Turn-of-the-month and intramonth effects in government bond markets: Is there a role for macroeconomic news?

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\textbf{Abstract}

This paper focuses on the turn-of-the-month (TOM) and intramonth anomalies in government bond returns. In particular, we examine whether the TOM and intramonth effects exist in government bond markets, and moreover, whether these anomalies are related to the release of macroeconomic news as suggested in recent stock market studies. Using data on the 2-year and 10-year US Treasury Notes and German government bonds, we document a modest TOM effect in government bond returns. This effect does not disappear after controlling for the release of macroeconomic announcements, thereby suggesting that the origin of the TOM effect is not necessarily the same across asset classes.

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1. Introduction

The turn-of-the-month (TOM) and intramonth effects are two of the many seasonal anomalies that have been documented in the existing literature. Considerable empirical evidence suggests that stock returns are positive at the turn-of-the-month and that returns are positive during the first half of the month (see e.g. Ariel, 1987; Lakonishok and Smidt, 1988; Agrawal and Tandon, 1994; Booth et al., 2001; Kunkel et al., 2003; McGuinness, 2006; Nikkinen et al., 2007; Gerlach, 2007).\textsuperscript{3} Although the TOM and
Table 1
Descriptive statistics for US and German government bond returns.

<table>
<thead>
<tr>
<th></th>
<th>US 2-year</th>
<th>US 10-year</th>
<th>Germany 2-year</th>
<th>Germany 10-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Median</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.010</td>
<td>0.016</td>
<td>0.003</td>
<td>0.010</td>
</tr>
<tr>
<td>Minimum</td>
<td>−0.005</td>
<td>−0.020</td>
<td>−0.004</td>
<td>−0.013</td>
</tr>
<tr>
<td>Std. dev.</td>
<td>0.001</td>
<td>0.005</td>
<td>0.001</td>
<td>0.003</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.209</td>
<td>−0.375</td>
<td>−0.418</td>
<td>−0.395</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>7.934</td>
<td>4.369</td>
<td>5.395</td>
<td>4.070</td>
</tr>
<tr>
<td>No. of obs.</td>
<td>1499</td>
<td>1499</td>
<td>1529</td>
<td>1529</td>
</tr>
</tbody>
</table>

Intramonth effects have been examined extensively in stock markets, surprisingly little is known about the TOM and intramonth effects in bond markets. This paper aims to contribute to the literature by focusing on the turn-of-the-month and intramonth effects in government bond returns.

Previous studies have proposed several alternative explanations for the TOM and intramonth anomalies. These include the “window dressing” (see e.g. Thaler, 1987) and the turn-of-the-month liquidity hypothesis (see e.g. Ogden, 1990; Booth et al., 2001). Most recently, Nikkinen et al. (2007) and Gerlach (2007) postulate that the TOM and intramonth anomalies in stock markets are caused by the clusterization of US macroeconomic news releases. The empirical findings documented in Nikkinen et al. (2007) and Gerlach (2007) indicate that both the TOM and intramonth effects disappear after controlling for the clustered release of macroeconomic news.

The existing literature shows that most of the value-relevant information for government bonds is related to macroeconomic fundamentals (see e.g. Balduzzi et al., 2001; Ahn et al., 2002; Andersson et al., 2009). Given that macroeconomic news releases are shown to explain the TOM and intramonth effects in stock markets (Nikkinen et al., 2007; Gerlach, 2007), it is of interest to examine whether the clustered release of US macroeconomic news causes turn-of-the-month and intramonth effects also in government bond returns.

Using data on 2-year and 10-year US Treasury Notes and German government bonds, we document a modest TOM effect with positive bond returns on the last trading day of the month. We find no evidence of intramonth effects in government bond returns. Furthermore, our empirical findings indicate that the observed turn-of-the-month effect is not caused by the clustered release of macroeconomic news. In general, these findings indicate that the origin of the turn-of-the-month effect is not necessarily the same across asset classes.

The remainder of this note is organized as follows. Section 2 presents the data, while Section 3 describes the methodology used in the empirical analysis. Our empirical findings are reported and discussed in Section 4. Finally, Section 5 provides concluding remarks.

2. Data

The empirical analysis in this paper is performed using daily data on the benchmark clean price indices of 2-year and 10-year US Treasury Notes and German government bonds. The sample period spans from January 2, 2001 to December 29, 2006. The bond index data used in the analysis are obtained from Thomson Financial Datastream. Descriptive statistics for the log returns of the government bond indices are reported in Table 1.

The sample of scheduled US macroeconomic news releases used in our empirical analysis is based on the previous literature and on the Bureau of Labor Statistics (BLS) classifications of major economic

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5 The clean price indices exclude the accrued interest, and thereby mitigate the unusual bond price behaviour on the ex-coupon days.
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