Non-technical summary for 'HANK and the Transmission of Shocks to Demand and Supply'

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What did we set out to do?

In recent years, central banks have shown increased interest in understanding how different types of economic shocks (such as changes in monetary policy, labour supply and firm profitability) impact economies with varying household circumstances. Our research aims to explore these dynamics using a heterogeneous agent New Keynesian (HANK) model, with individual labour income outcomes calibrated specifically for the Australian economy.

By incorporating diverse household income and wealth levels, the HANK model allows us to study how shocks to demand (like changes in monetary policy) and supply (such as shifts in labour supply or firm mark-ups) propagate throughout the economy. We aim to assess whether these shocks transmit to aggregate outcomes differently in the presence of heterogeneity, as well as whether they affect households differently based on their financial situations. In particular, we are interested in how responses compare with a more conventional representative agent New Keynesian (RANK) model.

What did we learn?

From our analysis, we compiled the following key findings about the transmission of shocks in the HANK model compared with a traditional RANK model:

- **Inflation dynamics:** Inflation responses were broadly similar across both models, suggesting that nominal shocks can still have a strong impact even when household diversity is considered.
- **Muted real effects:** The HANK model showed that shocks to demand and supply have a dampened impact on the real economy – consumption, output and real wages – relative to the RANK model. This dampening occurs because households respond differently based on their savings and income levels, with wealthier households better able to smooth consumption through economic shocks. However, much of the literature finds that responses to shocks are amplified with heterogeneity, suggesting that further research is needed for Australia.
- **Distributional differences:** The way households adjust their consumption, work and savings decisions varies significantly across the wealth distribution. For instance, while middle-income households might increase consumption after a monetary easing, low-income households might not, as they prioritise building precautionary savings. Moreover, monetary easing reduces wealth inequality, while the negative supply side shocks considered here tend to raise it.
- **Supply shocks and homogeneity:** Shocks that initially affect firms (such as changes in how inputs can be substituted for each other) show more uniform effects across households, compared with shocks that directly affect household behaviour (like labour supply shifts) and are less impactful for wealth inequality. This suggests that household diversity is more important for understanding shocks that directly impact personal economic decisions.

What was our key takeaway?

Our findings indicate that accounting for household differences can provide a better understanding of how economic shocks impact the economy. While traditional models focus on aggregate demand, heterogeneous agent models like HANK offer a more nuanced view that capture the varied experiences of different households. Our approach highlights the importance of distributional effects in economic policymaking, especially during periods of significant economic change or policy adjustment.