RESEARCH BRIEF • APRIL 2024

Sticky Discount Rates

Based on BFI Working Paper No. 2024-33, "Sticky Discount Rates," by Masao Fukui, Boston University; Niels Joachim Gormsen, University of Chicago; and Kilian Huber, University of Chicago

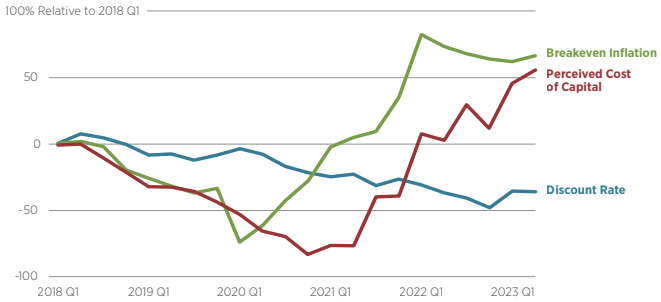
Firms often keep their nominal discount rates constant even in the face of changing inflation expectations. Increases in expected inflation therefore lower firms' real discount rates and raise real investment.

Economic theories often assume that wages and prices don't quickly adjust to inflation. Studying this "**stickiness**" is crucial for understanding how monetary policy affects the economy, how people spend, and how businesses invest. In this paper, the authors consider a different kind of stickiness; the returns that companies want to earn on their investments, also known as their **discount rates**, don't adjust quickly to changes in inflation.

The authors use records from corporate conference calls to construct a dataset covering firms' discount rates for the years 2002 to 2023. They verify the discount rates reported on calls that firm-level changes in discount rates predict future firm-level investment and realized returns. The authors use their dataset to reveal the following:

- **Expected inflation**, measured using **breakeven inflation** in asset markets is not associated with changes in firms' **nominal** discount rates. Between 2020 and 2023 breakeven inflation increased by 1.5 percentage points, during which time firms kept their nominal rates the same. As a result, the **real** value of firms' discount rates fell about 1.5 percentage points.

Figure 1 · Discount Rates, Cost of Capital, and Inflation



Note: The figure plots the average quarterly perceived cost of capital, discount rate, and breakeven inflation rate between 2018 and 2023.

BFI Blackboard

Stickiness: the resistance of certain economic variables, like prices or wages, to change quickly in response to inflation.

Discount rate: the rate used to determine the present value of future cash flows, indicating how much future money is worth today.

Expected inflation: the rate at which prices are predicted to increase

Breakeven inflation: the expected inflation rate, calculated by comparing the returns of regular bonds to those of inflation-protected bonds.

Nominal: the stated or face value of something, like money or interest rates, without adjusting for inflation.

Real: the value of money or interest rates after removing the effects of inflation, showing the true purchasing power.

- About 80% of firms do not change their discount rates at all over a two-year period. Among the 20% of firms that *do* adjust their discount rates, some make small adjustments, while others make very large ones.
- Expected inflation raises **real investment** by lowering the **real required return to capital**. In other words, when people expect prices to rise, companies find it cheaper to invest because the expected return on their investments doesn't need to be as high to cover future costs or to make a profit. Among firms that do not change their discount rates, investment rates increase with breakeven inflation. There is no such relation for firms that update their discount rates.

Building on these results, the authors next study how sticky discount rates influence the economy more broadly. They modify a standard economic model by introducing a rule where only some companies can change their expected return rate at random times, instead of all companies changing it whenever interest rates change. They find the following:

- A decrease in household patience (e.g., a shift towards preferring current consumption over future consumption) raises both consumption and investment if discount rates are sticky. Under a standard model, by contrast, people might spend more, but companies would invest less.
- When discount rates are sticky, government spending can encourage more investment. Under conventional models, when the government spends more, it can lead to higher interest rates, making it more expensive for companies to borrow money and invest. But if companies keep their profit expectations the same (i.e., if discount rates are sticky), then government spending can lead to *more* investment.
- With sticky nominal discount rates, the central bank may be able to lower real discount rates and raise investment by directly targeting inflation expectations, for instance, through the central bank's long-run inflation target. Changes in the central bank's short-term interest rate become less effective when discount rates are sticky compared to conventional models.

This research has direct implications for monetary policy If the central bank can change inflation expectations, for instance, by changing the long-run inflation target, it might have larger effects on investment than we previously thought through this channel.

Real investment: the spending on capital, such as equipment or buildings, after removing the effects of inflation, representing the actual value of goods purchased.

Real required return to capital: the profit a company needs from an investment after adjusting for inflation.

READ THE WORKING PAPER

NO. 2024-33 · MARCH 2024

Sticky Discount Rates

bfi.uchicago.edu/working-paper/2024-33

ABOUT OUR SCHOLARS

Niels Joachim Gormsen
Neubauer Family Associate Professor of Finance and Fama Faculty Fellow, Chicago Booth

Kilian Huber
Associate Professor of Economics and Lee Economics Program Faculty Fellow, Chicago Booth

CHICAGO BOOTH
The University of Chicago Booth School of Business