Discussion of
Progressive Taxation and Monetary Policy in Australia

Ekaterina Shabalina

Sushant Acharya, University of Melbourne
September 2025

Question

How does tax progressivity affect monetary policy?

Answer

Paper finds that tax progressivity has basically **no effect** on monetary policy

Effect on $r^\star$

higher tax progressivity ⇒ more redistribution
⇒ ↓ precautionary savings ⇒ $r^\star$ ↑

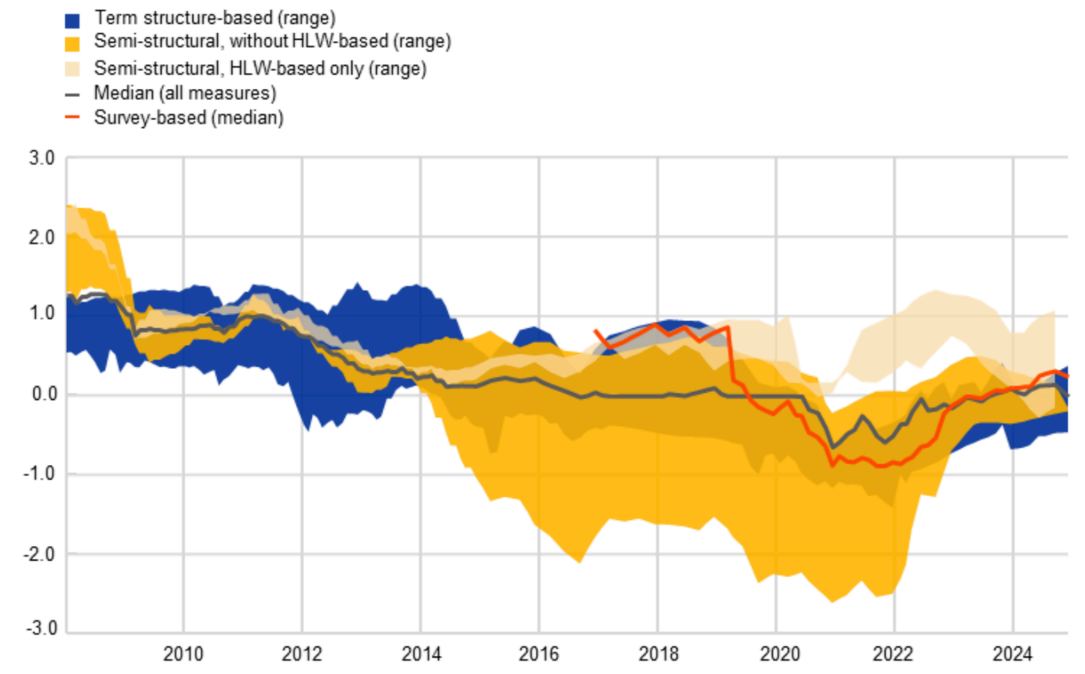
- Δtax progressivity in Australia since the GFC ⇒ ↑ $r^\star$ by 0.05%pt
- **more surprisingly:** moving from **no redistribution** halfway towards **full redistribution**, only changes $r^\star$ by only about 0.4%pt

Does this matter for policy?

- large uncertainty about what $r^\star$ is in general
- hard to argue that a 0.05%pt is relevant for the conduct of monetary policy

Real natural rates of interest in the euro area

(percentages per annum)



Sources: ECB calculations, Eurosystem estimates, Federal Reserve Bank of New York and Consensus Economics.
Notes: Estimates displayed for survey-based, term structure-based and semi-structural measures are based on the same measures referred to in the box entitled "Estimates of the natural interest rate for the euro area: an update", *Economic Bulletin*, Issue 1, ECB, 2024. The DSGE-based estimate is not included here. HLW-based measures, which do not ensure a stationary real rate gap, are displayed separately from other semi-structural measures. The latest observations are for the third quarter of 2024 for Holston, Laubach and Williams (2023), Grosse-Steffen, Lhuissier, Marx and Penalver (mimeo), and Carvalho (2023); and for the fourth quarter of 2024 for all other estimates.

Effect of tax progressivity on dy/dr

- simple TANK model:
  - utility function: $\sum_{t=0}^{\infty} \beta^t \frac{c_t^{1-\gamma}}{1-\gamma}$
  - fraction $\lambda \in (0,1)$ of HtM households who consume their entire income: $c_{h,t} = y_{h,t}$
  - HtMs differentially exposed to fluctuations in aggregate economic activity:

$$\frac{d \log y_{h,t}^{pre-tax}}{d \log y_t} = \chi > 1$$

  - 1% decline in GDP $\Rightarrow \chi > 1\,\%$ decline in HtM income

Effect of tax progressivity on dy/dr

- higher r_t initially only affects decisions of unconstrained:

$$\frac{dc_{u,t}}{dr_t} = -\frac{1-\lambda}{\gamma}$$

- this initial reduction in spending reduces income (and spending) of HtM households by

$$\frac{dc_{h,t}^{(1)}}{dr_t} = -\lambda\chi\frac{1-\lambda}{\gamma}$$

- which further reduces HtM income and consumption by

$$\frac{dc_{h,t}^{(2)}}{dr_t} = -\left(\lambda\chi\right)^2\frac{1-\lambda}{\gamma}$$ and so on…

- total effect:

$$\left|\frac{dy_t}{dr_t}\right| = \underbrace{\frac{1-\lambda}{\gamma}}_{\text{direct effect}} + \underbrace{\left\{\lambda\chi\frac{1-\lambda}{\gamma} + \left(\lambda\chi\right)^2\frac{1-\lambda}{\gamma}\ldots\right\}}_{\text{multiplier effect}} = \frac{1-\lambda}{1-\lambda\chi}\frac{1}{\gamma} > \frac{1}{\gamma} = \left|\frac{dy_t}{dr_t}\right|_{\text{RANK}}$$

- $\left|\frac{dy_t}{dr_t}\right|$ is increasing in χ

Effect of tax progressivity on dy/dr

- with progressive taxation

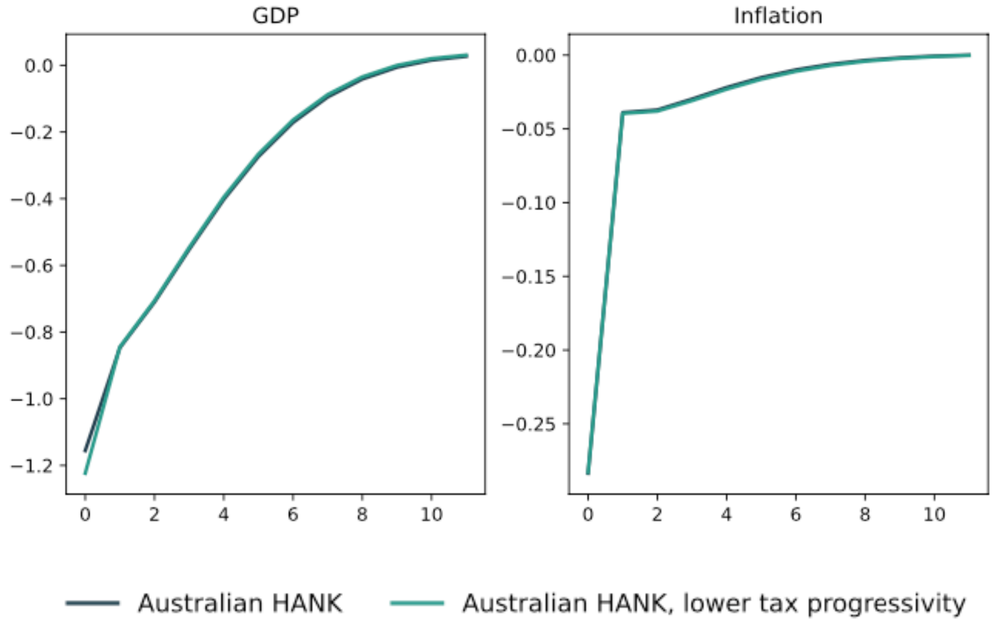
$$\log y_{h,t}^{post-tax} = \bar{\tau} + (1-\tau_p)\log y_{h,t}^{pre-tax} \qquad \text{for} \qquad \tau_p \in [0,1]$$

- higher τ_p $\Rightarrow$ smaller effective χ

$$\chi^{\text{post-tax}} \approx \tau_p + (1-\tau_p)\chi^{\text{pre-tax}} < \chi^{\text{pre-tax}}$$

- higher τ_p $\Rightarrow$ smaller $\left|\frac{dy_t}{dr_t}\right|$ because multiplier effect is weaker

Effect of tax progressivity on dy/dr



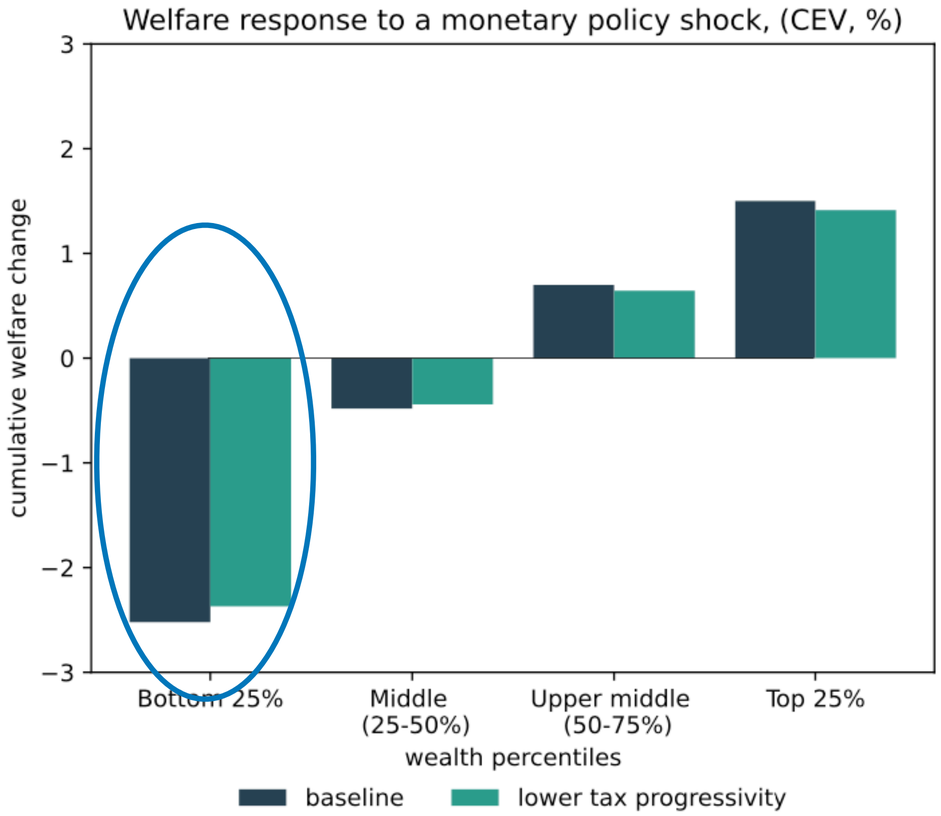
- **qualitatively:** consistent with simple model
- **quantitatively:** effectively **no difference** between output and inflation responses
  - perhaps because $\Delta\tau$ is small
  - or is it something else that is responsible for this result?

A brief digression

- relative to RANK, in HANK there is a very long list of model features such as (i) specification of **fiscal policy**, (ii) cyclicality of income heterogeneity and risk, (iii) cyclicality of profits…
- …which have strong implications for the answer to the question: "**How does a change in X affect outcomes in HANK?**"
- because so many factors affect outcomes in HANK, it's **hard to know whether conclusions about effect of X are robust across models**
- this research program has been quite **model-driven** rather than **problem-driven.**
    - hard to pick which dimensions to check robustness in
- a useful guiding principle at central banks: **for what practical purpose would a policymaker need to know how X affects outcomes in HANK?**

Distributional consequences

- paper also studies **distributional effects of a monetary policy** tightening by comparing x-sectional welfare across two economies with different τ_p



- paper concludes: **"with a higher tax progressivity distributional effects of monetary policy are larger"**
- **welfare of lowest quartile** is **more sensitive to the mp shock** with higher progressivity.
- **this conclusion can be misleading:** because higher progressivity $\Rightarrow$ $\uparrow$ **avg. welfare of lowest quartile even though welfare is more sensitive to the mp shock**

Distributional consequences

- suppose more progressive taxes **increase welfare of poorest by 5% on average**
- **…**but also **increases** the **sensitivity of their welfare to a 1 s.d. shock by 2 percentage points**
- If you only look at the sensitivity to the shock, it looks like poor are in more precarious position after the tax reform, but this is misleading
- **why: because average welfare of poorest is higher under more progressive taxation**

- this is a **methodological issue**
  - Benigno Woodford (2004): 1st-order accurate welfare requires 2nd-order accurate dynamics
  - characterizing 2nd-order dynamics is very challenging in HANK: Reiter method, sequence space Jacobian etc only deliver 1st-order accurate dynamics
  - 1st-order dynamics **cannot** be used to compare welfare from policies which yield different average welfare

Summary

- HANK models can be very useful tools for central banks trying to fully understand the transmission mechanism of monetary policy, and its redistribution implications

- But there are **serious methodological challenges** ahead

  - very important to ascertain what are the essential model features to capture trade-offs that monetary policy faces

  - very important to get the **fiscal response** correct, as the lack of Ricardian equivalence ⇒**fiscal policy mediates the effect of monetary policy onto the real economy**

  - assess robustness of the main results to alternative assumptions. This is cheap advice that can be given in response to any model but it seems especially important in this literature

  - develop methodology which allows us to compute higher-order dynamics so that we can compare the systematic welfare implications of different policy frameworks

END

Extra: Distributional consequences

- suppose on average the economy produces 🍎 $\times 10$
  - **without redistribution: A** gets 🍎 $\times 2$, while **B** gets 🍎 $\times 8$
  - **with redistribution:** A gets 🍎 $\times 5$, while **B** gets 🍎 $\times 5$
- suppose that following a monetary tightening economy produces 🍎 $\times 5$
  - **without redistribution: A** gets 🍎 $\times 1$, while **B** gets 🍎 $\times 4$
  - **with redistribution:** A gets 🍎 $\times 2$, while **B** gets 🍎 $\times 3$
- **A** is unambiguously better off with more redistribution
  - gets more in both states of the world with redistribution (5 vs 2 and 2 vs 1)
  - But only looking at sensitivity wrt mp shock gives wrong conclusion