

Arbitrage Free Valuation of a Federal Timber Lease

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Abstract The objective of this paper is to describe a quantitative framework for offering timber harvest bids on federal lands which includes special considerations of the volatility of timber indices and the harvesting costs involved in harvesting timber. The advantage of such an approach is that it provides a precise framework in which various underlying considerations, such as volatility and cost, may be systematically defined, measured and evaluated. We discuss a specific USDA Forest Service timber sale as a case study to illustrate this approach.