Bayesian Factor Screening with Modified Box and Meyer Method

俞一唐
東海大學統計學系

Abstract

Box and Meyer provided an innovative approach to identify active factors, the Box-Meyer method. With the use of means models, we propose a modification of the Box-Meyer method. Compared with the original Box-Meyer method, the modified Box-Meyer method can circumvent the problem that the original Box-Meyer method may fail to identify some active factors due to the ignorance of higher order interactions. Furthermore, the number of explanatory variables in the modified Box-Meyer method is smaller. Therefore, the computational complexity is reduced. Several examples with different types of data are used to demonstrate the wide applicability of the modified Box-Meyer method.