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THE CAPITAL ASSET PRICING MODEL (CAPM), SHORT-SALE RESTRICTIONS AND RELATED ISSUES

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I. INTRODUCTION

THE MEAN VARIANCE CAPITAL asset pricing model (CAPM) developed by Sharpe [5] and Lintner [3] has become a focal point for finance. Under conditions of perfection in competitive markets and assumptions that permit us to consider only the means and variances of returns, the CAPM provides an intuitively appealing and empirically testable hypothesis on asset returns. In deriving the CAPM Sharpe [5] and Lintner [3] assumed that there was a riskless asset in the investment opportunity set, and the first significant extension of their work was by Black [1] who showed that the assumption of a riskless asset could be dispensed with. Black's result naturally raised a number of conjectures concerning what occurs with alternative realistic weakenings of the underlying assumptions. For example, do the conclusions of the CAPM still hold if short sales are restricted or if borrowing is penalized on some assets but not on others?

This paper has two objectives. First, a very simple and straightforward approach to the CAPM will be taken. Essentially we will show that all of the familiar results follow directly from the observation that the market portfolio, α^m , is mean-variance efficient. Second, we will apply this viewpoint to gather together and hopefully resolve a number of desultory questions and problems that have arisen from the above considerations of the original CAPM. This will enable us to better understand the strength or robustness of the CAPM results with respect to changes in the assumptions on which it is based.