

S Y M P O S I U M

HAS THE CONCEPT OF OPPORTUNITIES BEEN FRUITFUL IN THE FIELD OF ENTREPRENEURSHIP?

SHARON ALVAREZ
University of Pittsburgh

JAY B. BARNEY
The University of Utah

Recent criticisms of the concept of opportunities either ignore the natural evolution of conceptual definitions in all the social sciences (Davidsson, 2015; Davidsson, Recker, & von Briel, 2020) or substitute different words for this concept (Foss & Klein, 2020). Neither tack provides a strong justification for abandoning the concept of opportunity in the field of entrepreneurship. Indeed, the concept of opportunities has forced entrepreneurship scholars to be clearer about their assumptions, has focused attention on Knightian uncertainty and the process of forming and exploiting opportunities, and links entrepreneurship research with some theories in the field of strategic management. It seems likely that opportunities will continue as an important concept in the field of entrepreneurship for some time.

Since Shane and Venkataraman's (2000) groundbreaking paper, much of the field of entrepreneurship has focused on opportunities—where they come from and how they are exploited. For example, Shane and Venkataraman (2000) themselves studied how alert entrepreneurs discover opportunities, Sarasvathy (2001) discussed the impact of cognitive biases on forming and exploiting opportunities, Baker and Nelson (2005) showed how opportunities emerge out of resources entrepreneurs already control, and Alvarez and Barney (2007, 2013) emphasized how opportunities are created through an iterative and path-dependent social construction process. While these theories vary on many dimensions, they all have one thing in common: They all focus on opportunities.

Now a group of scholars has begun to question whether the field of entrepreneurship should have committed itself so strongly to the study of the causes and consequences of opportunities. Davidsson (2015) and Davidsson et al. (2020), for example, argued that the term is not defined in a uniform or consistent way, and Foss and Klein (2020) argued that the concept of opportunities is at best redundant and at worst misleading.

This essay addresses these two criticisms, and then offers positive arguments why opportunity is likely to remain a fruitful concept in the field of entrepreneurship. First, it shows that definitional problems typically plague new research traditions, especially in the social sciences. Indeed, such differences are not necessarily deleterious, but can spur debate that is important for the development of a field of research. The field of entrepreneurship is not immune to the growth challenges faced by other social sciences, although some progress on definitional consistency in the use of the term *opportunities* is being made (Alvarez & Barney, 2007, 2013).

Second, the paper shows that—despite their protestations to the contrary—the concept of opportunities is central to the work of Foss and Klein (2012) and Davidsson et al. (2020). While they use the word *opportunity* sparingly, they frequently refer to the substance of a particular definition of this concept. Thus, their call to abandon the concept of opportunities devolves into semantics—a call to change the word *opportunities* into some other words that mean essentially the same thing.

Finally, the paper shows that the study of opportunities has had, and is likely to continue to have, several important implications for the field of entrepreneurship. For example, focusing on opportunities has enabled the field of entrepreneurship to begin to coalesce around a central organizing research question (Alvarez & Barney, 2007; Sarasvathy, 2001; Shane & Venkataraman, 2000). This was essential if entrepreneurship was to emerge as a separate discipline in management research (Merton, 1968). Moreover, since 2000, the work on opportunities has been instrumental in developing research on decision making under risk and uncertainty, on the relationship between the content of entrepreneurial actions and the processes through which these actions unfold, and on links between entrepreneurship research and other management disciplines, including some theories in strategic management.

Of course, none of this suggests that the study of opportunities must be the sole focus of entrepreneurship research. Indeed, there are many research traditions in entrepreneurship—the study of entrepreneurial orientation is just one of them (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Miller, 1983)—that have little to do with understanding where opportunities come from or how they are exploited. At some point, an alternative focus may emerge in the field of entrepreneurship. Until this occurs, opportunities will, and should, remain a central feature of entrepreneurship research.

IS THE DEFINITION OF OPPORTUNITY AMBIGUOUS?

In their criticism of the concept of opportunities in the field of entrepreneurship, Davidsson (2015) and Davidsson et al. (2020) pointed to the fact that no single definition of this term has been consistently applied in prior work. Indeed, both papers expend considerable effort to show that this is the case.

Of course, neither paper's findings are at all surprising. When new concepts are introduced into a field of scientific inquiry, they often go through a period of definitional ambiguity. This is especially true in social science. Over time, as the strengths and weaknesses of different definitions are identified and examined, it is sometimes the case that a consensus develops around a particular definition.

This is true in most social science fields, not just in the study of entrepreneurship. For

example, in his influential article on barriers to entry, economist Harold Demsetz (1982) identified three different definitions of barriers to entry in the literature (Bain, 1968, p. 252; Ferguson, 1974, p. 10; Stigler, 1968, p. 67), each of which has important, yet different, theoretical and policy implications. This was the case even though the concept of barriers to entry was well established in the field of economics by the early 1950s. Indeed, the slightly broader concept of barriers to competition was introduced into economics as early as Smith (1776, Books IV and V), Cournot (1838), and Dupuit (1844). But despite this long history, by 1982, Demsetz could still identify three very different definitions in the literature.¹

Not until 2000, however, did academics identify the study of opportunities as a central issue in entrepreneurship research. Compared to the definitions of barriers to entry, the concept of opportunities in entrepreneurship is actually not doing so badly. But there is an even more subtle definitional issue here. It may well be the case that the concept of opportunity can be defined in a variety of ways, depending on the theoretical objectives of a particular study (Alvarez, Barney, McBride, & Wuebker, 2017). In this sense, *opportunity* may be an umbrella concept with multiple specific definitions, some of which are more relevant for particular research efforts than others.

Indeed, debates about the definition of opportunities are reminiscent of the debates about the definition of entrepreneurship that plagued the field for many years. During that time, many entrepreneurship scholars seemed to believe that before the field could make progress, it had to settle on a single, all-encompassing definition of entrepreneurship. The search for such a definition paralyzed the field for some time—until it was recognized that different definitions of entrepreneurship may be useful for different purposes, and that the search for a single definition was not likely to be fruitful (Gartner, 1988). Current practice is to eschew efforts to create a general definition of entrepreneurship and instead define entrepreneurship in the specific research context of a particular paper.

That said, Davidsson (2015) was right in one way: Each paper that attempts to explain where opportunities come from and how they are exploited must

¹ A more systematic review in 2004 identified seven distinct definitions of barriers to entry (McAfee, Mialon, & Williams, 2004).

define this concept as it is applied in that paper.² Thus, for example, prior work on opportunity creation (Alvarez & Barney, 2004, 2007, 2010, 2013) defined opportunities as competitive imperfections in product or factor markets. Unlike other fields (Barney, 1991; Porter, 1980) that usually take the existence of these imperfections as given, creation theory examines how these competitive imperfections are formed, and then sometimes exploited, by the actions of individuals (or groups).³ However, the fact that creation theory has adopted an “imperfectly competitive factor or product market” (Alvarez & Barney, 2007, p. 12) definition of opportunities does not mean that that definition is, or should be, the only definition of opportunities in the field.

Taken together, all this suggests that the observation that no single definition of opportunities has emerged in the field of entrepreneurship is neither surprising nor particularly troubling. And certainly, this observation is not sufficient reason to abandon opportunity as a central concept in the field of

² This does not imply that any definition of opportunity will be acceptable. In general, fruitful definitions of opportunity will be preferred over less fruitful definitions. The fruitfulness of a concept such as opportunity depends on both its meaning (does it have a reliably identifiable referent?) and its significance (is it central to theories that help address important questions in a field?) (Brodbeck, 1968). This fruitfulness cannot be evaluated independently of the theory (or theories) to which a concept contributes. In the short term, this can lead to a proliferation of definitions of a concept, as we have seen in the case of opportunity. In the long run, as theories are sifted through empirical tests, some definitions of opportunity will turn out, *ex post*, to be more fruitful than others (Camerer, Loewenstein, and Rabin, 2011). This does not imply, however, that in the long run there will necessarily be only one acceptable definition.

³ Specific examples of these opportunity-creating competitive imperfections include asymmetric and imperfect information, transaction-specific investments, externalities, economies of scale and scope, heterogeneously distributed and immobile resources and capabilities, and mismatches between supply and demand (Barney, 1991; Kotler & Armstrong, 2016; Mahoney & Qian, 2013; Williamson, 1975). Mahoney and Qian (2013, p. 2021) argued that when competitive imperfections exist in product or factor markets, tangible and intangible assets may not be used in their most effective and efficient way. Those whose actions help reallocate these assets to a more efficient use can generate wealth from their actions. In this way, competitive imperfections in product or factor markets can be thought of as opportunities or, more specifically, as opportunities to generate economic profits.

entrepreneurship, just as having multiple definitions of barriers to entry did not mean, necessarily, that economists should abandon this concept. Put differently, there may be substantial opportunity costs associated with abandoning the concept of opportunity.

IS THE CONCEPT OF OPPORTUNITIES REDUNDANT OR MISLEADING?

In a related criticism in the context of arguing for the centrality of entrepreneurial judgment in understanding entrepreneurial action, Foss and Klein (2020) suggested that the concept of opportunities is at best redundant and at worst misleading. Of course, whether or not this is the case depends, first and foremost, on its definition. We have already mentioned that several possible definitions of opportunities exist in the literature (Davidsson, 2015). Some of these may in fact be redundant; some may in fact be misleading.⁴ It does not follow, however, that all prior work that has used the concept of opportunities must, therefore, be redundant or misleading.

Indeed, it is interesting to note that Foss and Klein (2012, p. 78, italics added) apparently found the concept of opportunities neither redundant nor misleading in their definition of entrepreneurial judgment:

To simplify, we have collapsed into this notion [of entrepreneurial judgment] the act of creating and evaluating *opportunities*, and deciding on which resources need to be assembled, how they need to be combined, etc. to realize the *opportunity*.

To be fair, Foss and Klein (2012, p. 102) later argued:

[T]reating opportunities as the central unit of analysis may not be optimal, as they are difficult to operationalize and measure. Rather, in a Knightian perspective, the unit of analysis should be the assembly of resources in the present in anticipation of (uncertain) receipts in the future, in other words, investments.

But where do those future receipts come from? One answer is that they come from forming and exploiting competitive imperfections in product or factor markets—that is, they come from forming and exploiting opportunities, at least as this term is defined in Alvarez and Barney (2007).

Indeed, throughout their book, Foss and Klein (2012) often used language to describe competitive

⁴ If this is the essential point made by Foss and Klein (2020), then their criticism of the concept of opportunities devolves to criticism of Davidsson et al. (2020), and thus requires no further comment.

imperfections in product or factor markets that have the potential to generate economic profits without using the word *opportunities*. Sometimes, opportunities are characterized as “entrepreneurial objectives” (Foss & Klein, 2012, pp. 78, 79), other times as efforts to “satisfy future preferences” (Foss & Klein, 2012, p. 93), other times as efforts to “satisfy future consumer wants” (Foss & Klein, 2012, p. 100), and so on. While generally avoiding the word *opportunity*, these authors use a variety of words and phrases that mean, essentially, the same thing as opportunity.⁵ Parsimony would suggest that a more reasonable approach would be to define the concept of opportunity once and then use this concept consistently throughout the argument.

None of this suggests that Foss and Klein’s (2012) emphasis on entrepreneurial judgment in understanding entrepreneurial action is fundamentally flawed.⁶ Indeed, as they acknowledged (Foss & Klein, 2012, p. 95), judgment is what entrepreneurs develop as they proceed through an effectuation (Sarasvathy, 2001) or creation process (Alvarez & Barney, 2007). It may well be the case that after this process, some people have been able to develop better entrepreneurial judgment than others, and that this can enable these individuals to be more effective in exploiting subsequently created or discovered opportunities.

Another critique that Foss and Klein (2012) leveled at the concept of opportunity is that it is difficult to measure. Of course, this is a critique of numerous concepts in management theory, including transaction costs, resources and capabilities, and agency costs (Godfrey & Hill, 1995), all of which have turned out to be very important for the development of theory in the field of strategic management. Indeed, one could argue that “opportunities” are no more difficult to measure than “entrepreneurial judgment.”

Thus, while acknowledging, along with Davidsson (2015), Davidsson et al. (2020), and Foss and Klein (2020), that much work remains to be done to clarify and operationalize the concept of opportunity, we see

⁵ Much the same could be said about Davidsson et al.’s (2020) “external enablers,” which look a great deal like the exogenous causes of opportunity formation cited by Shane (2003).

⁶ It is important to recognize that the purpose of Foss and Klein’s (2012) book is not to explain entrepreneurial action per se, but to explain the emergence of entrepreneurial firms based on the concept of entrepreneurial judgment. Put differently, Foss and Klein (2012) saw an opportunity to develop a theory of the entrepreneurial firm using the judgment concept.

this as an important theoretical opportunity, not as a reason to abandon the effort to study opportunities.

THE EFFECTS OF OPPORTUNITIES ON THE FIELD OF ENTREPRENEURSHIP

There are good reasons to believe that the concept of opportunities has been, and is likely to remain, a fruitful concept in the field of entrepreneurship. We offer four specific benefits of this concept for the field of entrepreneurship: (1) It has enabled the field to develop a central research question, (2) it has focused attention on risk and Knightian uncertainty as different decision-making contexts for entrepreneurs, (3) it has focused attention on the processes by which opportunities are formed and exploited, and (4) it has helped define a link between entrepreneurship and at least one important theory in another management discipline, namely, resource-based theory in strategic management (Barney, 1986, 1991).

Central Research Questions in Entrepreneurship

Many social science disciplines are organized around a central research question, such as “how are scarce resources allocated in an economy?” (economics), “how is capital allocated to productive uses across firms?” (finance), and “why do some firms outperform others?” (strategic management). For most of its history, the field of entrepreneurship has not had such a central organizing research question (Gartner, 1988).

This began to change with an emerging interest in where opportunities come from and how they are exploited (Shane & Venkataraman, 2000; Venkataraman, 1997). Of course, other fields of research—economics, strategic management, and marketing, for example—have long recognized the importance of opportunities.⁷ However, entrepreneurship has been alone in placing the analysis of where opportunities come from and how they are exploited at the center of its research agenda.

Among the impacts of the emergence of this central research question was that it forced entrepreneurship scholars to be much clearer about the assumptions of different answers to the questions of where opportunities come from and how are they exploited. Again, this began with discovery theorists (e.g., Shane, 2003) who focused on exogenous shocks as the source of opportunities and on variance in alertness as an important determinant of how these opportunities were exploited.

⁷ Apparently, these other disciplines also see significant opportunity costs associated with abandoning the concept of opportunities.

Sarasvathy (2001), on the other hand, articulated the differences in assumption between traditional causal logic and effectuation logic and the impact of these differences on where opportunities come from and how they are exploited. Alvarez and Barney (2007) compared the assumptions of a discovery approach to opportunities to a creation approach, in which opportunities emerge endogenously from entrepreneurial action and the path-dependent nature of these actions helps entrepreneurs exploit the opportunities they create.

In articulating these assumptions, research in entrepreneurship began to evolve from a loose connection of work on interesting empirical phenomena in a particular empirical context to a field of work focused—to a large extent—on developing and testing theories of where opportunities come from and how they are exploited. Not only has this had the effect of bringing some order and direction to research in entrepreneurship, it is also beginning to have an impact on other fields of research that have had some interest in opportunities (Barney, 2018).

Of course, none of this implies that the only fruitful research questions in the field of entrepreneurship are where opportunities come from and how they are exploited. All it suggests is that research about the source and exploitation of opportunities has, in fact, been fruitful in the field of entrepreneurship, and is likely to remain so.

Knightian Uncertainty in Forming and Exploiting Opportunities

One of the insights from work on where opportunities come from and how they are exploited is that opportunities can emerge in very different informational contexts. In this way, some work on opportunities has emphasized the role of Knightian uncertainty in entrepreneurship (Alvarez & Barney, 2005), especially in models of endogenous opportunity formation and exploitation (Alvarez & Barney, 2007, 2013; Sarasvathy, 2001).⁸ Indeed, Foss and Klein (2020, p. 370), summarizing the emerging consensus among entrepreneurship scholars, concluded that Knightian uncertainty should be “front and center” in the entrepreneurship literature.

⁸ Knight (1921) was among the first scholars to distinguish between risk and uncertainty. According to Knight, an informational context is risky when a decision maker does not know the outcome of a decision but knows all possible outcomes and their probability *ex ante*. An informational context is uncertain when a decision maker does not know the outcome of a decision, and also knows neither all the possible outcomes of a decision nor their probability.

Would such a consensus have emerged without a prior focus on opportunities? Of course, this is an impossible question to answer. However, what is clear is that focusing on opportunities has helped establish the importance of Knightian uncertainty in the field of entrepreneurship.

The emphasis on the impact of Knightian uncertainty on opportunities also helps distinguish entrepreneurship from other fields of research.⁹ So, for example, some economic theories of decision making, including expected utility theory (von Neumann & Morgenstern, 1947) and subjective utility theory (Savage, 1954), adopt the assumption that all decisions are made under conditions of risk. Expected utility theory does this mostly for mathematical tractability; subjective utility theory does this by assuming that decision makers always have a probability distribution in their minds about the outcomes associated with a decision, and thus—from the point of view of the decision maker—decision making always takes place under conditions of risk and is never uncertain.¹⁰ Also, some finance and strategic

⁹ Different fields use the term *uncertainty* differently. For example, many economists (Dequech, 2003; Langlois, 1985) see both risk and ambiguity as special cases of uncertainty. Many entrepreneurship scholars see risk, ambiguity, and uncertainty as different, though related, informational contexts. Because this paper seeks to make a contribution to the entrepreneurship literature, it adopts the definitions used in this literature. That said, for all intents and purposes, the term *ambiguity* as used in the economics literature is the same as the term *uncertainty* used in the entrepreneurship literature—and defined in the previous footnote.

¹⁰ Of course, subjective utility theory acknowledges that decision makers may modify their beliefs about these probability distributions as they gain more experience with how the real world responds to their efforts to form and exploit an opportunity—a process called “judgment” by some economists (Savage, 1954). These modifications are assumed to take place using Bayesian updating (Viscusi, 1989), a process that assumes, among other things, that (1) the evaluation of new evidence is independent of prior beliefs, (2) the order in which a decision maker receives information about updating probabilities is irrelevant, and (3) evaluating an opportunity is independent of the utility associated with that opportunity (Anscombe & Aumann, 1963). Foss and Klein (2012) also used the terms *beliefs* and *judgment* in their model of entrepreneurship, but it is unclear whether they used these terms in the same way as they are used in subjective probability theory (Savage, 1954). In particular, it is not clear whether or not Foss and Klein (2012) assumed that entrepreneurs use Bayesian updating or some other form of learning in their entrepreneurial efforts.

management scholars (Besanko, Dranove, Shanley, & Schaeffer, 2015) apply net present value and related approaches to model decision making—an approach that adopts the assumption that the discount rates that are applied to a projected cash flow are known, *ex ante*, and thus implicitly assumes that these decision-making contexts are risky rather than uncertain (Camerer & Weber, 1992).

Entrepreneurship, on the other hand, focuses on decisions about forming and exploiting opportunities under Knightian uncertainty. What do these decisions look like? First, while partly calculative, these decisions also have an important emotional component (Bechara, Damasio, & Damasio, 2000; Camerer, Loewenstein, & Rabin, 2011; Camerer & Weber, 1992; Gigerenzer, 2002). A person's commitment, passion, enthusiasm, and excitement (Cardon, Wincent, Singh, & Drnovsek, 2009) are likely to be as important in determining whether or not an opportunity is discovered or created and then exploited as is rational calculation. Second, because opportunity costs (and thus discount rates) can rarely be calculated in this setting, decision makers are instead likely to focus on the affordable loss (Saravathy, 2001) in making decisions about opportunities. Finally, instead of rational Bayesian updating, entrepreneurs will typically rely on the application of a variety of biases and heuristics (Kahneman & Tversky, 1979) in deciding whether or not to pursue an opportunity.

In this context, a decision maker's prior beliefs deeply influence how new information is interpreted in creating or discovering an opportunity (Kahn & Meyer, 1991). Both the recency and primacy of information received by entrepreneurs have important effects on learning about opportunities (Milgrom & Stokey, 1982), and decision makers are routinely prone to wishful thinking (Boiney, 1993) and overconfidence (Rothbart & Snyder, 1970). However, far from being unfortunate deviations from "rational decision making," work on opportunities under uncertainty suggests that these approaches to decision making about opportunities are effective tools for making decisions under conditions of Knightian uncertainty (Alvarez & Barney, 2007, 2013; Busenitz & Barney, 1997; Gigerenzer, 2002).

Of course, entrepreneurship scholars are not the only social scientists interested in decision making under Knightian uncertainty (Gilboa, 2009). Indeed, work by behavioral economists (e.g., Bechara et al., 2000; Camerer, Loewenstein, & Rabin, 2011; Hsu, Bhatt, Adolphs, Tranel, & Camerer, 2005) and cognitive psychologists (Kahneman & Tversky, 1982) has provided a sound theoretical and empirical basis for examining decision making in these settings.

However, these other scholars are interested in decision making under uncertainty in general, whereas entrepreneurship scholars focus on the implications of this kind of decision making for the discovery/creation/exploitation of opportunities.

In emphasizing the importance of Knightian uncertainty in studying opportunities, we are not suggesting that all the decisions made by entrepreneurs take place in uncertain settings, or even that most of these decisions take place in uncertain conditions. However, it is likely that at least some decisions about opportunities and whether or not to exploit them are made under these conditions. To the extent that discussions about opportunities have led to discussions about the implications of Knightian uncertainty for entrepreneurship, the concept of opportunities has been and seems likely to remain fruitful.

The Process of Discovering, Creating, and Exploiting Opportunities

One of the fruitful questions that emerges out of a focus on opportunities in the field of entrepreneurship is this: Where do these opportunities come from? Two broad answers to this question have been proposed: (1) They are formed by exogenous shocks to preexisting markets or industries (Shane, 2003), and (2) they are formed endogenously, by the actions of entrepreneurs themselves (Alvarez & Barney, 2007, 2013).

These two answers to such a seemingly simple question have turned out to have broad philosophical, theoretical, and empirical implications for the field of entrepreneurship. Philosophically, these two answers invoke different ontological positions: the former, that opportunities are objective phenomena that exist independently of the perceptions of entrepreneurs (Shane, 2003); the latter, that they are subjective and socially constructed by those who form and exploit them (Alvarez et al., 2017). Theoretically, the exogenous shocks model invokes the price arbitrage logic of Kirzner (1973) to suggest that opportunities exist because of mismatches between supply and demand in different markets. The endogenous opportunity formation model suggests that the formation of opportunities is strongly path-dependent in nature (Arthur, 1989; Barney, 1991).

Empirically, the exogenous shocks model focuses on *ex ante* differences between those who exploit opportunities and those who do not (Shane, 2003) and the role of business planning in realizing these opportunities (Delmar & Shane, 2003). The endogenous model is agnostic with regard to *ex ante* differences between entrepreneurs and non-entrepreneurs, and

instead focuses on ex post differences created by the process of forming and exploiting opportunities (Busenitz & Barney, 1997). And because these opportunities emerge under conditions of Knightian uncertainty, the endogenous process also suggests that business planning will be less effective, and that biases, heuristics (Alvarez & Barney, 2007; Kahneman & Tversky, 1979; Sarasvathy, 2001), passion (Cardon et al., 2009), and perseverance (Hoang & Gimeno, 2010) will be important as entrepreneurs decide whether or not to continue forming and exploiting an opportunity.

While these two models of where opportunities come from have many differences, one thing they have in common is a focus on process. In the model where opportunities result from exogenous shocks, entrepreneurs must still engage in a process to discover these opportunities, a process to understand them, a process for attracting stakeholders needed to exploit them, and so forth (Burns, Barney, Angus, & Herrick, 2016; Delmar & Shane, 2003). Process—including the process of identifying external enablers who can help entrepreneurs find opportunities (Davidsson et al., 2020)—is an important element of exogenous shock models of opportunities.

Process is even more important in endogenous models of opportunity formation. Indeed, where the exogenous model takes the existence of opportunities as given and focuses on the processes entrepreneurs use to discover and exploit these opportunities, the very existence of opportunities in the endogenous model depends on a variety of entrepreneurial processes (Alvarez & Barney, 2007).

These processes have been described in a variety of ways. For example, Alvarez and Barney (2007) described how individuals seeking to form an opportunity act before they know—with certainty—the results of their actions, then observe market responses and adjust or abandon their efforts. Alvarez, Young, and Woolley (2015, 2020) used the emergence of the king crab industry to illustrate the process of creating opportunities, enrolling new stakeholders, and building new institutions in a *de novo* industry. Foss and Klein (2020) invoked a similar creation process model in their discussion of the entrepreneurial judgment. For these authors, individual beliefs lead people to take actions, which then lead to results. Beliefs about the future bring about actions, which then bring about outcomes.

None of this suggests that there is consensus among the views held by different theorists in these traditions. For example, Foss and Klein (2012) invoked a process model of entrepreneurship but argued that opportunities *per se* do not play much of a

role in this framework. This apparently contradicts Alvarez, Barney, and Anderson's (2013) emphasis on opportunities—although the similarity between the two arguments is otherwise quite striking.¹¹

How these debates will evolve is, of course, hard to know. That they have been fruitful in moving the field of entrepreneurship forward is hard to deny. Would these debates about where opportunities come from have emerged even if the field had not adopted opportunities as a central unit of analysis? As before, this is difficult to know. What we do know is that these debates—which are coming to be more and more central in the field of entrepreneurship—emerged directly out of an emphasis on studying opportunities.

Opportunities, Entrepreneurship, and Resource-Based Theory

These last observations suggest a potentially important link between the study of opportunities in entrepreneurship and resource-based theory in strategic management (Barney, 1986, 1991). Resource-based theory is one of several theories in strategic management that explain why some firms are able to generate and appropriate economic profits (Barney, 1991; Mahoney & Qian, 2013). The fundamental profit-generating mechanism in resource-based theory is the heterogeneous resources—that is, rare, inimitable, and non-substitutable resources (Barney, 1991)—controlled by some firms. These resources can enable these firms to uniquely anticipate value-creating opportunities from gaining access to additional resources (Barney, 1986, 2018). The ability to uniquely identify these value-creating opportunities—due to more accurate expectations about their value because of a firm's special resources—is a source of economic profits in resource-based theory.

But where do these heterogeneously distributed resources and capabilities come from? Resource-based theory takes this heterogeneity as given and focuses on how it can generate economic profits (Collis, 1991; Dierickx & Cool, 1989). There is, in resource-based theory, no model of where resource

¹¹ For example, Foss and Klein's (2012) emphasis on understanding entrepreneurial action under uncertainty recalls the subtitle of Alvarez and Barney's (2007) paper: "Alternative Theories of Entrepreneurial Action." The link is even stronger when it is recognized that one of the defining attributes of "creation theories" of entrepreneurial action is Knightian uncertainty (Alvarez & Barney, 2007, p. 16).

and capability heterogeneity comes from in the first place. In this context, work in entrepreneurship on opportunities may help fill an important theoretical gap (Alvarez & Busenitz, 2001). In particular, models of endogenous opportunity formation (Alvarez & Barney, 2007) begin in a world of limited differentiation among economic actors and then describe an evolutionary and iterative process through which entrepreneurs try to form opportunities. One of the results of this path-dependent process is that the process of trying to form these opportunities changes the resources and capabilities of those who go through this process. Over time, these individuals (and firms) can develop rare, inimitable, and non-substitutable resources that, in turn, may be a source of economic profits in ways that are consistent with resource-based theory.

Knightian uncertainty plays an important role in this process. In particular, if the context within which largely undifferentiated entrepreneurs are trying to form opportunities endogenously is risky, then different entrepreneurs will choose to form similar opportunities, and the resources and capabilities that are created during this process will likely not be rare and thus not a source of economic profits (Barney, 1991). However, because this opportunity formation process often takes place under conditions of Knightian uncertainty, different entrepreneurs are more likely to make different decisions, which lead to the formation of different opportunities and the creation of heterogeneous resources and capabilities.

Over the last several years, many entrepreneurship scholars have tried to draw a clear distinction between entrepreneurship as a field and strategic management as a field (Shane, 2012; Shane & Venkataraman, 2000). The discussion of opportunities, and their formation under Knightian uncertainty, in entrepreneurship suggests a different relationship—at least between resource-based theory and the field of entrepreneurship. Instead of being in conflict, perhaps opportunity-based work in entrepreneurship can address an important theoretical question in strategic management (Barney, 2018).

That the study of opportunities in entrepreneurship has the potential to help address theory questions in other fields, including in strategic management, is yet another indicator that the concept of opportunities has been, and is likely to remain, fruitful.

CONCLUSION

This paper began by showing that recent criticisms of the concept of opportunities used in the field of entrepreneurship are misguided. While Davidsson's (2015) observations about the lack of consensus in

the definition of the concept of opportunity are obviously correct, they may reflect the early stage of theorizing with regard to this topic or, more fundamentally, that different definitions of opportunity apply in different theoretical contexts. Foss and Klein's (2020) concerns that the concept of opportunity is at best redundant and at worst misleading is ironic because they use this concept—either directly or indirectly—in the development of their arguments. In the end, neither of these criticisms of the concept of opportunity would lead one to conclude that it should be dropped from the field of entrepreneurship.

Indeed, the concept of opportunities has been, and is likely to continue to be, fruitful in the field of entrepreneurship (Wood, 2017). Four examples of this fruitfulness—(1) that it has suggested a central research question around which the field of entrepreneurship has begun to coalesce and forced entrepreneurship scholars to be clearer about their assumptions, (2) that the study of opportunities has been instrumental in introducing the idea of Knightian uncertainty into entrepreneurship, (3) that it has helped focus scholarly attention on entrepreneurial processes, and (4) that it has helped address theoretical weaknesses in other business disciplines—have been discussed in this paper.

From a broader perspective, the debates about the concept of opportunity have other lessons for the field of entrepreneurship. For example, our experience as a field suggests that endless iterations of defining key concepts in the field—without examining the theoretical and empirical implications of these definitions—does not lead to progress. This was true during the decades when entrepreneurship scholars focused on trying to develop a single definition of entrepreneurship, and it is true during these debates about the definition of opportunity.

Definitions of concepts—*per se*—are neither right nor wrong. They are more or less fruitful. Fruitfulness depends, of course, on careful definition, but more important, on whether or not a concept is theoretically and empirically relevant. Debate about the efficacy of a concept without a discussion of the theoretical and empirical fruitfulness of that concept is not a path forward for the field of entrepreneurship.

None of this suggests that defining concepts *per se* is unimportant. It does suggest that delaying theoretical and empirical work until the field reaches full consensus on the definitions of key concepts is actually self-defeating and paralyzing. Because the quality of concepts can be evaluated only through the theoretical and empirical application of those

concepts—especially work that explores the boundary conditions underlying different definitions—consensus about definitions must be an outcome of theoretical and empirical work, not a precursor to that work.

All these observations apply to the concept of opportunities in the field of entrepreneurship. This concept has a history of less than 20 years in the field of entrepreneurship (Shane & Venkataraman, 2000). What the current “opportunity war” debates suggest is that careful definition and analysis of the theoretical and empirical implications of different definitions of opportunity are—if anything—more important than ever. That is, these debates have pointed out the need for additional work, not the need to abandon the concept of opportunities.

Of course, in arguing that the concept of opportunities has been and is likely to continue to be fruitful for entrepreneurship scholars, we are not arguing that it is the only important concept in the field. Other concepts are important. Others may evolve, supplement, or even replace the study of opportunities. But not yet.

That said, debates about the definition and application of a concept (like opportunity) in a field of work (like entrepreneurship), far from being a sign of weakness or confusion in a social science discipline, are actually a sign of intellectual vigor and progress. In this sense, the debates themselves are valuable, and part of the evolution of the field of entrepreneurship. Dare we say that they have given us an opportunity to discuss some centrally important issues in the field of entrepreneurship?

REFERENCES

- Alvarez, S. A., & Barney, J. B. (2004). Organizing rent generation and appropriation: Toward a theory of the entrepreneurial firm. *Journal of Business Venturing, 19*(5), 621–635.
- Alvarez, S. A., & Barney, J. B. (2005). How do entrepreneurs organize firms under conditions of uncertainty? *Journal of Management, 31*(5), 776–793.
- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal, 1*(1–2), 11–26.
- Alvarez, S. A., & Barney, J. B. (2010). Entrepreneurship and epistemology: The philosophical underpinnings of the study of entrepreneurial opportunities. *Academy of Management Annals, 4*(1), 557–583.
- Alvarez, S. A., & Barney, J. B. (2013). Epistemology, opportunities, and entrepreneurship: Comments on Venkataraman et al. (2012) and Shane (2012). *Academy of Management Review, 38*(1), 154–157.
- Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science, 24*(1), 301–317.
- Alvarez, S. A., Barney, J. B., McBride, R., & Wuebker, R. (2017). On opportunities: Philosophical and empirical implications. *Academy of Management Review, 42*(4), 726–730.
- Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775.
- Alvarez, S. A., Young, S. L., & Woolley, J. L. (2015). Opportunities and institutions: A co-creation story of the king crab industry. *Journal of Business Venturing, 30*(1), 95–112.
- Alvarez, S. A., Young, S. L., & Woolley, J. L. (2020). Creating the world’s deadliest catch: The process of enrolling stakeholders in an uncertain endeavor. *Business & Society, 59*(2), 287–321.
- Anscombe, F. J., & Aumann, R. J. (1963). A definition of subjective probability. *Annals of Mathematical Statistics, 34*(1), 199–205.
- Arthur, W. B. (1989). Competing technologies, increasing returns, and lock-in by historical events. *Economic Journal, 99*(394), 116–131.
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly, 50*(3), 329–366.
- Bain, J. S. (1968). *Industrial organization*. Hoboken, NJ: John Wiley & Sons.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.
- Barney, J. B. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management Science, 32*(10), 1231–1241.
- Barney, J. B. (2018). Why resource-based theory’s model of profit appropriation must adopt a stakeholder perspective. *Strategic Management Journal, 39*(13), 3305–3325.
- Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making and the orbitofrontal cortex. *Cerebral Cortex, 10*(3), 295–307.
- Besanko, D., Dranove, D., Shanley, M., & Schaeffer, S. (2015). *The economics of strategy*. New York: Wiley.
- Boiney, L. G. (1993). The effects of skewed probability on decision making under ambiguity. *Organizational Behavior and Human Decision Processes, 56*(1), 134–148.
- Brodbeck, M. (1968). General introduction. In M. Brodbeck (Ed.), *Readings in the philosophy of the social sciences* (pp. 1–11). London: Macmillan.
- Burns, B. L., Barney, J. B., Angus, R. W., & Herrick, H. N. (2016). Enrolling stakeholders under conditions of

- risk and uncertainty. *Strategic Entrepreneurship Journal*, 10(1), 97–106.
- Busenitz, L. W., & Barney, J. B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12(1), 9–30.
- Camerer, C., Loewenstein, G., & Rabin, M. (2011). *Advances in behavioral economics*. Princeton, NJ: Princeton University Press.
- Camerer, C., & Weber, M. (1992). Recent developments in modeling preferences: Uncertainty and ambiguity. *Journal of Risk and Uncertainty*, 5(4), 325–370.
- Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34(3), 511–532.
- Collis, D. J. (1991). A resource-based analysis of global competition: The case of the bearings industry. *Strategic Management Journal*, 12(S1), 49–68.
- Cournot, A. (1838). *Researches into the mathematical principles of the theory of wealth*. New York: The Macmillan Company.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10, 75–87.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674–695.
- Davidsson, P., Recker, J., & von Briel, F. (2020). External enablement of new venture creation: A framework. *Academy of Management Perspectives*, 34(3), 311–332.
- Delmar, F., & Shane, S. (2003). Does business planning facilitate the development of new ventures? *Strategic Management Journal*, 24(12), 1165–1185.
- Dequech, D. (2003). Uncertainty and economic sociology: A preliminary discussion. *American Journal of Economics and Sociology*, 62(3), 509–532.
- Demsetz, H. (1982). Barriers to entry. *American Economic Review*, 72(1), 47–57.
- Dierickx, I., & Cool, K. (1989). Asset stock accumulation and the sustainability of competitive advantage. *Management Science*, 35(12), 1504–1513.
- Dupuit, J. (1844). De la mesure de l'utilité des travaux publics. *Annales des Ponts et Chaussées*, 2(2), 122–132.
- Ferguson, T. (1974). Prior distributions on spaces of probability measures. *Annals of Statistics*, 2(4), 615–629.
- Foss, N. J., & Klein, P. G. (2012). *Organizing entrepreneurial judgment: A new approach to the firm*. Cambridge, UK: Cambridge University Press.
- Foss, N. J., & Klein, P. G. (2020). Entrepreneurial opportunities: Who needs them? *Academy of Management Perspectives*, 34(3), 366–377.
- Gartner, W. B. (1988). “Who is an entrepreneur?” is the wrong question. *American Journal of Small Business*, 12(4), 11–32.
- Gilboa, I. (2009). *Theory of decision under uncertainty*. Cambridge, UK: Cambridge University Press.
- Gigerenzer, G. (2002). *Reckoning with risk: Learning to live with uncertainty*. London: Penguin Books.
- Godfrey, P. C., & Hill, C. W. L. (1995). The problem of unobservables in strategic management research. *Strategic Management Journal*, 16, 519–533.
- Hoang, H., & Gimeno, J. (2010). Becoming a founder: How founder role identity affects entrepreneurial transitions and persistence in founding. *Journal of Business Venturing*, 25(1), 41–53.
- Hsu, M., Bhatt, M., Adolphs, R., Tranel, D., & Camerer, C. F. (2005). Neural systems responding to degree of uncertainty in human decision-making. *Science*, 310(5754), 1680–1683.
- Kahn, B. E., & Meyer, R. J. (1991). Consumer multiattribute judgments under attribute-weight uncertainty. *Journal of Consumer Research*, 17(4), 508–522.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292.
- Kahneman, D., & Tversky, A. (1982). Variants of uncertainty. *Cognition*, 11(2), 143–157.
- Kirzner, I. M. (1973). *Competition and entrepreneurship*. Chicago: University of Chicago Press.
- Knight, F. H. (1921). *Risk, uncertainty and profit*. Boston: Houghton Mifflin Co.
- Kotler, P. T., & Armstrong, G. (2016). *Principles of marketing* (16th ed.). London: Pearson.
- Langlois, R. N. (1985). Knowledge and rationality in the Austrian School: An analytical survey. *Eastern Economic Journal*, 11(4), 309–330.
- Lumpkin, G., & Dess, G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Mahoney, J. T., & Qian, L. (2013). Market frictions as building blocks of an organizational economics approach to strategic management. *Strategic Management Journal*, 34(9), 1019–1041.
- McAfee, R. P., Mialon, H., & Williams, M. (2004). What is a barrier to entry? *American Economic Review*, 94(2), 461–465.
- Merton, R. K. (1968). *Social theory and social structure*. New York: Simon and Schuster.
- Milgrom, P., & Stokey, N. (1982). Information, trade and common knowledge. *Journal of Economic Theory*, 26, 17–27.

- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–791.
- Porter, M. (1980). *Competitive strategy*. New York: Free Press.
- Rothbart, M., & Snyder, M. (1970). Confidence in the prediction and postdiction of an uncertain outcome. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 2(1), 38–43.
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263.
- Savage, L. J. (1954). *The foundations of statistics*. New York: Wiley.
- Shane, S. A. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Cheltenham, UK: Edward Elgar.
- Shane, S. (2012). Reflections on the 2010 AMR Decade Award: Delivering on the promise of entrepreneurship as a field of research. *Academy of Management Review*, 37(1), 10–20.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226.
- Smith, A. (1776). *The wealth of nations*. New York: P. F. Collier & Son.
- Stigler, G. (1968). *The organization of industry*. Chicago: University of Chicago Press.
- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research: An editor's perspective. In J. Katz & R. Brockhaus (Eds.), *Advances in entrepreneurship, firm emergence and growth* (Vol. 3, pp. 119–138). Greenwich, CT: JAI Press Inc.
- Viscusi, W. K. (1989). Prospective reference theory: Toward an explanation of the paradoxes. *Journal of Risk and Uncertainty*, 2(3), 235–264.
- von Neumann, J., & Morgenstern, O. (1947). *Theory of games and economic behavior* (2nd ed.). Princeton: Princeton University Press.
- Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: Free Press.
- Wood, M. S. (2017). Misgivings about dismantling the opportunity construct. *Journal of Business Venturing Insights*, 7, 21–25.
- M. Katz Graduate School of Business at the University of Pittsburgh. She previously served as the Walter Koch Endowed Chair in Entrepreneurship at the Daniels College of Business at the University of Denver, and prior to that as an associate professor of entrepreneurship and management, and the academic director of the Center for Entrepreneurship at the Max M. Fisher College of Business at The Ohio State University. Professor Alvarez is the past chair of the Entrepreneurship Division of the Academy of Management and was the Denver program chair for the 2015 Strategic Management Society meetings as well as representative at large for the SMS Entrepreneurship Interest Group. She was a Max Planck Scholar at the Max Planck Institute for Entrepreneurship and Economic Systems Research. Professor Alvarez is a former associate editor for *Academy of Management Review* and *Strategic Entrepreneurship Journal* and has been published in *Academy of Management Review*, *Organization Science*, *Strategic Management Journal*, *Strategic Entrepreneurship Journal*, *Academy of Management Executive*, *Journal of Business Venturing*, *Journal of Management*, and *Human Resource Management Journal*.

Jay B. Barney (jay.barney@eccles.utah.edu) is Presidential Professor of Strategic Management and holds the Lassonde Chair of Social Entrepreneurship at the Eccles School of Business at the University of Utah. His research focuses on the relationship between firm resources and capabilities and sustained competitive advantage. He has published more than 100 articles in a variety of journals, including the *Academy of Management Review*, the *Strategic Management Journal*, *Management Science*, the *Journal of Management*, the *Harvard Business Review*, and the *Sloan Management Review*. He has also published six books. Professor Barney has won numerous awards for his research. He has been elected as a Fellow of both the Academy of Management and the Strategic Management Society and has won the Irwin Outstanding Educator Award (Business Policy and Strategy Division of the Academy of Management, 2005), the Penrose Award for Pathbreaking Management Research (European Academy of Management, 2019), the CK Prahalad Scholar-Practitioner Award (Strategic Management Society, 2019), the Foundational Paper Award (Entrepreneurship Division of the Academy of Management, 2019), the John Fayerweather Eminent Scholar Award (Academy of International Business, 2020), and the Distinguished Scholarship Award (Strategic Management Division of the Academy of Management, 2020). In 2010, Professor Barney won the Academy of Management Scholarly Contributions Award—generally seen as the most prestigious award for research achievement in the field of management.

Sharon Alvarez (salvarez@katz.pitt.edu) is the Thomas W. Olofson Chair in Entrepreneurial Studies at the Joseph

