Macroeconomic Stabilization and Endogenous Inequality in a TANK Model with Dual Nominal Rigidities

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Abstract

This paper studies how household heterogeneity and dual nominal rigidities jointly shape macroeconomic stabilization in a tractable Two-Agent New Keynesian (TANK) model. Starting from the full log-linearized system, I derive a compact five-equation canonical representation consisting of a TANK IS curve, a price Phillips curve, a Taylor rule, an aggregate real wage equation, and a law of motion for wage dispersion. The reduction isolates the distributional block while preserving the model's aggregate transmission mechanism.

The main analytical result is that wage rigidity makes cross-sectional wage dispersion an endogenous variable in the model's state-space representation. In a sticky-price-only heterogeneous economy, distributional effects remain active but essentially static. With sticky wages, by contrast, wage dispersion becomes history dependent and affects current aggregate demand through consumption dispersion. As a result, inflation stabilization alone does not generally eliminate the macroeconomic effects of inequality.

I then derive a benchmark history-dependent transfer rule that responds to the inherited distributional state. Under this rule, wage dispersion is shut down on impact, and consumption dispersion disappears from period $t \geq 1$ onward. From that point forward, the heterogeneous economy becomes allocation-equivalent to the corresponding representative-agent benchmark with the same nominal rigidities. This result is best interpreted as an analytical implementation benchmark rather than a literal policy prescription.

The paper also identifies a direct expectation effect of anticipated future transfers on current wage dispersion. This isolates the first step in a redistributive forward-guidance channel without claiming a complete general-equilibrium characterization.

Quantitative impulse-response exercises compare a passive-transfer TANK economy, a sticky-price-only TANK limiting case, a representative-agent benchmark, and an active-transfer regime. The results show that wage rigidity amplifies and prolongs the real effects of shocks under passive transfers, while the history-dependent transfer rule removes the inherited distributional state and restores the benchmark allocation. The paper therefore provides a tractable framework for studying stabilization, redistribution, and endogenous inequality in a unified setting.

Keywords: TANK, nominal rigidities, endogenous inequality, canonical representation, history-dependent transfers

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