Monetary Policy and the Stock Market: Analysis and Proposals

Kholoud OUYADINE

Doctor   Researcher in Economics and Management Rabat, Morocco

ABSTRACT

The evolution of monetary policy in recent years can probably be explained by the different characteristics of the behavior of monetary policy transmission mechanisms in relation to changes in the structure of financial systems. These changes are related to developments in the international financial and economic environment. In particular, the development and liberalization of financial markets, the deregulation of the financial system and the emergence of financial innovations. Our literature review aims to identify the main findings of rigorous studies on the link between the stock market and monetary policy. In this article, we extend this intuition by trying to understand the mechanisms through which monetary policy influences stock market prices.

1.   INTRODUCTION

The financial system is a key factor in transmitting monetary policy directions. The success of monetary transmission to the real sphere depends, to a large extent, on the characteristics and compatibility of monetary policy mechanisms with the different structures of financial systems. Given the recent developments that have affected the financial sectors in the global economy, several investigations have reconsidered the determinants of monetary policy and even its effectiveness. The financial markets constitute, for their part, the network of operators of the financial system allowing both the carrying out of economic operations and the conduct of monetary policy.

This article is intended to be a synthesis of theoretical and empirical research that has explored   the interaction   between the financial market and the   conduct of monetary policy.

The major idea around which our work   is structured is the following : monetary policy uses the financial system. The evolution of monetary policy in recent years is probably explained by the different characteristics relating to the behavior of the transmission mechanisms of monetary policy vis-à-vis changes in the structures of financial systems. These changes are linked to developments in the international financial and economic context. Concerning, in particular, the development and liberalization of financial markets, the deregulation of the financial system and the emergence of financial innovations. We extend this intuition in this article by tackling an analysis of the relationship between monetary policy and the stock market in order to focus on the role of the latter in the transmission of monetary impulses to the real economy as well as their effectiveness.

This literature review aims to identify the main conclusions of the duly established work on   the link between monetary policy and the stock market.   By examining the literature, we try to understand   the mechanisms by which monetary policy influences   stock market prices.

In order to deepen the analysis   of the reaction of stock prices to monetary policy shocks, this paper is structured into two distinct parts. First, we will explore the various studies that have focused on the link   between monetary policy and the   stock market. We will highlight the methodologies used by this research and the conclusions they reached. Secondly, we will look at work that has focused on   the transmission channels of monetary policy to the stock market. We will analyze the different conclusions drawn from this hypothesis.

2.   MONETARY POLICY AND STOCK MARKET

Mankiw (2018) defines that monetary policy is the action of controlling the quantity of money in circulation in an economy while influencing the unemployment rate, the inflation rate and the national economic development. This process of controlling the money

supply is done in the United States through three instruments: the discount rate, Open-Market operations and required reserve coefficients.

Mishkin (2020) identifies four main mechanisms of monetary policy namely, the traditional channel of interest rates, which affects investment via the cost of capital; the exchange rate, Tobin's q and wealth effects and channels involving different asset prices. The latter act as anticipated indices of future demand and inflation, requiring limited control of monetary policy in order to avoid the appearance of speculative bubbles. This underlines their importance on inflation and real activity Goodhart-Hofmann (2001).

The asset price channel places transmission by involving the effects of short-term monetary policy on changes in stock prices. The latter influence both business investment via the theory of the Tobin coefficient (Tobin's Q) and household consumption via the wealth effect. Indeed, a reduction in interest rates increases stock prices, subsequently leading to an appreciation of installed capital relative to new capital, which stimulates business investment. This also results in an increase in " *Tobin's q* ", which is the ratio of the company's stock market value to its capital at replacement cost. As for the effects of wealth on consumption, according to the life cycle theory of Ando and Modigliani (1963), an increase in equity income, following a fall in rates, induces an increase in permanent income and household wealth and encourages them to consume more.

In order to study the relationship between stock market volatility and the economic cycle, Schwert (1989) examines, on the one hand, the link between the volatility of several macroeconomic variables such as the money supply, the nominal inflation rate, stock market volatility and the value of industrial production. He states that the volatility of stock returns cannot be explained and is predicted by the volatility of macroeconomic variables. On the other hand, the author relies on the fluctuations of the economic cycle and shows that during the economic recession the increase in the volatility of the stock market is very considerable.

Let us recall that during the 1990s when asset price inflation increased at the global level, several developments in the economic literature focused on this expansion of stock prices by attempting to explain it and integrate it into the framework of monetary policy. As such, stock prices represent an information variable that makes it possible to predict inflation and production while studying the mechanism of action. Under this development and taking into account the function of the aforementioned variable in the formulation of monetary policy, several empirical investigations have estimated the intermediation of stock prices by integrating the stock price into the transmission mechanism of monetary policy as an adjustment variable.

Rigobon and Sack (2001, 2002) evaluate the sensitivity of monetary policy to stock prices and its real effects on these prices. Their results conclude that American monetary policy responds strongly to price fluctuations. In another work, the authors stipulate that the effect of monetary policy on stock market indices is significantly negative such that a 25 point increase in short-term interest rates will lead to a decline in the S&P 500 index by 1.9%. On the other hand, Jensen, Mereer and Johnson (1996) note that whatever the phase of the economic cycle, stock prices are impacted by monetary policy.

According to Patelis (1997) and Thorbecke (1997), an expansionary monetary policy leads to an increase in stock prices. In economies with low inflation rates, the correlation of stock returns with inflation is negative or almost zero. On the other hand, this correlation is positive in an economy where inflation is high (Barnes, 1999). In a study of industrialized countries, Stock and Waston (2001) find that certain asset prices can affect production and inflation at certain times.

Using monthly data from 1926 to 2000 from the United States, Kim (2005) states that there is a positive correlation between inflation and stock market returns in the short term, however, this correlation becomes in the long term. Furthermore, the dependence of stock prices on the speed of money circulation was proven by Christiano and Rostagno (2001), showing that the correlation between the two parties varies according to the composition of the countries' financial assets.

The link between monetary policy and the stock market has given rise to lively debates in the economic literature, particularly questioning the probability of the integration of asset prices under the control of monetary policy. Two major ideas were considered: the first is based on the need for the reaction of monetary policy to variations in asset prices (Goodhart and Hofmann (2001); Cecchetti et al., (2000); Kent and Lowe (1997), on the other hand, Bernanke, Gertler and Gilchrist (199 9) announce that asset prices should not be taken as a direct target of monetary policy by the central bank. Based on their BCG model, the three economists conclude that considering asset prices as a direct target of the central bank's monetary policy generated significant macroeconomic fluctuations.

In summary, monetary policy has the capacity to impact the stock market, and according to Yoshino et al. (2014), this influence can manifest through four mechanisms. First, fluctuations in the money supply can have a positive impact on stock prices by increasing expected inflation and stock prices, leading to an increase in current demand for purchasing stocks and the current price of financial products. Next, these fluctuations in the money supply may also be associated with an unanticipated rise in inflation and relative uncertainty about future inflation, which may have an impact negative on share prices. Finally , according to Humpe and Macmillan (2009), portfolio theory proposes that increasing the money supply may result in a portfolio shift from interest-free money to financial assets such as shares on the stock market.

3. CHANNELS OF MONETARY TRANSMISSION TO THE STOCK MARKET

There are three channels of transmission of monetary policies to the stock market: the rate of inflation , the exchange rate and the interest rate.

First of all, the interest rate channel is the mechanism by which monetary policy affects the borrowing costs of households and businesses and therefore modifies their investment and consumption decisions. In other words, this channel explains the variations in the money supply and nominal interest rates through which the central bank influences production, inflation and subsequently the economy (Kelikume 2014).

Yoshino et al. (2014) indicates that when an expansionary monetary policy, which results in a fall in interest rates; this increases the demand for credit , which also leads to an increase in overall demand, and by there -even an increase in investment demand on the stock market. Furthermore, the decrease in the interest rate encourages aggregate demand and investment demand, which creates an increase in aggregate demand. The growth in global demand is also reflected in the stock market. Indeed, The increase in demand for stock market shares has an effect of pressure on prices. Ultimately, this process results in an increase in stock prices. In other words, a reduction in interest rates will lead to a reduction in borrowing prices, which will lead to an increase in the demand and prices of goods and services, including those of assets, on the stock market.

Second, The exchange rate as a transmission channel is an important mechanism by which monetary policy affects the national economy. With the transition to the flexible exchange rate, this mechanism provides a benchmark for monetary authorities on macroeconomic results such as GDP, CPI and therefore price stability. A fall in interest rates reduces the attractiveness of the currency in question and leads to its depreciation, which allows a drop in domestic prices compared to foreign prices. This leads to an increase in exports while stimulating national production. But, a backlash relative to internal price adjustments may occur in the long term. Fama (1981) identifies that the correlation between the exchange rate and stock prices can be influenced by two effects. On the one hand, inflation results in an increase in the costs of importing raw materials for domestic producers, which has a impact negative on share prices and on their cash flow. The net impact of exchange rate fluctuations on stock prices therefore remains uncertain. Note also that the empirical literature supports the hypothesis on exchange rate fluctuations the correlation between stock market returns . On the other hand, following a depreciation of the national currency in relation to foreign currencies, the prices of export products fall for foreigners, resulting in an increase in the volume of exports of the country. This presents an opportunity for companies whose product markets are overseas, because of increasing their stock prices.

Furthermore, the third transmission channel from monetary policy to the stock market is the inflation rate. According to Fisher's interest rate theory, the expected real return on an asset should equal the expected nominal return plus the expected inflation rate. However, it is important to point out that this Fisher hypothesis has yielded conflicting results over time. Indeed, Nelson (1976) analyzed the influence of the US inflation rate on stock returns during the post-war period, showing a negative correlation between stock returns and expected and unanticipated inflation rates. .

Marozva (2020) verifies the existence of the link between stock market profitability and monetary policy by examining the sensitivity of stock returns to interest rates and exchange rates. Using ordinary least squares estimates, the author studies the case of South Africa using time series of annual data for the period from 1995 to 2019. It reveals that there is a negative and significant relationship between the exchange rates and stock market returns. On the other hand, the author states that the relationship between the interest rate and stock market returns is significantly positive. Their results are consistent with the theory which stipulates the positive correlation between the interest rate and the volatility of stock returns.

Suhaibu et al. (2017), in their work, show that the stock market is positively affected by monetary orientations through the traditional interest rate channel. Their study highlights that the interest rate and money supply decrease in response to stock market shocks in a negative and positive manner, respectively, while inflation responds positively to a negative stock market shock. They prove that among two monetary policy orientations taken into account, notably the money supply and the real interest rate, the latter exerts a major influence on the stock market and inflation. On the other hand, the real interest rate would be more influenced by the stock market than by the money supply, which suggests an inverse relationship between monetary policy and the stock market and subsequently affirms that there is a bidirectional correlation between stock market performance and monetary policy.

4. CONCLUSION

The objective of monetary policy developed and applied by central banks is to maintain the stability of household purchasing power, to influence economic activity and to guarantee the stability of capital markets. In general, the main tool used to carry out this control is the direct rate representative of economic policy.

As assets are arbitraged in various financial markets, a relevant question therefore addresses the interaction between monetary policy and stock markets, both with regard to the empirical identification of such a link, its significance, its measurement and its resistance over time.

We have shown in review that the role of monetary policy is crucial in understanding the negative relationship between stock returns and inflation. Countercyclical monetary policy, for example, assumes that an expected slowdown in real activity will cause an acceleration in monetary growth and inflation. A pro - cyclical monetary policy implies exactly the opposite. The results obtained for different periods, different monetary policy regimes and several countries seem to support this relationship.

REFERENCES

1. Ben S. Bernanke, Mark Gertler, Simon Gilchrist, (1999)" Chapter 21 The financial accelerator in a quantitative business cycle framework", Handbook of Macroeconomics, Elsevier, Volume 1, Part C,, Pages 1341-1393,

2. Fama, E. "Stock Returns, Real Activity, Inflation, and Money," The American Economic Review, vol. 71, September, p. 545-565.

3. Humpe, A. and Macmillan, P. (2009). Can Macroeconomic Variables Explain Long-Term Stock Market Movements? A Comparison of the US and Japan. Applied Financial Economics, 19(2), 111–119.

4. Kent, C. and Lowe, P. (1997) Asset-Price Bubbles and Monetary Policy. Economic Research Department, Reserve Bank of Australia, Research Discussion Paper 9709.

5. Mankiw, N. G. (2018). Principles of Economics, 8th Edition. Cengage Learning.

6. Marozva, G. (2020). The Effects of Monetary Policy on Stock Market Returns and Volatility: Evidence from South Africa. Academy of Accounting and Financial Studies Journal, 24(3), 1–11.

7. Mishkin Frédéric, (2010) "Money, banking and financial markets", tenth edition.

8. Nelson, C.R. (1976). Inflation and Rates of Return on Common Stocks. The Journal of Finance, 31(2), 471–483.

9. Patelis, A.D. (1997). Stock Return Predictability and The Role of Monetary Policy. The Journal of Finance, 52(5), 1951–1972.

10. Rigobon, Roberto & Sack, Brian, 2004. "The impact of monetary policy on asset prices," Journal of Monetary Economics, Elsevier, vol. 51(8), pages 1553-1575, November.

11. Suhaibu, I., Harvey, S. K., and Amidu, M. (2017). The Impact of Monetary Policy on Stock Market Performance: Evidence from Twelve (12) African Countries. Researchin International Business and Finance, 42, 1372–1382.

12. Thorbecke, W. (1997). On Stock Market Returns and Monetary Policy. The Journal of Finance, 52(2), 635–654.

13. Yoshizo, N., Taghizadeh-Hesary, F. and Hassanzadeh, A. (2014). Response of stock markets to monetary policy: An Asian stock market perspective. International Journal of Monetary Economics and Finance, 7(3), 157–174.