Using Trading Costs to Construct Better Replicating Portfolios

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Abstract

Regularization, by means of trading restrictions, is an effective way to obtain sparse replicating portfolios. By including only the most relevant replicating instruments, the resulting portfolio is more efficient computationally, easier to interpret, and better able to approximate the liability on an out-of-sample basis. The instruments selected depend largely on their respective trading costs. This paper evaluates a number of alternative methods for specifying trading costs. We find that trading costs based on simple statistics of the instrument and liability cash flows are an effective choice in practice.

Keywords: Replicating Portfolio; Regularization; Trading Restriction; Trading Cost.