Subjective Uncertainty and the Marginal Propensity to Consume[1]

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[1]The views expressed in this paper are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York, or the Federal Reserve System.

Motivation

- Labor income uncertainty: central role in heterogeneous agent macro models
- $\rightarrow$ MPC (heterogeneity)
- $\rightarrow$ matters for many macro questions: fiscal/monetary policy, etc.

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- $\rightarrow$ MPC (heterogeneity)
- $\rightarrow$ matters for many macro questions: fiscal/monetary policy, etc.
- Despite importance, relationship hard to test empirically
  - Mainly because lack of data
    - Ideally: individual–specific, time–varying MPCs and perceived uncertainty
  - Risk inferred from realized data potentially $\neq$ subjective uncertainty

This paper

- What's the relationship between individual–specific uncertainty and the MPC?
- Direct empirical measures:
  - Year-ahead Subjective Uncertainty: individuals report density forecasts of their earnings and spending growth
  - Reported MPCs
- Empirics $\Leftrightarrow$ Model
  - Standard heterogeneous-agent (HA) consumption-saving model + risk heterogeneity
  - Discuss model variations
  - Why models fail/succeed

This paper - Results

1. Document a hump-shaped relationship between subjective uncertainty and MPCs
   - Increasing for most households
   - For both earnings and spending growth uncertainty
   - Robust to a large number of controls and factors
   - Driven by variation *between* households

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   - Little role of observables
   - Limited role of preferences and self-selection
   - Motivates models with unobserved/latent heterogeneity

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4. Show why the puzzle arises and potential solutions

Some basic mechanisms from the canonical model

- Policy function effect example
  - Uncertainty $\rightarrow$ concavity of the consumption function $\rightarrow$ higher MPC
- However: $\uparrow$ uncertainty $\rightarrow$ precautionary savings $\rightarrow$ higher wealth $\rightarrow$ lower MPC

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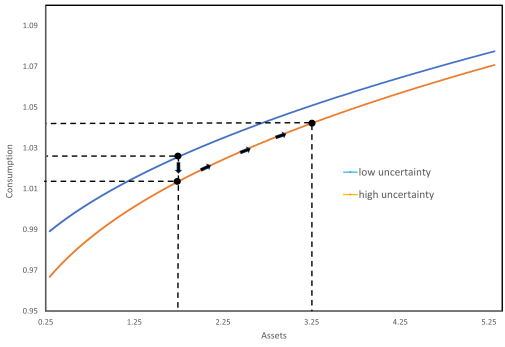
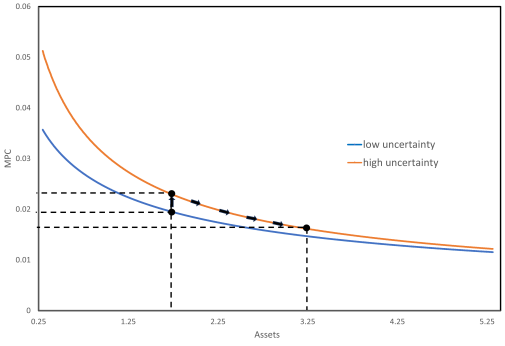
- Earnings risk heterogeneity $\rightarrow$ spending uncertainty (low pass-through)
- Even for given earnings risk:
  - Lower wealth $\rightarrow$ (i) Higher expected variance of consumption growth and (ii) high MPC (Carroll (1992))

An illustrative example





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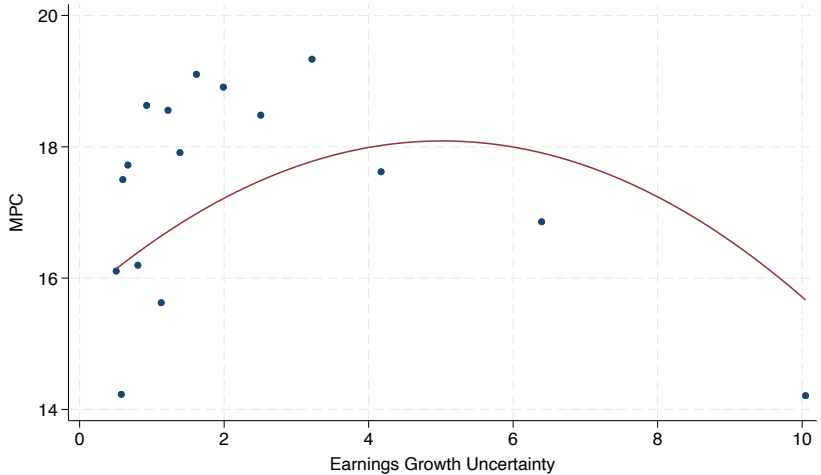
Data: NY Fed's Survey of Consumer Expectations (SCE)

- Monthly, online survey since 2014 with $\sim$ 1300 HH heads/month. Sum. Stats.
- Nationally representative
- MPC: qnr validity
  - *Suppose next year you were to find your household with 10% more income than you currently expect. What share of the extra income would you use to spend?*
- Earnings growth uncertainty: qnr validity
  - HH heads assign probabilities on various bins of year-ahead own earnings growth rates (conditional on remaining at the same job).
  - Baseline measure: Fit a generalized beta to the bin probabilities and use the implied standard deviation of this density, following Engelberg, Manski and Williams (2009).
- Same approach for year-ahead spending growth uncertainty
- Rich demographics, asset, income, etc.

Subjective earnings uncertainty and the MPC: raw correlation



Binscatter plot (16 quantiles). Total number of observations: 17,312.

Subjective earnings uncertainty and the MPC

$$\text{MPC}_{itm} = \alpha_i + \beta_1 U_{itm} + \beta_2 U_{itm}^2 + \gamma \mathbb{E}_m[\Delta w_{i,t,m+12}] + \delta_t + \Gamma X_{itm} + \epsilon_{itm}$$

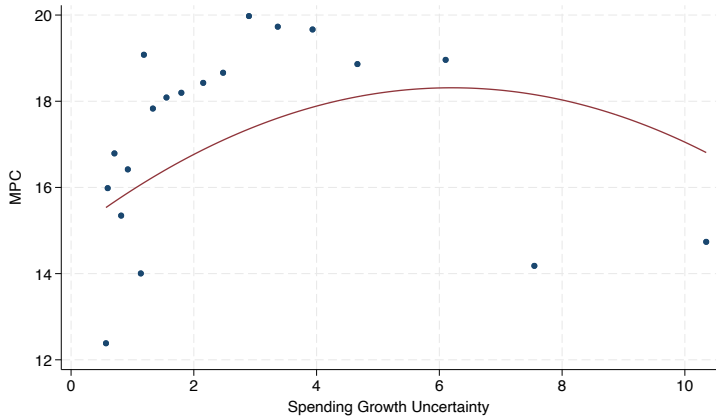
- $U_{itm} = U_m[\Delta w_{i,t,m+12}]$: uncertainty about $\Delta w_{i,t,m+12}$
- $\mathbb{E}_m[\Delta w_{i,t,m+12}]$: expected earnings (spending) growth
- X: controls
- time and individual FE

Subjective earnings uncertainty and the MPC

	(1)	(2)	(3)	(4)	(5)
Panel A					
Earnings Growth Uncertainty	-0.004	-0.007	-0.020	0.014	-0.229
	(0.068)	(0.070)	(0.070)	(0.137)	(0.372)
Expected Earnings Growth		0.007	0.007	-0.096	0.136
		(0.037)	(0.037)	(0.078)	(0.148)
Panel B					
Earnings Growth Uncertainty	0.797***	0.845***	0.799***	0.917***	0.165
	(0.168)	(0.180)	(0.180)	(0.334)	(0.826)
Uncertainty squared	-0.076***	-0.079***	-0.076***	-0.080***	-0.040
	(0.014)	(0.014)	(0.014)	(0.024)	(0.061)
Expected Earnings Growth		-0.034	-0.033	-0.144*	0.121
		(0.039)	(0.039)	(0.080)	(0.156)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	✓
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.65	16.65	16.65	16.03	16.08
Adj. R-Squared	0.017	0.017	0.019	0.017	0.384
Observations	17,190	17,190	17,190	4,088	2,556

Subjective spending uncertainty and the MPC: raw correlation

- Spending uncertainty: sufficient statistic for **all** risks households face
- Co-moves with earnings uncertainty, quantitatively as large spend vs earn



Binscatter plot (19 quantiles). Total number of observations: 17,573.

regressions

Uncertain types

- No significant relationship within individuals:
  - MPCs are stable over time
  - Subjective uncertainty even more stable: $\frac{VAR(\text{within individual})}{VAR(\text{overall})} = 30\%$

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- No significant relationship within individuals:
  - MPCs are stable over time
  - Subjective uncertainty even more stable: $\frac{VAR(\text{within individual})}{VAR(\text{overall})} = 30\%$
- What explains subjective uncertainty?
  - Observable, time-varying drivers (income, assets, age) wealth income
  - Self-selection (industries, self-employed, ...)
  - Preference heterogeneity risk aversion patience
  - All factors explain about 10% of variation R2
- Big role for latent heterogeneity

Other channels and Robustness

- Inflation expectations
- Job loss expectations
- Alternative definitions of subjective uncertainty discrete winsor tail prob IQR
- Alternative definitions of the MPC FKZ Special survey
- Spousal Insurance Spousal
- Results across the household distribution:
  - Net liquid wealth wealth quartiles
  - Age age groups
  - Preferences risk aversion patience

Standard incomplete markets model + risk heterogeneity

$$V_i(a_i, y_i) = \max_{c_i>0, a_i' \geq \underline{a}} u(c_i) + \beta E V_i(a_i', y_i')$$

s.t.

$$c_i + a_i' = y_i + a_i(1 + r)$$
$$\log y_i' = \rho \log y_i + \eta_i$$

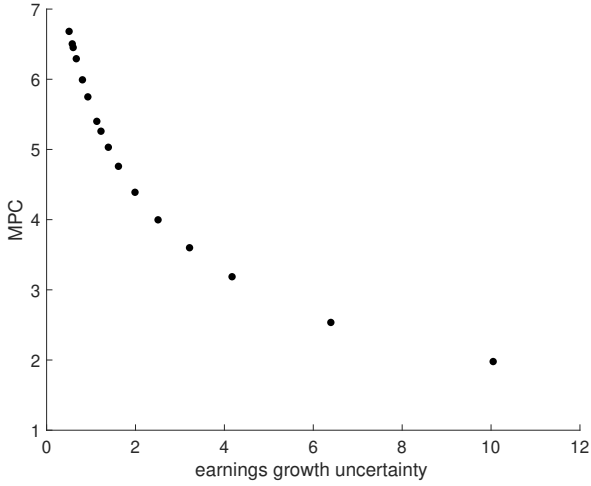
$\underline{a}$: zero borrowing limit
$\eta \sim \mathcal{N}(\mu, \sigma_i^2)$

Calibrate σ_i to the SCE data

Implicit assumption: earnings risk heterogeneity drives SCE heterogeneity in uncertainty

calibration

The MPC falls with earnings uncertainty in the model



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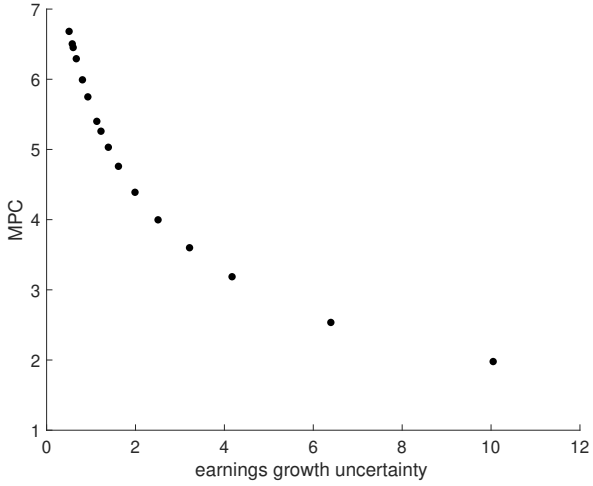
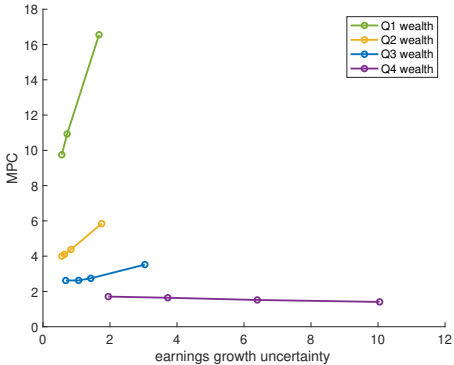
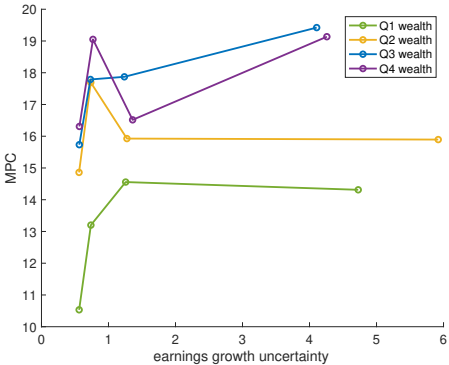


- MPCs increase with spending uncertainty, but driven by low-asset people spend

MPC and Uncertainty: mechanisms



(a) Model



(b) Data

- Heterogeneity by Expected consumption growth
- Short-run vs long-run dynamics

other MPC

Understanding the puzzle: MPC and earnings uncertainty

	Model	Data
CORR(MPC, assets)	<0	≈ 0, locally positive
CORR(assets,uncertainty)	> 0	weakly >0

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	Model	Data
CORR(MPC, assets)	<0	≈ 0, locally positive
CORR(assets,uncertainty)	> 0	weakly >0
heightCORR(MPC,uncertainty)	< 0	> 0 (hump-shaped)

What could explain the puzzle(s)?

- Alternative calibrations ρ eis β r

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- Permanent income heterogeneity
- Life cycle
- Endogenous labor supply ls
- (Rich forms of) Preference heterogeneity
- Earnings-based constraints ebc

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- ~~Alternative calibrations~~
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- (Rich forms of) ~~Preference heterogeneity~~
- ~~Earnings-based constraints~~

What could explain the puzzle(s)? — Flatten the MPC-assets gradient

- Lower/increasing MPCs at the bottom:
  - Consumption floors (Miranda-Pinto et al. (2024))
  - MPCs (MPRDs) **decline** (increase) with debt: Koşar, Melcangi, Pilossoph and Wiczer (2024)

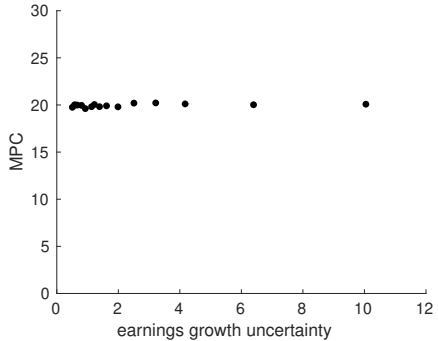
What could explain the puzzle(s)? — Flatten the MPC-assets gradient

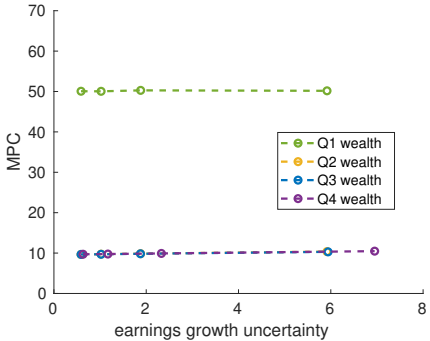
- ~~Lower/increasing MPCs at the bottom:~~
  - Consumption floors (Miranda-Pinto et al. (2024))
  - MPCs (MPRDs) **decline** (increase) with debt
  - Quantitatively too weak/local
- Higher MPCs (mostly) at the top:
  - Deviations from FIRE

What could explain the puzzle(s)?

- Deviations from FIRE:
  - Mental accounting (Graham and McDowall (2024), Iao (2024))
  - "Misperceptions" about:
    - Risk itself riskmisp
    - Wealth (Lian (2019))
    - Optimal policy functions (Ilut and Valchev (2023)) IVmodel
    - Affect both CORR(MPC, assets) and CORR(assets,uncertainty)
- Interaction with risk heterogeneity not studied
- Hard to discipline empirically

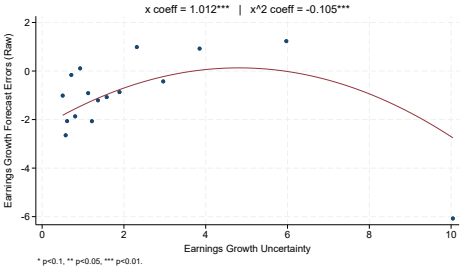
Imperfect problem solvers + risk heterogeneity





- Flat MPC–wealth gradient ✓
- Some high (low) uncertainty households with low (high) wealth ✓
- Low-wealth $\rightarrow$ very high MPC ✗
- Quantitative performance sensitive to learning parameters
  - Empirical targets? Parameter heterogeneity?

In Progress: Misperceptions about Earnings Growth?



- In the SCE, respondents' forecast errors about their earnings growth are systematically correlated with their subjective uncertainty.

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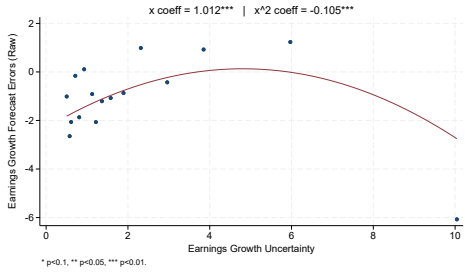

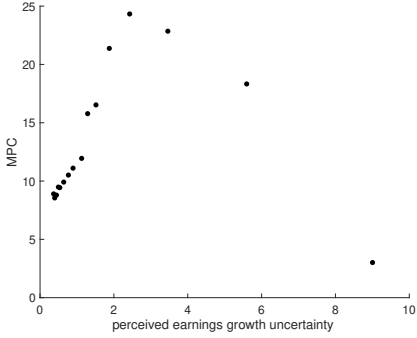

- In the SCE, respondents' forecast errors about their earnings growth are systematically correlated with their subjective uncertainty.
- Adding this feature to the model seems to be able to generate the shape we've been looking for!!

Conclusions

- Direct measures of households' subjective earnings (and spending) growth uncertainty and MPCs
- Novel empirical evidence:
  - Hump-shaped relationship, mostly increasing
  - Driven by variation between households
  - Large role of latent heterogeneity
- Standard HA-IM model + heterogeneous risk:
  - MPCs fall with earnings uncertainty ✗
  - MPCs increase with spending uncertainty ✓
  - Showed which model mechanisms are at odds with data and why
- Model implications: marked deviations from workhorse model likely needed

Backup slides

Summary Stats

	Mean	Median	SD
Expected Earnings Growth	3.20	2.61	4.62
Earnings Growth Uncertainty	1.99	1.02	2.37
Expected Spending Growth	4.09	3.00	6.19
Spending Growth Uncertainty	2.71	1.63	2.64
MPC	16.67	10.00	21.56
% White	0.84		0.37
% Female	0.48		0.50
Married	0.67		0.47
Ages 35-50	0.45		0.50
Ages 51-65	0.31		0.46
% College Graduate	0.63		0.48
% Working PT	0.15		0.36
% Self-employed	0.10		0.30
HH Income	101,662.21	87,499.50	64,533.21
Net Liquid Wealth	87,410.25	2,750.00	251,448.28
Observations	17,312		

Note: Time period: 2015-2023. Earnings (spending) growth uncertainty is measured as the standard deviation of an individual's density forecast for year-ahead earnings (spending) growth.

Back

Eliciting MPCs

Suppose next year you were to find your household with 10% more income than you currently expect. What would you do with the extra income?

- ❍ *Save or invest all of it*
- ❍ *Spend or donate all of it*
- ❍ *Use all of it to pay down debts*
- ❍ *Spend some and save some*
- ❍ *Spend some and use part of it to pay down debts*
- ❍ *Save some and use part of it to pay down debts*
- ❍ *Spend some, save some and use some to pay down debts*

Please indicate what share of the extra income you would use to ...

Save or invest	_____	*percent*
Spend or donate	_____	*percent*
Pay down debts	_____	*percent*
Total	100	*percent*

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Eliciting Earnings Growth Expectations

Suppose that, 12 months from now, you are working in the exact same job at the same place you currently work, and working the exact same number of hours. In your view, what would you say is the percent chance that 12 months from now ...

increased by 12% or more	_____	*percent chance*
increased by 8% to 12%	_____	*percent chance*
increased by 4% to 8%	_____	*percent chance*
increased by 2% to 4%	_____	*percent chance*
increased by 0% to 2%	_____	*percent chance*
decreased by 0% to 2%	_____	*percent chance*
decreased by 2% to 4%	_____	*percent chance*
decreased by 4% to 8%	_____	*percent chance*
decreased by 8% to 12%	_____	*percent chance*
decreased by 12% or more	_____	*percent chance*
Total	100	

Back

Validity of reported, hypothetical MPCs

- "reported–preference" MPC similar to "revealed–preference" MPC
  - Parker and Souleles (2019)
  - Kotsogiannis and Sakellaris (2025)
- Shapiro and Slemrod (2003) and Sahm et al. (2010): "ex–ante" MPC line up with "ex–post" MPC
- Koşar et al. (2024): heterogeneity in hypothetical MPCs (MPRDs) lines up with heterogeneity in MPCs (MPRDs) out of stimulus checks
- Reported approach predictive of real–world choices also in other contexts (labor markets: Wiswall and Zafar (2018))

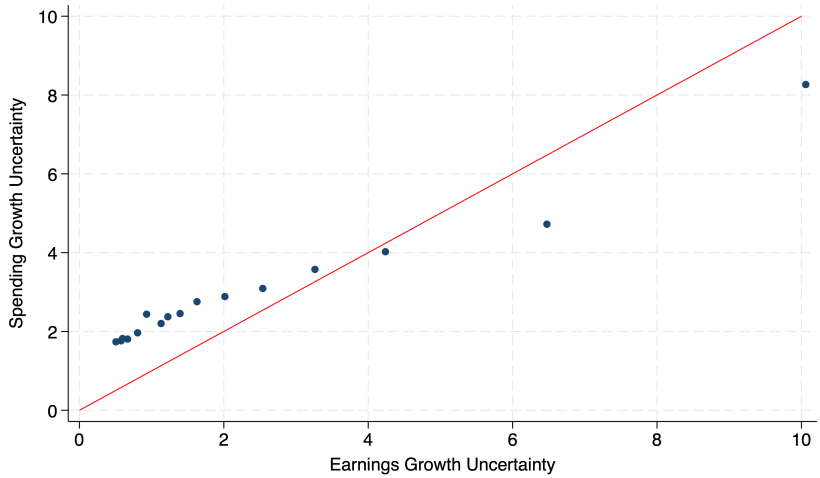
back

Validity of the SCE

- Year-ahead earnings growth, layoff, quit expectations from the SCE line up with CPS and JOLTS realizations (Koşar & van der Klaauw (2024)).
- Subjective earnings growth uncertainty:
  - Positively correlated with household income variability
  - Observed heterogeneity lines up with heterogeneity in the realized volatility in survey and administrative data.
    - Caplin et al. (2024), Wang (2023)
    - Declines over the life-cycle (Sabelhaus and Song (2010), Bloom et al (2018))
    - Higher for self-employed (Audoly (2024))
    - Higher for lower levels of earnings (Moffitt et al (2022))
  - Distribution of subjective uncertainty similar to distribution of risk estimated in the PSID (Almuzara (2024))
    - Most households have less than half the average uncertainty
    - A significant share of households have more than twice the average uncertainty

back

Spending growth uncertainty vs Earnings growth uncertainty



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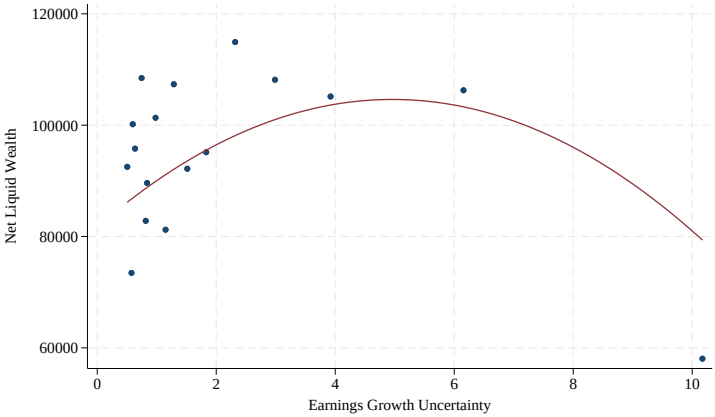
Subjective spending uncertainty and the MPC

	(1)	(2)	(3)	(4)	(5)
Panel A					
Spending Growth Uncertainty	0.222***	0.164***	0.144**	0.051	0.199
	(0.062)	(0.063)	(0.064)	(0.124)	(0.286)
Expected Spending Growth		0.107***	0.095***	0.158***	0.010
		(0.028)	(0.028)	(0.059)	(0.096)
Panel B					
Spending Growth Uncertainty	1.082***	1.204***	1.162***	0.876***	0.242
	(0.149)	(0.161)	(0.161)	(0.304)	(0.593)
Uncertainty squared	-0.078***	-0.096***	-0.094***	-0.076***	-0.004
	(0.012)	(0.013)	(0.013)	(0.024)	(0.046)
Expected Spending Growth		0.068**	0.059**	0.133**	0.010
		(0.029)	(0.029)	(0.060)	(0.096)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	✓
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.66	16.67	16.67	16.01	16.06
Adj. R-Squared	0.019	0.020	0.021	0.019	0.379
Observations	17,216	17,213	17,213	4,096	2,565

back

Net Liquid Wealth and Earnings Uncertainty



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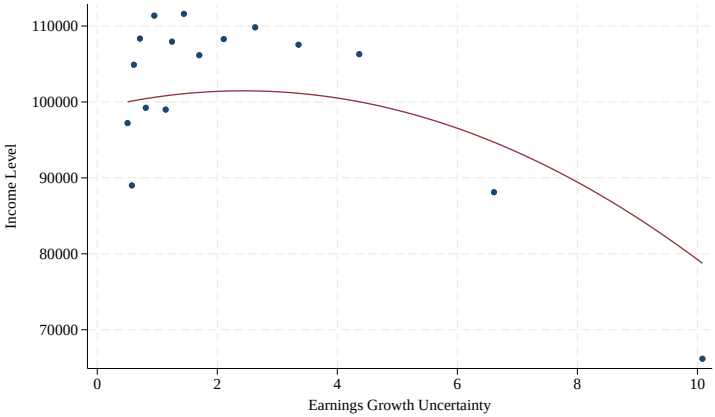
Household Income and Earnings Uncertainty



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MPC and Earnings Uncertainty: Industry dummies

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	0.990***	1.076***	1.034***	1.136***	0.776
	(0.207)	(0.224)	(0.224)	(0.424)	(1.025)
Uncertainty squared	-0.102***	-0.108***	-0.105***	-0.106***	-0.065
	(0.016)	(0.017)	(0.017)	(0.032)	(0.070)
Expected Earnings Growth		-0.062	-0.064	-0.117	-0.048
		(0.049)	(0.049)	(0.093)	(0.180)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.226	16.226	16.226	15.530	15.736
Adj. R-Squared	0.017	0.018	0.019	0.012	0.359
Observations	10,831	10,831	10,831	2,709	1,716

back

MPC and Spending Uncertainty: Industry dummies

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	1.210***	1.555***	1.511***	1.315***	0.397
	(0.221)	(0.221)	(0.221)	(0.361)	(0.864)
Uncertainty squared	-0.093***	-0.133***	-0.130***	-0.120***	0.035
	(0.020)	(0.019)	(0.019)	(0.028)	(0.073)
Expected Spending Growth		0.027	0.016	0.188***	-0.041
		(0.036)	(0.037)	(0.069)	(0.122)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.219	16.222	16.222	15.487	15.677
Adj. R-Squared	0.020	0.021	0.022	0.017	0.356
Observations	10,846	10,844	10,844	2,712	1,720

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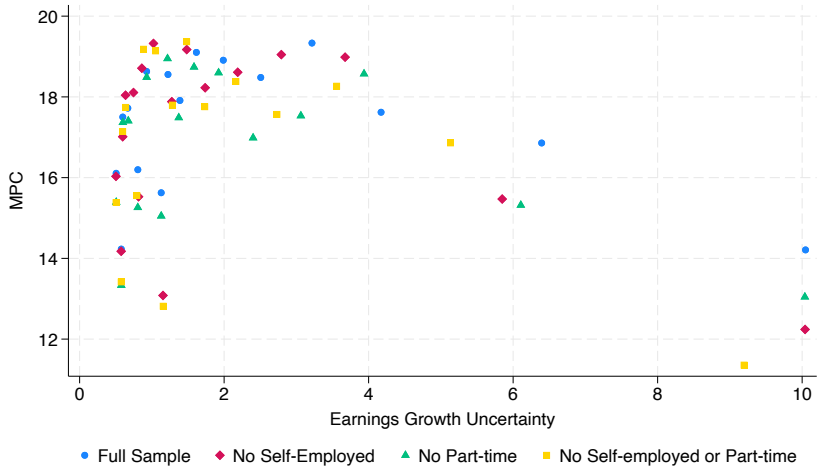
MPC and Earnings Uncertainty by Worker Status



back

MPC and Earnings Uncertainty: Risk aversion

	(1)	(2)	(3)	(4)
Earnings Growth Uncertainty	0.802***	0.852***	0.806***	0.771**
	(0.171)	(0.183)	(0.183)	(0.348)
Uncertainty squared	-0.076***	-0.080***	-0.076***	-0.073***
	(0.014)	(0.015)	(0.015)	(0.025)
Expected Earnings Growth		-0.036	-0.036	-0.163**
		(0.039)	(0.039)	(0.081)
Middle Risk Aversion	1.172***	1.153***	1.106***	1.141
	(0.403)	(0.403)	(0.403)	(0.808)
High Risk Aversion	1.501***	1.481***	1.496***	2.971***
	(0.463)	(0.464)	(0.464)	(0.914)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net liquid wealth over income				✓
Dep. Var. Mean	16.681	16.681	16.681	16.043
Adj. R-Squared	0.018	0.018	0.019	0.018
Observations	16,623	16,623	16,623	3,765

back

MPC and Spending Uncertainty: Risk aversion

	(1)	(2)	(3)	(4)
Spending Growth Uncertainty	1.080***	1.208***	1.166***	0.810***
	(0.149)	(0.163)	(0.163)	(0.313)
Uncertainty squared	-0.076***	-0.095***	-0.093***	-0.069***
	(0.012)	(0.013)	(0.013)	(0.024)
Expected Spending Growth		0.064**	0.055*	0.145**
		(0.029)	(0.030)	(0.064)
Middle Risk Aversion	1.240***	1.249***	1.211***	1.217
	(0.402)	(0.402)	(0.402)	(0.804)
High Risk Aversion	1.519***	1.497***	1.511***	2.993***
	(0.461)	(0.461)	(0.461)	(0.910)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net liquid wealth over income				✓
Dep. Var. Mean	16.695	16.698	16.698	16.034
Adj. R-Squared	0.020	0.021	0.022	0.020
Observations	16,648	16,645	16,645	3,773

back

MPC and Earnings Uncertainty: Patience

	(1)	(2)	(3)	(4)
Earnings Growth Uncertainty	0.703***	0.873***	0.809***	0.627
	(0.206)	(0.223)	(0.224)	(0.403)
Uncertainty squared	-0.078***	-0.089***	-0.084***	-0.068**
	(0.016)	(0.017)	(0.017)	(0.030)
Expected Earnings Growth		-0.124**	-0.122**	-0.152*
		(0.050)	(0.050)	(0.091)
Medium Patience	-1.393*	-1.371*	-1.465*	-1.673
	(0.771)	(0.771)	(0.771)	(1.334)
High Patience	-1.886***	-1.845**	-2.044***	-2.132*
	(0.719)	(0.719)	(0.719)	(1.246)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net liquid wealth over income				✓
Dep. Var. Mean	16.838	16.838	16.838	15.967
Adj. R-Squared	0.018	0.018	0.020	0.014
Observations	10,819	10,819	10,819	2,969

MPC and Spending Uncertainty: Patience

	(1)	(2)	(3)	(4)
Spending Growth Uncertainty	1.100***	1.334***	1.272***	1.139***
	(0.200)	(0.201)	(0.200)	(0.350)
Uncertainty squared	-0.084***	-0.112***	-0.109***	-0.108***
	(0.017)	(0.016)	(0.016)	(0.026)
Expected Spending Growth		0.041	0.027	0.179**
		(0.037)	(0.037)	(0.073)
Medium Patience	-1.336*	-1.348*	-1.439*	-1.893
	(0.776)	(0.776)	(0.777)	(1.335)
High Patience	-1.878***	-1.912***	-2.090***	-2.447*
	(0.723)	(0.723)	(0.724)	(1.249)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net liquid wealth over income				✓
Dep. Var. Mean	16.857	16.861	16.861	15.961
Adj. R-Squared	0.020	0.021	0.022	0.019
Observations	10,836	10,834	10,834	2,976

back

Drivers of earnings uncertainty

	(1)	(2)	(3)	(4)	(5)
Net Liquid Wealth (in 10000s)	0.002***	0.001	0.002**	0.001	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
HH Income (in 10000s)	-0.027***	-0.030***	-0.020***	-0.023***	-0.037***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)
Individual Earnings (in 10000s)	-0.011**	0.009	0.001	-0.006	0.001
	(0.005)	(0.006)	(0.008)	(0.007)	(0.008)
Ages 35-50	-0.232***	-0.299***	-0.341***	-0.207***	-0.270***
	(0.038)	(0.043)	(0.052)	(0.050)	(0.057)
Ages 51+	-0.356***	-0.530***	-0.613***	-0.434***	-0.429***
	(0.041)	(0.046)	(0.058)	(0.057)	(0.067)
Working PT		0.188***	0.258***	0.275***	0.320***
		(0.065)	(0.080)	(0.080)	(0.093)
Self-employed		2.193***	2.553***	2.179***	1.977***
		(0.405)	(0.514)	(0.502)	(0.666)
Female			-0.011	-0.015	-0.006
			(0.044)	(0.042)	(0.049)
Married			-0.216***	-0.182***	-0.133**
			(0.053)	(0.052)	(0.060)
Middle Risk Aversion			-0.170***	-0.149***	-0.194***
			(0.050)	(0.049)	(0.059)
High Risk Aversion			-0.257***	-0.196***	-0.357***
			(0.059)	(0.058)	(0.068)
College Graduate			-0.176***	-0.170***	-0.167***
			(0.044)	(0.042)	(0.050)
Expected Earnings Growth				0.136***	0.152***
				(0.012)	(0.013)
Mean 1yr Inflation Exp.				-0.018***	-0.032***
				(0.007)	(0.007)
Patience					-0.131***
					(0.037)
Constant	2.311***	2.333***	2.713***	2.281***	2.543***
	(0.041)	(0.072)	(0.107)	(0.115)	(0.146)
Industry Controls		✓	✓	✓	✓
Dep. Var. Mean	1.792	1.743	1.746	1.749	1.778
Adj. R-Squared	0.010	0.031	0.039	0.099	0.113
Observations	21,580	14,504	10,513	10,468	8,263

back

Drivers of spending uncertainty

	(1)	(2)	(3)	(4)	(5)
Net Liquid Wealth (in 10000s)	-0.001	-0.002	-0.002	-0.003*	-0.003
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
HH Income (in 10000s)	-0.018*	-0.014	-0.002	-0.003	-0.018
	(0.009)	(0.012)	(0.014)	(0.013)	(0.015)
Individual Earnings (in 10000s)	-0.038***	-0.050***	-0.055***	-0.056***	-0.052**
	(0.013)	(0.017)	(0.019)	(0.019)	(0.021)
Ages 35-50	-0.242**	-0.248**	-0.319**	-0.242*	-0.320**
	(0.102)	(0.123)	(0.133)	(0.124)	(0.139)
Ages 51+	-0.220*	-0.286**	-0.365**	-0.246*	-0.211
	(0.113)	(0.135)	(0.148)	(0.140)	(0.168)
Working PT		-0.254	-0.175	-0.094	-0.102
		(0.167)	(0.179)	(0.172)	(0.201)
Self-employed		2.739*	3.028*	1.361	1.823
		(1.570)	(1.822)	(1.113)	(1.428)
Female			0.024	-0.031	-0.077
			(0.116)	(0.110)	(0.129)
Married			-0.219*	-0.239*	-0.184
			(0.127)	(0.126)	(0.148)
Middle Risk Aversion			-0.193	-0.195*	-0.250*
			(0.118)	(0.115)	(0.138)
High Risk Aversion			-0.250*	-0.206	-0.296*
			(0.141)	(0.140)	(0.168)
College Graduate			-0.165	-0.131	-0.166
			(0.113)	(0.108)	(0.130)
Expected Earnings Growth				0.057***	0.067***
				(0.019)	(0.022)
Mean 1yr Inflation Exp.				0.016	0.017
				(0.016)	(0.018)
Patience					-0.043
					(0.087)
Constant	2.937***	3.012***	3.303***	3.026***	3.239***
	(0.112)	(0.187)	(0.244)	(0.257)	(0.318)
Industry Controls		✓	✓	✓	✓
Dep. Var. Mean	2.348	2.327	2.318	2.312	2.326
Adj. R-Squared	0.010	0.027	0.032	0.032	0.039
Observations	3,865	2,566	2,374	2,354	1,845

back

MPC and Earnings Uncertainty: Inflation Expectations

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	0.864***	0.887***	0.842***	0.956***	0.258
	(0.171)	(0.186)	(0.186)	(0.351)	(0.847)
Uncertainty squared	-0.082***	-0.083***	-0.079***	-0.082***	-0.047
	(0.014)	(0.014)	(0.014)	(0.024)	(0.062)
Expected Earnings Growth		-0.015	-0.011	-0.136	0.118
		(0.040)	(0.040)	(0.083)	(0.159)
Expected Inflation	-0.179***	-0.176***	-0.218***	-0.139*	-0.085
	(0.033)	(0.033)	(0.034)	(0.082)	(0.116)
Inflation Uncertainty	-0.048	-0.054	-0.107	-0.085	-0.117
	(0.079)	(0.081)	(0.081)	(0.187)	(0.393)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.650	16.650	16.650	16.038	16.120
Adj. R-Squared	0.019	0.019	0.022	0.018	0.386
Observations	17,082	17,082	17,082	4,073	2,541

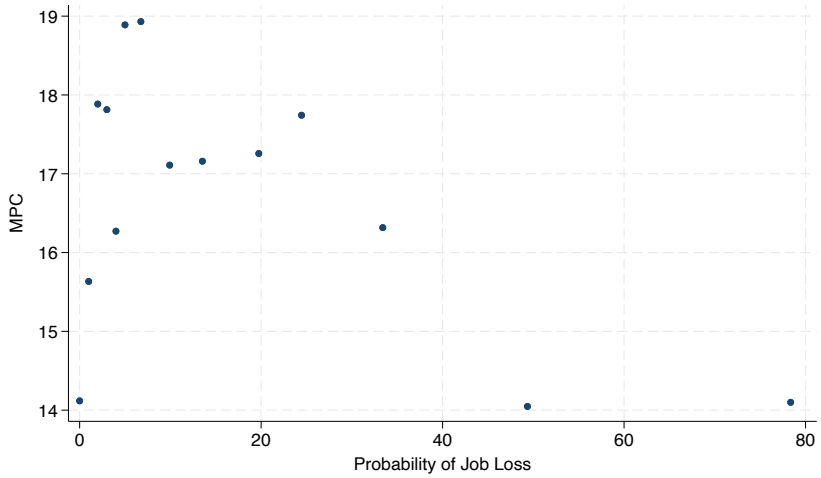
back

MPC and Spending Uncertainty: Inflation Expectations

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	1.460***	1.354***	1.314***	0.973***	0.275
	(0.162)	(0.166)	(0.166)	(0.312)	(0.611)
Uncertainty squared	-0.098***	-0.100***	-0.097***	-0.080***	-0.006
	(0.014)	(0.014)	(0.014)	(0.024)	(0.046)
Expected Spending Growth		0.116***	0.107***	0.148**	0.004
		(0.031)	(0.032)	(0.061)	(0.098)
Expected Inflation	-0.180***	-0.231***	-0.265***	-0.179**	-0.070
	(0.032)	(0.035)	(0.035)	(0.081)	(0.117)
Inflation Uncertainty	-0.293***	-0.200**	-0.245***	-0.101	-0.137
	(0.082)	(0.084)	(0.085)	(0.193)	(0.396)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.665	16.666	16.666	16.017	16.097
Adj. R-Squared	0.023	0.024	0.026	0.020	0.382
Observations	17,105	17,104	17,104	4,081	2,550

back

MPC and Job Loss Probability



back jluncert

MPC and Earnings Uncertainty: Job Loss Probability

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	0.742***	0.804***	0.751***	0.910**	0.686
	(0.183)	(0.198)	(0.197)	(0.389)	(0.829)
Uncertainty squared	-0.079***	-0.083***	-0.080***	-0.087***	-0.058
	(0.015)	(0.016)	(0.016)	(0.031)	(0.062)
Expected Earnings Growth		-0.044	-0.043	-0.117	0.025
		(0.042)	(0.042)	(0.084)	(0.130)
Percent Chance of Job Loss in 12mths	-0.021**	-0.022**	-0.020**	0.000	0.067*
	(0.009)	(0.009)	(0.009)	(0.018)	(0.035)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.402	16.402	16.402	15.632	15.789
Adj. R-Squared	0.015	0.015	0.017	0.011	0.370
Observations	15,497	15,497	15,497	3,689	2,299

back

MPC and Spending Uncertainty: Job Loss Probability

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	1.117***	1.234***	1.192***	1.039***	0.415
	(0.173)	(0.175)	(0.175)	(0.335)	(0.656)
Uncertainty squared	-0.084***	-0.102***	-0.100***	-0.091***	0.004
	(0.015)	(0.015)	(0.015)	(0.028)	(0.052)
Expected Spending Growth		0.067**	0.057*	0.154**	0.020
		(0.030)	(0.030)	(0.061)	(0.104)
Percent Chance of Job Loss in 12mths	-0.025***	-0.025***	-0.024**	0.000	0.066*
	(0.009)	(0.009)	(0.009)	(0.018)	(0.035)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.397	16.399	16.399	15.600	15.738
Adj. R-Squared	0.017	0.018	0.019	0.015	0.366
Observations	15,514	15,512	15,512	3,694	2,305

back

Job loss as uncertainty

	(1)	(2)	(3)	(4)	(5)
Panel A					
Job Loss Uncertainty	-0.013**	-0.012*	-0.011*	0.006	0.014
	(0.006)	(0.006)	(0.006)	(0.013)	(0.025)
Expected Earnings Growth		-0.000	-0.004	-0.064	0.045
		(0.039)	(0.039)	(0.079)	(0.119)
Panel B					
Job Loss Uncertainty	0.085***	0.084***	0.089***	0.082**	-0.008
	(0.020)	(0.020)	(0.020)	(0.039)	(0.084)
Job Loss Uncertainty Squared	-0.001***	-0.001***	-0.001***	-0.001**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Expected Earnings Growth		0.003	-0.001	-0.061	0.042
		(0.039)	(0.039)	(0.079)	(0.121)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.38	16.40	16.40	15.63	15.79
Adj. R-Squared	0.015	0.015	0.017	0.011	0.368
Observations	15,606	15,497	15,497	3,689	2,299

back

MPC and Earnings Uncertainty using Discrete Approximation of Subjective Probability Functions

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	1.155***	1.200***	1.175***	1.095***	0.191
	(0.118)	(0.122)	(0.122)	(0.229)	(0.535)
Uncertainty squared	-0.087***	-0.090***	-0.088***	-0.083***	-0.038
	(0.009)	(0.009)	(0.009)	(0.016)	(0.041)
Expected Earnings Growth		-0.047	-0.048	-0.157**	0.062
		(0.034)	(0.034)	(0.071)	(0.139)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.645	16.645	16.645	15.996	16.060
Adj. R-Squared	0.020	0.020	0.022	0.020	0.382
Observations	17,279	17,279	17,279	4,109	2,571

back

MPC and Spending Uncertainty using Discrete Approximation of Subjective Probability Functions

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	1.514***	1.455***	1.439***	1.418***	0.095
	(0.109)	(0.110)	(0.110)	(0.220)	(0.607)
Uncertainty squared	-0.101***	-0.097***	-0.096***	-0.103***	0.010
	(0.008)	(0.008)	(0.008)	(0.016)	(0.052)
Expected Spending Growth		0.092***	0.081***	0.097*	0.027
		(0.025)	(0.026)	(0.054)	(0.090)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.657	16.657	16.657	16.007	16.072
Adj. R-Squared	0.026	0.026	0.028	0.025	0.382
Observations	17,259	17,259	17,259	4,103	2,571

back

MPC and Earnings Uncertainty: Winsorization

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	1.551***	1.675***	1.608***	1.551***	0.355
	(0.237)	(0.251)	(0.251)	(0.513)	(1.058)
Uncertainty squared	-0.171***	-0.181***	-0.175***	-0.160***	-0.069
	(0.024)	(0.025)	(0.025)	(0.052)	(0.102)
Exp Earnings Growth DM (Winsorized)		-0.068*	-0.068*	-0.176**	0.153
		(0.041)	(0.041)	(0.084)	(0.170)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.654	16.654	16.654	16.028	16.078
Adj. R-Squared	0.018	0.018	0.020	0.017	0.386
Observations	17,190	17,190	17,190	4,088	2,556

back

MPC and Spending Uncertainty: Winsorization

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	1.770***	1.663***	1.615***	1.223***	0.200
	(0.168)	(0.178)	(0.178)	(0.344)	(0.713)
Uncertainty squared	-0.155***	-0.148***	-0.145***	-0.116***	0.003
	(0.015)	(0.015)	(0.015)	(0.029)	(0.063)
Exp Spending Growth DM (Winsorized)		0.054*	0.044	0.114*	-0.008
		(0.031)	(0.031)	(0.066)	(0.117)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.664	16.667	16.667	16.007	16.055
Adj. R-Squared	0.021	0.021	0.022	0.020	0.381
Observations	17,216	17,213	17,213	4,096	2,565

back

MPC and Earnings Uncertainty: No Probability in Tail Bins

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	4.062***	4.529***	4.304***	2.776	-3.309
	(0.850)	(0.896)	(0.897)	(1.704)	(3.030)
Uncertainty squared	-0.680***	-0.782***	-0.729***	-0.292	0.875
	(0.230)	(0.237)	(0.236)	(0.423)	(0.575)
Expected Earnings Growth		-0.140	-0.132	-0.292	0.407
		(0.094)	(0.095)	(0.183)	(0.308)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.409	16.409	16.409	15.939	15.992
Adj. R-Squared	0.016	0.016	0.018	0.014	0.361
Observations	12,524	12,524	12,524	3,153	1,828

back

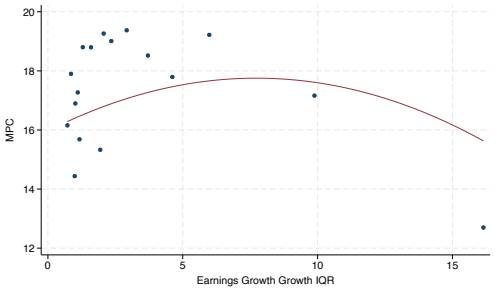
MPC and Spending Uncertainty: No Probability in Tail Bins

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	6.110***	5.379***	5.401***	5.360***	6.244*
	(0.825)	(0.846)	(0.847)	(1.608)	(3.350)
Uncertainty squared	-1.125***	-0.958***	-0.964***	-1.088***	-1.711**
	(0.206)	(0.209)	(0.209)	(0.405)	(0.870)
Expected Spending Growth		0.233***	0.218***	0.080	-0.051
		(0.072)	(0.072)	(0.137)	(0.261)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	15.776	15.776	15.776	15.482	15.232
Adj. R-Squared	0.018	0.019	0.021	0.011	0.363
Observations	10,639	10,639	10,639	2,807	1,515

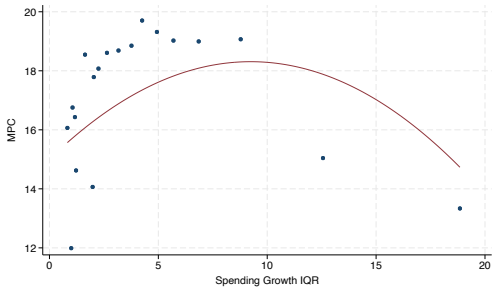
back

MPC and Earnings Uncertainty: interquartile range

Figure: MPC and uncertainty: interquartile range



(a) Earnings growth



(b) Spending growth

back

MPC and Earnings Uncertainty: interquartile range

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	0.378***	0.395***	0.366***	0.448**	0.031
	(0.101)	(0.109)	(0.109)	(0.207)	(0.519)
Uncertainty squared	-0.024***	-0.024***	-0.023***	-0.025***	-0.010
	(0.005)	(0.005)	(0.005)	(0.009)	(0.023)
Expected Earnings Growth		-0.020	-0.019	-0.130	0.125
		(0.039)	(0.039)	(0.081)	(0.159)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.654	16.654	16.654	16.028	16.078
Adj. R-Squared	0.017	0.017	0.019	0.017	0.386
Observations	17,190	17,190	17,190	4,088	2,556

back

MPC and Spending Uncertainty: interquartile range

	(1)	(2)	(3)	(4)	(5)
Spending Growth Uncertainty	0.720***	0.634***	0.605***	0.410**	0.190
	(0.093)	(0.097)	(0.097)	(0.190)	(0.366)
Uncertainty squared	-0.035***	-0.033***	-0.032***	-0.024***	-0.006
	(0.005)	(0.005)	(0.005)	(0.009)	(0.017)
Expected Spending Growth		0.082***	0.073**	0.146**	0.018
		(0.029)	(0.029)	(0.060)	(0.096)
Controls	✓	✓	✓	✓	✓
Year Dummies			✓	✓	
Net liquid wealth over income				✓	✓
Individual Fixed Effects					✓
Dep. Var. Mean	16.664	16.667	16.667	16.007	16.055
Adj. R-Squared	0.019	0.019	0.021	0.018	0.381
Observations	17,216	17,213	17,213	4,096	2,565

back

MPC and Earnings Uncertainty: Fuster, Kaplan, and Zafar (2021)

	(1)	(2)	(3)	(4)
Earnings growth uncertainty	1.177	0.772	0.774	0.668
	(0.793)	(0.759)	(0.761)	(1.060)
Uncertainty squared	-0.069	-0.048	-0.048	-0.035
	(0.067)	(0.065)	(0.065)	(0.110)
Expected earnings growth		0.407**	0.408**	0.341*
		(0.181)	(0.180)	(0.190)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net Liquid wealth over income				✓
Dep. Var. Mean	9.800	9.800	9.800	9.641
Adj. R-Squared	0.004	0.008	0.007	-0.006
Observations	1,119	1,119	1,119	923

back

MPC and Spending Uncertainty: Fuster, Kaplan, and Zafar (2021)

	(1)	(2)	(3)	(4)
Spending growth uncertainty	0.192	-0.040	-0.044	0.235
	(0.681)	(0.747)	(0.755)	(0.775)
Uncertainty squared	-0.006	0.005	0.005	-0.006
	(0.049)	(0.052)	(0.052)	(0.055)
Expected spending growth		0.187	0.186	0.214
		(0.185)	(0.185)	(0.198)
Controls	✓	✓	✓	✓
Year Dummies			✓	✓
Net Liquid wealth over income				✓
Dep. Var. Mean	9.895	9.895	9.895	9.637
Adj. R-Squared	-0.001	-0.001	-0.002	-0.006
Observations	778	778	778	693

back

MPC and Earnings Uncertainty: Special Survey

Suppose tomorrow you were to receive an unexpected, one-time payment equivalent to 10% of your total pre-tax annual household income. Please indicate how you would allocate this extra income over the next 3 months

	(1)	(2)	(3)
Earnings growth uncertainty	3.691**	3.678**	3.664**
	(1.550)	(1.574)	(1.572)
Uncertainty squared	-0.159	-0.159	-0.156
	(0.116)	(0.116)	(0.115)
Expected earnings growth		0.043	0.016
		(0.389)	(0.386)
Controls	✓	✓	✓
Net Liquid wealth over income			✓
Dep. Var. Mean	15.506	15.506	15.506
Adj. R-Squared	0.129	0.124	0.119
Observations	168	168	168

back

MPC and Spending Uncertainty: Special Survey

	(1)	(2)	(3)
Spending growth uncertainty	3.027**	4.669***	4.871***
	(1.389)	(1.548)	(1.536)
Uncertainty squared	-0.133	-0.234**	-0.242**
	(0.095)	(0.095)	(0.096)
Expected spending growth		-0.685**	-0.703**
		(0.275)	(0.276)
Controls	✓	✓	✓
Net Liquid wealth over income			✓
Dep. Var. Mean	15.521	15.521	15.521
Adj. R-Squared	0.068	0.107	0.106
Observations	144	144	144

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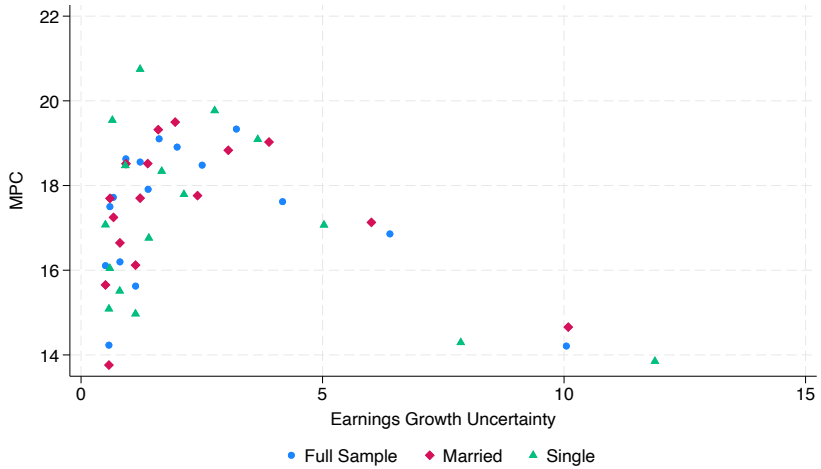
MPC and Earnings Uncertainty by Spousal Status



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MPC and Earnings Uncertainty by Net Liquid Wealth Quartiles

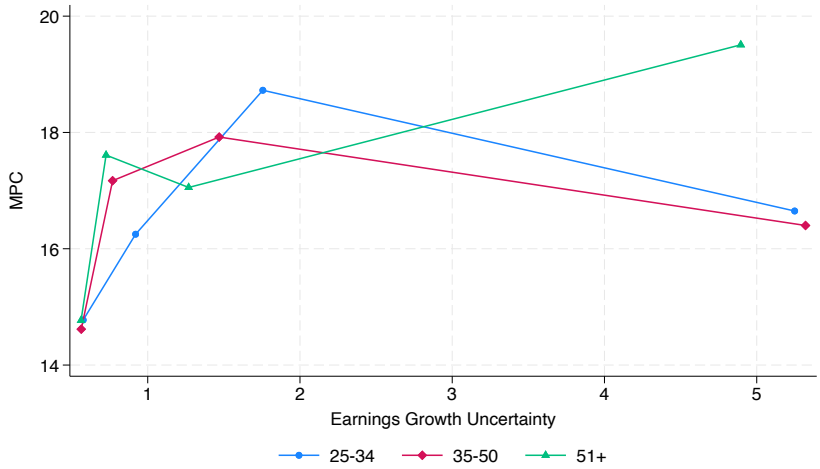
	(1)	(2)	(3)	(4)
Panel A				
Earnings Growth Uncertainty	-0.036	-0.257	0.131	0.562
	(0.229)	(0.189)	(0.338)	(0.431)
Panel B				
Earnings Growth Uncertainty	-0.005	-0.261	0.232	0.653
	(0.234)	(0.191)	(0.341)	(0.458)
Expected Earnings Growth	-0.066	0.016	-0.165	-0.170
	(0.129)	(0.140)	(0.180)	(0.178)
Panel C				
Earnings Growth Uncertainty	1.307**	0.277	0.932	0.662
	(0.593)	(0.558)	(0.923)	(1.084)
Uncertainty squared	-0.118***	-0.042	-0.068	-0.001
	(0.040)	(0.036)	(0.082)	(0.129)
Expected Earnings Growth	-0.134	-0.016	-0.211	-0.170
	(0.139)	(0.146)	(0.191)	(0.175)
Controls	✓	✓	✓	✓
Year Dummies	✓	✓	✓	✓
Quartile	1	2	3	4
Dep. Var. Mean	12.95	15.95	17.59	17.65
Adj. R-Squared	0.008	0.004	0.018	0.020
Observations	1,029	1,024	1,025	1,010

MPC and Spending Uncertainty by Net Liquid Wealth Quartiles

	(1)	(2)	(3)	(4)
Panel A				
Spending Growth Uncertainty	0.206	-0.105	0.374	0.284
	(0.215)	(0.196)	(0.284)	(0.365)
Panel B				
Spending Growth Uncertainty	0.077	-0.133	0.148	0.337
	(0.224)	(0.193)	(0.280)	(0.407)
Expected Spending Growth	0.168*	0.112	0.410***	-0.053
	(0.094)	(0.110)	(0.125)	(0.154)
Panel C				
Spending Growth Uncertainty	1.222**	0.228	0.572	4.114***
	(0.523)	(0.525)	(0.642)	(1.235)
Uncertainty squared	-0.105***	-0.030	-0.039	-0.492***
	(0.038)	(0.039)	(0.049)	(0.159)
Expected Spending Growth	0.138	0.097	0.403***	-0.051
	(0.094)	(0.112)	(0.125)	(0.158)
Controls	✓	✓	✓	✓
Year Dummies	✓	✓	✓	✓
Quartile	1	2	3	4
Dep. Var. Mean	12.86	16.14	17.46	17.63
Adj. R-Squared	0.012	0.004	0.027	0.029
Observations	1,030	1,053	994	1,019

back

MPC and Earnings Uncertainty by Age Groups



back

MPC and Earnings Uncertainty by Age Groups

	(1)	(2)	(3)
Earnings Growth Uncertainty	1.449***	0.389	0.905**
	(0.373)	(0.260)	(0.429)
Uncertainty squared	-0.147***	-0.063***	-0.070*
	(0.031)	(0.019)	(0.037)
Expected Earnings Growth	-0.183**	-0.073	0.246**
	(0.076)	(0.058)	(0.098)
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Age Group	25-34	35-50	51-65
Dep. Var. Mean	16.476	16.362	16.394
Adj. R-Squared	0.016	0.017	0.029
Observations	3,917	7,021	4,568

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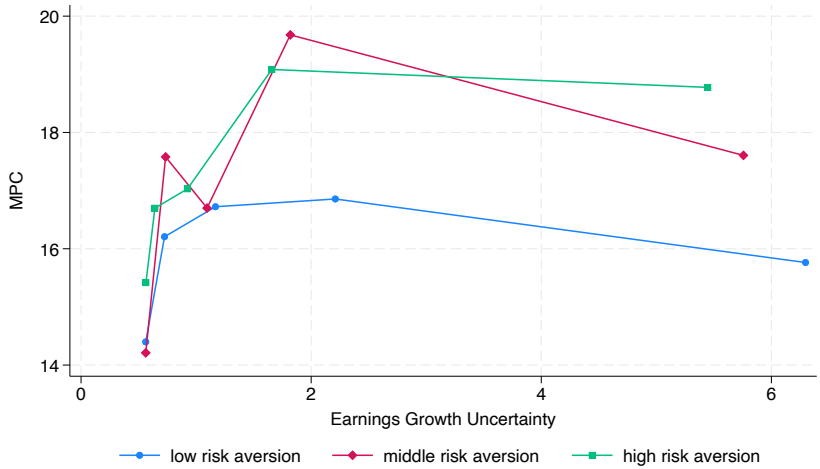
MPC and Spending Uncertainty by Age Groups

	(1)	(2)	(3)
Spending Growth Uncertainty	2.242***	0.936***	0.796**
	(0.343)	(0.247)	(0.333)
Uncertainty squared	-0.189***	-0.080***	-0.076***
	(0.031)	(0.020)	(0.029)
Expected Spending Growth	0.026	0.103**	0.044
	(0.063)	(0.045)	(0.054)
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Age Group	25-34	35-50	51-65
Dep. Var. Mean	16.481	16.365	16.378
Adj. R-Squared	0.022	0.018	0.027
Observations	3,923	7,020	4,578

back

MPC and Earnings Uncertainty by Risk aversion



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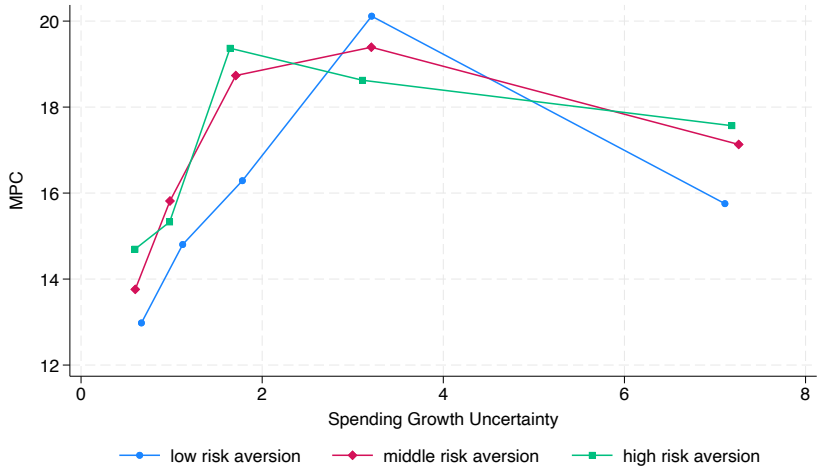
MPC and Spending Uncertainty by Risk aversion



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MPC and Earnings Uncertainty by Risk aversion

	(1)	(2)	(3)
Earnings Growth Uncertainty	0.277	1.004***	1.208***
	(0.315)	(0.285)	(0.381)
Uncertainty squared	-0.036	-0.082***	-0.121***
	(0.023)	(0.024)	(0.031)
Expected Earnings Growth	-0.027	-0.029	-0.020
	(0.065)	(0.064)	(0.084)
Dep. Var. Mean	15.88	16.96	17.21
Observations	5,276	6,896	4,451
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Risk Aversion	Low	Middle	High

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MPC and Spending Uncertainty by Risk aversion

	(1)	(2)	(3)
Spending Growth Uncertainty	1.383***	1.067***	1.205***
	(0.290)	(0.245)	(0.321)
Uncertainty squared	-0.109***	-0.077***	-0.108***
	(0.024)	(0.020)	(0.027)
Expected Spending Growth	0.129**	0.019	0.036
	(0.052)	(0.049)	(0.054)
Dep. Var. Mean	15.86	17.01	17.21
Observations	5,290	6,896	4,459
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Risk Aversion	Low	Middle	High

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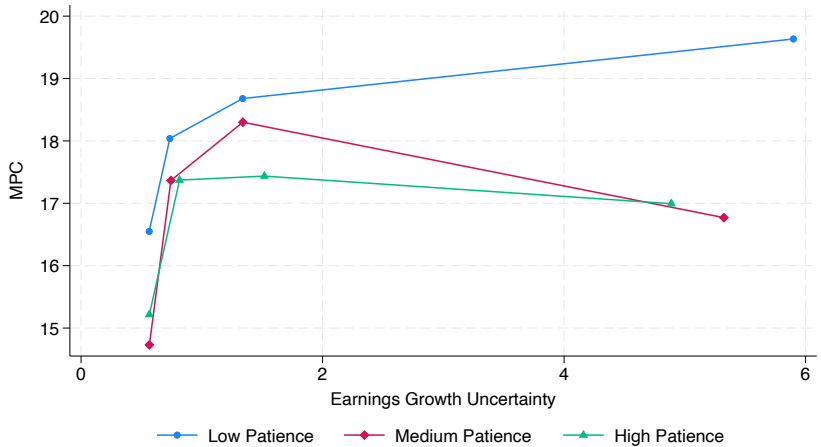
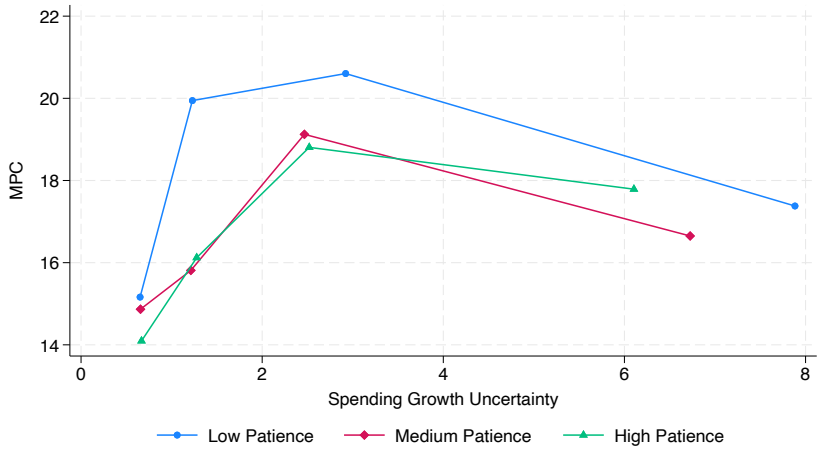
MPC and Earnings Uncertainty by Patience



Uses variable qshop8 (asked 2017-2023)

back

MPC and Spending Uncertainty by Patience



Uses variable qshop8 (asked 2017-2023)

back

MPC and Earnings Uncertainty by Patience

	(1)	(2)	(3)
Earnings Growth Uncertainty	1.477**	1.136**	0.525*
	(0.637)	(0.461)	(0.279)
Uncertainty squared	-0.156***	-0.114***	-0.050**
	(0.048)	(0.035)	(0.021)
Expected Earnings Growth	-0.107	-0.145	-0.116*
	(0.169)	(0.100)	(0.062)
Dep. Var. Mean	18.09	16.60	16.70
Observations	1,269	2,674	6,876
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Patience	Low	Medium	High

back

MPC and Spending Uncertainty by Patience

	(1)	(2)	(3)
Spending Growth Uncertainty	0.840	1.260***	1.378***
	(0.653)	(0.373)	(0.237)
Uncertainty squared	-0.080	-0.107***	-0.115***
	(0.055)	(0.026)	(0.018)
Expected Spending Growth	-0.109	0.073	0.042
	(0.108)	(0.077)	(0.046)
Dep. Var. Mean	18.18	16.64	16.70
Observations	1,269	2,670	6,895
Controls	✓	✓	✓
Year Dummies	✓	✓	✓
Patience	Low	Medium	High

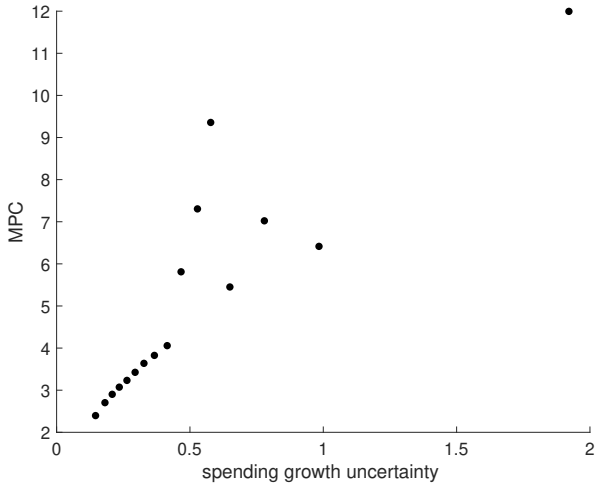
back

Calibration details

- β: share of hand-to-mouth
- $\rho = 0.904$
- $u(c) = \frac{c^{1-\gamma}-1}{1-\gamma}$, $\gamma = 1$
- $\underline{a} = 0$
- Robustness to β, ρ, γ, $\underline{a}$

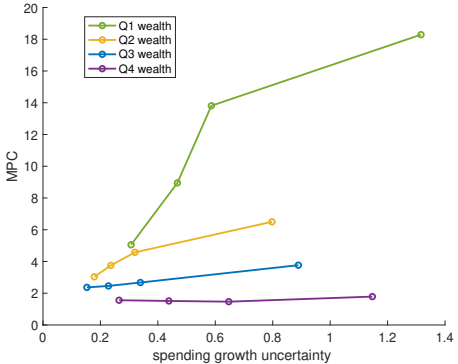
back

Spending uncertainty and the MPC in the model

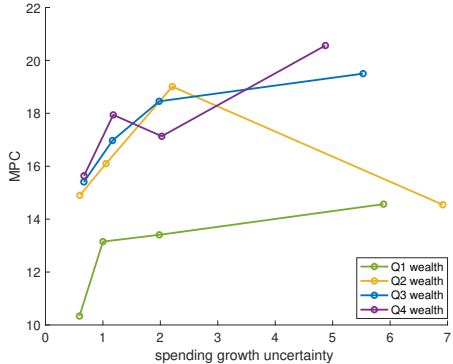


back mechanisms

MPC and Spending Uncertainty: mechanisms



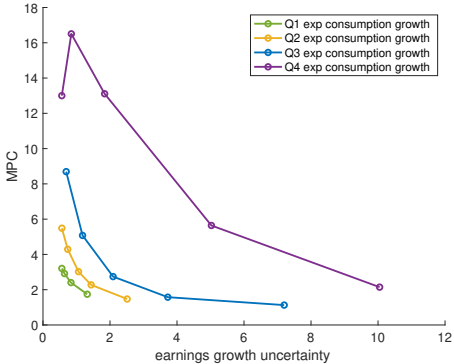
(a) Model



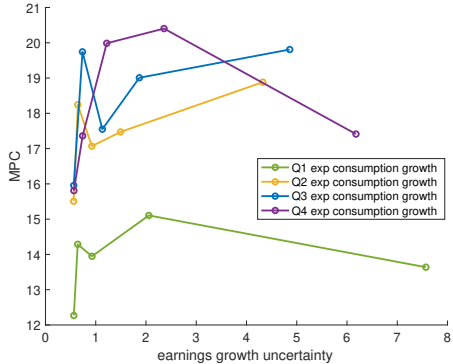
(b) Data

back

MPC Uncertainty: mechanisms



(a) Model



(b) Data

back

Dynamics in the model

- Unexpected positive shock to σ, force income to its mean value
- On average MPC slightly increases upon impact: Carroll and Kimball (1996)
- Thereafter, average MPC converges to value below pre-shock
- Test "short-run" effect in the data: does the model fare better?
  - FE regressions: correlation $\rightarrow 0$
  - Hypothetical scenarios

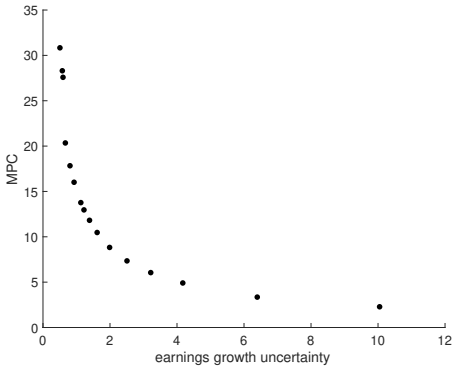
Data: uncertainty scenarios

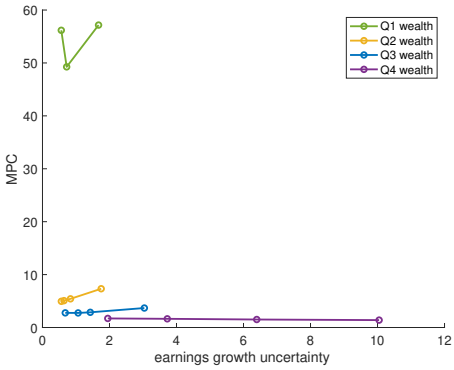
- Present households with hypothetical scenarios:
  - Next year earnings growth is equal to household's expected growth with certainty
  - Next year earnings growth is equal to household's expected growth $\pm$ x% with certain probabilities
- Ask MPC for each scenario
- Randomize scenarios across households to reduce cognitive burden
- Three survey waves with different uncertainty spreads

	(1)	(2)	(3)	(4)	(5)
Earnings Growth Uncertainty	0.136	0.130	-0.038	-0.038	-0.094
	(0.173)	(0.174)	(0.421)	(0.421)	(0.428)
Uncertainty Squared			0.028	0.029	0.032
			(0.065)	(0.065)	(0.066)
Controls		✓	✓	✓	✓
Year Dummies				✓	✓
Net liquid wealth over income					✓
Observations	5,703	5,653	5,653	5,653	5,379

back

“Conventional” MPC and Uncertainty





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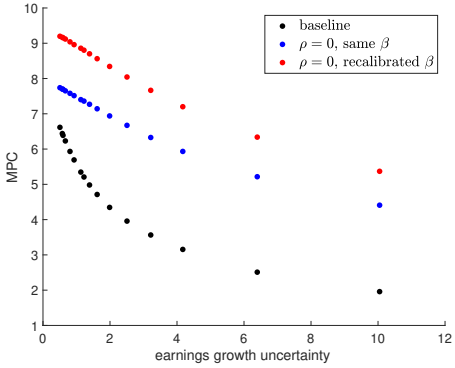
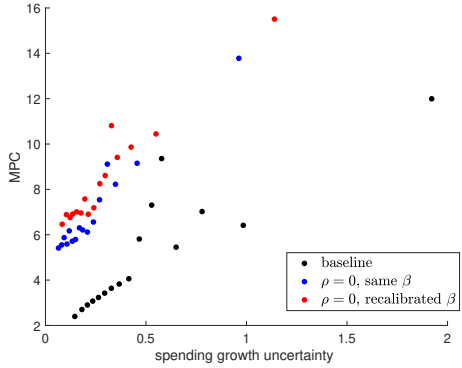
Robustness to ρ



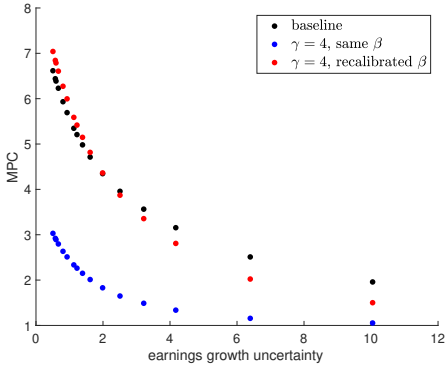
(a) Earnings



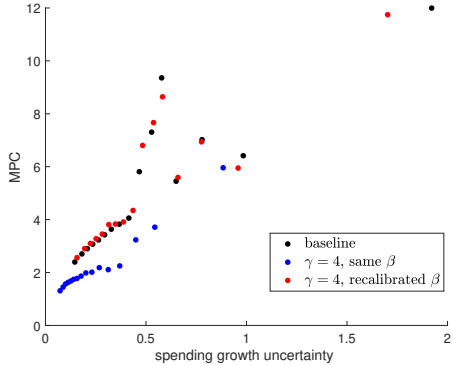
(b) Spending

back

Robustness to γ



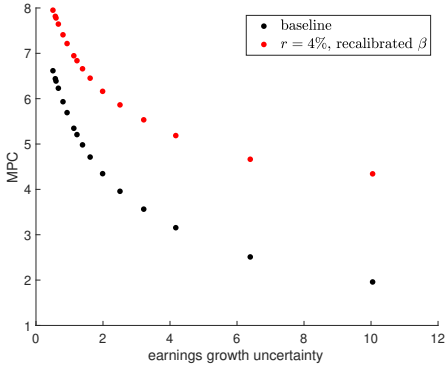
(a) Earnings



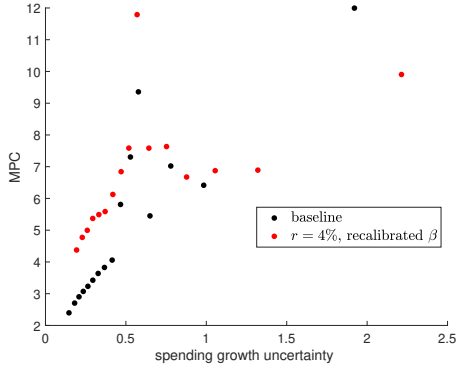
(b) Sending

back

Robustness to r



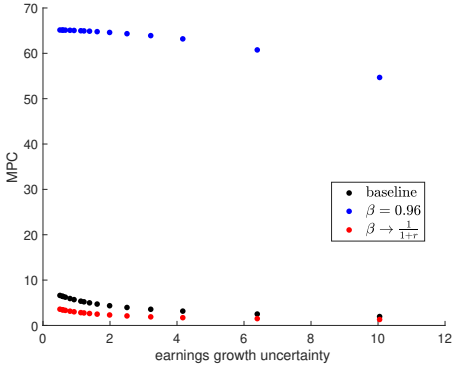
(a) Earnings



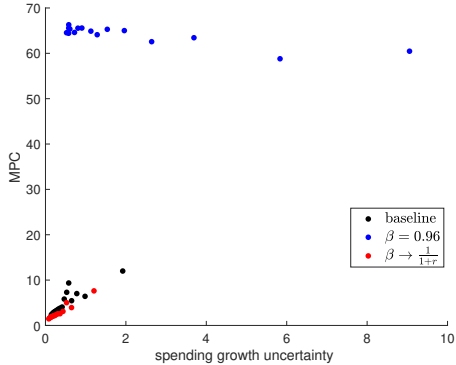
(b) Spending

back

Robustness to β



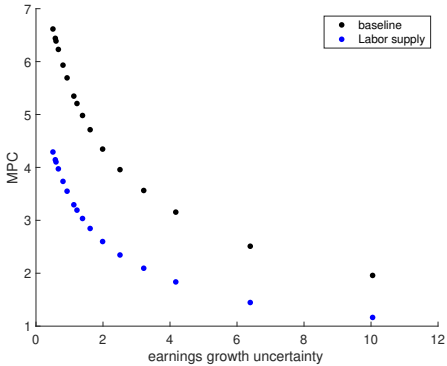
(a) Earnings



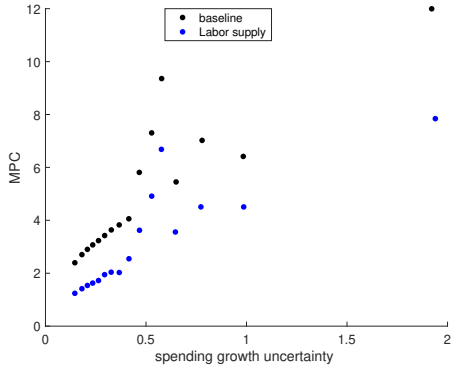
(b) Spending

back

Endogenous labor supply: $U = \frac{c^{1-\gamma}-1}{1-\gamma} - \varphi \frac{n^{1+\frac{1}{\kappa}}}{1+\frac{1}{\kappa}}$



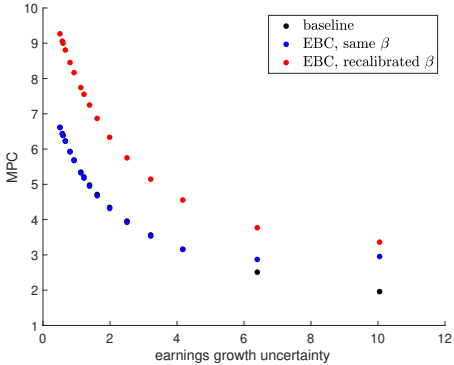
(a) Earnings



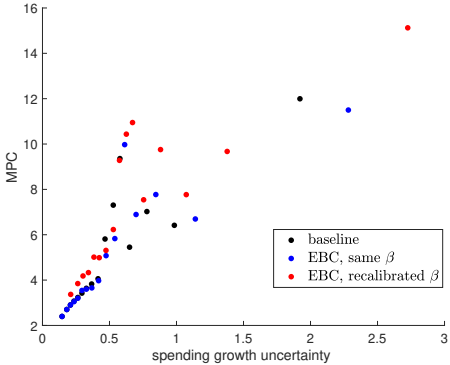
(b) Spending

back

Earnings-based constraint: $a' \geq -\psi y$



(a) Earnings



(b) Spending

back

Koşar, Melcangi, Pilossoph and Wiczer (2024)

$$V(a,z,\epsilon) = \max_{c>0, a'>a_{ndl}} u(c) + \beta E_{z',\epsilon'} V(a',z',\epsilon')$$

subject to :

$$c + q(a')a' - a = e^{z+\epsilon} + \tau$$
$$z' = \rho z + \eta$$

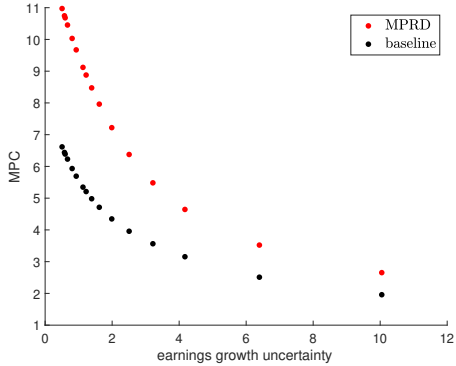
$$q = \begin{cases} \max\left[\frac{1}{1+r} - \phi_1 \left(-a'\right)^{\phi_2}, 0\right] & \text{if } a' \leq 0 \\ \frac{1}{1+r} & \text{if } a' > 0 \end{cases}$$

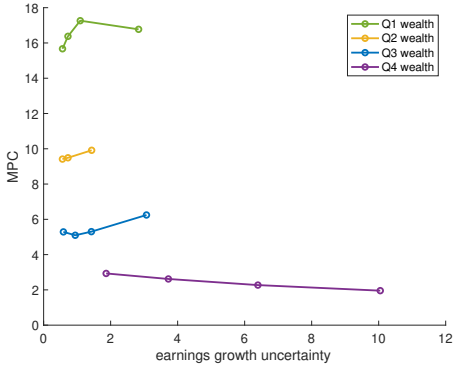
Debt repayment motive makes the consumption function convex (increasing MPCs)

back

Koşar, Melcangi, Pilossoph and Wiczer (2024) + het. risk

- If low-risk households are more likely to be net borrowers...
- ...and borrowers's MPCs increase with net assets...
- $\rightarrow$ CORR $(MPC, \sigma) > 0$ possible when $a < 0$, ceteris paribus
- However the effect is too "local" and price schedule raises the MPC level

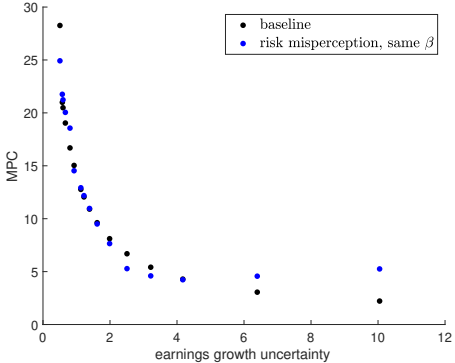




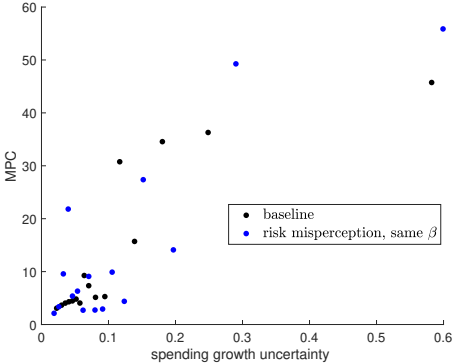
back

Risk misperceptions

- Households' *subjective* risk from the SCE
- Earnings realizations consistent with homogeneous (median) risk
- Low (high) uncertainty under (over) estimate risk



(a) Earnings



(b) Spending

back

Imperfect problem solvers + risk heterogeneity

- Ilut and Valchev (2023): bounded rationality
- Interaction between automatic thinking (intuitive associations) and analytical thinking (cognitively costly)
- Agents perfectly observe states, but are uncertain about policy function c^*
- Helps with existing MPC puzzles:
  1. Learning traps: persistent hand-to-mouth
  2. Large MPCs of liquid households
- Extend their model with risk heterogeneity
- Does this model help with our puzzle too?

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