

Part I

Agenda

1 Introduction

“A Resource-Based View of the Firm” (RBV), a paper I wrote in 1984, has gone on to become very influential in the management literature. It introduced ideas that are taught in strategy, personnel, marketing, and often several other fields, in virtually every MBA program in the world. The implications resonate with practicing managers, have intuitive appeal, and are easy to apply. At the same time, the paper has spawned a vigorous academic debate about its theoretical foundations (Foss, 1998; Priem and Butler, 2001).

Meanwhile, another foundational debate, over what exactly a “firm” is, has been raging in economics. Although two Nobel prizes have been awarded for answers to this question, the only agreed-upon proposition is that we, as of 2016, do not have a commonly accepted theory of the firm. Drawn to foundational topics, I have struggled with the question over the last thirty years, gradually refining the “Adaptation Cost” (AC) theory and making several other contributions to the economic literature on the firm. While these papers are written for an economics audience, the main forces at work will seem first order to managers, and it turns out that the theory portrays firms as acting in accordance with the RBV.

In contrast to the influence enjoyed by the RBV, my economic papers have remained on the fringes of the debate in that field. There are at least two reasons for this. First, economists rightly have very conservative beliefs about what constitutes first order effects. Second, I failed to stress to the profession that the theory rings true to the people modeled – those who make decisions about the scope of real firms. In my defense, it is not an easy case to make. Economists value that kind of external validity in a theory, but most know relatively little about how top managers think about the scope of the firm, and find it hard to interpret the facts in a way that allows them to bridge the gap to theory. My hope is that the RBV can serve as an intermediate point on such a bridge.

Taken as a whole, the collection of papers contained in this volume could thus contribute to two debates, about the foundations of the RBV and the theory of the firm. At the moment, almost no management

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scholars know about my work in economics and economists are often unfamiliar with the RBV.

Compared to other recent theories of the firm, the essential assumption behind the AC theory is that bargaining costs, incurred when adapting contracts, are sub-additive. This leads to a concept of employment as a cost-minimizing mechanism and explains why labor inputs may be economically indivisible. The other important assumption, which is much less controversial, is that workers are more efficient when they specialize. There are advantages of specialization in both business and service dimensions and this means that production costs are higher when workers have to change from one business and/or service to another.

These two types of adaptation costs, contractual and productive, are both incurred when demand shortages make complete specialization impossible, and the AC theory depicts economic institutions as attempts to minimize the total costs of adaptation. In particular, the employment relationship, which is used to define the firm, is found to be more efficient when frequent adaptations are needed. A firm has incentives to expand its scope when sub-additive bargaining costs makes it most efficient to realize gains from specialized use of inputs inside the firm. This means that the firm can enhance efficiency by expanding into businesses that are new but “related” in the sense that the same expertise, in business and service dimensions, can be used with little loss of efficiency in all of them. The RBV looks at the special case in which expertise differs between firms, but the AC theory does not require that.¹

Since the paper forming the basis for Chapter 2, “Small Forces and Large Firms: Foundations of the RBV,” contains a sketch of the argument made in this book, I will use the present chapter to place the individual components in the context of previous and current literature.

1.1 Strategy, Human Resource Management, and Marketing

“A Resource-Based View of the Firm” did not, as some have thought, start as a generalization of Edith Penrose’s (1959) theory about firms growing to utilize excess capacity of managerial time. Rather, it was a reaction, inspired by game theory, to Michael Porter’s “five forces analysis” of industries (1980). My thinking was simply that it is normatively inconsistent to recommend the same industries to everybody. Since competition will erode profits, recommendations can only be

¹ A lot of foundational debate in strategy focuses on explaining how initial differences arise and are preserved (Lippman and Rumelt, 1982; Rumelt, Schendel, and Teece, 1991; Foss, 2011). I make my own contributions in Chapters 15 and 16.

consistent with equilibrium if they send different firms in different directions. Seen in a broader perspective, this reaction and the timing of it were not surprising at all: Porter's book followed the lines of Joe Bain's (1956) *Industrial Organization* economics and this branch of economics was, in the mid-eighties, being turned upside down by economists newly armed with the tools of game theory (e.g., Tirole, 1988).²

To generate different operational recommendations for different firms, I took as a starting point that firms have different productive assets and that this matters for their production possibilities. More precisely, I assumed that firms differ in terms of their economically inalienable productive assets – their *resources*. A productive asset is economically inalienable from a firm f if it is inefficient to have any part of its capacity used by a firm other than f . Sub-additive price determination costs may make it inefficient to trade fractions of an asset, such that it cannot be efficiently exploited by trade, although it could be used by the firm itself. It is not required that the firm use 100 percent of the asset's capacity, only that it is inefficient to have a fraction of the capacity used by another firm. So these are the assets of which the firm may have excess capacity even in equilibrium.³

The RBV paper was not an immediate success and I did not promote it or even cite it in the first several years. However, things changed when three later papers proposed closely related ideas with more or less different terminology: Prahalad and Hamel (1990) on Core Competencies, Barney (1991) on Resource-Based Theory, and Teece, Pisano, and Shuen (1997) on Dynamic Capabilities. These papers all share the assumption that firms are different and suggest that they should leverage excess capacity of what they are good at. The strategy community realized the similarities, and the success of my paper is in no small measure due to the “sales job” done by these other authors.

These similarities notwithstanding, the RBV paper differs significantly from the later contributions in its treatment of the firm's development of new resources. This is a tricky issue because symmetric competition would result in rents from this type of innovation being competed away. In the RBV paper, the initial asymmetry in resources creates asymmetric positions in both output and resource markets, and the firm should

² As further described in Lockett, O'Shea, and Wright (2008), I was also influenced by the mathematical concept of duality as well as the idea that firms could “learn by doing.”

³ The step from excess capacity to expansion of the firm has been known at least since Penrose (1959). For example, in Transaction-Cost Economics, multiproduct firms are seen as resulting from indivisibilities and “market failure” (Williamson, 1975; Teece, 1982). The point here differs because ontological indivisibility is not necessary, while it is critical that bargaining costs be sub-additive.

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leverage both of these. So the result is that firms should do what they are good at and get better at things they are good at getting better at. In Teece, Pisano, and Shuen (1997), it is posited that some firms have a special resource that allows them to be good at learning (thus the name “dynamic capabilities”). It may be hard to empirically distinguish between the two theories, but the fact that firms tend to grow within the same general area would seem to suggest that any generalized learning somehow is tied to the firm’s initial resources.

Very soon after the RBV had diffused into strategy, it was applied to human resource management (personnel), and is now often thought of as forming the foundation of that field. For example, Allen and Wright (2007, p. 90) write that the RBV is “the guiding paradigm on which virtually all strategic HRM [human resource management] research is based.”

After a brief delay, the ideas made quick inroads into marketing and now play a substantial role in that field – though they are less central there than in strategy and personnel. Specifically, in very few years, the dominant conceptual framework in that field changed from being the “4P’s” (Product, Place, Promotion, and Price) to being the “3C’s and the 4P’s.” The idea is that the C’s (Company, Customers, and Competitors), are more or less given, and that the P’s are contingent on them. I do not know why this change occurred, and but the factors raised under “Company” are typically those that would be suggested by the RBV. Even the terminology is similar, as in the “Resource-Advantage Theory” of Hunt and Morgan (1996), and in often used labels like “Capabilities” or “Competencies.”

1.2 Economics: Sub-Additive Bargaining Costs

The concept of bargaining costs have proved vexing for the economics profession. One reason for this is that it has been hard to explain, in a fully satisfactory way, why bargaining should be costly. One celebrated attempt, by Grossman and Hart (1986) and Hart and Moore (1990) was undone by a set of sophisticated mechanisms proposed by Maskin and Tirole (1999). Specifically, players can eliminate the bargaining inefficiencies exploited by Hart et al. by using the so-called Moore-Rupello (1988) mechanisms. (Yes, it is the same Moore.) Other justifications have been based on Myerson and Satterthwaite’s (1983) result that bargaining with two-sided incomplete information necessarily is inefficient if a player cannot be forced to trade at a loss. However, if the parties can write a binding contract *ex ante*, they can commit themselves to trade no matter what.

There are many ways to confront this problem, none of which is fully satisfactory. Among others, we have proofs that the Moore-Rupello mechanisms are not robust (Aghion, Fudenberg, Holden, Kunitomo, and Tercieux, 2012), postulates that contracting is costly per se (Bajari and Tadelis, 2001), and appeals to bounded rationality (Williamson, 1979; Hart and Moore, 2008).

In this book, I justify the reliance on bargaining costs in several different ways. First, I show, in a series of experiments, that they exist and are sub-additive (Chapter 11). Second, I note that bargaining requires communication and that this is costly per se (Chapter 3). Third, I argue that some bargainers will spend resources trying to learn each other's private valuations (Chapter 4). More generally, it makes a difference that I define the firm by the employment relationship. In most countries, the law protects labor from overly aggressive penalties, thus allowing them to opt out of contracts if the conditions turn out to be too onerous.⁴ Once again, I admit that none of these is fully satisfactory.

These theoretical discussions aside, most people believe that bargaining costs exist. However, another barrier to their widespread use is the intuition that they are in some sense “small” and thus cannot be first order causes of any important phenomena. This is very reasonable if one is trying to explain large capital investments (as is done in most of the literature on integration), but much less so when, as in this book, the focus is on large numbers of small labor services. Making this point in numerous seminars, I have never had anyone disagree that “an executive does not want to negotiate a separate fee for every little service his or her secretary performs.” The AC theory highlights how the governance of trading relationships depends on the number of adaptations needed per unit time.

While bargaining costs, in various guises, have been the subject of a lot of debate, I have never seen any mention of the second part of the premise, that these costs are sub-additive in the number of items covered in the negotiation. And yet, this is critical. Without this assumption, occasion-by-occasion bargaining by the above-mentioned executive would be just as efficient as a once and for all negotiation covering the entire set of relevant services – an arrangement we will call an “employment relationship” and use to define the firm (Chapter 3).

Fortunately, sub-additivity is intuitively appealing: Compared to thirty item-by-item negotiations, most people would prefer to bargain once

⁴ It is harder to dispute that binding ex ante contracts can be written for trade in products.

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about a price for the bundle of thirty items. In fact, this is exactly what Boris Maciejovsky and I find in the experiments reported in Chapter 11 of this book. Based on countless conversations with economists, my strong sense is that the profession considers the sub-additivity assumption relatively unproblematic compared to the resistance to any use of bargaining cost in the first place.

After this historical/sociological preamble, the next Chapter contains a preview of the book.

References

- Aghion, Philippe, Drew Fudenberg, Richard Holden, Takashi Kunimoto, and Olivier Tercieux, “Subgame-Perfect Implementation Under Information Perturbations,” *Quarterly Journal of Economics*, 127, 1843–81, 2012.
- Allen, Matthew R., and Patrick M. Wright, “Strategic Management and HRM” in Peter Boxall, John Purcell, and Patrick M. Wright (eds.), *Oxford Handbook of Human Resource Management*, Oxford, UK: Oxford University Press, 2007.
- Bain, Joseph S., *Barriers to New Competition*, Cambridge, MA: Harvard University Press, 1956.
- Bajari, Patrick, and Steven Tadelis, “Incentives Versus Transaction-Costs: A Theory of Procurement Contracts,” *RAND Journal of Economics*, 32, 387–407, 2001.
- Barney, Jay B., “Firm Resources and Sustained Competitive Advantage,” *Journal of Management*, 17, no. 1, March, 89–120, 1991.
- Conner, Kathleen R., “A Historical Comparison of Resource-Based Theory and Five Schools of Thought within Industrial Organization Economics: Do We Have a New Theory of the Firm?” *Journal of Management*, 17, no. 1, March, 121–54, 1991.
- Foss, Nicolai J., “The Resource-Based Perspective: An Assessment and Diagnosis of Problems,” *Scandinavian Journal of Management*, 14, no. 3, March, 133–49, 1998.
- Foss, Nicolai J., “Micro-Foundations for Resource-Based Theory,” *Journal of Management*, 37, 1413–28, 2011.
- Gibbons, Robert, and Rebecca Henderson, “What Do Managers Do?” chapter 17 in R. Gibbons and J. Roberts (eds.), *Handbook of Organizational Economics*, Princeton, NJ: Princeton University Press, 2013.
- Grossman, Sanford, and Oliver D. Hart, “The Costs and Benefits of Ownership,” *Journal of Political Economy*, 94, 691–719, 1986.
- Hart, Oliver D., and John Moore, “Property Rights and the Nature of the Firm,” *Journal of Political Economy*, 98, 1119–58, 1990.
- Hart, Oliver D., and John Moore, “Contracts as Reference Points,” *Quarterly Journal of Economics*, 123, 1–48, 2008.
- Hunt, Shelby D., and Robert M. Morgan, “The Resource-Advantage Theory of Competition,” *Journal of Marketing*, 60, October, 107–14, 1996.

- Lippman, Steven A., and Richard P. Rumelt, "Uncertain Imitability: An Analysis of Interfirm Differences Under Competition," *Bell Journal of Economics*, 13, 418–38, 1982.
- Lockett, Andrew, Rory P. O'Shea, and Michael Wright, "The Development of the Resource-Based View: Reflections from Birger Wernerfelt," *Organizational Studies*, 29, 1125–41, 2008.
- Maskin, Eric, and Jean Tirole, "Unforeseen Contingencies and Incomplete Contracts," *Review of Economic Studies*, 66, 83–114, 1999.
- Moore, John, and Raphael Rupello, "Subgame Perfect Implementation," *Econometrica*, 56, 1191–1220, 1988.
- Myerson, Roger B., and Mark A. Satterthwaite, "Efficient Mechanisms for Bilateral Trading," *Journal of Economic Theory*, 29, 265–81, 1983.
- Penrose, Edith, *The Theory of the Growth of the Firm*, New York, NY: Oxford University Press, 1959.
- Prahalad, C. K., and Gary Hamel, "The Core Competence of the Corporation" *Harvard Business Review*, 68, no. 3, May–June, 79–91, 1990.
- Priem, Richard L., and John E. Butler, "Is The Resource-Based 'View' a Useful Perspective for Strategic Management Research?," *Academy of Management Review*, 36, no. 1, 22–40, 2001.
- Rumelt, Richard P., Daniel Schendel, and David J. Teece, "Strategic Management and Economics", *Strategic Management Journal*, 12, Special Issue, 5–29, 1991.
- Sappington, David, and Birger Wernerfelt, "To Brand or Not to Brand? A Theoretical and Empirical Question," *Journal of Business*, 58, no. 3, July, 279–93, 1985.
- Teece, David, Gary Pisano, and Amy Shuen, "Dynamic Capabilities and Strategic Management," *Strategic Management Journal*, 18, no. 7, August, 509–33, 1997.
- Teece, David J., "Towards an Economic Theory of the Multi-Product Firm," *Journal of Economic Behavior and Organization*, 3, no. 1, March, 39–63, 1982.
- Tirole, Jean, *The Theory of Industrial Organization*, Cambridge, MA: MIT Press, 1988.
- Wernerfelt, Birger, "A Resource-Based View of the Firm," *Strategic Management Journal*, 5, 171–80, 1984.
- Wernerfelt, Birger, "Umbrella Branding as a Signal of New Product Quality: An Example of Signaling by Posting a Bond," *RAND Journal of Economics*, 19, no. 3, Autumn, 458–66, 1988.
- Williamson, Oliver E., *Markets and Hierarchies: Analysis and Antitrust Implications*, New York, NY: The Free Press, 1975.
- Williamson, Oliver E., "Transaction-Cost Economics: The Governance of Contractual Relations," *Journal of Law and Economics*, 22, 233–61, 1979.

2 Preview

Small Forces, High Frequencies, and Large Firms

2.1 Introduction

This book is about firms. Many readers will be teaching about firms and/or doing research about them. And yet, we have no generally accepted answers to the most basic questions about them. What is a firm? When should we use them? How do they work differently than markets? Why do some of them diversify?

Most research in business and economics is conducted by taking a trading mechanism, typically a firm, a market, or a contract, as given. The researcher then imposes some subset of a standard set of assumptions, and answers questions about the resulting actions and outcomes. While this procedure has proven very fruitful, it raises some deeper questions: What determines the choice of mechanism in the first place? And why are firms, markets, and contracts so commonly used? On these, we are well short of a theory which is unified in the sense that it can explain all three mechanisms and do so without relying on assumptions different than those normally imposed in analyses taking each of the mechanisms as a given.

In the following chapters, we propose an Adaptation Cost (AC) theory of the firm that speaks to these questions and at the same time provides a micro-foundation for the Resource-Based View (RBV) of the Firm (Chapter 6).

The argument starts with a worker who has provided a particular service for an entrepreneur whose needs now have changed. The worker's productive efficiency will suffer if he changes to another service or another entrepreneur and in either case some costs may be incurred in the process of reaching agreement on the terms of the new trade. We look for the most efficient way to balance these three sources of adaptation costs (inefficiency) in three stages. In Chapter 3, we hold production costs constant and consider bargaining costs only. This allows us to compare bilateral mechanisms, including employment and contracts. In Chapter 4, we introduce advantages of specialization such that

changes between services or entrepreneurs result in higher production costs. This allows us to expand the set of alternatives to include markets, as well as firms. We finally, in Chapter 5, introduce a distance metric on the sets of services and businesses such that some changes are more costly than others. By thus treating firms and markets in a somewhat similar way, we are able to derive predictions about the optimal scope of firms and the optimal size of markets. Let us now discuss the three types of adaptation costs in a bit more detail.

We start with a “small” force; the difference in bargaining costs between negotiating a single average price for a lot of services versus negotiating separate prices for each individual service. It is not counter-intuitive to think of bargaining costs as being subject to economies of scale in this sense: When faced with the service of trading thirty small items, most people would prefer to negotiate once over the bundle rather than thirty times on an item-by-item basis. In Chapter 3, we show how sub-additivity of bargaining costs can help explain why we use the employment mechanism to govern trading relationships in need of frequent adaptation.

The costs of worker adaptation are not just those of bargaining over payments. It is also costly, in the form of lower productivity, to change between services and to transition from one business to another. While it is possible for workers to provide different services for different entrepreneurs in each period, they have to adapt less if they specialize in providing a single service, stay in a bilateral relationship (specialize in working for one business), or do both. So an advantage of either type of specialization is that it reduces the amount of adaptation needed. In Chapter 4, we use this insight to extend the AC theory to explain the comparative advantages of markets, relative to firms and contracts.

A worker is most efficient if he can be “doubly specialized,” continually providing the same service to the same business. If this is impossible, because demand facing the business is too small to use a full-time service specialist, it will often be second best to specialize in one of the two dimensions and deal with the occasional adaptation in the other. Some such adaptations, whether between two services or two businesses, are more costly than others. In Chapter 5, we therefore define a measure of distance or “relatedness” between pairs of services or businesses. So a worker who is specialized in one dimension, say a service (business), can approximate double specialization by focusing on a small set of related businesses (services). This perspective allows us to further extend the AC theory and predict the scope of firms and the size of markets.

To see how this leads to a theory of the scope of the firm, consider a worker who cannot be doubly specialized because the business has too