Discussion of "Optimal Inflation Rate in a Heterogeneous Agent Economy"

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This Paper

- **Question**: what is the optimal inflation rate when considering heterogeneity?
  - *why* inequality matters: aggregate demand composition
  - *how* inequality matters: optimal inflation rate should be around 5%
  - model details
    - origins of heterogeneity (i.e., income and wealth inequality): risky labor income and saving technology ("money")
    - what does inflation do: a tax on wealth but provide equal intertemporal insurance
    - tradeoff: costs and benefits of inflation
- **A great paper** with solid technicality and important policy implications
  - HJB + KFE continuous time framework
  - optimal inflation rate can be expressed in terms of sufficient statistics
- **My discussion**: mostly from HANK (Heterogeneous Agent New Keynesian) literature

Comment #1: Money is Wealth

- **Key assumption**: household save all wealth in inflation-taxable and risky "money"

→ wealthier people are inflation-taxed more and have higher risk exposures

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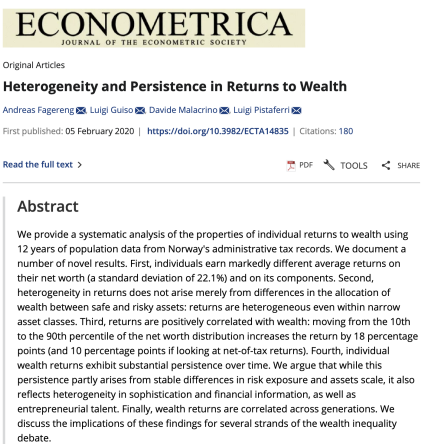
- **Is it true in the data?**



ECONOMETRICA
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Original Articles

Heterogeneity and Persistence in Returns to Wealth

Andreas Fagereng, Luigi Guiso, Davide Malacrino, Luigi Pistaferri

First published: 05 February 2020 | https://doi.org/10.3982/ECTA14835 | Citations: 180

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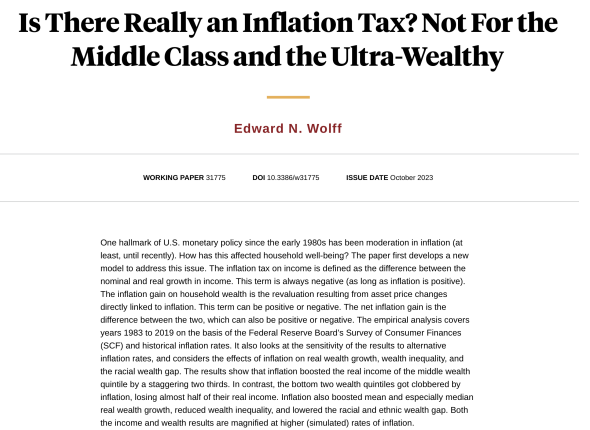
Abstract

We provide a systematic analysis of the properties of individual returns to wealth using 12 years of population data from Norway's administrative tax records. We document a number of novel results. First, individuals earn markedly different average returns on their net worth (a standard deviation of 22.1%) and on its components. Second, heterogeneity in returns does not arise merely from differences in the allocation of wealth between safe and risky assets: returns are heterogeneous even within narrow asset classes. Third, returns are positively correlated with wealth: moving from the 10th to the 90th percentile of the net worth distribution increases the return by 18 percentage points (and 10 percentage points if looking at net-of-tax returns). Fourth, individual wealth returns exhibit substantial persistence over time. We argue that while this persistence partly arises from stable differences in risk exposure and assets scale, it also reflects heterogeneity in sophistication and financial information, as well as entrepreneurial talent. Finally, wealth returns are correlated across generations. We discuss the implications of these findings for several strands of the wealth inequality debate.



Is There Really an Inflation Tax? Not For the Middle Class and the Ultra-Wealthy

Edward N. Wolff

WORKING PAPER 31775 DOI 10.3386/w31775 ISSUE DATE October 2023

One hallmark of U.S. monetary policy since the early 1980s has been moderation in inflation (at least, until recently). How has this affected household well-being? The paper first develops a new model to address this issue. The inflation tax on income is defined as the difference between the nominal and real growth in income. This term is always negative (as long as inflation is positive). The inflation gain on household wealth is the revaluation resulting from asset price changes directly linked to inflation. This term can be positive or negative. The net inflation gain is the difference between the two, which can also be positive or negative. The empirical analysis covers years 1983 to 2019 on the basis of the Federal Reserve Board's Survey of Consumer Finances (SCF) and historical inflation rates. It also looks at the sensitivity of the results to alternative inflation rates, and considers the effects of inflation on real wealth growth, wealth inequality, and the racial wealth gap. The results show that inflation boosted the real income of the middle wealth quintile by a staggering two thirds. In contrast, the bottom two wealth quintiles got clobbered by inflation, losing almost half of their real income. Inflation also boosted mean and especially median real wealth growth, reduced wealth inequality, and lowered the racial and ethnic wealth gap. Both the income and wealth results are magnified at higher (simulated) rates of inflation.

- endogenous exposure to inflation and hence the monetary policy effectiveness (e.g., two-asset HANK literature)

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- **Quantitative Easing?** household wealth m is no longer a state variable

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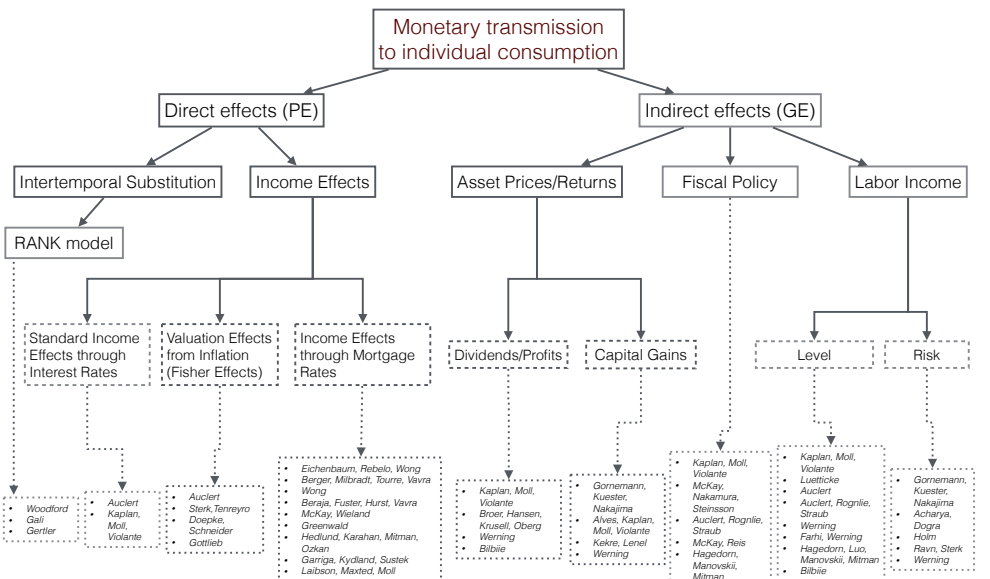
- **Is it true in the data?**
- **Quantitative Easing?** household wealth m is no longer a state variable
- "We could conclude that when the inflation rate is smaller than 0.07, which is quite usual in the US, **an increase in the inflation rate will benefit those earn less and damage those earn more**"

COMMENT #2: GE WITHOUT "GE" EFFECTS

- Monetary policy transmission: **income effects v.s. intertemporal substitution**
- Missing the **"GE" effects** of HANK literature

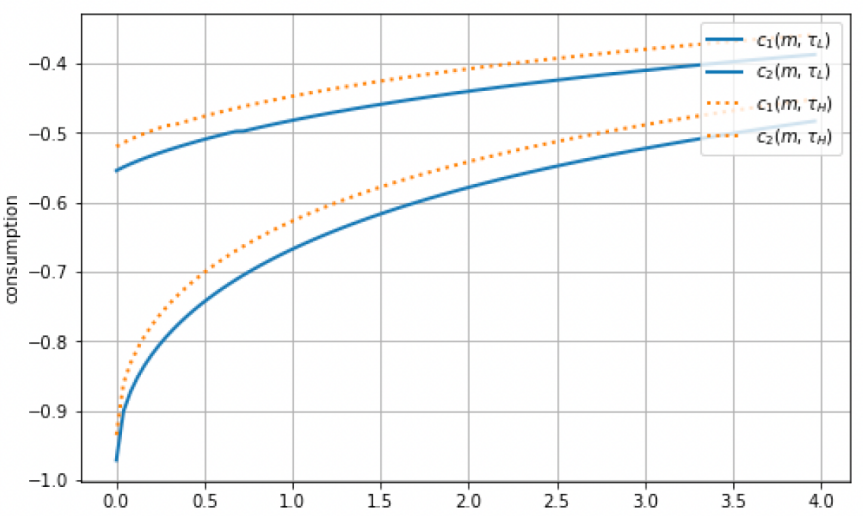


- In this paper: **systematic risk exposure has no risk premium compensation**

Comment #3: Can Monetary Policy do better?

- HANK: **monetary policy is a blunt tool for controlling aggregate demand**
  - traditional view with representative agent: "a rising tide raises all ships"
  - with heterogeneity: "some ships are lifted higher, others are sunk"

- This paper: monetary policy provides **limited** benefits for household with low productivity and low wealth



Comment #4: Position of the Paper

Abstract

We derive an optimal inflation rate schedule in an infinite-horizon Aiyagari-Bewley-Huggett economy with idiosyncratic risk in labor income and investment income. First, we solved the Mean-Field-Games with HJB equation and KFE equation and found that the wealth distribution in a special case with two income types has a generalized Pareto tail. In particular, there is also a Dirac mass point at the lower boundary with low income. Second, the optimal inflation rate can be expressed in terms of sufficient statistics using perturbation method. Third, upwind scheme in algorithm is designed to verify the theory and match data in reality. In extension, we set a model with firms and endogenous labor market and derived the relationship between inflation rate and the social welfare and inequality.

- However, no mention of the recent scholars in sufficient statistics literature: Ernest Liu, David Baqaee, Emmanuel Farhi, among many others

- One suggestion, just FYI:

Comment #4: Position of the Paper

ELSEVIER

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What measure of inflation should a developing country central bank target?

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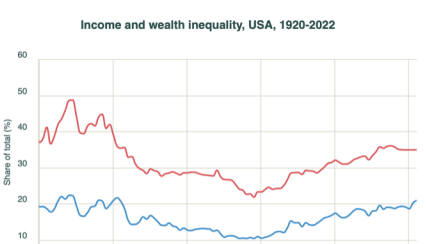

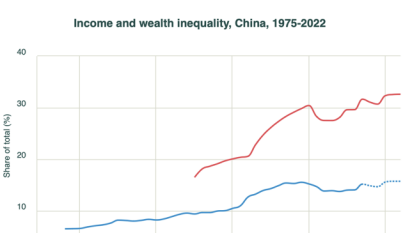

Minor Issues

- Use of **recursive preference** generates richer interesting implications
  - EIS: + on holding money
  - risk aversion: - on holding money
- More clarifications on **peculiar externality**
- Wealth share for 0-20 group is **negative** in the data?
- Matching outcomes for the **targeted moments** and **confidence intervals** for estimated parameter values are not provided
  - some parameter values, e.g., labor income processes $[z_1, z_2] = [1, 8]$, are unusual
- **One question**: is the Dirac point mass only for left-tail, even under a two-state-variable (z,m) framework?

```
# Borrowing Constraint
if (a ≈ amin) && (μa <= 0.0)
    va = (y + r * a)^(-γ)
    c = y + r * a
    μa = 0.0
end
```

A Great Paper!

- **Heterogeneity matters** when setting the optimal inflation target
- This paper: **an elegant framework** with inflation-taxable and risky saving technology
  - idiosyncratic risk insurance with aggregate risk
  - intrigue many possible extensions and future work
- Good luck with the publication!