Cost of Asset Allocation in Equity Market – How Much Do

Investors Lose Due to Bad Asset Class Design?

Woo Chang Kim, Yongjae Lee, and Yoon Hak Lee

Abstract Most investors employ asset allocation, even though most of them are not really

concerned about how their asset classification schemes affect the investment performance. In

this paper, the two most widely employed within-stock classifications, style and industry

classification, are extensively examined. In order to explicitly measure the performance

levels of current classifications, we introduce the concept of optimal asset classification,

which provides the performance upper limit of any classification schemes. We find that style

and industry classification are very costly; furthermore, factor analysis reveals that the

immediate cause of exorbitant cost lies in the method that classification focuses only on

diversification benefits rather than on excessive returns.

Woo Chang Kim, Assistant Professor

Department of Industrial & Systems Engineering, Korea Advanced Institute of Science and

Technology (KAIST), Yuseong-gu, Daejeon, Republic of Korea

e-mail: wkim@kaist.ac.kr Tel: +82-42-350-3129

Yongjae Lee, Ph.D. Candidate

Department of Industrial & Systems Engineering, Korea Advanced Institute of Science and

Technology (KAIST), Yuseong-gu, Daejeon, Republic of Korea

e-mail: yongjae.lee@kaist.ac.kr Tel: +82-42-350-3169

Yoon Hak Lee, Ph.D. Candidate

Department of Industrial & Systems Engineering, Korea Advanced Institute of Science and

Technology (KAIST), Yuseong-gu, Daejeon, Republic of Korea

e-mail: <u>yhl3145@gmail.com</u> Tel: +82-42-350-3169