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Resources, real options, and corporate strategy ☆

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Abstract

The types of investments a firm undertakes will depend in part on what it expects the outcome of those investments to reveal about its skills, capabilities, and assets (i.e., its resources). We predict that a firm will specialize when young, then experiment in a new line of business for some time, and then either expand into a large, multisegment business or focus and scale up its specialized business. We derive several empirical implications for firm valuations and the reaction of stock prices to news about firm prospects. We also offer a novel explanation for the well-documented "diversification" discount. © 2002 Published by Elsevier Science B.V.

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1. Introduction

A firm's investment strategy is determined by leveraging the capabilities, skills, and assets (i.e., resources) that are the source of its competitive advantage (Penrose, 1959; Wernerfelt, 1984). However, a firm might be uncertain about the degree to which its resources will generate economic rents. One way that firms learn about

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their resources is by undertaking investments and observing their outcomes (Jovanovic, 1982). The realizations of various performance measures, such as cash flows, revenues, and growth in market share, provide signals about the level of the firm's resources relevant for the success of their investments. These signals are valuable for guiding future investment decisions. Thus, when making investment decisions, firms will optimally consider both the stand-alone cash flows and the value of the information they expect to learn (Easley and Keifer, 1988).

Resources can be of many types and can also differ in their degree of specificity (Montgomery and Wernerfelt, 1988). For example, R&D expertise might be valuable in only a small number of businesses, while more general resources, such as an efficient distribution system, can be leveraged in many different businesses.[1] It can thus be important and useful for firms to experiment with new lines of business to help disentangle whether *specific* resources or *general* resources are responsible for their success. Such experimentation allows firms to focus on those (current and future) investments and business opportunities that best exploit their resources.

In Section 2, we develop a simple, discrete-state, discrete-time model to formalize these ideas. We consider a risk-neutral firm that must choose among numerous investment opportunities (projects). The net cash flows from any project depend on the firm's general resources, applicable to all projects, as well as on the firm's specific resources pertaining only to that project. We assume that the firm can scale up its investment in any project at any time and that this scaled-up investment is irreversible. The key feature of our model is that while the firm is uncertain about its general and specific resources, it can learn about them by observing the outcomes of its investments.

We further suppose that the firm has prior beliefs that it has a valuable specific resource applicable to a particular project. If the firm undertakes this specialized project, it learns about the sum of its general and specific resources, but not about each component separately. If the firm undertakes multiple projects, however, it can obtain a better signal about its general resources. We predict that firms will follow a life cycle which begins with undertaking the specialized project, then experimenting with a new line of business to learn about its resources, then either expanding into a large, multisegment business or focusing and scaling up its specialized business.[2] We show that similar investment opportunities can be valued differently when firms differ in their resource base and current life-cycle stage (which impacts the value of learning). We also predict that firms can dramatically increase the level and intensity of investment in a specialized line of business after failing in an unrelated line of business.

[1] Montgomery and Hariharan (1991), for instance, document evidence that marketing assets are an important source of diversified expansion. Matsusaka (1998) also argues that diversification is a process by which corporations search for productive new uses of their organizational capabilities. The concept of organizational capabilities is described in Chandler (1990).

[2] There is some evidence that diversification, defined as having operations in many segments, is positively related to firm age; see Mueller (1972) and Montgomery (1994). Matsusaka (1998) studies a sample of 63 firms that were diversified in 1972 and finds that most of these firms were specialized ten years earlier and many refocused over the next ten years.