

Dynamic waves and the harvest of multiple rotations

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Since the European settlement the forests of North America have been dynamic, and far from a Faustmann steady state or normal forest. A common micro-geographic pattern has been the harvest of forests near and accessible to agricultural and urban areas first, followed by the harvest of forests far and inaccessible to agricultural and urban areas. Forest management following this micro-geographical pattern has been complicated by natural regeneration. Specifically, managers often face the choice of harvesting more distant or more inaccessible stands that have been harvested less recently or harvesting less distant and more accessible stands that have been harvested more recently. Models that describes the trade-offs between harvesting different rotations with different volumes and different transportation costs are presented. The efficiency conditions for switching between rotations are derived. A numerical simulation is presented to describe the gains from efficient management.

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