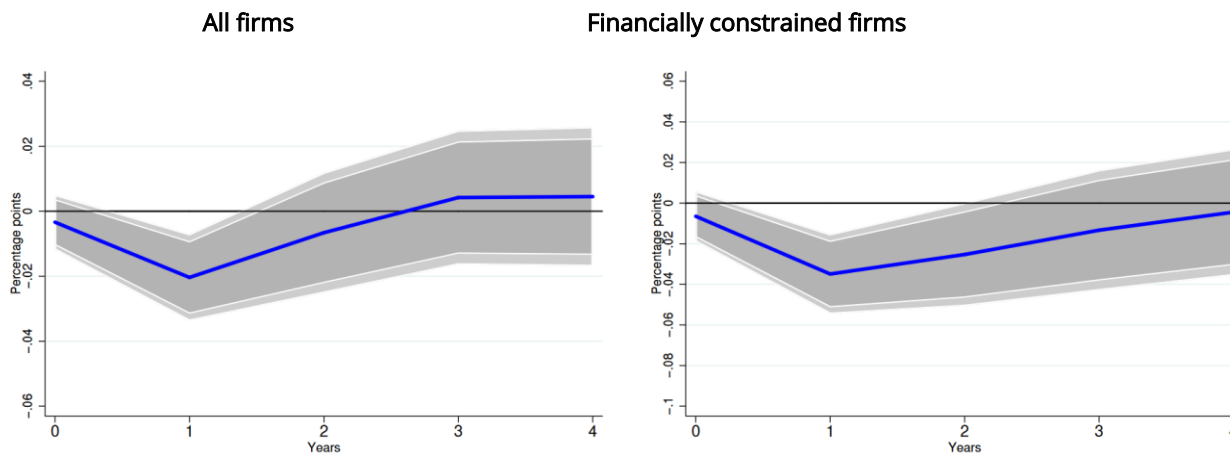


How does uncertainty about interest rates affect firms?

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When interest rate uncertainty rises, euro area firms reduce their future investments and hiring, and adopt a more cautious approach by hoarding cash and cutting dividends. The negative effect on investment is magnified for firms with financial and capital constraints, or without hedging strategies.

Chart 1. Investment drops more for constrained firms as interest rate uncertainty rises



Note: Impact of 3-month Euribor rate uncertainty on investment (Left: average firm; Right: average financially constrained one). A financially constrained firm has a large share of short-term debt.

After a decade of interest rates being constrained by the lower bound, major central banks have made bold rate adjustments over the past two years in response to rising inflation. However, these changes have been surrounded by uncertainty ([FEDS Notes, 2023](#), [ECB Economic Bulletin, 2024](#)). Initially, identifying the underlying sources of inflation was challenging. Recently, the speed of disinflation has added to the uncertainty about future interest rates.

In a recent paper ([Duquerroy, Istrefi and Mouabbi, 2024](#)), we discuss how uncertainty about the future path of interest rates affects the real and financial decisions of euro area firms from 2005 to 2017. The euro area provides a particularly interesting setting to study the heterogeneous effects of interest rate uncertainty, beyond standard firm characteristics such as investment opportunities, financial health, and size. In this environment, firms face a common monetary policy while being exposed to country-specific sovereign risks that affect their interest rates and financing costs differently. Moreover, euro area firms experience differences in financing

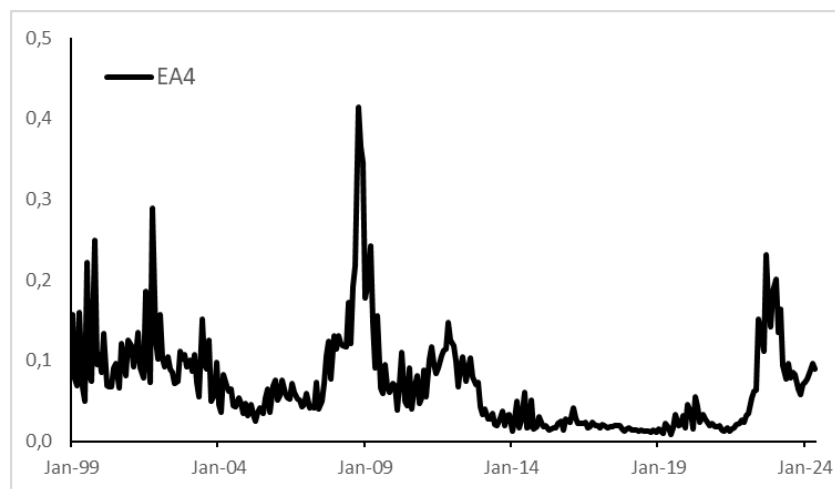
structures, such as the mix of bank and corporate bond lending, and the use of fixed vs. floating rate instruments across countries.

Uncertainty about future interest rates is harmful to firm investment

We examine the impact of interest rate uncertainty on investment and financial decisions using a sample of about 900 listed firms from the four largest euro area countries: France, Germany, Italy, and Spain, for the period 2005-17. Following [Istrefi and Mouabbi \(2018\)](#), interest rate uncertainty is measured as the perceived uncertainty of professional forecasters in the euro area regarding the future path of the 3-month Euribor rate (see [Eco Notepad, 2017](#)). This measure is comprised of (i) disagreement between forecasters and (ii) the time-varying variability of the average forecast errors. The first component captures the idea that forecasters can interpret the data in different ways, leading to different predictions, and thus disagreement, while the second captures how difficult it is, for all forecasters, to predict future interest rates.

Interest rate uncertainty in the euro area has fluctuated over time with notable spikes during the Great Recession and the 2022 inflation surge (Chart 2). Post-2012, this measure reached its all-time low. This period corresponds to the introduction of the ECB's forward guidance on interest rates (starting in July 2013 and ending in July 2022), with the Governing Council communicating that the policy rate would remain low for long. As such, low interest rate uncertainty post-2012 reflects the forward guidance on policy but also expectations that rates were close to their effective lower bound. In 2022, uncertainty about the future path of the 3-month Euribor rate increased, in a context of high uncertainty about the inflation outlook.

Chart 2. Euro area interest rate uncertainty



Note: The 3-month Euribor rate uncertainty, measured as in [Istrefi and Mouabbi \(2018\)](#). EA4 denotes the average of the interest rate uncertainty for the four largest countries of the euro area. Last observation May 2024.

We find a significant impact of interest rate uncertainty on firms operating in the euro area, above and beyond other macroeconomic factors (unemployment, GDP growth, inflation, etc.) and firm-related characteristics. An increase in interest rate uncertainty is associated with a decrease in firms' future investments (Chart 1, left) and a contraction in sales and hiring. In addition, the average euro area firm tends to hoard cash and reduce dividend payouts to contain the potential impact of future adverse shocks. Overall, our results suggest that interest rate uncertainty is important for the average firm's real and financial decisions.

In terms of magnitudes, a one standard deviation increase in uncertainty corresponds to a 1.5 percentage points reduction in the investment growth rate. Our sample includes episodes of uncertainty rising by over three standard deviations (such as the period between the Great Recession and the European Sovereign Debt Crisis), suggesting significant contractions in firms' investment rate.

Financially constrained firms are most affected by interest rate uncertainty

Characteristics that relate to a firm's exposure to interest rate risk are important for the sensitivity of investment to interest rate uncertainty. For example, we find that firms with a larger share of short-term debt will contract investment more when uncertainty is high, as they are most likely to seek new funding, suggesting a financing channel of interest rate uncertainty (Chart 1, right). Similarly, firms whose cash flows fall with rising interest rates are more sensitive to interest rate uncertainty, highlighting a cash flow channel. In addition, there is a stronger negative relationship between investment and uncertainty for firms facing capital and financial constraints, measured by firm size and collateral.

The literature on uncertainty highlights the real options channel ([Bernanke, 1983](#); [Bloom, 2009](#)), whereby firms facing uncertainty postpone investments due to irreversibility. Our findings suggest that, beyond this standard channel, a financing and a cash flow channel are also at play. Finally, having risk management practices (hedging) is important as the effects of interest rate uncertainty on investment are stronger for firms that do not hedge, and more so for firms with high rollover risk.

Overall, our analysis provides empirical evidence from euro area firms in support of a finance uncertainty multiplier, as in [Alfaro, Bloom, and Lin \(2024\)](#), whereby the combination of a real options, financing and cash flow channel amplifies the effects of uncertainty on firm decisions. While we show that these effects are economically important, they are likely to be conservative for the following reasons. First, a large proportion of our sample is characterised by low interest rate uncertainty, as a consequence of historically low levels of interest rates and the ECB's forward guidance. Second, since 2008, the ECB has adopted other non-standard measures, such as unprecedented money-market support actions, special loan programmes, and large-scale asset

purchases, incentivising bank lending and stimulating the real economy. Finally, results are based on a sample of listed firms that tend to be larger and have access to various sources of external financing and thus less are likely to be financially constrained relative to small and medium enterprises.