CATO
RESEARCH
BRIEFS
IN ECONOMIC POLICY
January 12, 2022 Number 282

Expansionary Monetary Policy Increases Inequality

By Asger Lau Andersen, Niels Johannesen, and Mia Jørgensen, University of Copenhagen; and José-Luis Peydró, Imperial College

Recent theory highlights the role of households that differ in wealth, income, and age in monetary policy transmission. When households differ in terms of balance sheets and occupations, monetary policy shocks affect their incomes and wealth differently. For instance, when the central bank reduces the policy rate, debtors may benefit from a drop in interest expenses, the unemployed from job creation, entrepreneurs from higher demand, and homeowners from increasing property prices. The distribution of gains and losses is crucial for two reasons. First, it matters for the direct and indirect ways through which monetary policy operates; it influences the overall effects of monetary policy because households have different propensities to consume with changes in income. Second, it defines how monetary policy affects inequality in society.

Our work draws on rich administrative microdata to analyze how monetary policy affects income, wealth, and a proxy for consumption of durable goods at different positions in the income distribution. Moreover, we shed light on the various channels of monetary policy by studying how changes in, for instance, interest expenses, housing prices, salaries, and business income contribute to the overall effects at each income level. Finally, we lay out the implications for inequality by studying how monetary policy affects income shares throughout the entire income distribution.

Our main data source is individual-level tax records for the entire population in Denmark that has detailed information about income and balance sheets for the period 1987–2014, which includes more than 70 million individual-year observations. In the tax records, we observe all major components of households' disposable income (e.g., salaries, dividends, and interest expenses) as well as the main balance sheet components (e.g., housing, stocks, and debt). This information is generally reported by third parties, such as employers and financial institutions, so mismeasurement due to tax evasion is therefore limited. Matching observations on unique personal identifiers, we combine the tax

Editor, **JEFFREY MIRON**, Harvard University and Cato Institute.

records with other administrative data sources: the auto register with information on car purchases (an important component of durable consumption) as well as the population register with information on demographics, place of residence, and household structure. This granular information allows us to estimate how monetary policy affects the income, wealth, and consumption dynamics of households at different income levels and over different time periods. Specifically, we consider 21 income groups (0–5th percentile, . . . , 95–99th percentile, and the top 1 percent).

Our first set of results concerns the effects of monetary policy on disposable income. We find that softer monetary policy increases disposable income at all income levels. However, the gains are highly uneven across income groups and increase with income levels: a one percentage point decrease in the policy rate raises disposable income by less than 0.5 percent at the bottom of the income distribution, by around 1.5 percent at the median income level, and by more than 5 percent for the top 1 percent income level over a two-year period. The estimated effects tend to grow over a one-year horizon.

Consistent with theory and the perceptions of policymakers, we also find that softer monetary policy has the largest effect on salary income at relatively low income levels, reflecting a sizable increase in employment for this group. However, most other channels of monetary policy disproportionately impact higher-income groups. First, gains in the form of higher business income and stock market income (indirect channels) are highly concentrated at the top of the income distribution. Second, gains in the form of lower interest expenses (a direct channel) increase with income level, which mainly reflects that higher-income households have more debt relative to their disposable income. Summing up all the channels, the gains from a lower monetary policy rate increase at higher levels of the income distribution.

Our second set of results concerns the effects of monetary policy on asset values through changes in property prices and stock prices. We find that softer monetary policy creates capital gains for all income groups with a pronounced positive income gradient: over a two-year horizon, a one percentage point decrease in the policy rate increases asset values by around 20 percent of disposable income at the bottom of the income distribution and by around 75 percent of disposable income at the top. Compared with the previous set of results, this suggests that the effects of softer monetary policy on appreciation of assets are generally much larger—more than an order of magnitude at all income levels—than the effects on disposable income. The gradient largely reflects that households at higher income levels hold more assets relative to their disposable income and, to a lesser extent, that the asset returns created by monetary policy are higher than gains in disposable income: expressed relative to total asset values, the estimated increases in asset returns range from around 6 percent at the bottom income level to around 8 percent at the top.

As a first extension of our analysis, we study the distributional effects of monetary policy on consumption and wealth accumulation. We find that the consumption and net wealth gains of softer monetary policy are both highly unequally distributed. The effects on net wealth are strikingly similar to the estimated price effects on asset values.

Second, we investigate the role of household debt in the transmission of monetary policy. We find that within income groups the estimated effects on disposable income, housing wealth, and consumption increase with financial leverage. While these results point to an important role of debt in mediating monetary policy, significant variation remains after accounting for leverage. Notably, the top 1 percent enjoy larger gains from softer monetary policy than any other income group at each level of leverage (e.g., stock market returns due to softer monetary policy are larger for the group without leverage within the top 1 percent).

Third, as exposure to the various channels of monetary policy systematically varies with age, we also examine the distributional effects of monetary policy in the age dimension. We find that the effects of monetary policy on the disposable income of age groups are distributed in a hump shape: the effects are largest for the middle-aged and almost zero for the young and the elderly. This pattern reflects a host of differences; for instance, that the middle-aged are more often self-employed and have more debt than other age groups and therefore benefit more from higher business income and lower interest expenses when the policy rate is lowered. By contrast, the effect on asset values increases with age, reflecting that the average portfolios of stocks, as well as housing assets, are increasing

with age. In sum, softer monetary policy creates the largest benefits for the middle-aged through income and for the elderly through asset prices, while the young benefit very little through either channel.

Finally, we find that softer monetary policy unambiguously increases income inequality by raising the income shares at the top of the income distribution and lowering them at the bottom. Specifically, accounting for direct as well as indirect channels, reducing the policy rate by one percentage point raises the share of total disposable income for the top 1 percent by around 3.5 percent over a two-year horizon and lowers it by almost 2 percent for the bottom income group.

NOTE

This research brief is based on Asger Lau Andersen, Niels Johannesen, Mia Jørgensen, and José-Luis Peydró, "Monetary Policy and Inequality," Department of Economics and Business, Universitat Pompeu Fabra, Economic Working Paper no. 1761, March 2021, https://econ-papers.upf.edu/papers/1761.pdf.