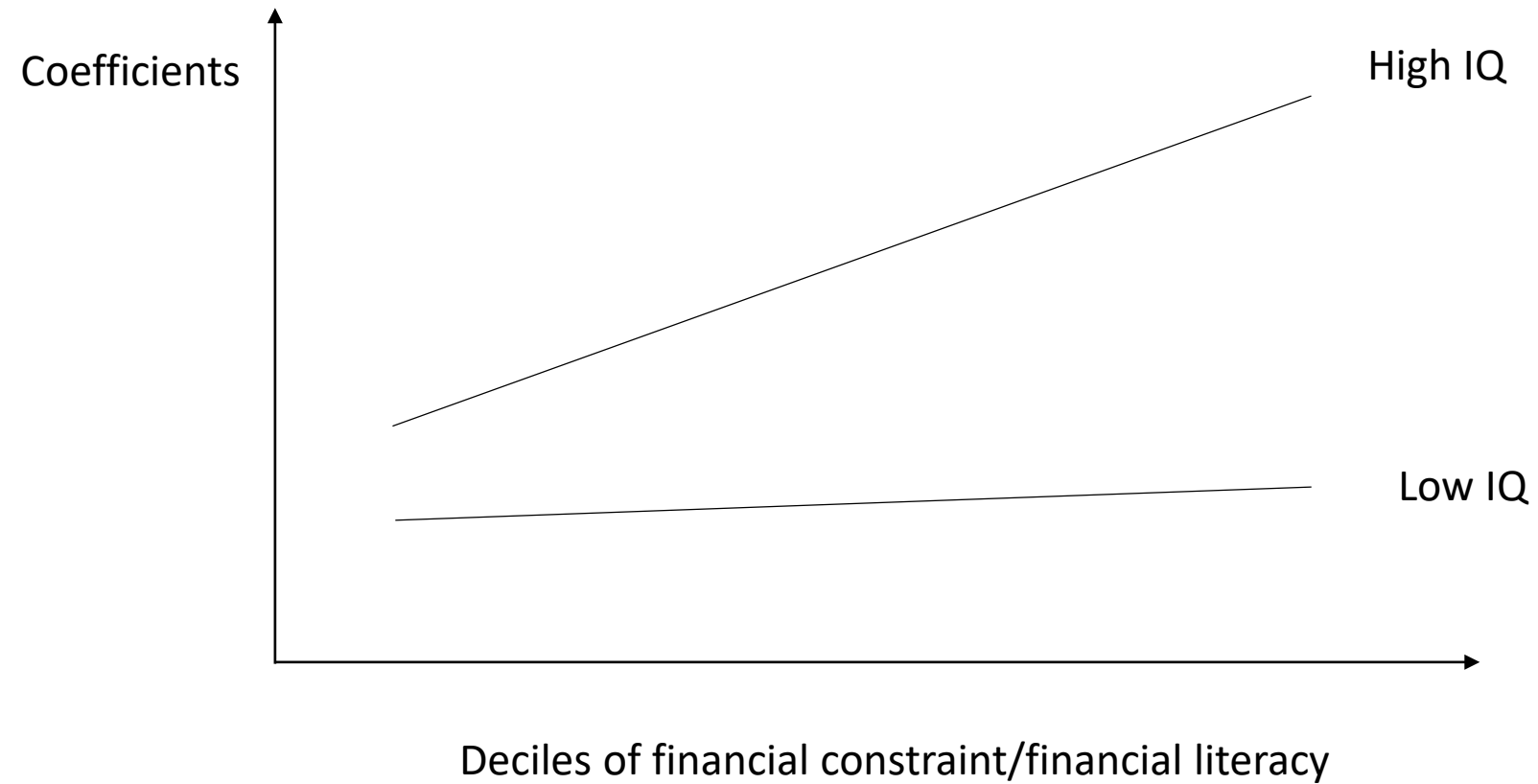
Minor comments

- Any asymmetric effect?
  - Split the sample to see the effect of interest rate increase and interest rate decrease (Baugh et al. 2021 on asymmetric effects on consumption)

- Any information about industry, such as self employed
  - Underlining income risk might be correlated with IQ and borrowing behavior
  - Finance industry also suggests high financial literacy

- Any consumption data?

Implications

- Communications (D'Acunto et al. 2021, 2020; Coibion et al. 2021).

- Personalized recommendations: provided by banks, FinTech, or government?

- Contract and policy design: similar to the idea of ARM, auto refinance

Summary

- Important paper

- Link individual level cognitive ability data with individual level demographics, consumption behavior and debt data

- More analysis on monetary policy and asset side response