iJournals: International Journal of Social Relevance & Concern (IJSRC)
ISSN:2347-9698, ijournals.in/ijsrc
Volume 12 Issue 7, July 2024

The Impact of U.S. Monetary Policy on Asset Prices: A Comparative Analysis of Stock and Real Estate Markets

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ABSTRACT

This research paper investigates the impact of U.S. monetary policy changes, specifically interest rate adjustments by the Federal Reserve, on asset prices in the stock and real estate markets. By examining both expansionary and contractionary policies, the study aims to understand the immediate and long-term effects on these asset classes. The findings emphasize the significant influence of monetary policy on the economy, with effects varying based on economic conditions and regional factors. However, the study's reliance on historical data, focus on U.S. policy, and assumption of constant variables present limitations in capturing the complexities of current and future economic conditions.

Keywords: U.S. monetary policy, Federal Reserve, interest rates, stock market, real estate market, expansionary policy, contractionary policy, asset prices, borrowing costs, economic conditions.

1. INTRODUCTION

This paper examines the impact of U.S. monetary policy shocks on asset prices. Its primary aim is to determine whether monetary policy significantly influences asset prices in two major financial markets: the stock market and the real estate market. To effectively examine this relationship, the paper will analyze the effects of both expansionary and contractionary monetary policies. By delving into historical instances of U.S. monetary policy, one can better understand how changes in interest rates set by the Federal Reserve have influenced such asset classes.

Monetary policy primarily involves managing interest rates to achieve macroeconomic objectives such as controlling inflation, managing employment levels, and ensuring economic stability. By adjusting the federal funds rate, the Federal Reserve can influence borrowing costs, consumer spending, and business investment, which in turn affect overall economic activity. Specifically, monetary policy significantly influences some of the components of Gross Domestic Product (GDP), which include consumption, investment, government spending, and net exports.

There are two types of monetary policy. First, expansionary monetary policy aims to stimulate economic growth by increasing the money supply and lowering interest rates. When the Federal Reserve enacts expansionary policy, it makes borrowing cheaper for consumers and businesses. This encourages spending and investment, as lower interest rates reduce the cost of financing major purchases and business expansions. For instance, individuals may be more inclined to take out mortgages or car loans, while businesses might invest in new projects or equipment. This increased spending and investment can lead to higher demand for goods and services, boosting economic activity and employment.

Lower interest rates also affect investment decisions by making financing more affordable, which can encourage investments in the stock market and real estate. As borrowing costs decrease, the returns on investments become more attractive, leading to higher asset prices. For example, cheaper mortgages can drive up real estate prices, and lower interest rates can boost stock valuations as investors seek higher returns.

Contractionary monetary policy**,** on the other hand, is used to combat high inflation and prevent the economy from overheating. This policy involves reducing the money supply and raising interest rates. Higher interest rates increase the cost of borrowing, which can reduce consumer spending and business investment. For example, when interest rates rise, financing for homes and other large purchases becomes more expensive, which can slow down the real estate market. Similarly, higher borrowing costs can discourage businesses from investing in new projects, leading to a reduction in economic activity.

Additionally, contractionary policy can lead to lower stock prices as investors shift their funds to less risky assets with higher returns, such as bonds. The slowdown in consumer spending and business investment can help reduce inflationary pressures but may also lead to slower economic growth.

The effects of monetary policy extend beyond borrowing costs and directly impact asset prices and various economic indicators. Expansionary policy, with its lower interest rates, typically leads to higher asset prices. Increased stock valuations and rising real estate prices are common outcomes, as more affordable mortgage rates boost demand for housing. This can create wealth effects, where individuals feel wealthier due to higher asset values and thus spend more, further stimulating the economy.

Conversely, contractionary policy can lead to lower asset prices. As mortgage rates rise and demand for housing decreases, real estate markets may cool down, and stock prices might fall as investors seek safer returns in a higher interest rate environment. This can reduce the wealth effect, potentially leading to decreased consumer spending and slower economic growth.

The remainder of the paper is structured as follows. Section 2 offers a literature review on the impact of monetary policy on stock prices and real estate prices, with a specific focus on the numerical effects. This section provides detailed figures, such as percentage changes in prices following interest rate adjustments, to clearly illustrate how monetary policy influences these asset classes. Section 3 presents a general discussion that expands on the findings from Section 2. Section 4 summarizes the key points and concludes the paper.

2. LITERATURE REVIEW

As mentioned earlier, this paper aims to investigate the effect of monetary policy on the asset prices of two major financial markets: the stock market and the real estate market. The relationship between monetary policy and asset prices has been a focal point of economic research for decades. Numerous studies have analyzed the impact of interest rate changes on stock market performance, highlighting varying degrees of sensitivity across different periods and economic environments. Similarly, the real estate market's response to monetary policy adjustments has been extensively studied, given its critical role in the broader economy. By synthesizing findings from existing literature, this paper seeks to elucidate the mechanisms through which monetary policy influences these asset classes, providing a comprehensive understanding of the short-term and long-term effects.

2.1 Effect of monetary policy on stock prices

Bjørnland and Leitemo (2009) identify that during the late 1990s to early 2000s, a 0.10% increase in the federal funds rate induces an immediate 1.5% decline in stock prices, with reciprocal effects observed when stock prices rise. Similarly, Rigobon and Sack (2004) find that between 1994 and 2001, a 0.25% interest rate increase correlates with a 1.7% decline in the S&P 500 and a 2.4% decline in the Nasdaq, reflecting the longer-term impacts of monetary policy on asset prices. Bernanke and Kuttner (2005) analyze data from 1989 to 2002, attributing a 25-basis-point (0.25%) cut in the federal funds rate target to a roughly 1% increase in broad stock indexes. Cotton (2022), focusing on the period up to April 2022, explores the rapid stock price declines of 1.7% to 5.5% amid recent interest rate hikes of 3.56 basis points (3.56%), emphasizing immediate market reactions post-policy announcements. Laeven and Tong (2012) assess global stock market sensitivity to US monetary shocks from 1990 to 2008, highlighting significant sectoral and national variations in response to policy changes. Ioannidis and Kontonikas (2008) observe that between 1972 and 2002, a 1% interest rate increase typically correlates with a 1% decrease in stock returns across diverse economic contexts.

2.2 Effect of monetary policy on real-estate prices

Fischer, Huber, Pfarrhofer, and Staufer-Steinnocher (2021), impulse response functions highlighted significant regional differences in housing price responses to monetary policy shocks. A monetary policy shock was modeled as a five basis points (0.05%) decrease in the one-year government bond rate. Housing prices in sensitive regions like California, Florida, and Nevada responded up to twice the national average, with the maximum regional response exceeding the minimum by 3.2 percentage points (3.2%). The analysis spanned 72 months (6 years) and considered data from April 1997 to June 2012. Caraiani, Gupta, Lau, and Marfatia (2022) examined the impact of a 100 basis points (1%) increase in the real interest rate on housing prices. The real house price growth rate decreased by 0.069% under high sentiment compared to 0.063% under low sentiment around the 5th quarter. Under unconventional monetary policy, the decrease was 0.076% under high sentiment compared to 0.059% under low sentiment. The study focused on the 5th quarter post-shock and covered both conventional and unconventional monetary policy periods, with particular attention to the zero lower bound (ZLB) period in the US. Williams (2016), considered a 1-percentage point (1%) increase in short-term interest rates. This led to an estimated decline in real house prices by over 6% within two years. Real GDP per capita also declined by nearly 2% within the same period. The ratio of the decline in house prices to the decline in GDP was approximately 3.3 after two years and around 3.5 after three to four years. This comprehensive study examined data from 17 countries over 140 years, from 1870 to 2013, excluding the interwar and oil crisis periods, with a focus on the post-World War II period. Burgert, Eugster, and Otten's study (2024) analyzed the effects of a one percentage point increase in short-term interest rates on house prices. The findings indicated that house prices typically fall by up to 8% over five years following the interest rate increase. The primary focus was on five years, with medium-term effects projected up to 20 quarters (5 years) forward. The dataset included 29 OECD countries over the last four decades (1980Q1 – 2022Q4), incorporating data up to the end of 2022. Beraldi and Zhao (2023) examined the impact of various changes in interest rates, ranging from small adjustments (0.25%) to larger shifts (1% or more). The study found that effects on real estate varied widely, including changes in housing prices, investment patterns, and mortgage rates. These impacts were assessed over multiple time horizons, from immediate to several years, using data spanning both recent changes and historical trends, thus capturing diverse economic conditions.

3. DISCUSSION OF LITERATURE REVIEW RESULTS

3.1 Analysis of stock prices

Analyzing the reasons behind stock price movements in response to changes in interest rates across the aforementioned studies reveals varying factors influenced by different periods and economic environments. When central banks raise interest rates, borrowing costs escalate, impacting corporate profitability and investment decisions, particularly in sectors reliant on debt financing, as highlighted by studies such as those by Bjørnland and Leitemo (2009), Rigobon and Sack (2004), and Cotton (2022). These findings suggest that stock prices decrease in response to increased interest rates due to the rise in the cost of borrowing, which reduces corporate profitability and investment prospects. This negative impact is seen in Rigobon and Sack's (2004) observations, where higher interest rates correlate with significant declines in stock indexes like the S&P 500 and Nasdaq, reflecting investor concerns about future earnings potential amidst tighter monetary conditions. In contrast, Bernanke and Kuttner (2005) highlight a positive stock market response following rate cuts, driven by improved expectations of future earnings and discounted cash flows. Cotton's (2022) study underscores the immediate negative reaction of stocks to rate hikes, emphasizing the market's sensitivity to changes in borrowing costs and inflation expectations, particularly evident during periods of economic uncertainty. Laeven and Tong (2012) extend this analysis globally, noting differential impacts across sectors and countries based on their reliance on external financing and exposure to U.S. monetary policy. Ioannidis and Kontonikas's (2008) longitudinal perspective further supports these findings, showing that stock returns tend to decrease with higher interest rates, reflecting tighter credit conditions and reduced investor optimism. The role of inflation expectations managed through monetary policy, further

influences market dynamics, as seen in global studies like Laeven and Tong's (2008) examination of U.S. policy shocks. Investor sentiment also plays a pivotal role, as evidenced by rapid market reactions following policy announcements, highlighting the intricate relationship between monetary policy adjustments and equity market outcomes.

3.2 Analysis of real-estate prices

Analyzing the reasons behind real-estate price movements in response to changes in interest rates across the above studies reveals varying factors including regional economic conditions, market sentiment, and the prevailing monetary policy environment. The fluctuation in real estate prices in response to changes in interest rates is primarily driven by economic principles related to borrowing costs, investment incentives, and broader macroeconomic conditions. When interest rates decrease, borrowing becomes cheaper, leading to an increase in mortgage affordability. This typically boosts demand for housing, as more individuals can afford to purchase homes, and investors are more inclined to finance real estate projects due to lower costs of capital. Conversely, an increase in interest rates makes borrowing more expensive, which can reduce housing demand and reduce investment in real estate. Fischer, Huber, Pfarrhofer, and Staufer-Steinnocher (2021) demonstrate how regional disparities can magnify these effects. Areas with higher economic growth and demand for housing, like California, Florida, and Nevada, exhibit more pronounced responses to interest rate changes. This suggests that local economic conditions, such as employment rates, income levels, and population growth, significantly influence how interest rate adjustments impact housing prices. Regions with strong economic fundamentals may experience amplified price increases when interest rates fall due to heightened demand. Caraiani, Gupta, Lau, and Marfatia (2022) underscore the role of market sentiment in shaping these dynamics. During periods of high sentiment, consumers and investors are more optimistic about economic prospects, which can lead to greater sensitivity to interest rate changes. This is evident from the more substantial decline in real house price growth under high sentiment compared to low sentiment. Additionally, the impact of unconventional monetary policies, such as those implemented during the zero lower bound period, indicates that non-traditional measures can also significantly influence real estate markets by altering expectations and financial conditions. Williams (2016) provide a long-term perspective by examining data over 140 years, revealing that sustained interest rate increases lead to substantial declines in real house prices. This is largely because higher interest rates increase the cost of mortgages, reducing affordability for potential buyers, and simultaneously raising the cost of financing for developers, leading to a slowdown in new construction. The resultant decrease in both demand and supply pressures house prices downward. The study also highlights the ratio of decline in house prices to GDP, indicating that housing markets are highly sensitive to macroeconomic conditions influenced by monetary policy. Further, Burgert, Eugster, and Otten (2024) focus on medium-term effects, showing that the adverse impact of interest rate hikes on house prices can persist for up to five years. This extended period reflects the time it takes for the housing market to adjust to new financial conditions and for supply-demand imbalances to stabilize. The prolonged effect underscores the lagged nature of monetary policy transmission in the real estate sector, where construction projects and investment decisions have long gestation periods. Beraldi and Zhao (2023) explore the variability in real estate responses to different magnitudes of interest rate changes. Their findings suggest that even minor adjustments in interest rates can have significant effects due to the sensitivity of housing demand and investment decisions to borrowing costs. This variability is explained by the elasticity of demand for housing and investment; when interest rates are low, even a small increase can disproportionately affect borrowing costs and deter potential buyers and investors, leading to noticeable shifts in market dynamics.

4. SUMMARY AND CONCLUSIONS

This research paper investigates how changes in U.S. monetary policy, specifically adjustments in interest rates by the Federal Reserve, affect asset prices in the stock and real estate markets. By examining both expansionary (lowering interest rates) and contractionary (raising interest rates) policies, the study aims to understand the immediate and long-term impacts on these asset classes.

Through a comprehensive review of historical studies, the paper highlights that lower interest rates generally boost stock and real estate prices by making borrowing cheaper, which encourages investment and spending. Conversely, higher interest rates tend to reduce asset prices by increasing borrowing costs, thus dampening demand and investment. The findings underscore the significant influence of monetary policy on the economy and asset markets, with varying effects depending on economic conditions and regional factors.

The study concludes that U.S. monetary policy significantly influences asset prices in both the stock and real estate markets, with the effects varying based on economic conditions and regional factors. The impact on stock prices is immediate and noticeable, particularly in sectors reliant on debt financing, while the effect on real estate prices, although substantial, can vary significantly across different regions due to local economic conditions.

However, this study has several limitations. Firstly, it relies heavily on historical data, which may not fully capture the complexities and nuances of current and future economic conditions. The analysis primarily considers U.S. monetary policy, potentially overlooking the global interconnectedness of financial markets and the influence of international monetary policies. Additionally, the study's focus on specific periods may not account for structural changes in the economy or financial system over time. Regional variations in the real estate market response may be influenced by factors not fully explored, such as local regulatory changes or demographic shifts. Lastly, the study assumes that all other variables remain constant, which in reality, is rarely the case, thus simplifying the multifaceted nature of economic dynamics.

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