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**Bronzin's Contribution to Option Pricing Theory**

*N S Nilakantan*

Option trading is not new, but a theory of option pricing certainly is of recent origin. Black-Scholes formula is considered to be a phenomenal development in this area. Before Black-Scholes came on the scene in 1973, there were a few attempts to formulate a mathematical model for the pricing of options. Bachelier's thesis on Brownian motion is often quoted as the definite precursor to Black-Scholes. Recent research, by Zimmermann and Hefner, has unearthed evidence of a similar theory by Vinzenz Bronzin, an Italian mathematician and a contemporary of Bachelier. This article deals with the contributions of researchers before Black-Scholes and gives an update of the new evidence on Bronzin.

**Selectivity and Market Timing Ability of Mutual Fund Managers in India: An Empirical Investigation**

*Suweera Gill  
Arshdeep*

*The measurement of the investment performance of fund managers is an inveterate issue for investors. The performance of fund managers influences investors' investment decision making. The present paper purports to investigate the selectivity and market timing ability of mutual fund managers in India using the Jensen, Treynor and Mazuy as well as Henriksson and Merton models for the period 2002-06. A sample of monthly net asset values of 97 open-ended mutual fund schemes consisting of 56 schemes of growth and 41 schemes of dividend option were investigated to discern the performance of fund managers. The results suggest that mutual fund managers in India are not seriously engaged in any market timing activities and relied only on stock selection skills. In addition, managers of a few schemes were timing the market but in the wrong direction. The findings of the study will provide practitioners and researchers valuable insight about the performance of mutual fund managers in terms of selectivity and market timing abilities.*

**Stress Testing of the Banking Sector in Credit Risk Framework**

*Dinabandhu Bag*

*Under the Basel framework banks are required to conduct stress tests for their requirements of potential capital while considering the impact of stress testing scenarios. There could exist interlinkages among macro-economic indicators and financial performance such that the stressed credit quality can*

*be explained. The capital ratio for the banking sector as a whole will be lower when the credit quality at the macro level worsens. We propose a stress testing framework that simulates the credit quality and the capital ratio levels using Gross Non-Performing Assets (GNPA) and Net Non-Performing Assets (NNPA) in the presence of both the banks' performance measures and macro-economic indicators. We define stress testing scenarios assuming multivariate normal distribution using cholesky decomposition of such indicators and evaluate the stressed credit quality and resulting impact on the capital reserves ratio levels. We compare our results with the previous Financial Stability Report (June 2010) of Reserve Bank of India (RBI) (which uses historical "piece-wise" stress testing approach) also based on scenarios of multivariate distribution of stressed factors. We conclude that the banking sector needs to stress their capital ratio levels both with respect to their own performance and few economic factors. Based on a study of top 17 banks that comprise over 40 per cent of the total lending, over 6 years time period (2002-07), we find that the minimum Capital Adequacy Ratio (CAR) levels could fall to 8-9 per cent against a Gross Non-Performing Assets (GNPA) over 16 to 17 per cent. The rest of the results of the study are in line with previous studies for other countries and provide important insight to the bankers and policymakers.*

#### ***Book Review***

#### **Economic Growth in India – History and Prospect**

New Delhi, Oxford University Press, 2010, xxxv + 289 pp, Price Rs. 750.00

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#### **Telegraphic Reviews**

#### ***Booknote***