Asset prices regime-switching and the role of inflation targeting monetary policy

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ABSTRACT

This paper provides the empirical framework to assess whether UK monetary policy shocks induce both the UK housing market and the UK stock market to remain at a high-volatility (risk) environment. The Markov regime switching modelling approach is employed in order to identify two distinct environments for each market, namely, a high-risk environment and a low-risk environment, while a probit model is employed in order to test whether monetary policy shocks provide this predictive information regarding the current state of both markets under consideration. Our findings indicate that monetary policy shocks do indeed have predictive power on the stock market. In addition, in both asset markets, there is a key role for inflation. Results are important especially within the framework of the inflation targeting monetary policy regime.

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1. Introduction

This study investigates the effects of UK monetary policy on the UK housing and the UK stock market, respectively, considering two distinct regimes/states for each market, namely, a high-risk environment and a low-risk environment. In particular, the main objective is to investigate whether UK monetary policy decision making induces these markets to remain at the high-risk environment at times of economic turbulence. In this...
regard, the underlying hypothesis of the study is that developments in UK monetary policy may have predictive power on both UK markets of interest. Once this is established, the findings of the study can then be used to inform monetary policy decisions.

To accomplish our objective, initially, we consider a two-state Markov process, in order to draw a distinction between the high-risk environment and the low-risk environment for both the UK housing and the UK stock market. It should be noted that the classification of these regimes is based on each regime’s degree of volatility as the latter is measured by the corresponding standard deviation. Having established the two differing regimes, we then turn to a probit regression framework, to test whether a monetary policy shock, approximated by positive changes in the short-term interest rate of the economy, has any effect on the probability that both markets move across these two distinct regimes. It is also worth noting that the analysis emphasises periods characterised by turbulent economic conditions as well as monetary policy conduct characterised by upward adjustments of interest rates (i.e. contractionary policy).

Considering the framework of the study, this mainly comprises two parts. The first part is related to the fact that monetary policy at the Bank of England (BoE) is inflation targeting and therefore is dedicated to promoting increased levels of transparency and to effectively controlling expectations regarding the future level of inflation in the economy. Existing literature on inflation targeting suggests that given increased levels of monetary policy credibility, economic agents, and – by implication – asset markets, fashion their expectations on the basis of broader economic conditions and concentrate less on changes in the monetary policy instrument (see, inter alia, Sims, 2003; Lomax, 2004; as well as King, 2012). This could be suggestive of the fact that rises in the short-term interest rate of the economy may even have a positive impact on asset prices if economic agents perceive this as the consistent effort on behalf of the central bank to successfully control inflationary pressures. This suggestion deviates considerably from the traditional view – albeit this mainly concerns the stock market, which has been extensively investigated by existing literature – that there exists a negative relationship between interest rates and asset prices (see, among others, Mishkin, 2001; and Bjornland & Leitemo, 2009).

The second part of the framework is provided by the link between monetary and fiscal policies. In particular, authors such as Pastor and Veronesi (2012) opine that stock markets can be extremely alert when it comes to changes in government policy, as typically the latter involves fundamental changes in the economic environment. What is more, Baker, Bloom, and Davis (2013) report that increased levels of economic uncertainty exert negative effects on investment. It follows that increased levels of monetary policy transparency and credibility might be offset by increased levels of uncertainty.

Weaving together the pieces of information provided above, we proceed with the investigation of whether rises in the monetary policy instrument – at times of economic turmoil – induce any of the two markets of interest to remain at the high-risk environment. It follows that the intended outcomes of the study are mainly related to the fact that during periods of increased economic unrest, monetary policy should affect asset markets even under an inflation targeting monetary policy stance.

The period of study is January 1992 to November 2014. The United Kingdom was chosen mainly for the reason that BoE has adopted an explicit inflation target since October 1992 when the UK decided to leave the European Exchange Rate Mechanism (ERM). Furthermore, the fact alone that housing and stock market prices are at the heart of this study stresses the necessity to focus on a country whose relevant markets are both dynamic and influential, and therefore, of particular interest to policy and decision makers. The UK economy exhibits these features at large and further provides fertile ground for this kind of analysis in many respects, as in recent years, it has witnessed not only significant increases in housing prices (Bean, 2003; ONS, 2013a), but also substantial financial turmoil related to drastic developments in financial markets—both domestically and at the international level (Schwert, 2011). Therefore, shedding light on the linkages between monetary policy decision making and the two markets of interest could improve our understanding regarding developments in the UK economy.

Prominent among the results of the study is that monetary policy shocks do provide predictive information regarding the state of the stock market, while results for the housing market are rather inconclusive. What is more, inflation appears to have a very important role to play in both markets, as apparently, higher levels of inflation induce both markets to remain at the high-volatility regime. Findings are non-trivial especially when it comes to investigating the consequences of inflation targeting monetary strategy with which central banks specifically aim at anchoring expectations about future inflation. Predicated upon higher levels of transparency and accountability on behalf of the monetary policy authority, inflation targeting is assumed
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