MES-OP-302: Financial Econometrics

Unit 1: Financial Data and Timeseries Analysis

- Nature of Financial Market Data
- Importance of Timeseries Analysis & Limitations
- Model Specification, Estimation & Prediction
- Measuring Returns - Simple Expected Return & Time Varying Expected Returns
- Volatility & Risk - Systematic & Idiosyncratic Risks; Value At Risk (VaR), Implied Volatility
- Stock Market Integration – Granger Causality (GC) , Cointegration (Engle-Granger, Johansen) & Error Correction Model (ECM)

Unit 2: Market Efficiency and Econometric Models

- Market Efficiency – Evidence For & Against, And Implications
- Forms of Market Efficiency – Weak, Semi-Strong & Strong Forms
- Mathematical Expectation, Martingale & Fair Game
- Efficient Market Hypothesis - Orthogonality Property & Autoregressive (AR) Model
- Testing for Market Efficiency – Unit Root Test (ADF/PP) & Random Walk Model
- Abnormal Returns & Market Efficiency - Event Study Analysis

Unit 3: Financial Market Models and Econometric Analysis

- Return & Volatility – Mean Reversion Model
- Capital Asset Pricing Model (CAPM) - Empirical Testing & Analysis
- Multi-Factor Model & Principal Component Analysis (PCA)
- Arbitrage Pricing Theory (APT) – Fama-French Three-Factor & Five-Factor Models
- Volatility Modeling – ARCH & GARCH Class of Volatility Models
- Behavioural Finance & VAR Framework (Unrestricted-VAR & Vector Error Correction Models, ARDL Model)

Reading List

Text/Reference Books -

Agung, I.G.N., *Time Series Data Analysis Using Eviews*, John Wiley & Sons (Asia) Pte Ltd. (2009).

Bodie,Z., Robert Merton and David Cleeton, *Financial Economics*, Second Edition, Pearson Learning Solutions(2012).

Brealey, R., S. Myers, F. Allen, and P. Mohanty,*Principles of Corporate Finance*, Eleventh Edition, New McGraw Hill Education (India) Pvt. Ltd. (2014)

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Campbell, Y.J., Andrew W. Lo, and A. Craig MacKinlay (1997), The Econometrics of Financial Markets, Princeton University Press, USA.

Cuthbertson, Keith and Dirk Nitzsche, *Quantitative Financial Economics: Stocks, Bonds and Foreign Exchange,* Second Edition, John Wiley & Sons Ltd., England(2004).

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Green, William H., *Econometric Analysis*, 5th Edition, Pearson Education Inc. (2003)

Hamilton, James D., *Time Series Analysis*, First Edition, Princeton University Press, (1994).

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Stock, James H. and Mark W. Watson, Introduction to Econometrics, Third Edition,Pearson/Addison Wesley(2007).

Pedersen, L.H.,*Efficiently Inefficient: How Smart Money Invests & Market Prices are Determined.*USA: Princeton University Press (2015).

Thaler, Richard H., The Making of Behavioral Economics: Misbehaving, W.W. Norton & Company, Inc., USA (2015).

Tsay, Ruey S., *Analysis of Financial Time Series*, Wiley, Third Edition (2016).

Journal Articles -

Ashraf, S. & M.A. Baig (2019).Is Indian Stock Market Efficiently Inefficient? An EmpiricalInvestigation.*Indian Journal of Finance*, V.13(7), pp. 7-28, July 2019.

Ashraf, S., & Baig, M.A. (2015). Investment and Trading Strategies in Indian Stock Market. *International Journal of Arts and Commerce*, V.4, 1-15.

Asness, C., & Liew, J. (2014). The Great Divide Over Market Efficiency. *Institutional Investor*, 1-8.

Baig, M.A., M.M. Hossain & S. Ashraf (2017). Relationship Between Stock Market and Manufacturing Sector in India: An Empirical Study.*Al-Barkaat Journal of Finance & Management*, V. 9(2), July 2017, pp. 9-28, ISSN: 0974-7281.

Binder, J.J. (1998). The Event Study Methodology Since 1969. *Review of Quantitative Finance and Accounting*, v.11, pp.111-37.

Fama, E.F., & French, K.R. (1993). Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics*, 33, 3–56.

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________ *(2015). A Five-Factor Asset Pricing Model. Journal of Financial Economics, 116, 1-22.*

Fama, Eugene F., Fisher, L., Jensen, M., & Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*, 10(1), 1-21.

Moller, N., &Zilca, S. (2008). The Evolution of the January Effect. *Journal of Banking & Finance*, 32, 447-57.

Majumder, D. (2013). Towards an Efficient Stock Market: Empirical Evidence from the Indian Market. *Journal of Policy Modeling*, 35, 572-87.

Titan, A.G. (2015). The Efficient Market Hypothesis: Review of Specialized Literature and Empirical Research. *Procedia: Economics and Finance*, 32, 442-49.

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