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An Analytical Optimal Strategy of the Forest Asset Dynamic Management under Stochastic Timber Price and Growth: A Portfolio Approach

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ABSTRACT

Considering the valuation of forest stands based on revenue from wood sales, concession policy (such as carbon subsidies) and associated costs, the paper focuses on the stochastic control model to study the forest asset dynamic management. The key contribution is to find the optimal dynamic strategy about harvesting quantity in the continual and multiple periods in conditions of stochastic commodity price and timber growth by using portfolio approach. Finally, an analytical optimal strategy is obtained to analyze the quantification relations through which some important conclusions about the optimal forest management can be drawn.

KEYWORDS

Forest Management, Analytical, Stochastic Price and Growth, Portfolio, Carbon Subsidies

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