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Discount Factors and Monetary Policy: Evidence from Dual-Listed Stocks

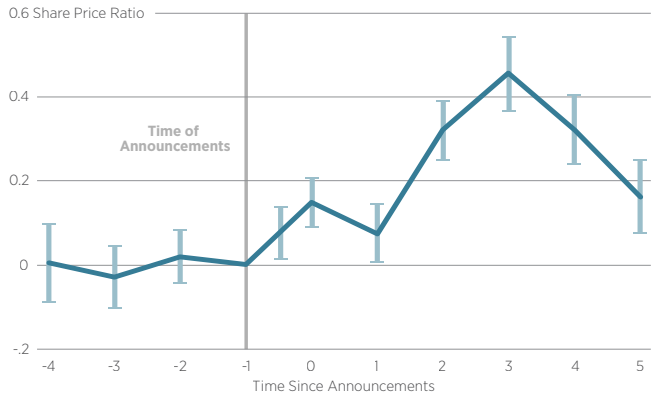
Based on BFI Working Paper 2024-64, "Discount Factors and Monetary Policy: Evidence from Dual-Listed Stocks," by Quentin Vandeweyer, University of Chicago; Minghao Yang, University of California, Berkeley; and Constantine Yannelis, University of Chicago

Surprise changes in US monetary policy rates directly affect asset prices, with a 100-basis point surprise cut resulting in a 30-basis point increase in the ratio of stock prices over 5 days; this effect grows after the initial announcement because higher-frequency strategies likely underestimate the effects of policy transmission.

When the Federal Reserve raises or lowers interest rates, one of the first things many observers likely do is check asset prices. How did stock markets react? How long will the markets' reaction hold? These questions are also important for monetary policymakers themselves, not because they are necessarily concerned about people's portfolios, but rather because monetary policy's effect on stock prices is an essential transmission mechanism for how monetary policy affects the economy. In other words, one way for the Fed to estimate its impact on the economy is to gauge its effect on asset prices.

However, how monetary policy affects asset prices is still something of a mystery. Before describing this paper's new approach to addressing that question, we will begin with a brief description of monetary policy's two transmission channels into the economy through asset prices—via firms and investors. First, a change in monetary policy can affect asset prices by influencing expectations about the future cash flows of firms, either by directly affecting their profits by boosting aggregate demand, or by releasing new information about the economy.

Figure 1 · Policy Announcements and Share Prices



Note: This figure displays event study estimates for a window of 4 days before and 5 days after a surprise rate announcement, revealing a significant increase in the ratio between shares of Chinese companies. Perhaps surprisingly, this effect appears to increase over time in the days following the announcement; the cumulative coefficient three days after the announcement is almost twice as large as the effect the day after the announcement.

Second, investors can discount those cash flows across time and states-of-the-world. For instance, lower interest rates may induce investors to reduce the risk premia they require for holding risky stocks by compelling investors to take more risk to achieve the same return target. Lower rates can also cause investors to revise upward their expectations about the responsiveness of the central bank to macroeconomic and financial market conditions; in other words, in this example, investors may expect further rate cuts in the future.

One of the challenges of studying monetary policy's impacts on asset prices is that investors are often unsure the cause of asset price movements, as discount rate shocks are typically confounded with news about firms' cash flows. To address this challenge, this work proposes a novel method to analyze the impact of monetary policy on stock prices by exploiting the dual listing of some companies' stocks in Mainland China and Hong Kong, where capital controls restrict flows between markets. By comparing the prices of the same stock across these exchanges, the study aims to isolate the effect of monetary policy on discount rates. This allows for a more precise estimation of the impact of monetary policy surprises on stock prices. The authors find the following:

- Central banks do influence asset prices; that is, a substantial transmission channel of monetary policy to the stock market exists.
- Specifically, a 25-basis point surprise increase in the US federal funds rate (FFR) yields a decrease of 3% in the price of Chinese stocks listed in Hong Kong relative to the same company's stock listed in Mainland China over the next 5 days.
- A 100-basis point surprise cut in the FFR results in a 30-basis point increase in the ratio of stock prices over 5 days.

In sum, FFR changes have asymmetrical effects, with rate hikes having a less significant impact compared to rate cuts. Consistent with theories that the market has interpreted rate cuts as evidence of stronger activism from the Fed, this result is concentrated in surprise cuts.

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Discount: Investors use discounting to convert future values into present values, or the value of something today. This is done by using a discount factor, which is a function of time and interest rates, to discount the future back to the present. The difference between the future and present value is the discounted or present value.

US federal funds rate: This is the interest rate at which banks and other depository institutions lend money to each other, usually overnight. It's the central interest rate in the US financial market and influences other interest rates, such as the prime rate, mortgages, loans, and savings.

READ THE WORKING PAPER

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