Journal of International Money and Finance 31 (2012) 766–792

Contents lists available at SciVerse ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf

Crossing the lines: The conditional relation between exchange rate exposure and stock returns in emerging and developed markets[☆]

Söhnke M. Bartram[a,*], Gordon M. Bodnar[b,1]

[a] Warwick Business School, Department of Finance, Coventry CV4 7AL, United Kingdom
[b] Johns Hopkins University, SAIS, 1717 Massachusetts Ave, NW Ste 704, Washington DC 20036, USA

JEL classification:
G3
F4
F3

Keywords:
Exchange rate exposure
Exchange rate risk
Corporate finance
International finance

A B S T R A C T

This paper examines the importance of exchange rate exposure in the return generating process for a large sample of non-financial firms from 37 countries. We argue that the effect of exchange rate exposure on stock returns is conditional and show evidence of a significant return impact to firm-level currency exposures when conditioning on the exchange rate change. We further show that the realized return to exposure is directly related to the size and sign of the exchange rate change, suggesting fluctuations in exchange rates as a source of time-variation in currency return premia. For the entire sample the return impact ranges from 1.2 to 3.3% per unit of currency exposure, and it is larger for firms in

☆ Helpful comments and suggestions by Kate Phylaktis (the editor), an anonymous referee and Greg Brown, Thomas C. Chiang, Jay Choi, Pasquale Della Corte, Xavier Gerard, Jean Helwege, Kedreth Hogan, John Hund, Delroy Hunter, Roger Loh, Luis Marques, Richard Marston, Ike Mathur, Michael Melvin, Thomas J. O'Brien, Greg Pawlina, Glenn Pettengill, Krista Schwarz, Duncan Shand, Eric Sorensen and Jiang Wang as well as seminar participants at the Bank of England, Essex University, Exeter University, Johns Hopkins University, Lancaster University, the University of North Carolina at Chapel Hill, SSgA, Strathclyde University, the 4th Biennial McGill Conference on Global Asset Management, the Adam Smith Asset Pricing Conference 2008 at London Business School, the Emerging Markets Conferences in 2011 and 2008 at Cass Business School, the Financial Management Association Annual Conference 2009 in Reno and the Citi Global Quant Research Conference 2010 in Barcelona are greatly appreciated. The authors wish to thank Macquarie Securities for data on international style returns. The first author gratefully acknowledges the warm hospitality of the Department of Finance, Kenan-Flagler Business School of the University of North Carolina, the Department of Finance, Red McCombs School of Business, University of Texas at Austin, and the Financial Markets Group at the London School of Economics during visits to these institutions. Paulo Alves and Florian Bardong provided excellent research assistance.

* Corresponding author. Tel.: +44 24 7657 4168; fax: +1 425 952 10 70.
E-mail addresses: s.m.bartram@wbs.ac.uk (S.M. Bartram), bodnar@jhu.edu (G.M. Bodnar).

URL: http://go.warwick.ac.uk/sbartram/
[1] Tel.: +1 202 663 7731; fax: +1 202 663 7718. <http://www.sais-jhu.edu/faculty/bodnar/>.

doi:10.1016/j.jimonfin.2012.01.011

emerging markets compared to developed markets. Overall, the results indicate that foreign exchange rate exposure estimates are economically meaningful, despite the fact that individual time-series results are noisy and many exposures are not statistically significant, and that exchange rate exposure plays an important role in generating cross-sectional return variation. Moreover, we show that the relation between exchange rate exposure and stock returns is more consistent with a cash flow effect than a discount rate effect.

"The key but far from straightforward question is of course "how much" exchange rate movements matter."

Exchange rate moves in a global economy: a central banking perspective, Speech by Gertrude Tumpel-Gugerell, Member of the Executive Board of the ECB, at the Federal Reserve Bank of Philadelphia, Philadelphia, 3 December 2004

1. Introduction

Even though financial theory predicts sizable foreign exchange rate exposures for many firms, a large literature has documented that empirically the impact of exchange rate risk on stock returns is economically and statistically small in almost any sample.[2] While it might be possible to reconcile the empirical evidence with predictions from theory by considering various forms of corporate hedging that reduce large gross exposures of firms to levels that are small on an after-hedging basis, the question remains whether empirical estimates of exchange rate exposures are, despite being small, still economically meaningful and useful for investors in financial markets. In this paper we address this issue. To this end, we argue and show that tests of the relation between stock returns and exchange rate exposure are fraught with similar problems revealed by Pettengill et al. (1995) and Lakonishok and Shapiro (1984) with regards to the conditional relation between stock returns and market betas. Tests of the relation between market betas and future returns postulate ex ante a positive, unconditional relation between *expected* returns and market betas. However, these papers propose that the relation between *realized* returns and market betas is segmented, i.e. positive in periods of positive market excess returns and negative in periods of negative market excess returns. This conditional relation entails that market betas may not show a significant relation with returns in standard Fama and MacBeth (1973) regressions since the existence of a large number of periods with negative market excess returns biases test of a positive unconditional relation between market betas and returns against finding a systematic relationship.

Since positive and negative exchange rate changes occur with roughly the same frequency and since the average currency premium is close to zero, empirical tests are even more biased against finding a positive unconditional relation than for market betas. Consequently, we argue that the relation between stock returns and exchange rate exposure should be examined conditional on the realization of the exchange rate change, i.e. positive for local currency depreciations and negative for local currency appreciations, while the unconditional relation is likely insignificant on average, just as for market betas. We test these predictions of the relation between exchange rate exposure and stock

[2] Much of the previous work in this area examines exchange rate exposures from regressions of exchange rates (and control variables) on stock returns (e.g., Dominguez and Tesar, 2006, 2001a,b; Allayannis and Ihrig, 2001; Williamson, 2001; He and Ng, 1998; Bartov and Bodnar, 1994; Bodnar and Gentry, 1993; Jorion, 1990). These studies demonstrate only a weak impact of exchange rate changes on the past distribution of firm returns and tend to focus on identifying corporate variables that explain the cross-sectional variation in exposures. See Bartram et al. 2005, with regards to predictions from financial theory.