Monetary policy surprises and international bond markets

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A B S T R A C T

We examine the impact and spillover effects of monetary policy surprises on international bond returns. Within the framework of Campbell and Ammer (1993), we decompose international bond returns into news regarding future returns, real interest rates and future inflation for Germany, the U.K. and the U.S. We examine how excess bond returns in these three countries are affected by surprise changes in monetary policy in each country. Our measure of the unanticipated element of monetary policy is based on futures markets rather than the more traditional vector autoregression. Our results indicate that excess bond returns primarily react to domestic as compared to foreign monetary policy surprises. We also find there is a strong divergence between the effects of domestic monetary policy on excess bond returns in Germany relative to the U.K. A surprise monetary tightening in Germany (U.K.) leads to a rise (fall) in the excess holding period return. We trace this effect to news about lower (higher) inflation expectations and could be potentially rationalized by differences in the credibility of the monetary policy authority in each country.

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1. Introduction

The last decade has been witness to the primacy of monetary policy as the main tool used by policymakers in the stabilization of inflation and output. Concomitantly, commentators and analysts

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appear to pay close attention to changes in policy rates in the belief that such changes, particularly unexpected changes, can influence asset market returns. However, neither policymakers nor academics fully understand how monetary policy affects the economy. In recent years, an increasing amount of attention has been paid to the qualitative and quantitative impact of monetary policy changes on other asset prices such as interest rates and stock returns. For the U.S., the influence of monetary policy surprises on other interest rates is examined by Cook and Hahn (1989), Poole and Rasche (2000), Kuttner (2001) and Cochrane and Piazzesi (2002) while Bomfim (2003), Rigobon and Sack (2004), Ehrmann and Fratzscher (2004) and Bernanke and Kuttner (2005) all examine how U.S. policy rate changes affect the U.S. stock market. Bredin et al. (2007) document similar findings for the impact of U.K. monetary policy surprises on the U.K. stock market while Bredin et al. (2009) examine the influence of European monetary policy surprises on equity returns. Further, Wongswan (2009) documents a wide range of global markets react significantly to U.S. monetary policy announcements.

With increasing globalization, asset markets appear to move more in tandem with each other. For example, Kim et al. (2005) find that linkages among European stock markets inside and outside the Euro area have strengthened following currency unification. Further, empirical evidence suggests that there are strong correlations between the major bond markets (Ilmanen, 1995) and that these correlations have increased dramatically in recent years (Solnik et al., 1996). There is also evidence of at least partial integration between major international bond markets (Barr and Priestley, 2004) while Driessen et al. (2003) identify common factors in predicting international bond returns. Additionally, Kim et al. (2006) perform a dynamic analysis of integration to try to capture the evolving nature of relationships between markets. They establish strong contemporaneous and dynamic linkages between Germany and other Euroland bond markets but that these links are much weaker and more stable for the U.K. and accession countries.

Not surprisingly, recent research has begun to highlight the likely influence of global, regional and local influences on asset returns. For example, Christiansen (2007, forthcoming) investigates the impact of global and regional spillovers in bond and equity markets and uncovers significant spillovers from both global (U.S.) and regional (E.U.) markets into domestic markets and that the introduction of the Euro has typically strengthened regional effects. While there has also been an increasing number of studies that examine the influence of both domestic and foreign news on domestic and foreign assets, e.g., Andersen et al. (2003), Becker et al. (1995), Ehrmann et al. (2005), and Faust et al. (2007). It is within this context that we seek to investigate the international transmission of monetary policy in terms of its impact on international bond markets.

The price of a bond is a function of the discounted stream of future coupon payments and the redemption value of the bond. Shiller and Beltratti (1992) and Campbell and Ammer (1993) advance an approach to decompose news regarding current excess bond returns into revisions in expectations of future excess returns, inflation and real rates.[1] In this study, we focus on the German, U.K. and U.S. long-term bond markets and conduct a decomposition of each respective country's bond returns based on Campbell and Ammer (1993) decomposition while permitting returns in each country to affect one another.

Given the pivotal role of monetary policy in determining bond returns we next seek to characterize the impact of unanticipated domestic and foreign monetary policy changes on each country's bond returns and its components. A natural question is how important are domestic monetary surprises in determining domestic bond returns and are there spillovers from foreign monetary policy to domestic returns? It is frequently argued that U.S. monetary policy drives world bond returns – our study seeks to shed light on this view. Related evidence suggests that German bond returns respond more to U.S. macro news than domestic or other Euro area news, see for example Goldberg and Leonard (2003) and Andersson et al. (2006). The reasons cited for such findings include greater financial market integration, the importance of the U.S. to global growth and the earlier release (relative to the Euro area) of U.S. macro announcements.

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[1] Engsted and Tanggaard (2007) recently apply this decomposition to U.S. and German bond markets while Barr and Pesaran (1997) decompose U.K. bond returns. However, neither study examines the impact of monetary policy shocks.