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The reaction of asset prices to macroeconomic announcements in new EU markets: Evidence from intraday data

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Abstract

We estimate the impact of macroeconomic news on composite stock returns in three emerging European Union financial markets (the Budapest BUX, Prague PX-50, and Warsaw WIG-20), using intraday data and macroeconomic announcements. Our contribution is twofold. We employ a larger set of macroeconomic data releases than used in previous studies and also use intraday data, an *excess impact* approach, and foreign news to provide more reliable inferences. Composite stock returns are computed based on 5-min intervals (ticks) and macroeconomic news are measured based on the deviations of the actual announcement values from their expectations. Overall, we find that all three new EU stock markets are subject to significant spillovers directly via the composite index returns from the EU, the U.S. and neighboring markets; Budapest exhibits the strongest spillover effect, followed by Warsaw and Prague. The Czech and Hungarian markets are also subject to spillovers indirectly through the transmission of macroeconomic news. The impact of EU-wide announcements is evidenced more in the case of Hungary, while the Czech market is more impacted by U.S. news. The Polish market is marginally affected by EU news. In addition, after decomposing pooled announcements, we show that the impact of multiple announcements is stronger than that of single news. Our results suggest that the impact of foreign macroeconomic announcements goes beyond the impact of

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the foreign stock markets on Central and Eastern European indices. We also discuss the implications of the findings for financial stability in the three emerging European markets.

JEL classification: C52; F36; G15; P59

Keywords: Stock markets; Intraday data; Macroeconomic announcements; European Union; Volatility; Excess impact of news

1. Introduction, motivation and related literature

In this paper we analyze the impact of macroeconomic announcements on stock market returns using intraday data from the three most liquid emerging European Union markets: the Czech Republic, Hungary, and Poland. Our paper contributes to the related literature in several ways. First, to our knowledge, there are no studies investigating the direct impact of macroeconomic news on emerging EU stock markets using intraday data. Previous studies focus on advanced stock markets, especially on the German, U.S., and UK stock markets. Overall, a limited number of studies investigate stock markets in Central and Eastern Europe.[1] The only study that is closely related to ours is a recent work by Nikkinen et al. (2006) who analyze the behavior of volatilities around ten important scheduled U.S. macroeconomic announcements[2] on stock markets in several world regions, including the Czech Republic, Poland, Hungary, Slovakia, and Russia. Using cross-sectional monthly data, they find that these transition markets as a group are not affected by U.S. announcements. The monthly data they use, however, may not capture the true spillovers effects of foreign news announcements on local markets. We provide time series evidence and use intraday data to provide more precise findings.

Second, recent research accentuates the significance of using intraday data to reveal the importance of macroeconomic announcements on stock market activity. High-frequency studies include Anderson, Bollerslev and Cai (2000), Nikkinen and Sahlström (2004), Jones et al. (2005), Erenburg et al. (2005), and Rigobon and Sack (2006). In this paper, as an extension of this scant but growing literature, we use stock price data based on 5-min intervals to provide more robust estimates of public information on stock returns. Although these studies focus on developed markets' stock prices, we use data from European emerging markets.

Third, the majority of studies focus only on a few macroeconomic announcements. In particular, most of them analyze only one event, namely the impact of monetary policy news on stock

[1] Zalewska-Mitura and Hall (1999) and Chun (2000) analyze efficiency issues in the Budapest stock market. Tse et al. (2003) investigate the transmission of shocks from the U.S. stock market to the Warsaw stock exchange. Korczak and Bohl (2005) investigate the changes in stock prices and trading volume around depositary receipts issuance on a sample of Czech, Hungarian, Polish, Russian, Slovak and Slovenian stocks. Serwa and Bohl (2005) investigate the contagion effects of several financial shocks in the stock markets of Central and Eastern Europe. The remaining studies discuss the development of stock markets in Central and Eastern Europe, including Fink et al. (1998), Hermes and Lensink (2000), Rockinger and Urga (2000), and Scholtens (2000).

[2] The announcements considered are consumer confidence, consumer price index, employment cost index, employment situation, gross domestic product, import and export price indices, manufacturing and non-manufacturing, producer price index, and retail sales.