



# The monetary origins of asymmetric information in international equity markets<sup>☆</sup>

Gregory H. Bauer<sup>a</sup>, Clara Vega<sup>b,c,\*</sup>

<sup>a</sup> *Financial Markets Department of the Bank of Canada, 234 Wellington Street,  
Ottawa, Ontario, Canada K1A 0G9*

<sup>b</sup> *William E. Simon Graduate School of Business Administration, Carol Simon Hall,  
University of Rochester, Rochester, NY 14627, United States*

<sup>c</sup> *The Federal Reserve Board of Governors, United States*

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## Abstract

Existing studies using low-frequency data have found that macroeconomic shocks contribute little to international stock market covariation. However, these papers have not accounted for the presence of asymmetric information where sophisticated investors generate private information about the fundamentals that drive returns in many countries. In this paper, we use a new microstructure data set to better identify the effects of private and public information shocks about U.S. interest rates and equity returns. High-frequency private and public information shocks help forecast domestic money and equity returns over daily and weekly intervals. In addition, these shocks are components of factors that are priced in a model of the cross-section of international returns. Linking private information to U.S. macroeconomic factors is useful for many domestic and international asset-pricing tests.

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\* Corresponding author. William E. Simon Graduate School of Business Administration, Carol Simon Hall, University of Rochester, Rochester, NY 14627, United States.

*E-mail addresses:* [gbauer@bankofcanada.ca](mailto:gbauer@bankofcanada.ca) (G.H. Bauer), [clara.vega@frb.gov](mailto:clara.vega@frb.gov), [vega@simon.rochester.edu](mailto:vega@simon.rochester.edu) (C. Vega).

## 1. Introduction

The causes of international stock market covariation remain a puzzling issue in finance. Asset-pricing models dictate that expected stock returns vary in response to changes in risk-free interest rates, changes in expected future cash flows, and/or changes in the equity risk premium. In a rational asset-pricing framework, with international market integration, comovements in international stock returns would be driven by news about macroeconomic factors that affect cash flows, risk-free rates, or risk premiums in many countries.

Existing studies using low-frequency data, however, show that macroeconomic factors have a limited impact on international equity returns. For example, King et al. (1994) construct a factor model of 16 national stock market monthly returns and examine the influence of 10 key macroeconomic variables. They conclude that the surprise components of these observable variables contribute little to world stock market variation. Rather, there is a dominant *unobservable* (i.e., non-public) factor driving international returns.<sup>1</sup> Karolyi and Stulz (1996) show that neither macroeconomic news announcements nor interest rate shocks significantly affect comovements between U.S. and Japanese stock returns. Connolly and Wang (2003) examine the open-to-close equity market returns of the U.S., the U.K., and Japan and find that foreign returns cause movements in domestic markets even after accounting for macroeconomic news announcements.

If public news about macroeconomic variables is not responsible for the comovements, could some “market friction” be responsible? One potential friction is trading based on asymmetric information. In the literature that examines the limits to international risk-sharing, asymmetric information is used as a theoretical explanation of the “home bias” and “familiarity” puzzles in international portfolio selection.<sup>2</sup> In contrast, the literature has been largely silent on the effects of trading based on private information on international asset-return covariability. When sophisticated agents trade, their private information is (partially) revealed to the market, causing revisions in asset prices. Trading based on private information could thus be a potential cause of the comovements in international stock returns if agents had superior knowledge about the common factors that price equities from many countries. However, the economic origins of such private information remain unexplored. Indeed, Goodhart and O’Hara (1997) wonder: “in the international context, how could private information be expected to have a global impact?”

In this paper, we provide an answer to this question. We start by providing empirical estimates of trading based on private information in the U.S. money and equity markets. Using an analysis of microstructure data, we show that some agents have superior knowledge about both future U.S. interest rates and aggregate U.S. equity market returns. Trades based on private information have a significant impact on money and equity market returns over holding periods that range from one day to one week.

Our interpretation of these results is that sophisticated investors have good information about future macroeconomic factors that will affect both U.S. equity prices and interest rates. If international equity markets are integrated, then information about U.S. factors will give informed agents superior knowledge about the global factors that price stocks in many countries (Albuquerque et al., 2006). It is then likely that the private information of the sophisticated investors trading in these (liquid) U.S. markets will help explain the cross-section of international equity returns.

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<sup>1</sup> King et al. interpret the common factor that is unrelated to fundamentals as an index of “investor sentiment.” See also King and Wadhvani (1990) and Lin et al. (1994).

<sup>2</sup> Sophisticated agents are believed to have superior (“private”) information about the returns on assets in their own country. A broader definition of private information is given below.

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