

# 17. The Make-or-Buy Decision: Lessons from Empirical Studies

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## 1. INTRODUCTION

The “transaction cost” theory of the firm introduced by Coase (1937) has become a standard framework for the study of institutional arrangements. The Coasian framework helps explain not only the existence of the firm, but also its size and scope. Why, in Coase’s (1937, pp. 393–94) words, “does the entrepreneur not organize one less transaction or one more?” Some firms are highly integrated: IBM, for example, produces many of its components and software and maintains its own sales force for mainframe computers. Others are much more specialized: Dell Computer outsources virtually all its hardware and software components, selling directly to end users through its catalog and website, while the shoe company Reebok owns no manufacturing plants, relying on outside suppliers to make its products. U.S. manufacturing and service companies are increasingly contracting with specialized information technology firms for their computing and data warehousing needs, spending \$7.2 billion on outsourced computer operations in 1990. Standard and Poor’s estimates total worldwide outsourcing for 2003 at \$170 billion.<sup>1</sup>

Why do some firms choose a vertically integrated structure, while others specialize in one stage of production and outsource the remaining stages to other firms? In other words, should a firm make its own inputs, should it buy them on the spot market, or should it maintain an ongoing relationship with a particular supplier? Traditionally, economists viewed vertical integration or vertical control as an attempt to earn monopoly rents by gaining control of input markets or distribution channels. The transaction cost approach, by contrast, emphasizes that vertical coordination can be an efficient means of protecting relationship-specific investments or mitigating other potential conflicts under incomplete contracting. As transaction cost economics was developed in the 1970s and 1980s, a stream of empirical literature emerged explaining the “make-or-buy decision” using transaction cost reasoning. (The traditional approach has generated relatively few empirical applications beyond analyses of particular antitrust cases.) This chapter surveys the empirical literature

<sup>1</sup> These and other examples are provided by Brickley, Smith, and Zimmerman (2004, p. 515).

on vertical boundaries, focusing on the transaction cost approach and emphasizing the most important results, while highlighting the challenges that remain.<sup>2</sup>

## 2. THE THEORY OF VERTICAL BOUNDARIES

Coase was the first to explain that the boundaries of the organization depend not only on the productive technology, but also on the costs of transacting business. In the Coasian framework, the decision to organize transactions within the firm as opposed to on the open market—the “make or buy decision”—depends on the relative costs of internal versus external exchange. The market mechanism entails certain costs: discovering the relevant prices, negotiating and enforcing contracts, and so on. Within the firm, the entrepreneur may be able to reduce these “transaction costs” by coordinating these activities himself. However, internal organization brings other kinds of transaction costs, namely problems of information flow, incentives, monitoring, and performance evaluation. The boundary of the firm, then, is determined by the tradeoff, at the margin, between the relative transaction costs of external and internal exchange. In this sense, firm boundaries depend not only on technology, but also on organizational considerations; that is, on the costs and benefits of various contracting alternatives.

This is explained in detail in Paul Joskow’s chapter in this volume. A few highlights are worth mentioning here to guide the reader through the empirical literature. First, economic organization, both internal and external, imposes costs because complex contracts are usually incomplete—they provide remedies for only some possible future contingencies. This obviously applies to written contracts for all but the simplest forms of trade. It also applies to relational contracts, agreements that describe shared goals and a set of general principles that govern the relationship (Goldberg, 1980; Baker, Gibbons, and Murphy, 2001), and to implicit contracts, agreements that while unstated, are assumed to be understood by all sides. Second, contractual incompleteness exposes the contracting parties to certain risks. Primarily, if circumstances change unexpectedly, the original governing agreement may no longer be effective. The need to adapt to unforeseen contingencies constitutes an additional cost of contracting; failure to adapt imposes what Williamson (1991a) calls “maladaptation costs.”

The most-often-discussed example of maladaptation is the “holdup” problem associated with relationship-specific investments.<sup>3</sup> The holdup problem figures

<sup>2</sup>Earlier surveys of this literature, from a variety of perspectives, include Joskow (1988a), Shelanski and Klein (1995), Rindfleisch and Heide (1997), Masten and Saussier (2000), Vannoni (2002), Boerner and Macher (2002), and David and Han (2004). Masten (1996) collects many of the important earlier articles.

<sup>3</sup>More generally, contractual difficulties can arise from several sources: “(1) bilateral dependence; (2) weak property rights; (3) measurement difficulties and/or oversearching; (4) intertemporal issues that