ECONOMIC DOWNTURNS AND THE DETERMINATION OF PORTFOLIO ASSET ALLOCATION

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Executive Summary

This research looks into the possibility of forming effective/profitable portfolio asset allocation during economic downturns which occurred in the period between year 1997 and 2008. We employ out-of-sample forecasting techniques using time-varying factors of constants (alpha) and asset sensitivities (beta) over the market and covariance/correlation in asset allocation.

In addition, we also investigate if economic indicators have had any effect on forming asset allocation, particularly the stock markets. It is found that out of 24 portfolio asset allocation strategies investigated; two strategies provide better return over risk than the rest of the strategies. The research also reveals that the incorporation of economic indicators has improved our model significantly.
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DECLARATION

I hereby declare that this thesis is an original work with references made as appropriate and stated accordingly, and that it has not previously been submitted for any degree in any higher learning institution nor has it been published in any publication.

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S. M. Naim Syed Salim
ABSTRACT

A most common question in finance, particularly in investment perspective, is how an investor should allocate his wealth. Robert C. Merton (1975) remarks that the quest for an answer to the problem of lifetime consumption and portfolio selection under uncertainty is the beginning point for the development of a theory of Finance.

This research looks into the possibility of forming effective/profitable portfolio asset allocation during economic downturns which occurred in the period between year 1993 and 2008. We employ out-of-sample forecasting techniques using time-varying factors of constants (alpha) and asset sensitivities (beta) over the market and covariance/correlation in asset allocation.

In addition, we also investigate if economic indicators have had any effect on forming asset allocation, particularly the stock markets. It is found that out of 24 portfolio asset allocation strategies investigated; two strategies provide superior return over risk results. The research also reveals that the incorporation of economic indicators has improved our model significantly.

This research contributes to the present literature through recommendations for achieving better portfolio’s return forecasts. It is intended that the findings will strengthen the practicability of Markowitz’s Mean Variance theory and Sharpe’s and Lintner’s Capital Asset Pricing Model. We have proven that both models are feasible with some innovative adjustments made to them.
Chapter 1: INTRODUCTION

This chapter presents the introduction of the study of asset allocation and its relationship with economic fluctuations particularly during the downturn period. It also briefly introduces some of the models used and the area of interest in this study. Finally, this chapter concisely explains the contents of chapters within this thesis report.

1.1 Introduction

One of the most common questions in finance, namely in investment perspective, is how an investor should allocate his wealth. Robert Merton (1975), in his essay, underlines that:

“The natural beginning point for the development of a theory of Finance is the problem of lifetime consumption and portfolio selection for the individual consumer or household under uncertainty.”

Can an investor rely on previous data to make his future investment decision and gain reward out of it? In this study, we would like to extend the question further to whether an investor, based on historical data, could make profit during economic downturns. Naturally, economic downturns have caused great suffering to many people, including the market as a whole.

Fama (1965, 1991) and Goyal and Welsh (2006) cast doubt over the idea of making anomaly profit based on historical data. Nevertheless, there is still a glimmer of hope of making profit during highly volatile market\(^1\), as demonstrated by Pesaran and Timmerman (1995). They established that the degree of stock returns’

\(^{1}\) The market normally turns to be very volatile during financial crashes or economic downturns.
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