

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

Faculty of Applied Sciences
Department of Applied Mathematics

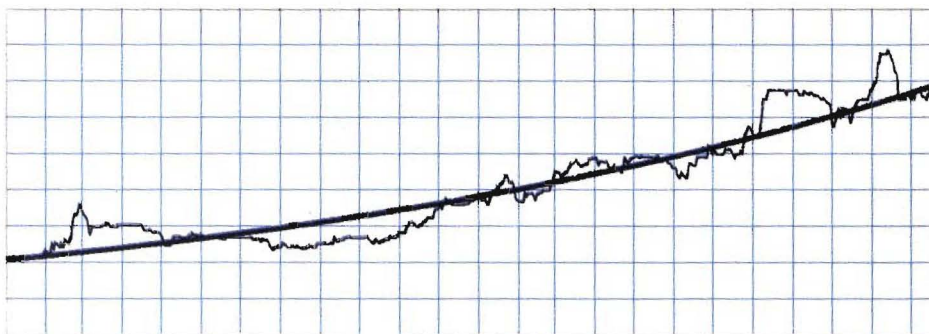


Final Year Project

OPTIMAL INVESTMENT TIME WHEN THE PRICE PROCESSES ARE GEOMETRIC BROWNIAN MOTION

By

**Terence Mukupe
(N960576A)**



**Supervisor
Mr E. K. Madziwa**

This project has been submitted in partial fulfilment of the requirements of a Bachelor of Science (Honours) degree in Applied Mathematics.

May 2000



* 9 2 0 0 0 0 8 8 0 0 *

NUST Library

Am ①

Abstract

Investing on the stock exchange has become the latest craze, for those with surplus funds, in the emerging markets. An investor invests in a particular stock with the hope that there will be a capital gain or a dividend payout. Once an investor has invested in a particular stock the next step would be to dispose of it at the most rewarding time. It is the primary intention of this project to present an analytical way of deducing the best time of disposing stock with a maximal reward being conferred to the holder of the stock. The concept of optimal stopping is explored in a continuous-time set-up. The stock price processes are investigated as following a geometric Brownian motion set-up.