Adve

Journal of Forecasting / Volume 15, Issue 3 / pp. 165-174

Research Article

Non-linear prediction of security returns with moving average rules

Ramazan Gençay

First published: April 1996

https://doi.org/10.1002/(SICI)1099-131X(199604)15:3<165::AID-FOR617>3.0.CO;2-V

Accessibility issue? Request accessibility update.

PDF

Abstract

Over the years, investors and the technical analysts have devised hundreds of technical market indicators in an effort to forecast the trend of a security market. Recent literature provides evidence that these rules may provide positive profits after accounting for transaction costs. This clearly contradicts the theory of the efficient market hypothesis which states that security prices cannot be forecasted from their past values or *other past* variables. This paper uses the daily Dow Jones Industrial Average Index from January 1963 to June 1988 to examine the linear and non-linear predictability of stock market returns with buy—sell signals generated from the moving average rules with a band between the short and the long averages. Strong evidence of non-linear predictability is found in the stock market returns by using the past buy and sell signals of these rules.

References

Brock, W. A., Lakonishok, J. and LeBaron, B., 'Simple technical trading rules and the stochastic properties of stock returns', *Journal of Finance*, **47** (1992), 1731–64.

Web of Science® Google Scholar

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Manage Preferences

Accept All

Reject Non-Essential

Cutler, D. M., Poterba, J. M. and Summers, L. H., 'Speculative dynamics', *Review of Economic Studies*, **58** (1991), 529–546.

Web of Science® | Google Scholar

Cybenko, G., 'Approximation by superposition of a sigmoidal function', *Mathematics of Control, Signals and Systems*, **2** (1989), 303–14.

Google Scholar

De Bondt, W. F. M. and Thaler, R. H., 'Does the stock market overreact?' *Journal of Finance*, **40** (1985), 793–805.

Web of Science® | Google Scholar

Engle, R. F., Lilien, D. and Robins, R. P., 'Estimating time varying risk premia in the term structure: The ARCH-M model', *Econometrica*, **55** (1987), 391–407.

Web of Science® | Google Scholar

Fama, E. F., 'The behavior of stock market prices', *Journal of Business*, **38** (1965), 34–105.

Web of Science® | Google Scholar

Fama, E. F., 'Efficient capital markets: A review of theory and empirical work', *Journal of Finance*, **25** (1970), 383–417.

Web of Science® | Google Scholar

Fama, E. F., 'Efficient capital markets: II', *Journal of Finance*, **46** (1991), 1575–1617.

Web of Science® | Google Scholar

Fama, E. F. and French, K. R., 'Permanent and temporary components of stock prices', *Journal of Political Economy*, **96** (1988), 246–273.

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Manage Preferences

Accept All

Reject Non-Essential

Web of Science® Google Scholar

Funanhashi, K.-I., 'On the approximate realization of continuous mappings by neural networks', *Neural Networks*, **2** (1989), 183–192.

Web of Science® Google Scholar

Gallant, A. R. and White, H., ' There exists a neural network that does not make avoidable mistakes', *Proceedings of the Second Annual IEEE Conference on Neural Networks*, San Diego, CA, I.657-I.664, New York: IEEE Press.

Google Scholar

Gallant, A. R. and White, H., 'On learning the derivatives of an unknown mapping with multilayer feedforward networks', *Neural Networks*, **5** (1992), 129–138.

Web of Science® Google Scholar

Gençay, R., ' The predictability of security returns with simple technical trading rules', University of Windsor, unpublished manuscript, 1995.

Google Scholar

Hecht-Nielsen, R., ' Theory of the backpropagation neural networks', *Proceedings of the International Joint Conference on Neural Networks*, Washington, DC, I.593-I.605, New York IEEE Press.

Google Scholar

Holmes, J. M. and Hutton, P. A., 'Optimal' model selection when the true relationship is weak and occurs with a delay', *Economics Letters*, **30** (1989), 333–9.

PubMed Web of Science® Google Scholar

Hornik, K., Stinchcombe, M. and White, M., 'Multilayer feedforward networks are universal approximators', *Neural Networks*, **2** (1989), 359–366.

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Manage Preferences

Accept All

Reject Non-Essential

Hornik, K., Stinchcombe, M., White, H. and Auer, P., ' Degree of approximation results for feedforward networks approximating unknown mappings and their derivatives', UCSD discussion paper, 1994.

Google Scholar

Jegadeesh, N., 'Evidence of predictable behavior of security returns', *Journal of Finance*, **45** (1990), 881–898.

Web of Science® | Google Scholar

Jensen, M. C., 'Some anomalous evidence regarding market efficiency', *Journal of Financial Economics*, **6** (1978), 95–101.

PubMed | Web of Science® | Google Scholar

Kuan, C.-M and White, H., 'Artificial neural networks: An econometric perspective', *Econometric Reviews*, **13**, (1994), 1–91.

Google Scholar

Lehmann, B. N., 'Fads, martingales and market efficiency', *Quarterly Journal of Economics*, **105**, (1990), 1–28.

Web of Science® | Google Scholar

Lo, A. W. and MacKinlay, A. C., 'Stock market prices do not follow random walks: Evidence from a simple specification test', *Review of Financial Studies*, **1** (1988), 41–66.

Web of Science® | Google Scholar

Lo, A. W. and MacKinlay, A. C., 'When are contrarian profits due to stock market overreaction?', *Reviews of Financial Studies*, **3** (1990), 175–205.

CAS | Web of Science® | Google Scholar

Nelson, D. B., 'Conditional heteroskedasticity in asset returns: A new approach', *Econometrica*, **59** (1991), 347–370

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Manage Preferences

Accept All

Reject Non-Essential

Citing Literature

Download PDF

ABOUT WILEY ONLINE LIBRARY

Privacy Policy
Terms of Use
About Cookies
Manage Cookies
Accessibility
Wiley Research DE&I Statement and Publishing Policies

HELP & SUPPORT

Contact Us
Training and Support
DMCA & Reporting Piracy
Sitemap

OPPORTUNITIES

Subscription Agents
Advertisers & Corporate Partners

CONNECT WITH WILEY

The Wiley Network
Wiley Press Room

Copyright © 1999-2026 John Wiley & Sons, Inc or related companies. All rights reserved, including rights for text and data mining and training of artificial intelligence technologies or similar technologies.

WILEY

This website utilizes technologies such as cookies to enable essential site functionality, as well as for analytics, personalization, and targeted advertising. You may change your settings at any time or accept the default settings. You may close this banner to continue with only essential cookies. Privacy Policy

Manage Preferences
Accept All
Reject Non-Essential