

[Home](#) > [Review of Quantitative Finance and Accounting](#) > Article

# Cross-hedging foreign currency risk: Empirical evidence from an error correction model

Published: May 1996

Volume 6, pages 223–231, (1996) [Cite this article](#)

## [Review of Quantitative Finance and Accounting](#)

[Aims and scope](#) →[Submit manuscript](#) →[Asim Ghosh](#)<sup>1</sup> 153 Accesses 5 Citations [Explore all metrics](#) →

## Abstract

In this article, the traditional price change hedge ratio estimation method is extended by applying the theory of cointegration in the case of cross-hedging of spot exchange risk of the Belgian franc (BF), the Italian lira (IL), and the Dutch guilder (NG) with U.S. Dollar Index futures contracts. Previous studies ignore the last period's equilibrium error and short-run deviations. The findings of this study indicate that the hedge ratio estimated by the error correction method is superior to that obtained from the traditional method, as evidenced by the likelihood ratio test and out-of-sample forecasts. Hedgers will be able to control the risk of their portfolios more effectively at a lower cost.



This is a preview of subscription content, [log in via an institution](#) to check access.

### Access this article

[Log in via an institution](#) →

[Buy article PDF 39,95 €](#)

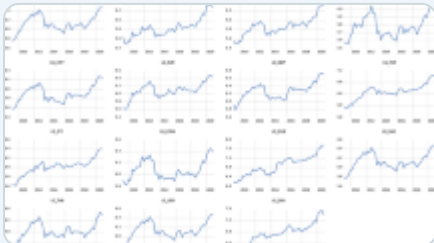
Price includes VAT (Poland)

Instant access to the full article PDF.

Rent this article via [DeepDyve](#)

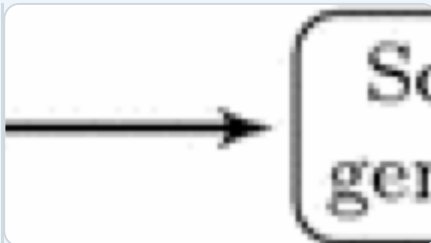
[Institutional subscriptions](#) →

### Similar content being viewed by others



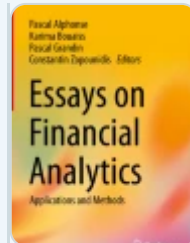
**Is gold a safe haven for the dynamic risk of foreign exchange?**

**Article** | Open access  
01 November 2021



**Corporate hedging: an answer to the “how” question**

**Article** | Open access  
01 November 2017



**Foreign Exchange Risk Hedging Policy: Evidence from France**

**Chapter** | © 2023

## References

Akaike, H., “A New Look at Statistical Model Identification.” *IEEE Trans. Auto. Control* 19, 716–723, (1974).

Baillie, R. and T.Bollerslev, "Common Stochastic Trends in a System of Exchange Rates." *Journal of Finance* 44, 167-181, (1989).

[Google Scholar](#)

Baillie, R. and T.Bollerslev, "Cointegration, Fractional Cointegration, and Exchange Rate Dynamics." *Journal of Finance* 49, 737-745, (1994).

[Google Scholar](#)

Benet, B., "Commodity Futures Cross-Hedging of Foreign Exchange Exposure." *Journal of Futures Markets* 10, 287-306, (1990).

[Google Scholar](#)

Benet, B., "Hedge period Length and Ex-Ante Futures hedging Effectiveness: The Case of Foreign Exchange Risk Cross Hedges." *Journal of Futures markets* 12, 163-175, (1992).

[Google Scholar](#)

Braga, F., L.Martin, and K.Meilke, "Cross-Hedging the Italian Lira/U.S. Dollar Exchange Rate with Deutsch Mark Futures." *Journal of Futures Markets* 9, 87-100, (1989).

[Google Scholar](#)

Brown, S., "A Reformulation of the Portfolio model of Hedging." *American Journal of Agricultural Economics* 67, 508-572, (1985).

[Google Scholar](#)

Davidson, R. and J.MacKinnon, *Estimation and Inference in Econometrics*. New york: Oxford University Press, 1993.

[Google Scholar](#)

Dickey, D. and W.Fullter, "The Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root." *Econometrica* 49, 1057-1072, (1981).

[Google Scholar](#)

Diebold, F., J.Gardeazabel, and K.Yilenarz. "On Cointegration and Exchange Rate Dynamics." *Journal of Finance* 49, 727-735, (1994).

[Google Scholar](#)

Eaker, M. and D. Grant, "Cross-Hedging Foreign Currency Risk." *Journal of International Money and Finance*, 85-105, (1987).

Ederington, L., "The Hedging Performance of the New Futures Markets." *Journal of Finance* 34, 157-170, (1979).

[Google Scholar](#)

Engle, R. and C.Granger, "Cointegration and error Correction Representation, Estimation, and Testing." *Econometrica* 55, 251-276, (1987).

[Google Scholar](#)

Ghosh, A., "The Hedging Effectiveness of Foreign Currency Futures: Empirical Evidence from an Error Correction Model." *The Journal of Multinational Financial Management* 5, 53-63, (1995).

[Google Scholar](#)

Granger, C., "Some Properties of Time Series Data in Econometric Model Specification." *Journal of Econometrics* 16, 121-130, (1981).

[Google Scholar](#)

Granger, C. and P. Newbold, "Spurious Regressions in Econometrics." *Journal of Econometrics*, 111-120, (1974).

Hill, J. and T.Schneeweis, "The Hedging Effectiveness of Foreign Currency Futures." *Journal of Financial Research* 5, 95-104, (1982).

[Google Scholar](#)

Johnson, L., "The Theory of Hedging and Speculation in Commodity Futures." *Review of Economic Studies* 27, 139-151, (1960).

[Google Scholar](#)

MacKinnon, J., "Critical Values for Cointegration Tests." In R. Engle and C. Granger, eds., *Long-Run Economic Relationships Readings in Cointegration*. New York: Oxford University Press.

Phillips, P. and P.Perron, "Testing for a Unit Root in Time Series Regression." *Biometrika* 75, 335-346, (1988).

[Google Scholar](#)

Stein, J., "The Simultaneous Determination of Spot and Futures Prices." *American Economic Review* 51, 1012-1025, (1961).

[Google Scholar](#)

Wilson, William W., "Hedging Effectiveness of U.S. Wheat Futures Markets." *Review of Research in Futures Markets* 3, 64-67, (1983).

[Google Scholar](#)

Witt, H., T.Schroeder, and M.Hayenga, "Comparison of Analytical Approaches for Estimating Hedge Ratios for Agricultural Commodities." *Journal of Futures*

*Markers* 7, 135–146, (1987).

[Google Scholar](#)

Working, H., ‘Futures Trading and Hedging.’ *American Economic Review* 43, 314–343, (1953).

[Google Scholar](#)

Working, H., “New Concepts Concerning Futures Markets and Prices.” *American Economic Review* 52, 432–459, (1962).

[Google Scholar](#)

## Author information

---

### Authors and Affiliations

**Department of Finance, Saint Joseph's University, 19131, Philadelphia, PA, USA**

Asim Ghosh

## Rights and permissions

---

[Reprints and permissions](#)

## About this article

---

### Cite this article

Ghosh, A. Cross-hedging foreign currency risk: Empirical evidence from an error correction model. *Rev Quant Finan Acc* 6, 223–231 (1996). <https://doi.org/10.1007/BF00245181>

Issue Date

May 1996

DOI

<https://doi.org/10.1007/BF00245181>

## Key words

[cross-hedging](#)

[exchange rate risk](#)

[optional hedge ratio](#)

## Search

Search by keyword or author



## Navigation

Find a journal

Publish with us

Track your research