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## Monetary Policy and Stock Market Cycles in Iran

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### **EXTENDED ABSTRACT**

#### **INTRODUCTION**

Investigating the link between monetary policy and stock returns has been very important for monetary policymakers and financial market investors to employ appropriate monetary policy and make the right investment decisions. Moreover, it has been of great interest to economists whether monetary policy has the same sort of effects in bull and bear stock market cycles. If a monetary policy has asymmetric impacts, policy makers should consider stock market cycles while implementing it. The objective of the present study is to investigate the reaction of stock returns to monetary policy and asymmetries over bull and bear cycles in Iran. Moreover, the impact of monetary policy on the switching probabilities between bull and bear regimes is also examined. The theoretical framework for explaining the asymmetries over stock market cycles can be described by the models with financial restrictions. According to these models, financial restrictions are more in bear cycles because of lower net worth in these periods. The lower the net worth, the greater the external finance premium should be. Higher external finance premium create a financial propagation mechanism which amplifies the interest rate effects of monetary policy (Garcia and Schaller, 2002; Chen, 2007).

#### **METHODOLOGY**

To examine asymmetries we employ Markov-switching (MS) models developed by Hamilton (1989). Unlike linear models this approach is nonlinear and can handle asymmetries. Besides, Hamilton algorithm endogenously determines bull and bear stock market cycles based on the data. In this study Hamilton (1989) MS model is modified to allow monetary policy to affect stock returns. Moreover, basic MS model is extended to a time-varying transition probability MS model (TVTP-MS) to allow the probability of switching between regimes depending on monetary policy.

#### **FINDINGS**

According to the findings MS models identify two regimes with different means and variances conventionally labelled as bull and bear. Average expected durations of bull and bear regimes show that both regimes are highly persistent. They persists on average around 10 to 12 quarters. The results of MS models show that monetary policy significantly affect stock returns only in bear cycles. When a monetary policy is measured by real M2, it has a

positive impact on stock returns. However, when it is measured by real interest rate it negatively affects stock returns. In other words, an increase in real M2 raises stock returns while increasing real interest rate reduces returns.

To measure the impact of monetary policy on the dynamics of switching between regimes we estimate a TVTP-MS model. The results indicate that an expansionary monetary policy raises the probability of remaining in a bull regime. Furthermore, an expansionary monetary policy reduces the probability of switching from a bull regime to a bear one. In addition, an expansionary monetary policy decreases the probability of being trapped in a bear market while it can increase the probability of switching from a bear market to a bull one.

## CONCLUSION

The results of a modified MS model indicate that monetary policy significantly affect stock returns only in bear cycles. More specifically, increase in real M2 raises stock returns while increasing real interest rate reduce returns for both nominal and real returns in bear regimes. These findings are in line with the prediction of the models with financial restrictions. Finally, Empirical results from estimating TVTP-MS models suggest that an expansionary monetary policy raises the probability of remaining in a bull regime while reduces the probability of being trapped in a bear regime.

As a policy implication, monetary policy makers should consider stock market cycles in implementing monetary policies. Especially in bear market periods implementing an expansionary monetary policy may lessen the probability of remaining in bear markets and will raise the probability of switching from a bear regime to a bull one. Moreover, stock market investors should consider that the impact of monetary policy on stock returns may depend on the phase of stock market.

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