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The Impact of Monetary Policy on Functional Income Distribution: a Panel SVAR Analysis
(1970-2019)

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In most countries, global financial crisis has increased income and wealth inequality. At the lower end of income distribution real household incomes fell substantially in countries hit hardest by the great recession (OECD, 2015). Rising inequality can have many macroeconomic repercussions from both the real and financial perspectives. For example, Hsing (2005) shows that a higher Gini index hurts economic growth. Moreover, Rajan (2010) indicates that rising inequality is one of the main causes of a financial crisis. Since the 2008 crisis, major central banks have adopted highly expansionary conventional and unconventional monetary policies. Hence, several policymakers have shown attention to the distributional effects of such policies (e.g., Bernanke, 2015; Draghi, 2015). However, there is no consensus in the empirical literature on the impact of monetary policy shocks on inequality (Colbion et al. 2017; Davtyan 2017).

Nonetheless, it should be noted that the literature is mainly focused on the effects of monetary policy on personal income distribution, and not on functional income distribution. There are several connections between both. In particular, our goal is to shed light on the effects of monetary policy on the distribution of income between wages and profits. We briefly recall some major contributions to such literature. Then, we propose our strategy to contribute to such strand of analysis.

To start with, Christiano et al. (1997) apply a recursive Structural Vector Autoregressive model (SVAR) to a U.S. dataset over a period from 1965 to 1995 and consider the effects of a contractionary monetary policy shock on several quarterly variables, among which real wages and the ratio of profits to nominal output. They find that after a contractionary monetary policy shock real wages decline. Christiano et al. (2005) apply a similar analysis again to the U.S. and find that an expansionary monetary policy has a positive effect on productivity, real wages and profits. Moreover, Sims and Zha (1998), using policy shock measures that are not based on the recursiveness assumption, find results similar to those cited above. In contrast, in Altig et al. (2011), SVAR estimates do not show a significant response of real wages to a monetary policy shock.

More recently, Cantore et al. (2021) apply SVAR techniques to assess the effect of monetary policy on real wages and the labour income share. They analyze the Great Moderation period for the US,

Canada, Euro Area, Australia, and UK. The results indicate that a restrictive monetary policy has a negative effect on real wages and labor productivity. However, the labour share turns out to increase because labor productivity suffers a negative effect stronger than that on real wages. Hartwig and Lieberknecht (2020) estimate a Bayesian SVAR, using quarterly U.S. data from 1993:Q2-2017:Q4, to provide empirical evidence about the influence of monetary policy shocks on corporate profits, real wages, firm dynamics, and aggregate productivity. Evidence seems to show a positive effect of an expansionary monetary shock on GDP and corporate profits due to the stimulus imparted to aggregate demand (as in Lewis and Poilly 2012). Wages and salaries respond comparably sluggishly and rise only slowly over the medium-run.

With reference to the works hitherto reviewed, we will contribute in three main aspects. First, we specifically address the impact of functional income distribution in terms of real wages and the rate of profit. Second, we make use of a novel cutting-edge panel dataset of twenty advanced economies. Third, we control for the effect of aggregate demand fluctuations to better capture the influences of monetary policy on functional income distribution.

The rate of profit is a crucial variable to analyse, given its importance in a capitalist economy. Taking stock of the contribution given by Basu et al. (2022), who provide an innovative dataset on profit rates covering the bulk of countries throughout the world, we will carry out our enquiry for a list of twenty advanced economies during the period 1970-2019. The measure of the rate of profit used is the product of the profit share times output-capital ratio. Such a measure constitutes the yearly rate of profit realized under current demand conditions. In order to better frame the effects of monetary policy on functional income distribution alone, we need to control for aggregate demand fluctuations. We do so by correcting the rate of profit for a measure of capacity utilization. Such a measure will be estimated by resorting to a methodology proposed by Shaikh (2016), whereby cointegration between output and the stock of capital is exploited. In line with the empirical literature, we make use of annual data provided by different sources to obtain time series compatible with the abovementioned 1970-2019 time span. The short- and long-term interest rates were taken from the AMECO dataset, OECD, and the Jordà-Schularick-Taylor Macrohistory Database (Jordà et al. 2017). GDP, price level, and real compensation of employees measures were retrieved from the AMECO dataset and OECD.

Then, in order to detect the macroeconomic effect of monetary policy on functional income distribution, we make use of a fixed effects Panel SVAR model. This methodology enables us to isolate exogenous shocks to selected macroeconomic variables. Moreover, it takes into account responses to both idiosyncratic and common structural shocks, while permitting full cross member heterogeneity of the response dynamics (Pedroni, 2013, p. 180). In line with Christiano et al. (2005), Castelnuovo and Surico (2010), Cantore et al. (2021), exogenous monetary policy shocks will be identified through a recursive approach based on a Cholesky factorisation. Finally, we will estimate the forecast error variance decompositions (FEVDs), that show how

much of the forecast error variance of each variable can be explained by shocks to the other variables.

We expect to find evidence that buttresses the case for considering the role of monetary policy in shaping functional income distribution as a relevant transmission channel to be included in the list of effects policymakers ought to take into account when devising appropriate monetary crackdowns.

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