



Macroeconomic news announcements and price discovery: Evidence from Canadian–U.S. cross-listed firms[☆]



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ABSTRACT

This study employs macroeconomic news announcements as a proxy for new information arrivals and examines their impact on price discovery. We compare the price discovery of 38 Canadian companies listed on the Toronto Stock Exchange (TSX) and the New York Stock Exchange (NYSE) for the period 2004–2011. First, we observe that price discovery shifts significantly during macroeconomic news announcement days. Second, the NYSE becomes more important in terms of price discovery, regardless of the origin of the news. Third, we examine the relation between price discovery and market microstructure variables. After controlling for liquidity shocks, we find that the impact of news announcements persists. Intraday analyses of price discovery on periods surrounding news releases further support these findings. Overall, our findings suggest that there is a difference in information-processing capability of the two markets, with the U.S. market being better at processing information than the Canadian market during macroeconomic news announcements.

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1. Introduction

In today's globalized financial markets, financial assets, such as stocks often trade in multiple markets. In the case of cross-listed stocks, intermarket arbitrage should keep the prices in the different markets from drifting apart. When new information arrives it affects the price of the asset in both markets. However, both markets may react to the new information in a different way. This leads to the concept of price discovery, which examines how well these markets process the information and incorporate them into prices. Price discovery becomes particularly important when new information arrives, because this is the time when the information processing capacity of a market is most relevant, and reflects the competitiveness of that particular market.

One important point in time when new information arrives to the market is the release of macro-economic news. These news announcements provide indications for the near-term policy changes that will subsequently be used by investors to price securities. Since macroeconomic news announcements are pre-scheduled, the timing of such releases is known, and investors may choose to trade on this information in one or another market. This may lead to a temporal shift in price discovery between markets which is related to the arrival of information from macroeconomic news announcements. Although the impact of news announcements on security prices has been studied extensively (see Andersen et al., 2007; Love and Payne, 2008; and Nowak et al., 2011), and studies on the price discovery of cross-listed securities are abundant (see Chen and Choi, 2012; Hupperets and

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Menkvelde, 2002; Pascual et al., 2006), studies on the impact of news announcement on price discovery are rare, especially when considering a multi-market setting. However, we can expect a relationship between macroeconomic news announcements and price discovery, because when news gets released, they affect prices in one market which then leads to movement in prices in other markets. In addition, we may expect that the shift in price discovery is driven by the information processing capacity of a market and should not be affected by the origin of the news (i.e. whether this information is produced in the home market or in the foreign market).

In this paper, we investigate whether information released during scheduled news announcements in one market leads to a shift in price discovery from one market to another. We test this conjecture by comparing the Hasbrouck (1995) information share (IS) and Gonzalo and Granger (1995) permanent–transitory (PT) decomposition measures during days with scheduled macroeconomic news announcements with days with no announcements. In particular, we assess Canadian stocks traded in Canada and the U.S.¹ In doing so, we consider Canadian as well as U.S. macroeconomic news. Particularly, we examine the extent to which macroeconomic news announcements from either market contribute to the price discovery of Canadian stocks listed in these two markets.

Our work has a number of novel features compared with previous studies. First, our study is the first to analyse the impact of macroeconomic news on the price discovery of cross-listed stocks. Second, we assess both Canadian and U.S. macroeconomic news, compared with previous studies which only looked at the impact of announcements in a single market. Third, we examine the relation between price discovery and macroeconomic news announcements over a long period of time, from 2004 to 2011.

Our analysis leads to several interesting findings. First, we observe that price discovery shifts significantly during macroeconomic news announcements. Second, the U.S. market becomes more dominant in terms of price discovery, regardless of the news country of origin. Third, we also examine the relation between price discovery and market microstructure variables. After controlling for liquidity shocks, we find that the impact of news announcements still persists. Intraday analyses of price discovery on periods surrounding news releases further support these findings, particularly during Federal Funds Rate announcements. On the whole, our results suggest that the U.S. market is better at processing information from macroeconomic news announcements.

The remainder of this paper is as follows. Section 2 discusses some of the relevant literature on the price discovery of cross-listed stocks and its linkage with macroeconomic news announcements. Section 3 describes the framework in deriving the vector error correction model, as well as the Gonzalo and Granger (1995) permanent–transitory decomposition and Hasbrouck (1995) information share measures. Section 4 looks at the selection of sample companies, and macroeconomic news announcements. Section 5 reports the empirical findings. Finally, Section 6 concludes.

2. Literature review

The main objective of this study is to assess whether information from macroeconomic news releases contributes to the price discovery of stocks listed on multiple exchanges. As such, we connect two strands of literature; namely, the price discovery of cross-listed stocks and the impacts of macroeconomic news announcement on security prices. Whilst each of these topics has been studied separately in the literature, the connection between them has received little attention.

Extant studies on price discovery suggest that the home market tends to lead price discovery for cross-listed stocks, and this can be attributed to several market characteristics. For instance, Lieberman et al. (1999) investigate the dominant–satellite relation of stocks listed on two international markets, Tel-Aviv and New York. They find that arbitrage opportunities are generally not available and that usually, the domestic market emerges as the dominant one and the foreign market as the satellite one, particularly for international companies with large volume and stock-holding. Eun and Sabherwal (2003) examine price discovery for Canadian stocks that are also listed on the NYSE, AMEX, or NASDAQ in the U.S., and find that generally Canada leads in terms of price discovery. They further observe that the U.S. share of price discovery is directly related to the U.S. share of trading, and inversely related to the ratio of bid–ask spreads. Pascual et al. (2006) study the price discovery process of the Spanish stocks listed on the Spanish Stock Exchange and cross-listed on the NYSE. They find that the home market leads in terms of price discovery which is attributable to its own trading activity. Frijns et al. (2010) examine the price discovery of Australian and New Zealand bilaterally cross-listed stocks, and find that in both cases the home market is dominant in terms of price discovery. However, they also observe that as firms grow larger and their cost of trading in Australia declines, the Australian market becomes more informative.

It has further been documented that the arrival of information contributes to the price discovery process between markets. Using volatility as a proxy for information on the Bund futures contract, Martens (1998) shows that during volatile periods, the share of volume in the London International Financial Futures Exchange decreases whilst the share in price discovery process increases; whereas in quiet periods, the Deutsche Terminbourse share of price discovery increases. Amin and Lee (1997) document that the option market's share of price discovery increases relative to the equity market's share prior to quarterly

¹ The nature of cross-listings of Canadian stocks in the U.S. offers several advantages. First, Canada and the U.S. are highly integrated markets. This enables easy access for firms to list and also for investors to trade actively in both markets. Second, their trading hours are synchronised and overlap completely. Regular trading hours for both markets are from 9:30 AM to 4:00 PM (EST). This is important for conducting intraday analysis since we need prices observed at the same time in the two markets. Third, Canadian securities are listed in the U.S. as ordinary shares, unlike securities from other countries which are usually listed as American Depositary Receipts (ADRs). Canadian stocks trading in the U.S. and Canada are therefore fully fungible, and are likely to move more closely to each other than the prices of ADRs from other countries and their home-market securities.

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