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On Investor Preferences and Mutual Fund Separation*

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Abstract

We extend Cass and Stiglitz's analysis of preference-based mutual fund separation. We provide a complete characterization of the general K-fund separation. We show that some instances of separation with many funds can be constructed by adding inverse marginal utility functions having separation with one or a few funds. We also show that there is money separation (in which we can choose the riskless asset as one of the funds) if and only if there is a fund (which may or may not be the riskless asset) with a constant allocation as wealth changes. In general, we do not know how to write the separating utility functions in closed form, but we can do so in the special case of SAHARA utility defined by Chen et al. and for a new class of GOBI preferences introduced here.

Keywords: mutual fund separation; investor preference; money separation; inverse marginal utility.

1 Introduction

There is mutual fund separation if there is a small number of mutual funds (portfolio of assets), such that allocating wealth optimally to the mutual funds is just as good as allocating optimally to all assets. Mutual fund separation simplifies the asset allocation problem by reducing its dimensionality, and can also simplify the computation of equilibrium and the derivation of asset pricing models. Mutual fund separation is central to a variety of theoretical models, including the capital asset pricing model (CAPM), the arbitrage pricing theory (APT), and the intertemporal capital asset pricing model (ICAPM). Mutual fund separation also was a motivation for the use in practice of a variety of indices and sub-indices, and gives their use some theoretical basis. Our paper follows Cass and Stiglitz (1970) in studying preference-based

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