Monetary policy and stock returns under the MPC and inflation targeting

Georgios Chortareas [a], Emmanouil Noikokyris [b],*

[a] Department of Management, King's College London, Franklin-Wilkins Building, 150 Stamford Str., London SE1 9NH, England, UK
[b] Kingston Business School, Kingston University London, Kingston Hill, Kingston upon Thames KT2 7LB, England, UK

ABSTRACT

We examine the implications of the Monetary Policy Committee (MPC) framework for the monetary policy–equity returns relationship in the UK. Using a standard event study methodology, we do not find a significant relationship between market-based policy surprises and equity returns. After controlling for joint response bias using Thornton's (in press) framework, we find that unexpected policy rate changes enter the stock prices discovery process. Moreover, we produce evidence that the impact of MPC policy decisions on equities depends on the MPC members' voting record publication, especially when the last reveals unanimity versus dissent voting.

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1. Introduction

The "nice" – non-inflationary consistently expansionary – decade in the U.K., which according to King (2003) extends from the early 1990s to the early 2000s, and partly overlaps with the "great moderation" (Bernanke, 2004b) in the U.S., has been characterised by reduced macroeconomic volatility. Nevertheless, asset prices, in general, and stock market prices, in particular, did not experience the same degree of relative stability as goods and services prices did. On the contrary, increased asset price volatility has fuelled the debate on whether and how monetary policy should react to financial markets (Bernanke & Gertler, 1999; Cecchetti, 2008; Goodhart, 2001). An active role of monetary policy with reference to financial markets, however, presumes that the last respond to central bank actions. Thus, the more fundamental question of if and how asset markets react to monetary policy emerges.

In this paper, we provide a comprehensive characterisation of the relationship between monetary policy and stock market returns in the U.K., focusing on the implications of the introduction of the Monetary Policy Committee (MPC) under inflation targeting and the associated Bank of England's (henceforth "the Bank") communication framework. The U.K. experienced a distinct change in its monetary policy regime with the implementation of the MPC framework in the context of inflation targeting. Moreover, inflation targeting has been adopted by an increasing number of central banks,[1] for many of which the Bank's framework is considered as prototypical and highly effective in anchoring inflation expectations.[2] The Federal Reserve itself recently took the step of setting an explicit inflation target of 2%, as measured by the personal consumption expenditures (PCE) price index.

While convincing evidence on the effects of monetary policy on equities has been produced, it mainly focuses on the U.S. (e.g., Bernanke & Kuttner, 2005; Gürkaynak, Sack, & Swanson, 2005; Rigobon & Sack, 2004; Thorbecke, 1997), and limited work exists for the U.K. Existing empirical evidence from the U.K. reports a negative relationship between monetary policy and stock returns (Bredin, Hyde, Nitzsche, & O'Reilly, 2007; Gregoriou, Kontonikas, Macdonald, & Montagnoli, 2009), but a number of questions pertaining to the stability of the monetary policy–stock returns nexus and the introduction of the MPC framework remain unexplored. Bredin et al. (2007), for example, use the event study framework of Bernanke and Kuttner (2005) and consider the period 1993–2004, while Gregoriou et al. (2009) study the period from 1999 to 2009 and find a change in the relationship between stock returns and monetary policy shocks before and after the financial crisis of 2007. In this paper, we examine the relationship between monetary policy shocks and stock returns specifically for the MPC period 1997–2008, and we

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* Corresponding author. Tel.: +44 20 8417 5388; fax: +44 20 8417 5038.
E-mail addresses: georgios.chortareas@kcl.ac.uk (G. Chortareas),
E.Noikokyris@kingston.ac.uk (E. Noikokyris).

[1] Currently at least twenty seven central banks in advanced and emerging economies are considered fully fledged inflation targeters, while several others are in the process of adopting full inflation-targeting regimes (Hammond, 2012).
[2] For example, see the contributions in Bernanke and Woodford (2005).

focus on the implications of the improved transparency under the MPC framework for this relationship.

To analyse the relationship between monetary policy shocks and stock returns on Bank's monetary policy announcement days, we start with the event study methodology set out by Bernanke and Kuttner (2005). Then, in order to account for the endogeneity and omitted variables problems, which complicate the identification of the monetary policy induced changes in stock prices under the event study methodology, we employ Rigobon and Sack's (2004) and Thornton's (in press) empirical frameworks. Rigobon and Sack's (2004) identification through heteroscedasticity methodology is used to test whether the ordinary least squares assumptions of the benchmark event study specification are satisfied or not. Furthermore, Thornton's (in press) empirical framework, which contrary to Rigobon and Sack's (2004) identification through heteroscedasticity approach does not require making an assumption about the relative volatility of monetary policy shocks, is used to estimate the bias introduced in the event study estimations due to the simultaneous response of market-based proxies for monetary policy shocks to several other news during an event day and not just to monetary policy news.

While the Bank of England has adopted inflation targeting since 1992, this paper focuses on the implications of the MPC framework under which the Bank has been operating since 1997 when it was granted independence. As King (2002; 459) suggests, this was "the most significant institutional change" under the inflation targeting era. The Bank has been endowed with the mandate to set the policy rates, which until then were set by the government. Moreover, it has been argued that while the Bank enjoys credibility after the introduction of the MPC, this credibility had not been attained during the period 1992–1997 (Angeriz & Arestis, 2007). Understanding the nature of the relationship between monetary policy and asset prices is important not only during the "normal" periods but also during crises, when the most effective policy responses to asset prices crashes are sought. We confine our analysis to the "great moderation" period, however, when the monetary policy strategy with reference to financial markets volatility has to be modelled. The post-crisis period, which is characterised by unconventional monetary policy actions, is beyond the focus of this paper.

The pursuing of an open and transparent communication policy is considered of key importance under the MPC framework in containing expectations and affecting longer-term rates (e.g., Bernanke, 2004a; King, 2005). One could even argue that transparency is the *modus operandi* of inflation targeting. The call for increased transparency under the MPC framework can also have significant implications for investors, as "central bank communication is largely, sometimes almost exclusively, directed at the financial markets" (Blinder, Goodhart, Hildebrand, Lipton, & Wyplosz, 2001: 25). Consequently, we investigate the implications of increased-transparency central bank communication, as manifested in the U.K. through the publication of the inflation report and the MPC meetings' minutes, for the relationship between monetary policy shocks and stock returns on Bank's announcement days.

Typically, all relevant information available to the central bank, reflecting any informational advantage, is incorporated in the policy decision announcements. The inflation report and the MPC minutes' publication, however, allow the Bank to communicate its intentions through additional channels. Therefore, the relative importance of the policy decision announcements' information content may have been affected. A spate of recent papers produces evidence in favour of the possibility that improved central bank communication can be informative for the future monetary policy stance. Fracasso, Genberg, and Wyplosz (2003), for example, find that the publication of inflation reports, especially those of higher quality, are associated with smaller monetary policy shocks on monetary policy announcement days. Gerlach-Kristen (2004) and Horváth, Šmídková, and Zápal (2012) find that the releases of the MPC minutes' voting record help in predicting

the Bank's future policy stance. A question that naturally emerges, therefore, is how the openness during the MPC period can influence the relationship between monetary policy shocks and stock returns on Bank's announcement days.

The monetary policy framework under the MPC in a country with highly developed financial markets, as is the U.K., offers a unique laboratory for addressing such issues, since the regular publication of the inflation report and of the MPC meetings' minutes on fixed dates disseminate information about monetary policy deliberations. Although other forms of communication, which provide information reflected in monetary policy decisions (e.g. public speeches of Bank's MPC members) are available, we focus on the effects of the inflation reports and of the MPC meetings' minutes, which constitute the "two main vehicles" of transparency (Vickers, 1998: 369). In particular, we examine whether the timing of the inflation report and the voting pattern of the MPC members incorporated in the MPC meetings' minutes releases influence the way MPC policy decision announcements impact on stock returns. To our knowledge, the implications of information dissemination through inflation reports and MPC minutes' publications for the relationship between monetary policy shocks and stock returns on MPC announcement days have not been explicitly analysed.[3]

This paper focuses on the identification of the responsiveness of stock prices to market-based proxies for monetary policy shocks on the MPC policy announcement days (Kuttner, 2001). Conventional event study models are based on the assumption that stock prices adjust immediately to all news affecting firms' future cash flows and discount rates, and, thus, measure equities reaction to the news in a short window surrounding the arrival of the news. By construction, therefore, they do not distinguish between the long-run and the short-run effects of monetary policy shocks, as, for instance, is the case with the studies using, among others, cointegration techniques (e.g., Belke & Polleit, 2006), and unrestricted or structural vector autoregression (VAR) models (e.g., Li, İşcan, & Xu, 2010; Thorbecke, 1997). Nevertheless, event study techniques capture the immediate effects that monetary policy shocks emerging from MPC meetings have on equities, and, additionally, they allow capturing the differential, if any, effects that the monetary policy shocks of specific MPC announcements have on equities. This latter feature makes them suitable for the present study, which focuses on the implications of the timing and content of Bank's communication for the impact of MPC announcements on equities.

The following section introduces a baseline model for the estimation of the effects of monetary policy on stock returns during the MPC framework 1997–2008, taking into account several factors that could potentially introduce bias in the estimation of the reaction of stocks to monetary policy shocks. Section 3 focuses on the monetary policy's effects on stock returns under the MPC framework, considering the implications of the information dissemination through inflation reports and the MPC minutes' publications. Section 4 concludes.

2. Stock market reaction to Bank's monetary policy shocks

2.1. Baseline analysis

In this section, the aim is to identify the effects of monetary policy on equity prices in the U.K. during the period 1997–2008. We start the empirical analysis with benchmark regressions in the spirit of Bernanke and Bernanke and Kuttner (2005), which capture the sensitivity of daily stock returns to the expected and unexpected elements of monetary policy announcements. This event study methodology has been critiqued to yield biased reaction estimates firstly, because monetary policy decisions are also likely to be affected by developments in the stock market (endogeneity bias) and secondly, because stock returns and market-based proxies for monetary policy shocks simultaneously

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[3] The implications of the inflation report and MPC minutes publications for the U.K. bond markets have been analysed in Chortareas, Jitmaneeroj, and Wood (2012).