The distributive effect of monetary policy: The top one percent makes the difference

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ABSTRACT

The paper evaluates the distributional effect of monetary policy. The empirical analysis is implemented for the USA, where the dynamics in income inequality is mainly driven by the variation in the top one percent of the income distribution. The paper uses the inequality measures that represent the whole income distribution. The distributive effect of monetary policy is evaluated in the cases of different frequency data. To identify a monetary policy shock, the paper applies the contemporaneous and the long run identification methods. In particular, a cointegration relation is determined among the considered variables and the vector error correction methodology is used for the identification. The obtained results indicate that contractionary monetary policy decreases income inequality. These results can have important implications for the design of policies to reduce income inequality by giving more weight to monetary policy.

1. Introduction

Nowadays there are widespread concerns regarding growing income inequality and different fiscal policy measures are discussed to address it. However, monetary policy can also affect the distribution of income although its distributive effect is not extensively discussed. The objective of the paper is to contribute to this discussion by evaluating the effect of monetary policy on income inequality.

Distributive mechanisms are usually described through political economy arguments that specify some transmission channels between income inequality and economic growth (Acemoglu and Robinson, 2008; Benabou, 2000; Muinelo-Gallo and Roca-Sagales, 2011; Neves and Silva, 2014). According to these arguments, the distribution of income is implied to be implemented through fiscal policy. However, income is distributed also via monetary policy. Economic activities are regulated by macroeconomic policies, which include both types of policies. Though fiscal and monetary policies are used for comparatively different macroeconomic objectives (commonly to increase aggregate output and to control inflation, respectively), they also affect the same economic activities, such as the distribution of income.

Monetary policy can affect the income distribution through different transmission mechanisms. Inflation has a direct effect on income inequality through changes in the real valuation of financial and non-financial assets. In the case of the USA, studies show that inflation hits richer and older households whose asset holdings are typically imperfectly insured against surprise inflation (Doepke and Schneider, 2006; Doepke et al., 2015). Inflation is especially harmful for the poorest parts of the population. This is because poorer households tend to hold a larger fraction of their financial wealth in cash, implying that both expected and unexpected increases in inflation make them even poorer. Moreover, high inflation can create expectations of future macroeconomic instability and lead to distortionary economic policies (Romer and Romer, 1999). According to Bulir (2001), preceding inflation raises income inequality in following periods. As Albanesi (2007) demonstrates, a higher inflation rate is accompanied by greater income inequality. Accordingly, Villarreal (2014) shows that contractionary monetary policy decreases income inequality in Mexico. On the contrary, Coibion et al. (2012) find that contractionary monetary policy tends to raise economic inequality in the USA.

The estimated effects of monetary policy could depend on the representativeness of the inequality measures used in the empirical analysis. That is, the estimated effects might differ if they do not represent the whole income share of population, particularly the top one percent. In the USA, the dynamics of income inequality is mainly driven by the variation in this upper end of the distribution (Atkinson et al. 2011; Congressional Budget Office, 2011; Kenworthy and Smeeding, 2013). Moreover, it also affects the top shares of the world income distribution and, consequently, the world income inequality (Atkinson, 2007) since top income shares can be a proxy for inequality across the distribution (Leigh, 2007). Therefore, the paper evaluates the distributional impact of monetary policy in the USA by using the inequality measures that cover the whole income distribution, including the top one percent.

The distributive effect of monetary policy is evaluated in the cases of

quarterly and annual data. Correspondingly, the paper applies the contemporaneous and the long run identification of a monetary policy shock. In the latter case, the vector error correction methodology is used for the identification of a monetary policy shock since the paper finds a cointegration relation among the considered variables. The obtained results show that contractionary monetary policy reduces the overall income inequality.

The rest of the paper is organized as follows. Section 2 reviews the related literature and the distribution channels. Section 3 discusses the empirical methodology. Section 4 describes the data and Section 5 provides the results. Section 6 contains the concluding remarks.

2. Literature review and distribution channels

2.1. Literature review

There are not many empirical papers devoted to the examination of the effect of monetary policy on income inequality in academic literature (Coibion et al., 2012; Saiki and Frost, 2014; Villarreal, 2014). The distributive impact of fiscal policy has been considered in the literature (among others, Afonso et al., 2010; Doerrenberg and Peichl, 2014; Wolff and Zacharias, 2007) more than the distributive effect of monetary policy. Nevertheless, there are some insightful papers discussing different aspects of distributive effects of monetary policy and they are discussed thoroughly below.

Using cross-country data, Bulir (2001) provides evidence that preceding inflation raises income inequality in following periods. He argues that the total impact of inflation on inequality takes some time to be revealed. His analysis indicates that the positive effect of price stability on income inequality is nonlinear. That is, the initial decline in hyperinflation substantially reduces inequality whereas the further effects of the reductions in lower levels of inflation consecutively decrease. Bulir (2001) concludes that price stabilization is beneficial for reducing income inequality not only via its direct effect but also indirectly through boosting money demand and preserving the real value of fiscal transfers.

Using cross-country panel data, Li and Zou (2002) find that inflation deteriorates income distribution and economic growth. They also show that inflation increases the income share of the rich and insignificantly reduces the income shares of the middle class and the poor.

Albanesi (2007) provides cross-country evidence of positive correlation between inflation and income inequality. She also builds a political economy model in which income inequality is positively related to inflation in equilibrium because of a distributional conflict in the determination of fiscal and monetary policies. The model implies that in equilibrium low income households have more cash as a share of their total consumption, in line with empirical evidence (Erosa and Ventura, 2000). Therefore, low income households are more exposed to inflation. Particularly, Easterly and Fischer (2001) bring empirical evidence, using data from 38 countries that the poor are more probably than the rich to indicate inflation as a top national concern. The model built by Albanesi (2007) also implies that households with more income have a greater power in the political process. As a result, for the government it is easier to finance its spending through positive seigniorage than via increased taxation, which requires parliamentary approval. Thus, according to Albanesi (2007), this leads to inflation in equilibrium and to its positive relation with income inequality.

Romer and Romer (1999) consider the influence of monetary policy on poverty and inequality in the short run and the long run. Using single equation time series evidence for the USA, they find that expansionary monetary policy is associated with better conditions for poor (decreased inequality) in the short run. On the contrary, examining the cross-section evidence from a large sample of countries, Romer

and Romer (1999) show that tight monetary policy resulting in low inflation and stable aggregate demand growth are associated with the enhanced well-being of the poor (reduced inequality) in the long run.

Galli and von der Hoeven (2001) claim that there is a non-monotonic long run relationship between inflation and income inequality. Particularly, they argue that the relationship is U-shaped – inequality declines as inflation rises from low to moderate rates but inequality increases when inflation further grows from moderate to high levels. Their empirical analysis is implemented for the USA and a sample of 15 OECD countries.

For the USA, Galbraith et al. (2007) show that, earnings inequality in manufacturing is influenced by monetary policy. The latter is captured by the yield curve measured as the difference between 30-day Treasury bill and 10-year bond rate. They find that the earnings inequality is directly influenced by monetary policy in addition to indirectly being affected by inflation and unemployment, and by recessions in general. In particular, Galbraith et al. (2007) indicate that tight monetary policy raises the inequality of earnings while expansionary monetary policy reduces it.

The Bank of England (2012) states that while, through unconventional monetary policy measures, it could overcome the financial crisis, these measures might also increase income inequality. The Bank of England (2012) has implemented unconventional monetary policy almost entirely through the purchases of gilts. The implementation of this unconventional monetary policy has also increased the prices of other assets, such as corporate bonds and equities. As a result, this has raised the value of the financial wealth of households who hold them, and the owners can gain capital income by selling the assets. Consequently, it can also increase income inequality because the top 5% of households possesses 40% of the assets (the Bank of England, 2012).

Coibion et al. (2012) provide evidence that monetary policy shocks account for a significant component of the historical variation in economic inequality in the USA. Their measures of economic inequality are based on the Consumer Expenditures Survey, which does not include the top one percent of the income distribution. They show that contractionary monetary policy raises inequality in labor earnings, total income, consumption, and total expenditures. In particular, the results show that the shock most significantly affects expenditure and consumption inequality. Coibion et al. (2012) also explores different channels through which monetary policy affects economic inequality.

For Korea, Kang et al. (2013) find that inflation improves economic inequality in the short run but it has no significant impact on inequality in the long run. They also show that GDP growth decreases economic inequality. Their results indicate that there is no significant relation between real interest rate and inequality though real interest rate and poverty are positively correlated.

Saiki and Frost (2014) provide evidence that unconventional monetary policy raises income inequality in Japan in the short run. In particular, they show that by increasing the monetary base, unconventional monetary policy widens income inequality through resulting higher asset prices, benefiting the rich who usually hold these equities and acquire capital gains. Saiki and Frost (2014) conclude that while unconventional monetary policy tends to help to overcome the global financial crisis, it could have a side effect in terms of increased income inequality.

Villarreal (2014) shows that contractionary monetary policy decreases income inequality in Mexico. He uses different identification schemes for monetary policy shocks. Generally, all his results indicate that an unanticipated increase in nominal interest rate reduces income inequality over the short run. Villarreal (2014) interprets the differences of his results for Mexico from the ones obtained by Coibion et al. (2012) for the USA by the existence of such a level of financial frictions in Mexico that the benefits of inflation stabilization are higher than its