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A tail of labor supply and a tale of monetary policy

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Do people adjust how much they want to work when the central bank's monetary policy stance shifts? More specifically, does an interest rate hike induce individuals to work more or fewer hours? And does this effect differ across households with different levels of income (or earnings)?

Macroeconomic models typically assume that aggregate shocks affecting disposable income have little or no impact on the supply of hours worked. The scope of this paper is to revisit this assumption and study the transmission mechanism of monetary policy to the labor supply decisions at the individual/household level in the U.S. and in the U.K. We ask if the effects of monetary policy shocks on labor supply differ with different levels of income (or earnings).

Empirical Evidence

Our contribution to the literature is twofold. First, we provide novel and robust evidence of heterogeneous responses and find a strong countercyclicality of hours worked in the left tail of the income distribution, following a monetary policy shock. That is, while aggregate hours and labor earnings decline, employed individuals at the bottom of the income distribution increase their hours worked in response to an interest rate hike. Moreover, their response is stronger in magnitude relative to other income groups.

For the US we estimate an increase of 0.5% in the hours worked of employed individuals in the 5-30% bin of the earnings distribution after one year since an interest rate hike of 100 basis points.

Theoretical implications

Our second contribution is to study this response theoretically. To gain intuitions, we start by abstracting from movements in the extensive margin and focus only on the intensive margin. A strong, and heterogenous, income effect on *poor* Hand-to-Mouth (HtM) labor supply is the simplest channel that allows replicating our empirical findings. We stress 'poor' because the left tail of the

earnings distribution is quantitatively more relevant for aggregate hours than it usually is for aggregate consumption.

We show that this setup generates interesting implications for the effectiveness of monetary policy transmission. We uncover a novel channel of monetary policy transmission via inequality on aggregate demand which operates through the different intratemporal leisure-consumption substitutions across households. Usually, we assume that HtMs need to adjust their consumption one to one with their disposable income. However, HtM that remain employed in a downturn, have another margin of adjustment that operates via the labor supply. They can make up part of their reduction in income by working longer hours. Hence, reducing the elasticity of aggregate demand to monetary policy.

Finally, we build a quantitative model that includes, amongst other ingredients, the extensive margin of labor supply, segmented labor markets with capital/skill complementarity, the unequal incidence of unemployment across agents, and the firms' labor demand adjustments across the intensive and extensive margin. We show that the intensive margin in the left tail of the labor supply significantly reduces the otherwise standard amplification of monetary policy via inequality generated by its effect on the extensive margin.