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International Review of Financial Analysis 14 (2005) 356–375
IRFA
INTERNATIONAL REVIEW OF
Financial Analysis

# Macroeconomic announcements, volatility, and interrelationships: An examination of the UK interest rate and equity markets

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## Abstract

This study investigates the intraday and daily pricing behavior of UK interest rate and equity index futures contracts. The paper initially examines the response of Short Sterling, Long Gilt, and FTSE100 to the release of scheduled macroeconomic announcements before employing dynamic time series techniques in order to reveal the nature of causal transmission patterns between these variables. In brief, short-term interest rates were found to be highly sensitive to indicators of prevailing economic conditions. However, the release of data important in the formation of inflationary expectations had a relatively subdued impact on long-term rates. Announcement effects appear somewhat ambiguous for the stock market. The analysis also reveals the bid–ask bounce and swift mean reversion in volatility to be important behavioral features of the return-generating

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1057-5219/$ - see front matter 
doi:10.1016/j.irfa.2004.10.001

process. Whilst the three variables appear to be bound by two cointegrating relationships, the tests for lead/lag relationships produce mixed results.


*JEL classification:* C32; E43; F30; G13; G14
*Keywords:* Announcements; Volatility; Cointegration

## 1. Introduction

What information might be expected to move UK interest rate and equity markets, and to what extent do these markets respond in a similar manner to the arrival of news? Do these markets exhibit established empirical properties like volatility clustering and the bid–ask bounce around the time of announcements? Furthermore, what is the nature of the interrelationships within and across the UK interest rate and stock markets? In attempting to address these questions, this study conducts an empirical investigation into the intraday and daily pricing behavior of UK interest rate and equity index futures contracts.

A large volume of empirical work has now identified a significant bond market reaction to macroeconomic news announcements. Whilst much of this analysis has been based on the US treasury market, studies of announcement effects in UK interest rate markets have also established similar reactions. For instance, significant movements in daily Short Sterling and Long Gilt prices have been attributed to the release of money supply information (see Dale, 1993; Goodhart & Smith, 1985; Haldane & Read, 1999) and retail price index (RPI) data (see Goodhart & Smith, 1985; Joyce & Read, 1999). Meanwhile, Brooke, Danton, and Moessner (1999) find that short-term and long-term interest rates are sensitive to a range of domestic and US announcements, including average earnings and RPI in the UK, and consumer price index (CPI), nonfarm payrolls, retail sales, industrial production, and gross domestic product (GDP) numbers in the United States. Studies using very high-frequency data also document a similar effect on the Short Sterling and Long Gilt around the time of news releases (see ap Gwilym, Buckle, Clare, & Thomas, 1998; Becker, Finnerty, & Kopecky, 1995).

In contrast to interest rate markets, the impact of macroeconomic news releases on equity markets appears somewhat mixed. For instance, Cutler, Poterba, and Summers (1989) find that, in most cases, information cited by the press as causing market movements in the United States was, in fact, quite unimportant. This reinforces the earlier studies of Hardouvelis (1987), Pearce and Roley (1985), and Schwert (1981), who all conclude that there is little evidence to suggest that the US stock market responds to macroeconomic news other than monetary information. On the other hand, the UK-based studies of Goodhart and Smith (1985) and Joyce and Read (1999) establish RPI releases to be significant for the UK equity market, and ap Gwilym et al. (1998) find that the FTSE100 is sensitive to RPI, producer price index (PPI), and public sector borrowing requirement (PSBR) data. Of US news items, Becker, Finnerty, and Kopecky (1996) report that PPI, merchandise trade, nonfarm payrolls, and CPI announcements are important for the FTSE100.

This overview of existing research leads us onto the main aims of this paper. First, the only study that conducts a simultaneous examination of Short Sterling, Long Gilt, and