Bank of Canada communication, media coverage, and financial market reactions

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ABSTRACT

We examine how Bank of Canada communications and media reporting on them impacts Canadian bond and stock market returns. Official communications exert a relatively larger influence on the bond market, whereas media coverage is more relevant for the stock market.

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1. Introduction

In recent literature, central bank communication is identified via either (i) the interpretation of newswire reports (e.g. Ehrmann and Fratzscher, 2007) or (ii) the written content of original communications (e.g. Hayo et al., 2008). Financial markets react noticeably when either identification channel is used. In the case of Federal Reserve (Fed) communications, there is preliminary evidence that “financial market news is not necessarily created at the time when the information becomes available, but comes into existence only after it goes through a filtering process by the media” (Neuenkirch, 2009, 52). Individual news recipients seemingly ignore relevant information, probably because it is too costly to acquire, and depend on information filters to cope with the flood of daily information.

In this paper, we explore differences in financial market reaction to newswire reports and original communications. Canada is an interesting country for a case study, since communications by the Bank of Canada (BOC) are well documented. Furthermore, Canada has advanced financial markets, a fact that should ensure frequent coverage of monetary policy events by news agencies. Hayo and Neuenkirch (2010) show that BOC communications exert a significant and economically relevant impact on Canadian financial market returns. Their approach implicitly assumes that financial markets automatically process news at the time the information becomes available. We extend their data set and analyze all types of BOC communications and media reporting on them (Reuters, The Globe and Mail, National Post, and Canadian Press) regarding monetary policy and economic outlook.

We address two specific research questions: (1) To what extent is Canadian central bank communication covered by the media? (2) Does media coverage initiate larger reactions on Canadian bond and stock markets than the original communications? To our knowledge, this is the first study to systematically compare the financial market impact of (i) original communications, (ii) reports on these communications in leading national newspapers, and (iii) international news agency coverage of the same.

2. Data

We start with the same data set used in Hayo and Neuenkirch (2010). Coding of the dummy variables for the Canadian economic outlook communications is either “positive” (EO+) or “negative” (EO−); “tightening” (MP+) or “easing” (MP−) are the categories.

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1 Sims (2003) provides a theoretical framework for information-processing constraints in macroeconomic models.
for monetary policy communications. There are 12 communication dummies as each type of communication (statements, monetary policy reports, and congressional hearings and speeches) can be coded into four different categories (EO+, EO−, MP+, and MP−). The data set is extended by including the world’s largest newswire agency, Reuters, and three major Canadian newspapers: The Globe and Mail, National Post (formerly Financial Post), and Canadian Press. Over the sample period of 1 January 1998 to 31 December 2006, we systematically review the daily announcements available on the respective websites. We collect new stories if they concern Bank of Canada communications related to economic outlook or monetary policy inclination. Fig. 1 provides an overview of how central bank communication days and media coverage days are distributed over the sample period.

There is slightly more media coverage about communication (142; represented by transparent bars in Fig. 1) than original communication events themselves (116; represented by black bars), but the original events are more uniformly distributed over the sample period. There are two phases during which Canadian central bank communication received relatively intense media attention. The first one is from Q2-1999 to Q3-2000, which is the period before the BOC introduced a fixed schedule of interest rate decision days (fixed announcement dates). During this period, financial market agents (and the media) were uncertain as to which day the BOC would change its target for the overnight rate. The second phase of intensified coverage is from Q2-2005 to Q4-2005. During this time span, there was great uncertainty about when and to what extent the BOC would rejoin the Fed’s tightening cycle.

In our analysis, we differentiate between the original source and media coverage by Reuters and the major newspapers. We check whether (1) there is no media coverage of original communication, (2) the coverage matches the original source, (3) the coverage deviates from the original source (shows an obviously different interpretation than the original wording), or (4) the coverage is an exclusive report of central bank communication insofar as there is no original communication on either the reporting day or the day before. Thus, in the case of Reuters and newspaper coverage, we differentiate between ‘matching’, ‘deviant’, and ‘exclusive’, and assign these the same subcategories used for sorting original communications (EO+, EO−, MP+, MP−).²

### 3. Econometric methodology

Our Canadian financial market indicators comprise daily closing interest rates on government securities and daily returns on stock markets for the period January 1998 through December 2006. We study daily changes in three-month, six-month, and one-year Treasury bills and two-year Treasury notes and rates of change on the Toronto Stock Exchange Index (TSX). A GARCH(1, 1) specification with t-distributed errors (Engle, 1982; Bollerslev, 1986) is the starting point of our analysis. It is then simplified in a consistent general-to-specific testing-down process (Hendry, 1995) at a 5% significance level to increase estimation efficiency.³

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(1) \quad \text{Returns}_t = \gamma + \sum_{i=1}^{6} \delta_i \text{Financial Control Variables}_{i-1} + \\
+ \zeta \text{Control Variables} + \eta \text{Media Coverage Dummies} + \theta \text{Communication Dummies} + \mu, \\
\mu_t = \epsilon_t h_t^{1/2}, \\
h_t = \alpha_0 + \alpha_1 \mu_{t-1}^2 + \beta_1 h_{t-1},
\]

where \( \alpha_0, \alpha_1, \beta_1, \mu, \gamma, \delta, \zeta, \eta, \theta, \epsilon_t \) and \( t \) are parameters or vectors of parameters and \( \epsilon_t | \Gamma_{t-1} = \Gamma(t) \). \( \Gamma_{t-1} \) captures all information up to \( t-1 \), and \( \Gamma(t) \) is a \( t \)-distribution with \( v \) degrees of freedom. The vector of financial controls contains lagged returns, Canadian and US stock and bond returns, and CAD/USD and CAD/euro spot market returns. Other control variables are changes in Canadian and US target rates, the surprise component of several commonly watched macroeconomic announcements from both countries, and an impulse dummy for 9/11.⁴ Contemporaneous returns are excluded to avoid simultaneity problems. Bank of Canada communications and media coverage variables enter the equation when they actually hit the market. For example, a speech (or a newswire report about a speech) made after market closure hits the market the following day.

### 4. Empirical analyses

Table 1 shows the reaction of Canadian bond and stock market returns to central bank communication and its media

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² As there are very few observations for some categories in a particular newspaper, we construct summary variables for all three newspapers.

³ Media coverage does not necessarily have to be preceded by an official communication documented on the BOC website. News agencies and newspapers sometimes refer to informal interviews by central bank officials or provide analyses of past minutes and forecasts.

⁴ When there is deviant coverage, MP+ (MP−) implies a tighter (easier) monetary policy stance than provided by the original communication, whereas EO+ (EO−) refers to a brighter (worse) economic outlook.

⁵ Diagnostic testing of preliminary ordinary least squares estimations reveals significant ARCH effects. The final GARCH(1, 1) models sufficiently remove these ARCH effects.

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