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Bin Mei* (bmei@uga.edu), 180 E Green St, Athens, GA 30602. *Valuing a timber harvest contract as a high-dimensional American call option via least-squares Monte Carlo simulation.*

Industrial timberland ownership in the US has shifted substantially in the last 20 years. Having sold their fee-owned timberlands, forest products companies relied heavily on the open market for raw timber. To reduce their exposure to market risks, however, forest products companies have been using a number of supply chain instruments such as timber harvest contracts. As these vehicles become increasingly important to the forest industry, it is necessary and important to determine their economic values. In this study, we treated a 3-year timber harvest contract on a 30-year-old loblolly pine plantation as a high-dimensional American call option and calculated its value by the least-squares Monte Carlo simulation technique. The estimated values of such a contract ranged from 1,693/act to 1,984/ac under two timber price assumptions. With reasonable starting timber prices and strike price in the simulation, random timber prices led to higher contract values. Results from this study can help private landowners, timber brokers, and forest products companies better manage their business risks. (Received July 10, 2013)