Rising Income Risk at the Top and Falling Interest Rates: Evidence from 50 Years of Tax Returns

Discussion

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*Disclaimer: The views expressed herein are those of the authors and do not necessarily reflect those of the Federal Reserve Bank of Chicago or the Federal Reserve System.

Summary

Income Process

Measure evolution of permanent and transitory income risk over time & across incomes

Income is the sum of permanent and transitory components: $\log Y_{it} = z_{it} + \omega_{it}$

Permanent component $z_{it} = z_{i,t-1} + \nu_{it}$ with $\nu_{it} \sim \mathcal{N}(B_t(r_{i,t-1}), Q_t(r_{i,t-1}))$

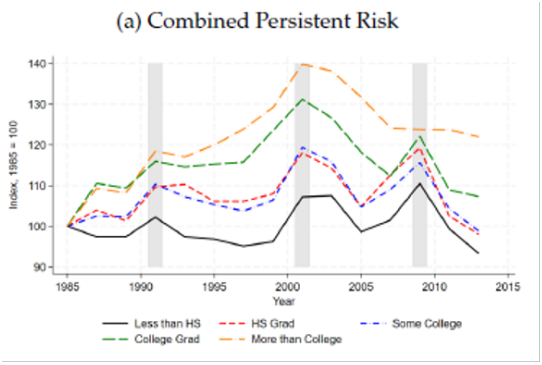
Transitory component $\omega_{it} \sim \mathcal{N}(0, R_t(r_{i,t-1}))$

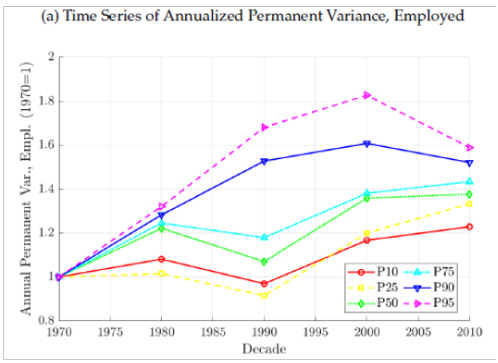
Variance of innovation can vary with time and individual's prior earnings percentile $r_{i,t-1}$

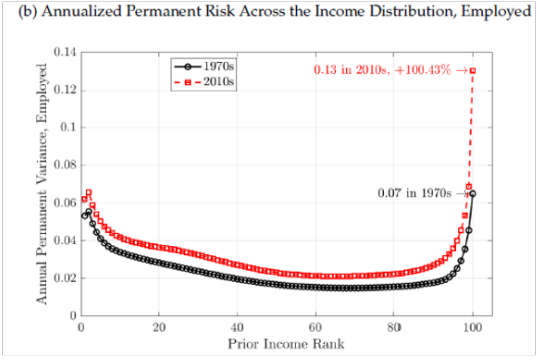
Previous paper imposed common variance (though could focus on sub-populations)

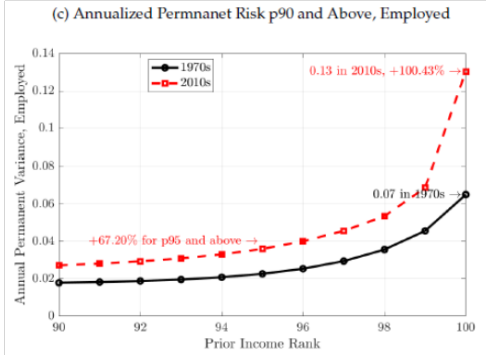
The previous paper contains lots of robustness checks (e.g., non-Gaussian income shocks) and technical details on the estimation procedure, so not the focus of this discussion

Empirical Findings, Old & New: Rising Risk at the Top









Main Contributions

1. Evolution of permanent and transitory income risk across incomes and over time

Similar identification as in authors' prior work, but generalized and with new data

Generalized: earnings risk differs by prior earnings level

(Awesome) new data: universe of IRS tax returns from 1969 to 2019

Main finding: income risk rose dramatically over time, especially so for top earners

2. Exploit cross-occupation variation to measure savings response: *capitalization* method

Main finding: Households respond to greater permanent income risk by saving more

3. Quantitative analysis: impact of higher risk on precautionary saving and eq'm rates

Standard Aiyagari model with non-homothetic preferences, calibrated to 1970

Main finding: rise in permanent income risk explains 25% of the interest rate decline

Comments

Using Tax Data to Measure Income Risk: A Caveat

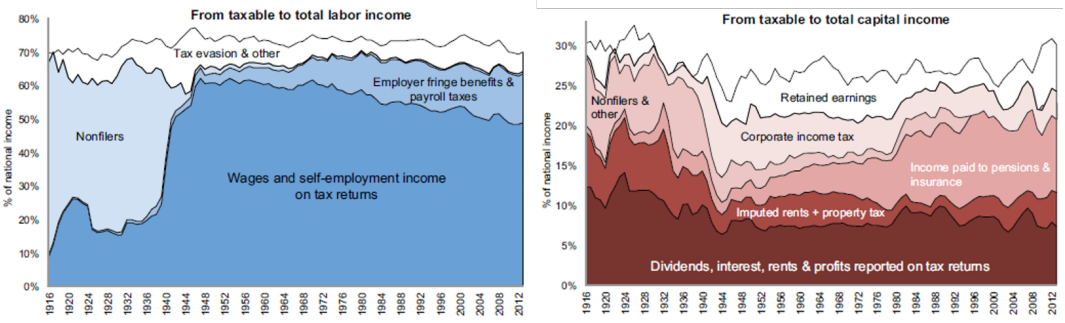
AGI: contains wages and salaries, business income, interest, dividends, capital gains

40% of nat. income is non-taxable: growing share with potentially specific risk properties

Employee fringe benefits are a growing source of labor income for the middle class

Large share of capital income goes to pension funds and is retained in corporations

Unrealized capital gains due to pure asset price changes are not taxed (nor in GNI)



Source: Piketty, Saez, and Zucman (2018)

What Explains the Rise of Top Income Risk?

The paper documents the rise in income risk, but does not (yet?) provide an explanation

Several plausible explanations could be driving the empirical findings, including:

1. Rising share of risky assets at the top
2. Rising incidence of performance-based labor compensations at the top
3. Innovation and creative destruction in high skilled occupations

(Many others: policy changes, occupational composition, labor market power, etc.)

Overarching point of this discussion: Modeling these mechanisms explicitly would impact equilibrium interest rates beyond the simple precautionary saving channel

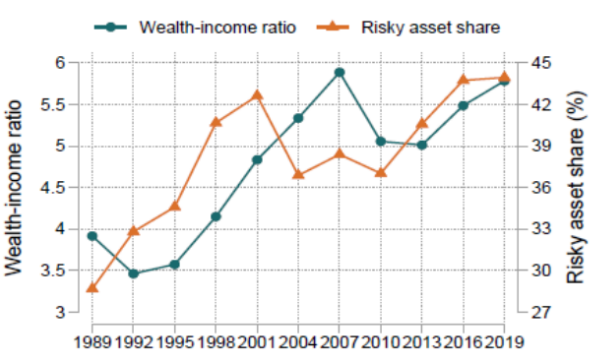
1. Rising Capital Income Risk

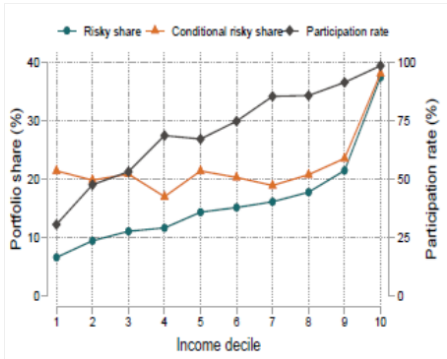
A large part of the rising income risk is due to a rising share of *capital income* at the top

Paper shows that the rich save more as a result... but could it be partly the converse?

Key point: richer agents save in riskier assets and earn higher rates of return

Non-homothetic preferences: agent gets richer ⇒ save more ⇒ income gets riskier





Source: Mijakovic (2024)

1. Rising Capital Income Risk

Is this an issue? The regression gives the impact of income risk at t on saving in $[t, t+h]$

- If saving is serially correlated, this may capture the effect of saving during $[t-h, t]$
- Relatedly, does capitalization measure *net* or *gross* saving? Latter could mechanically imply that higher risk (hence higher average return) leads to higher estimated saving
- Use measure of "true risk" (bankruptcy, foreclosure) as the independent variable?
- Estimate the impact of higher income risk on savings *within* asset classes?

Quantitatively: model assumes homogeneous risk-free return r^f (labor income risk only)

- Allow instead for heterogeneous risk aversion and endogenous portfolio choice
- Higher savings at the top reallocated toward riskier assets $\Rightarrow$ smaller decline in r^f
- Firms issuing risky assets are more productive: capital realloc. raises MPK (Mijakovic

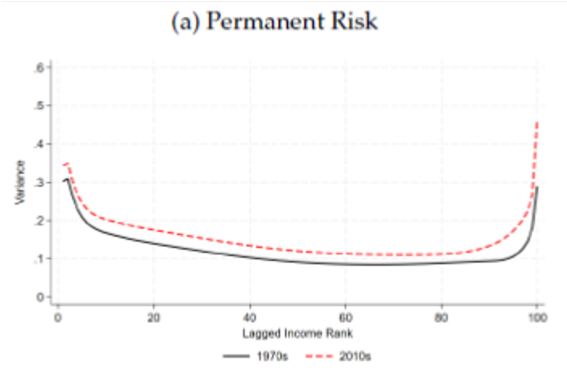
2. Rising Labor Income Risk

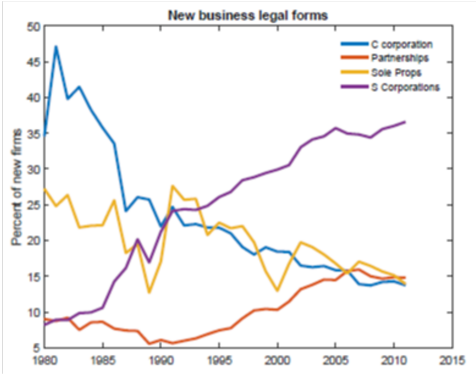
The paper shows that the rising share of income in risky assets is *not* the whole story

Important (understated?) finding: results still hold for wage and salary income (WSI)

The magnitude of the rise in top WSI risk is smaller, but still large: +60% (vs. +100%)

Accounting for the rise in S-corporations post TRA86 would reinforce this argument





Source (right panel): Dyrda and Pugsley (2019)

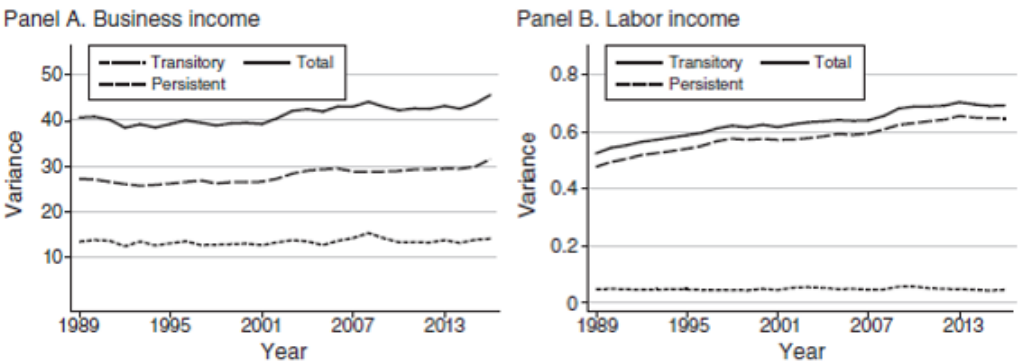
2. Rising Labor Income Risk

Tax incentives: declare business income as wages for C-corps vs. profits for S-corps

Hence we should count part of pass-through income as wages (Smith et al. 2023)

But pass-through income is much riskier than WSI (lesser extent for permanent risk)

This would thus amplify the measured rise in labor income risk between 1969–2019



Source: DeBacker, Panousi, Ramnath (2023)

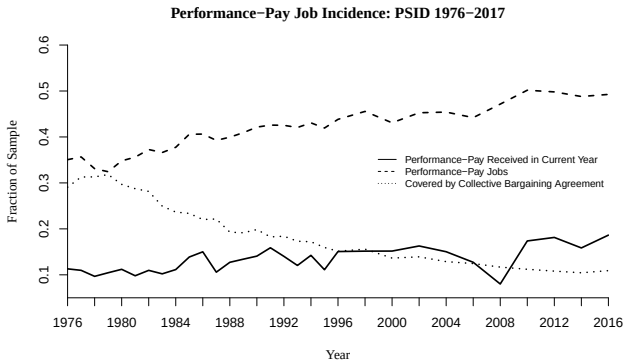
2. Rising Labor Income Risk

Is rising top labor income risk due to rising performance pay (bonuses, stock options)?

Model with heterogeneous risk aversion should account for selection into PP jobs

Given that the estimated savings response uses cross-occupation variation in income risk, the calibration may require more non-homotheticity in preferences

Also: stronger effort incentives from PP may raise the marginal product of capital



Source: Lemieux et al. (2009), updated to 2017

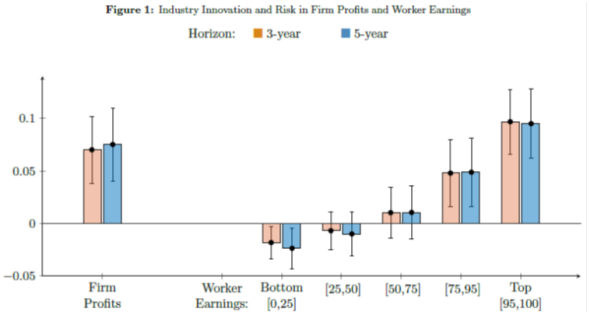
3. Technical Change

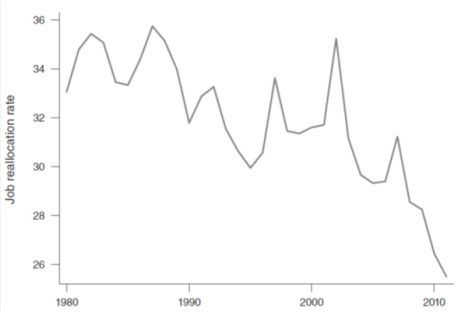
Potential key channel leading to rising income risk: innovation and creative destruction

Prior paper: risk grew most in high-skill occupations exposed to new technologies

Larry's other prior paper (Kogan et al. 2021): "*strong link between the rate of technological innovation and risk in worker earnings—particularly ... at the top*"

Observed declining top income risk since 2000 could then be consistent with (due to?) falling business dynamism and slowing productivity (Decker et al. 2016-17)





Sources: Kogan et al. (2021, left panel); Akcigit and Ates (2023, right panel)

3. Technical Change

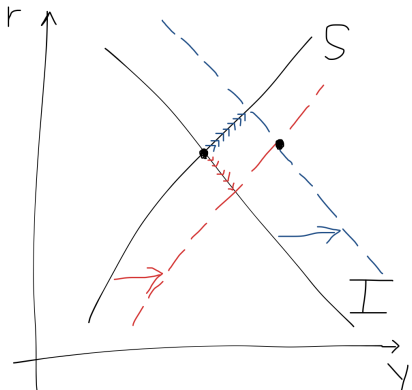
But higher growth also directly raises the equilibrium interest rate

Firm investment driven by TFP growth and future output

So not just savings supply (via higher income risk) *but also* investment demand rise

Quantify the total rather than partial effect on interest rate in quantitative model?

Note: This argument applies to the paper's current model, but with a risky asset it would partly muted as it's about MPK rather than r^f (see Moll Rachel Restrepo 2022)



Quantitative Model

Aiyagari w/ WSI risk: calibrate discount factor, curvatures of utility and bequest fctns

Targets: 1970 top wealth tail, impact of income risk on savings for the young and old

Missing risky returns, heterog. risk aversion, endogenous portfolio choice (see above)

Large changes (overall rise) in tax progressivity since 1969 affect saving incentives

Matching saving response *of the rich* to income risk: need more non-homotheticity?

Reverse calibration with 2010 rather than 1970 as a baseline: do you still obtain that 25% of the *rise* in interest rates is due to *falling* income risk?

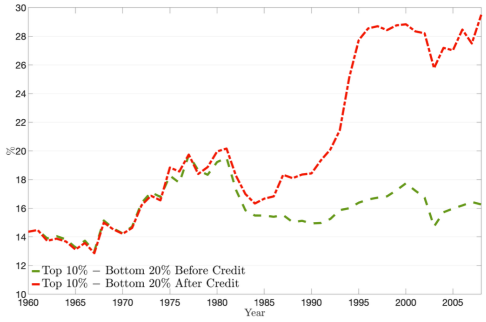


Figure: Before- and after-credit average tax rate: top-10% minus bottom-20%

Sources: Ferriere et al. (2020)

Conclusion

This is – unsurprisingly! – an excellent paper

- Novel & impressive data, important empirical question, insightful quantitative result
- Summary: income risk hugely rose over time, esp. at the top, lowering risk-free rate

For now it is mostly silent about mechanisms underlying rising income risk

- Matters not just per se, but also for the quantitative impact of risk on interest rates
- Rising capital income risk $\rightsquigarrow$ account for risky assets & endogenous portfolio choice
- Rising labor income risk $\rightsquigarrow$ account for heterogeneous risk aversion & self-selection
- Creative destruction channel $\rightsquigarrow$ account for the demand side of the capital market

Bonus: Explore data limitations further $\rightsquigarrow$ what about the non-taxable part of income?