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# Cointegration, error correction representation and the import demand function with implications in International Finance and Accounting Research

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## Abstract

This paper uses the relatively new procedures of cointegration and error-correction modeling to examine the import demand function of three developing economies. The empirical results suggest that the error-correction model performs well and that the poor results of previous studies are attributable to the inappropriate use of the Cochrane-Orcutt procedure and the complete absence of diagnostic testing, especially with respect to parameters stability, autocorrelation, and variable omission.

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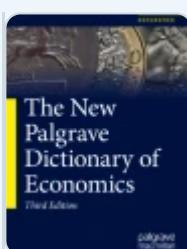
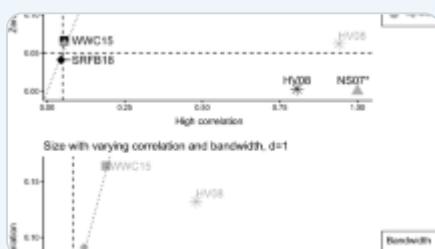
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## References

Arize, A., "An Econometric Investigation of Export Behavior in Seven Asian Developing Countries." *Applied Economics*, 891-904, (July 1990).

Arize, A., "An Econometric Investigation of Money Demand Behavior in Four Asian Developing Economies." *International Economic Journal*, 79-93, (Winter 1989).

Arize, A., "The Supply and Demand for Imports and Exports in a Simultaneous Model." *Applied Economics*, 1233-1247, (September 1987a).

Arize, A., "Past Inflation Variability and the Stability of Demand for Money Function: The Nigerian Experience." *Atlantic Economic Journal*, 31-41, (March 1987b).

Bahmani-Oskooee, M., "On the Effect of Effective Exchange Rates on Trade Flows." *Indian Journal of Economics*, 57-67, (July 1984).

Bahmani-Oskooee, M., "Determinants of International Trade Flows: The Case of Developing Countries." *Journal of Development Economics*, 107-123, (January-

February 1986).

Barnhart, SW, and A.C. Szakmary, "Testing the Unbiased Forward Rate Hypothesis: Evidence on Unit Roots, Cointegration, and Stochastic Coefficients." *Journal of Financial and Quantitative Analysis*, 245-267, (June 1991).

Briguglio, Lino, "The Impact of a Devaluation of the Maltese Trade Balance with Special Reference to the Price and Income Reversal Effects." *Applied Economics*, 325-337, (March 1989).

Brown, R. L., J. Durbin, and J. M. Evans, "Techniques for Testing the Constancy of Regression Relationships over Time." *Journal of the Royal Statistical Society, Series B*, 27(2), 149-163 (1975).

[Google Scholar](#)

Brown, S., and J.B. Warner, "Measuring Security Price Performance." *Journal of Financial Economics*, 205-258, (September 1980).

Brown, S., and J.B. Warner, "Using Daily Stock Returns: The Case of Event Studies." *Journal of Financial Economics*, 3-31, (March 1985).

Crockett, A.D., "Determinants of Exchange Rate Movements: A Review." *Finance and Development* 18, 33-37, (March 1981).

[Google Scholar](#)

Davidson, J.E.H., David Hendry, Frank Srba, and Stephen Yeo, "Economic Modeling of the Aggregate Time Series' Relationship between Consumer Expenditure and Income in the United Kingdom." *The Economic Journal* (London), 80, (1978).

Dickey, D.A., and W.A. Fuller, "Distribution of Estimator for Autoregressive Time Series with a Unit Root." *Journal of American Statistical Association*, 427-431, (June 1979).

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

[Google Scholar](#)

Dolado, J.J., T. Jenkins, and S. Sosvilla-Rivero, "Cointegration and Unit Roots." *Journal of Economic Surveys* 4(3), 249-273 (1990).

[Google Scholar](#)

Dyckman, T., T. Philbrick, and J. Stephan, "A Comparison of Event Study Methodologies Using Daily Stock Returns: A Simulation Approach." *Journal of Accounting Research*, 1-30, (Supplement 1984).

Easton, P., T.S. Harris, and J.A. Ohilson, "Accounting Earnings Can Explain Most of Security Returns: The Case of Long Event Windows." Working paper *Columbia University*, New York, NY 10027 (October 1989).

[Google Scholar](#)

Engle, Robert F., "Autoregressive Conditional Heteroscedasticity with Estimates of the Variance of the United Kingdom Inflation." *Econometrica*, 982-1007, (June 1982).

Engle, Robert F., and C.W.J. Granger, "Cointegration and Error Correction: Representation, Estimation and Testing." *Econometrica* 55, 251-276, (1987).

[Google Scholar](#)

Engle, Robert F. , and Byung Sam Yoo, "Cointegrated Economic Time Series: A Survey with New Results." University of California, Discussion paper (October 1989).

Farley, J.Y, M.J. Hinich, and T.W. McGuire, "Some Comparisons of Tests for a Shift in the Slope of a Multivariate Linear Time Series Model." *Journal of Econometrics*, 297-318, (August 1975).

Fuller, W.A., *Introduction to Statistical Time Series*. New York: John Wiley and Sons, (1976).

[Google Scholar](#)

Ghartey, Edward, "Devaluation as a Balance of Payments Corrective Measure in Developing Countries: A Study Relating to Ghana." *Applied Economics*, 937-947, (July 1987).

Godfrey, L.G., "Testing Against General Autoregressive and Moving Average Error Models When the Regressors Include Lagged Dependent Variables." *Econometrica*, 1293-1302, (November 1978).

Goldstein, M., and M.S. Khan, "Large Versus Small Price Changes and the Demand for Imports." *IMF Staff Papers* 23, 200-225, (March 1976).

[Google Scholar](#)

Gordon, Robert J., "The Short-Run Demand for Money: A Reconsideration." *Journal of Money, Credit and Banking* 16, 403-434, (November 1984, Part 1).

[Google Scholar](#)

Granger, C.W.J., and P. Newbold, "Spurious Regressions in Econometrics." *Journal*

Hendry, D.F., "Econometric Modelling with Cointegrated Variables: An Overview." *Oxford Bulletin of Economics and Statistics* 48, 201-212, (August 1986).

[Google Scholar](#)

Hendry, D.F., "Predictive Failure and Econometric Modelling in Macro-Economics: The Transactions Demand for Money." In P. Ormerod (ed.), *Modelling the Macro-Economy*, London: Heinemann, 217-242, (1980).

[Google Scholar](#)

Hendry, D.F., A.R. Pagan, and J.D. Sargan, "Dynamic Specification." In Z. Griliches and M. Intriligator (eds.), *Handbook of Econometrics* 2, North Holland Publishing Co., 1023-1100, (1984).

Hendry, David F., and Grayham F. Mizon, "Serial Correlation as a Convenient Simplification, Not a Nuisance: A Comment on a Study of the Demand for Money by the Bank of England." *The Economic Journal* 88, 549-563, (September 1978).

[Google Scholar](#)

Jain, P., "Analyses of the Distribution of Security Market Model Prediction Errors for Daily Returns Data." *Journal of Accounting Research* 24, 76-96, (Spring 1986).

[Google Scholar](#)

Jarque, Carlos M., and Anil K. Bera, "Efficient Tests for Normality, Homoscedasticity and Serial Independence of Regression Residuals." *Economics Letters* 6, 255-259, 1980.

[Google Scholar](#)

Jenkinson, T.J., "Testing Neo-Classical Theories of Labor Demand: An Application of Cointegration Techniques." *Oxford Bulletin of Economics and Statistics* 48, 241-251, (August 1986).

[Google Scholar](#)

Johnston, J., *Econometric Methods*, Third Edition. New York: McGraw Hill, 1984.

[Google Scholar](#)

Kubursi, A.A., "The Import Structure of Lebanon: A Quantitative Analysis." *The Journal of Developing Areas*, 87-98, (October 1974).

Lev, B., "On the Usefulness of Earnings: Lessons and Directions from Two Decades of Empirical Research." *Journal of Accounting Research* (Supplement 1989).

Madalla, G.S., *Introduction to Econometrics*. New York: MacMillan Publishing Company, (1988).

[Google Scholar](#)

Melo, Oscar, and M.G. Vogt, "Determinants of the Demand for Imports of Venezuela." *Journal of Development Economics*, 351-358, (April 1984).

Nelson, C.R., and C.I. Plosser, "Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications." *Journal of Monetary Economics*, 139-162, (September 1982).

Newey, W.K., and K.D. West, "A Simple, Positive Definite, Heteroskedasticity and Autocorrelations Consistent Covariance Matrix." *Econometrica* 55, 703-708, (1987).

[Google Scholar](#)

Perron, Pierre, "Trends and Random Walks in Macroeconomic Time Series: Further Evidence from a New Approach." *Journal of Economic Dynamics and Control* 12, 297-332, (1988).

[Google Scholar](#)

Phillips, P.C.B., "Understanding Spurious Regressions in Econometrics." *Journal of Econometrics*, 311-340, (December 1986).

Phillips, P.C.B., "Time Series Regression with a Unit Root." *Econometrica* 55, 277-301, (March 1987).

[Google Scholar](#)

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

[Google Scholar](#)

Ramsey, J.B., "Tests for Specification Errors in Classical Linear Least Squares Regression Analysis." *Journal of the Royal Statistical Society B* 31, 351-371 (1969).

[Google Scholar](#)

Said, S.E., and D.A. Dickey, "Testing for Unit Roots in Autoregressive Moving Average Model of Unknown Order." *Biometrika*, 599-607, (December 1984).

Sargan, J.D., and A. Bhargava, "Testing Residuals from Least Squares Regression for Being Generated by the Gaussian Random Walk." *Econometrica* 51, 153-174, (1983).

[Google Scholar](#)

Sargan, J.D., "Wages and Prices in the United Kingdom: A Study in Econometric Methodology." In P. Hart, G. Mills, and J. Whittaker (eds.) *Economic Analysis for National Economic Planning*. London: Butterworths, (1964).

[Google Scholar](#)

Sarmad, Khwaja, "The Determinants of Import Demand in Pakistan," *World Development* 17, 1619-1625, (October 1989).

[Google Scholar](#)

Schwert, G.W., "Effects of Model Specification on Tests for Unit Roots in Macroeconomic Data." *Journal of Monetary Economics* 20, 73-103, (July 1987).

[Google Scholar](#)

Stock, J.H., "Asymptotic Properties of a Least Squares Estimator of Cointegrating Vectors." *Econometrika* 55, 1035-1056, (1987).

[Google Scholar](#)

Tegene, A., "On the Effects of Relative Prices and Effective Exchange Rates on Trade Flows of LDCs." *Applied Economics* 21, 1447-1463, (November 1989).

[Google Scholar](#)

Thursby, Jerry, and Marie Thursby, "How Reliable Are Simple Single Equation Specifications of Import Demand." *Review of Economics and Statistics*, 120-128, (February 1984).

Wallis, K.F., *Models of the UK Economy No. 3: A Third Review by the EXRC Macroeconomic Modelling Bureau* (edited). New York: Oxford University Press, (1986).

[Google Scholar](#)

Warner, Dennis, and Mordechai Kreinin, "Determinants of International Trade Flows." *Review of Economics and Statistics* 65, 96–104, (February 1983).

[Google Scholar](#)

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