

ABSTRACT

The paper characterizes the optimal policy for a model of inspection and repair when the number of projects is endogenous and the firm maximizes the discounted sum of returns. A current project is either functioning or failed, but its status in any period can be determined only by evaluation. The firm may discard any subset of current projects in each period, but it may evaluate only one current project or one new project per period. We demonstrate that the optimal policy takes one of two forms. A "discard" policy specifies that the firm evaluate a new project in each period and discard current projects at some critical age. An "age inspection" policy specifies that the firm evaluate a new project only if all current projects are sufficiently young.