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Risk sharing and monetary policy transmission*



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Monetary policy and risk sharing are often viewed as independent mechanisms to address different types of shocks: monetary policy counteracts aggregate fluctuations arising from common shocks; risk sharing counteracts idiosyncratic fluctuations in specific regions due to asymmetric shocks. In this column, we show that these mechanisms do not just operate alongside each other: instead, the strength and composition of risk sharing fundamentally shapes the real effects of monetary policy, as well as its regional incidence.

The literature on optimal currency areas establishes a clear division of labor in the pursuit of macroeconomic stabilization objectives (Mundell, 1961; Kenen, 1969; Farhi and Werning, 2017). Monetary policy is to limit fluctuations in average macroeconomic outcomes in response to symmetric shocks. Risk sharing instead should limit the dispersion in macroeconomic outcomes across the currency union by facilitating a geographically differentiated adjustment to asymmetric shocks.

An important, but so far under-explored, aspect in implementing this division of labour is that the impact of these macroeconomic stabilization tools may interact. If monetary policy exerts a uniform impact on different members of a currency union, its role in limiting average economic fluctuations is unaffected by the role of risk sharing in limiting economic dispersion. But a growing literature has documented that monetary policy transmits unevenly, owing e.g. to differences in economic structures and initial conditions (e.g. Ampudia et al., 2018; Eichenbaum, Rebelo, and Wong, 2018; Hauptmeier, Holm-Hadulla, and Nikalexi, 2020). This, in turn, may render the impact of monetary policy dependent on the risk-sharing architecture of a currency union. For instance, if the tax and transfer system systematically reallocates funds from less to more affected regions, the aggregate impact of a monetary policy tightening may be different than in a scenario without this type of fiscal risk sharing.

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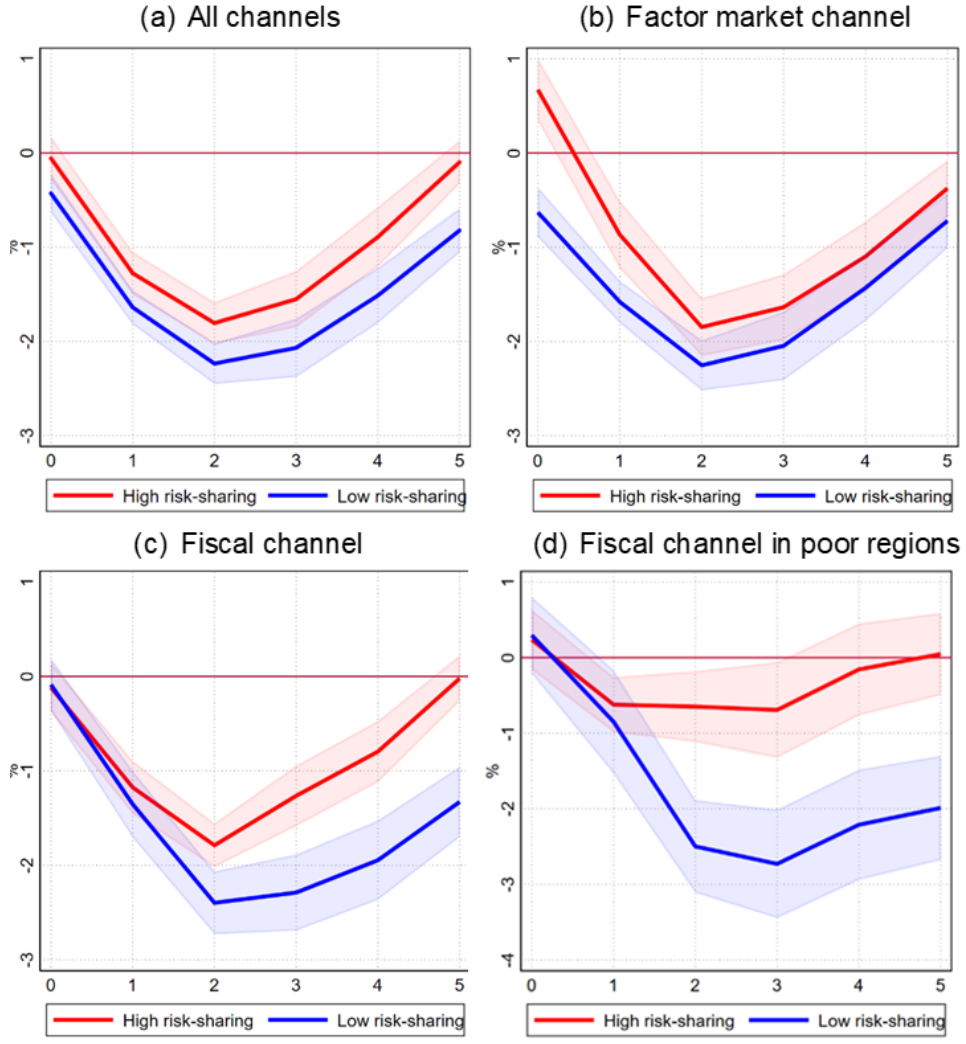
In a recent paper, we provide empirical evidence on the relevance and nature of these interactions, based on regionally disaggregated data for the euro area (Hauptmeier, Holm-Hadulla, and Renault, 2022).

Interaction between risk sharing and monetary policy

As a first step, we rely on the well-established framework by Asdrubali, Sorensen, and Yosha (1996) to estimate the degree and composition of risk sharing across regions within individual euro area countries.[1] The methodology allows us to estimate the amount of risk shared through the factor-market, fiscal, and credit-market channel. We then feed these estimates into a local projections model to study how the risk-sharing intensity affects the transmission of monetary policy shocks to the real economy.

Our results suggest that risk sharing dampens the real effects of monetary policy. **Figure 1a** presents the response of regional output to a 100 basis point interest rate hike for different percentiles of the risk-sharing distribution. In the upper quartile of the distribution, regional output decreases by 1.9% after two years, whereas in the lower quartile the corresponding contraction is 0.4 percentage point deeper.

Figure 1: Monetary policy effects on output conditional on risk sharing intensity



Note: Vertical axes refer to the impact of a 100 basis point rate hike on regional GDP (in %). Horizontal axes refer to the horizon of the IRFs (in years). Solid lines denote point estimates and shaded areas denote 90% confidence bands. Red (blue) lines depict the estimates for the upper (lower) quartiles of risk-sharing intensity for panels a) to c) and deciles of risk-sharing intensity for panel d). Poor regions are defined as the lowest decile of the GDP distribution.

[1] Risk sharing refers to the notion that economic agents attempt to insure their income and consumption streams against fluctuations in the business cycle of their country or region. The analysis relies on NUTS-2 level data, following the Eurostat classification, which subdivides national territories into regions. The use of regional data allows us to capture the amount of risk shared within a country (intranational risk sharing) and between countries (international risk sharing).

Disentangling private and public risk sharing effects

As regards individual channels, both private risk sharing, via factor and credit markets, as well as public risk sharing, cushion the impact of a monetary policy tightening. However, the channels differ in their time profiles. Private risk-sharing channels tend to dampen the monetary policy shock contemporaneously and up to one year after the shock (**Figure 1b**).[2] Fiscal risk sharing instead mitigates the economic consequences of a rate hike over longer horizons (**Figure 1c**). Public and private risk-sharing channels therefore emerge as complements, in that they operate at different time horizons.

Heterogeneity across regions

The interaction between risk sharing and monetary policy may vary between more or less prosperous regions. For instance, the stabilization role of fiscal instruments might be reinforced if net transfers are targeted towards poorer regions, which would tend to be populated by households with a larger propensity to spend. To explore this aspect, we rely on the quantile fixed effects estimator of Machado and Santos Silva (2019) to estimate the impact of exogenous changes in monetary policy across the regional GDP distribution. Our quantile regression analysis reveals pronounced differences in the degree to which fiscal risk sharing especially determines the transmission of monetary policy to rich versus poor regions. With weak fiscal risk sharing, GDP in poor regions does not only exhibit a strong contraction, but the impact proves highly persistent. By contrast, with strong fiscal risk sharing, the GDP contraction in poor regions is markedly shallower and turns insignificant at longer horizons (**Figure 1d**). Fiscal risk sharing thus emerges as particularly instrumental in preempting long-lived hysteresis effects of monetary policy in regions with weak economic performance already prior to the shock.

Implications

These findings offer relevant insights for the debate on the institutional setup of the Economic and Monetary Union (Bénassy-Quéré et al., 2018). First, they suggest that heterogeneity in the capacity to absorb shocks via fiscal and market-based channels could contribute to an uneven transmission of monetary policy across jurisdictions. Second, the results point to the benefits of fiscal risk sharing in mitigating the tendency for regional economic divergence to intensify in policy tightening cycles. Third, they indicate that changes to the risk-sharing architecture of an economy may have a major bearing on the aggregate effects of a given change in monetary policy stance.

[2] The dampening effect of risk sharing through the credit market channel is of the same magnitude as that of the factor market channel.

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