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THE RESOURCE-BASED VIEW: A REVIEW AND ASSESSMENT OF ITS CRITIQUES

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KEYWORDS

RBV, sustained competitive advantage, neo-classical economics, Austrian economics

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ABSTRACT

The resource-based view (RBV) of the firm has been around for over twenty years – during which time it has been both widely taken up and subjected to considerable criticism. We review and assess the principal critiques evident in the literature, arguing they fall into eight categories. We conclude the RBV's core message can withstand criticism from five of these quite well provided the RBV's variables, boundaries and applicability are adequately specified. Three critiques that cannot be readily dismissed call for further theorizing and research. They arise from the indeterminate nature of two of the RBV's basic concepts – resource and value – and the narrow conceptualization of a firm's competitive advantage. As our suggestions for this work indicate, we feel the RBV community has clung to an inappropriately narrow neo-classical economic rationality thereby diminishing its opportunities for progress. Our suggestions may assist with developing the RBV into a more viable theory of competitive advantage, especially if it is moved into a genuinely dynamic framework.

INTRODUCTION

The resource-based view (RBV) has become one of the most influential and cited theories in the history of management theorizing. It aspires to explain the internal sources of a firm's sustained competitive advantage (SCA). Its central proposition is that if a firm is to achieve a state of SCA it must acquire and control valuable, rare, inimitable, and non-substitutable (VRIN) resources

and capabilities, plus have the organization (O) in place that can absorb and apply them (Barney, 1991a, 1994, 2002). This proposition is shared by several related analyses; core competences (Hamel & Prahalad, 1994), dynamic capabilities (Helfat & Peteraf, 2003; Teece, Pisano, & Shuen, 1997) and the knowledge-based view (KBV) (Grant, 1996b).

Given its elegant simplicity and its immediate face validity, the RBV's core message is appealing, easily grasped and easily taught. Yet the RBV has also been extensively criticized for many weaknesses. Critiques are valuable for advancing the RBV, for by exploring its limitations they imply where improvements might be made. Along these lines we categorize and assess the eight categories of critiques available so far, adding comments about their severity and impact.

Our analysis suggests the RBV's core message can withstand five of these critiques quite well, especially when the RBV's variables, boundaries, and applicability are more clearly specified. However, three threaten the RBV's status as a core theory. These concern the indeterminate nature of two concepts fundamental to the RBV – resource and value – plus there are problems with the RBV's narrow explanation of a firm's competitive advantage. As we shall argue, the common theme underlying these critiques is that the RBV has clung to an inappropriately narrow neo-classical economic rationality and has thereby diminished its opportunities for making further progress. Leveraging from the critiques and the discussions they have provoked, we suggest directions for future theorizing and research. We shall argue the way forward, perhaps, is to move the RBV into an inherently dynamic and subjectivist framework such as Penrose's (1959).

THE RBV AND ITS CRITIQUES

The RBV developed as a complement to the industrial organization (IO) view with Bain (1968) and Porter (1979, 1980, 1985) as some of its main proponents. With its focus on the structure-conduct-performance paradigm, the IO view put the determinants of firm performance outside the firm, in its industry's structure. Being positioned against this view, the RBV explicitly looks for the internal sources of SCA and aims to explain why firms in the same industry might differ in performance. As such, the RBV does not replace the IO view, rather it complements it (Barney, 2002; Mahoney & Pandian, 1992; Peteraf & Barney, 2003).

The RBV's core metaphor is Ricardian, for it stands on the heterogeneity and immobility of competitive capability-producing and rent-earning resources (Barney, 1991b). Firms are seen as atom-like entities aiming to gain above-normal profits in unmediated competition with other firms in a shared market. The RBV assumes firms are profit maximizing entities directed by boundedly rational managers operating in distinctive markets that are to a reasonable extent predictable and moving towards equilibrium (Bromiley & Papenhausen, 2003; Leiblein, 2003). It accepts that information about the future value of a resource is asymmetrically distributed. If the firm's managers can estimate the future value of a resource better than their competitors – or when they are simply lucky – this provides their firm with *ex ante* sources of SCA. Subsequently, the development of isolating mechanisms that prevent other firms from competing their above-normal-profits away provides the firm with *ex post* sources of SCA (Mahoney, 1995; Rumelt, 1984). Given its focus on the resource as the firm's significant component and its uncomplicated view of firms as a bundle of these resources, the RBV is explicitly reductionist. It

stands against holistic or emergent theories that liken firms to organisms with complex feedback-controlled mechanisms focused on boundary maintenance.

The RBV's principal development occurred between 1984 and the mid-nineties. After Wernerfelt's initial paper (1984), contributions were made by many scholars, most notably Rumelt (1984), Barney (1986a, 1986b, 1991a), Dierickx & Cool (1989), Conner (1991; Conner & Prahalad, 1996), Helfat (Castanias & Helfat, 1991; Helfat & Lieberman, 2002), Kogut & Zander (1992), Amit & Schoemaker (1993), Peteraf (1993), and Teece (Teece et al., 1997). Since then, the RBV has been applied to a wide range of phenomena, such as information systems (Wade & Hulland, 2004), organizational networks (Lavie, 2006) and even the Battle of Trafalgar (Pringle & Kroll, 1997). The theoretical and empirical development of the RBV has been analyzed in a number of review studies; recent are Acedo, Barroso, & Galan (2006), Armstrong & Shimizu (2007), Lockett, Thompson, & Morgenstern (2009), and Newbert (2007).

Along with its development, the RBV has been extensively criticized. Some of the critiques have been leveled indirectly by suggesting amendments to the RBV (Foss, Klein, Kor, & Mahoney, 2008; Makadok, 2001b). There are also polemical papers critiquing the RBV directly (Foss & Knudsen, 2003; Spender, 2006). In this respect, Priem & Butler's (2001a, 2001b) critiques and Barney's (2001) responses are widely-known. For those interested in advancing the RBV, the critiques are particularly valuable for they suggest where improvements might be made. Along these lines we assess the critiques so far offered, adding comments about their severity and impact. This, we hope, helps prepare the ground for future theorizing and research.

The critiques fall into eight categories: 1) The RBV has no managerial implications; 2) The RBV implies infinite regress; 3) The RBV's applicability is too limited; 4) SCA is not achievable; 5) The RBV is not a theory of the firm; 6) VRIN/O is neither necessary nor sufficient

for SCA; 7) The value of a resource is too indeterminate to provide for useful theory; and 8) The definition of resource is unworkable. We argue below that the first five critiques do not really threaten the RBV's status. They are incorrect or irrelevant, or apply only when the RBV is taken to its logical or impractical extreme; better demarcating the RBV and its variables can contain them. However the last three critiques offer more serious challenges that need to be dealt with if the RBV is to realize more fully its potential to explain SCA, especially beyond predictable stable environments.

Critique # 1. The RBV Has no Managerial Implications

A first critique is that the RBV lacks substantial managerial implications or 'operational validity' (Priem & Butler, 2001a). It seems to tell managers to develop and obtain VRIN resources and develop an appropriate organization, but it is silent on how this should be done (Connor, 2002; Miller, 2003). A related critique is that the RBV invokes the 'illusion of total control', trivializing the property-rights issues, exaggerating the extent to which managers can control resources or predict their future value (McGuinness & Morgan, 2000). Along similar lines Lado et al. (2006) argue the RBV suffers a tension between descriptive and prescriptive theorizing.

As this tension is present throughout management research and is not resolved (Van de Ven, 2007), this critique should not be leveled at the RBV especially. The RBV is a theory aspiring to explain the SCA of some firms over others (Nelson, 1991; Rumelt, 1984) and, as such, was never intended to provide managerial prescriptions (Barney, 2005). Any explanations the RBV might provide may well be no more than indicative, yet still of value to managers, so we have no reason to oblige the RBV to generate theoretically compelling prescriptions. Rather than worrying about the RBV's lack of managerial implications we should maybe worry more about

its evident impact on management practice, especially if it diverts management's attention from more fruitful theorizing (see also Ghoshal, 2005; Ghoshal & Moran, 1996).

Critique # 2. The RBV Implies Infinite Regress

A second critique is the RBV entails an infinite regress (Collis, 1994; Priem & Butler, 2001a). Collis provides an illustration of this, writing “A firm that has the superior capability to develop structures that better innovate products will, in due course, surpass the firm that has the best product innovation capability today...” (Collis, 1994: 148). Since a second-order capability (developing structures that better innovate products) will in due course be more valuable than any first-order capability (product innovation), the RBV suggests firms should strive to obtain such second-order capability. The point of this critique is that this step can be extended *ad infinitum*, leading firms into an endless search for ever higher-order capabilities. While this is true in an abstract sense, this critique does not really work against the RBV. Any applied theory, such as the RBV, lacks an unlimited number of levels of analysis, for each shift in level takes the analysis farther from the empirical level and thus from any practical implications. In the example above, introducing a third-order capability would already lead to an artificial theory that does not make much sense.

As Lado et al. (2006) points out infinite regress is only a problem for those who consider management or economic science a positivistic quest for certainty – for the ultimate source of SCA. Once we appreciate strategic management as a practical engagement with indeterminacy and open-endedness, the infinite regress critique becomes less useful. Rather than treating higher-order capabilities as superior to lower-order capabilities our attention then focuses on

managing the interactions between them. More specifically, we may want to consider the interactions between operational competences and 'meta-competences' (Mahoney, 1995; Teece, 2007), or between single-loop and double-loop learning (Argyris & Schön, 1978; Lado et al., 2006). One may argue, for instance, that single-loop learning enhances efficiency and resource exploitation, while double-loop learning enhances innovation and resource exploration. Since the two make qualitatively different contributions and since we assume firms need to do both (March, 1991), 'higher-order' capabilities cannot be treated as logically prior or prioritized as the source of SCA. They are more likely to be interdependent and mutually supporting.

Critique # 3. The RBV's Applicability Is Too Limited

A third critique concerns the generalizability of the RBV, an argument that comes in three versions. First, Gibbert (2006a, 2006b) argues the notion of resource uniqueness – the melding of heterogeneity and immobility – denies the RBV any potential for generalization, *ex definitio*. One cannot generalize about uniqueness. As with the 'applied theory' defense above, we think this is being overly academic. Rather we agree with Levitas & Ndofor (2006) that it is perfectly possible to generate useful insights about degrees of resource uniqueness.

A second version of this critique comes, for instance, from Connor (2002), who argues that the RBV only applies to large firms with significant market power. As he argues, the smaller and nimbler firms' SCA cannot be based on their static resources and therefore they fall beyond the bounds of the RBV. Connor's argument is diluted whenever non-tangible resources are admitted – small firms may have unique competitive advantage generating capabilities. Though suggestive, Connor's argument reminds us of another limitation to the RBV's applicability: it

only applies to firms striving to attain SCA. For firms satisfied with their competitive position, the RBV does not bring much insight for its relevance follows directly from managers' aspirations and intentions.

A third version of the applicability critique is implicit in Miller's (2003) 'sustainability-attainability' discussion. Miller's paper suggests the resources a firm needs to generate SCA are precisely those resources that are hard to acquire in the first place. In one sense, Miller's argument is that only firms that already possess VRIN resources can acquire and apply additional resources, otherwise competitors would acquire them with equal ease. Miller draws our attention to the implicit path dependency within the RBV in that every firm's past shapes its present and future performance. When not used to trace back to the ultimate root resources responsible for a firm's SCA, though, this does not render the RBV overly problematic. If the RBV's scope includes the individual resources and capabilities of the entrepreneurs that constituted the firm – and we see no reason why it should not – it even applies to newly founded firms.

While these three critiques could be put aside, Barney (2002) indicates an important limit to the applicability of the RBV: it only holds as long as the 'rules of the game' in an industry remain relatively fixed. In unpredictable environments, in which new technologies and/or new markets emerge and the value of resources can drastically change, we need to go beyond the RBV to explain a firm's SCA. But so long as we are explicit about this, though, it cannot be said to cause the RBV problems that are not equally visited on other applied theories.

Critique # 4. SCA is not Achievable

The RBV's focus is on achieving an SCA that sustains beyond others' efforts to duplicate or eliminate it. The assumption that an SCA is actually achievable has become the source of a fourth type of critique. For example, whereas Fiol (1991) supports SCA, Fiol (2001) explicitly rejects it, arguing that: "Both the skills/resources, and the way organizations use them, must constantly change, leading to the creation of continuously changing temporary advantages" (Fiol, 2001: 692). This picks up on the previous critique and is the Marshallian quasi monopoly and equilibrium argument that every SCA must eventually be competed away. Eisenhardt & Martin (2000) and D'Aveni (1994) draw similar conclusions. But the difference here is that firms are not passive; as these studies suggest, a competitive advantage can only be sustained at the dynamic level through advantageous 'dynamic capabilities' or 'organizational learning', enabling the firm to adapt faster than its competition. Inimitability is progressively compromised by 'spillovers' as the firm's products and services continue to reveal strategic information about the processes that produce them. So a firm must keep on innovating as its revenue stream is constantly exposed to new competitors, substitute products, and so forth (Porter, 1980).

We accept no SCA can last forever, but in the short run it remains a powerful strategic concept. It directs management's attention to the dynamics that support it, emphasizing the term 'sustained', looking for practical ways of beating the market's own 'natural' timing, quickening innovation or slowing imitation. We also accept that in a dynamic environment firms cannot derive an SCA from a static set of resources. However, the RBV's logic applies as much to dynamic capabilities as it does to the firm's other resources (Barney, Wright, & Ketchen Jr., 2001). While in static environments some static unique resource could lead to SCA, dynamic

environments call for dynamic capabilities (Helfat et al., 2007). With the inclusion of dynamic capabilities, the RBV can account for *ex post* sources of SCA (Makadok, 2001b). Through these, firms are able to increase the productivity of the resources they have already acquired and protect them from imitation through isolating mechanisms. Against this, the RBV's *ex ante* sources of SCA follow from having preferential and asymmetric information about the future value of the available resources. Such advantage, though, may be static in nature and then may not lend itself to the cultivation of future rent-generation opportunities. Specifically, it denies entrepreneurs can make repeatedly superior resource acquisition, development, and allocation decisions (Bromiley & James-Wade, 2003; Foss et al., 2008). Hence, while we dismiss the fourth critique, concluding that SCA is indeed achievable, we conclude the RBV accounts mainly for its *ex post* sources.

Critique # 5. The RBV Is Not a Theory of the Firm

The fifth critique is that the RBV unsuccessfully reaches for a theory of the firm. The proposition that the RBV could be considered a new theory of the firm was put on the agenda by Conner (1991) and Kogut & Zander (1992). Their conclusion was that the RBV is indeed striving to be a theory of the firm, one that differs materially from other available theories of the firm, in particular from transaction cost economics (TCE) (Williamson & Winter, 1991). Five years later, with the expanding interest in knowledge as a strategic resource, discussions around the RBV as a theory of the firm were the focus of dialogue in *Organization Science* (Barney, 1996; Conner & Prahalad, 1996; Foss, 1996a, 1996b; Kogut & Zander, 1996) and a special issue of *Strategic Management Journal* (Grant, 1996b; Liebeskind, 1996; Spender, 1996).

In an important commentary Foss (1996a, 1996b) concluded the RBV is insufficient as a theory of the firm. The RBV explains differences between firms and why firms are better at rent-creation than individuals. With their focus on the coordinative and integrative capabilities of organizations, it is in particular the knowledge-based versions of the RBV that provide such explanations (Dosi, Faillo, & Marengo, 2008; Foss, 2007; Grant, 1996a). However, for an explanation of why firms exist, why their boundaries and internal organization are as they are, and why they are better at rent-creation than markets, specific references to incentives, asset ownership, and opportunism are required. Five years later we find Foss's conclusion supported (Mahoney, 2001; Priem & Butler, 2001a).

While we agree the RBV is no theory of the firm this does not render the RBV problematic as a theory of rents and SCA. Despite the Conner (1991) and Kogut & Zander (1992) papers, the RBV's originators have maintained it is not a putative theory of the firm and that they had no intention of explaining the existence or boundaries of firms (Barney, 2005; Barney & Clark, 2007; Peteraf & Barney, 2003). Given that TCE addresses such questions directly, the RBV seems more a complement to TCE (Barney, 1999; Gibbons, 2005) and we see no reason to require the RBV to meet the criteria for a theory of the firm.

Critique # 6. VRIN/O is neither Necessary nor Sufficient for SCA

Thus far we argue the RBV stands up tolerably well to the first five critiques. As long as it is applied with care no real problems have emerged. Three remaining critiques, though, cause it more serious problems. The key to the RBV is that SCA can be achieved by applying resources and capabilities when these are valuable, rare, inimitable, and non-substitutable (VRIN) plus

when there is an appropriate organization in place (O) (Barney, 1994). The first axiom has been subject to a further critique, that the VRIN/O criteria are neither sufficient nor necessary to explain SCA. One version of the sufficiency critique concerns the lack of empirical support for the RBV. As two recent reviews point out (Armstrong & Shimizu, 2007; Newbert, 2007), empirical research has generated only modest support, implying other factors must be considered when explaining SCA. The sufficiency critique is not limited to methodological issues. It has been noted several times that the possession of resources is not sufficient and it is only by being able to deploy these that SCA can be attained (Makadok, 2001b; Peteraf & Barney, 2003). Yet, by applying the VRIN/O logic to such 'deployment capabilities' as well, the RBV skirts a full explanation for SCA because we are left without a theory of capability deployment. Besides the sufficiency critique, there are also studies arguing the VRIN/O criteria are not necessary to explain SCA. Foss & Knudsen (2003), for example, argue that uncertainty and immobility are the truly basic conditions for an SCA to arise; any other conditions, they argue, are simply additional to these. Along a similar line, Becerra (2008) points at value uncertainty, resource specificity, and firm-level innovation as conditions under which profits can emerge in the RBV.

These comments suggest fundamental disagreements about the nature of markets, individuals and resources, and the roles these play in generating SCA. When introducing the RBV, we summarized the canonical RBV positions. But along with these, two alternative positions have emerged that contain fundamental critiques to the RBV's key assumptions. The first concerns the assumption that the locus of SCA lies at the component-level, especially at the level of the individual resource. Criticism here has come in several varieties, drawing attention to the set of productive opportunities (Penrose, 1959), integrative capabilities (Grant, 1996a), interdependencies (Kor & Leblebici, 2005), and asset co-specializations and complementarities

(Teece, 2007) as sources of SCA. Their common denominator is the assertion it is not the value of an individual resource that matters, but rather the synergistic combination or bundle of resources created by the firm.

The second critique argues the RBV narrows the attributes of entrepreneurs and managers to having 'entrepreneurial alertness' and superior information on the future value of resources. Founded on Knightian uncertainty (Knight, 1921), the Penrosian view of the entrepreneur (Connell, 2007; Penrose, 1959; Pitelis, 2007), and the Austrian economic subjectivist view of resource heterogeneity (Foss, 1994; Menger, 1871; von Mises, 1949), this critique argues that the RBV does not sufficiently recognize the role of the individual judgments or mental models of entrepreneurs and managers (Foss, Foss, & Klein, 2007a; Foss et al., 2008; Mahoney, 1995). It further argues that the locus of SCA lies in the characteristics of individuals and teams making up the firm rather than in resources or market failures. This is not to say that there are no resources that can be valuable for most or even all organizations; there may be plenty, including specific human resource practices, quality management systems and procedures that facilitate learning. Though even these may require firm-specific adjustments, they nevertheless have the potential of being valuable for every organization. The point here is that to create SCA a firm needs both a bundle of resources and the managerial capabilities to recognize and exploit the productive opportunities implicit in them. The deeper question is whether such knowledge can be legitimately or usefully treated as a resource of the same type as those in the bundle. As we shall make clear later, we think they cannot.

Critique # 7. The Value of a Resource is too Indeterminate to Provide for Useful Theory

A critique that has resonated widely is that the RBV is a tautology that fails to fulfill the criteria for a true theory. Lockett et al. (2009) and Priem & Butler (2001a, 2001b) argue the RBV does not contain the law-like generalizations that must be expected. Rather, it stands on analytic statements that are tautological, true by definition, that cannot be tested. We see this explicitly in Barney's original article:

“Firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness” (Barney, 1991a: 101).

“Resources are valuable when they enable a firm to conceive of or implement strategies that improve its efficiency or effectiveness” (*ibid.*: 105).

“A firm is said to have a *competitive advantage* when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitor” (*ibid.*: 102, or. italics).

When considering that Barney (2002) defines SCA in line with Porter (1985) in terms of improved efficiency (reducing cost) and effectiveness (increasing value), we see the RBV is unmistakably tautological: value and uniqueness appear in both *explanans* and *explanandum*. The main problem here lies in the RBV's indefinite notion of value (Priem & Butler, 2001b).

In an attempt to clarify the RBV notion of value, Bowman & Ambrosini (2000) suggest three concepts of value: perceived use value (the perception of value by a customer), total monetary value (the amount of money a customer is prepared to pay), and exchange value (what is actually paid). They also suggest distinguishing value creation, value capturing, and value assessment. Such work, and that of Hoopes, Madsen & Walker (2003), Hoopes & Madsen (2008), and Peteraf & Barney (2003) call upon the ‘value-price-cost framework’ (Anderson & Narus, 1998; Tirole, 1988). In another clarification, Makadok (2001b) argues the value of resources can

appear *a priori*, by assessing value at the moment of their selection, while the value of capabilities only appears *post hoc*, after resource deployment.

To some extent, these distinctions have clarified the equivocal notion of value offered in the initial RBV publications. However, they have not resolved the RBV's tendency to tautology. Since the value of a resource and the SCA it generates are defined in identical terms, the *explanans* and the *explanandum* of the RBV remain the same. A question then is, if the core message of the RBV is so clearly tautological, how are we to interpret the RBV? A first option would be to think of the RBV as a heuristic for managers, a definition and illumination of SCA and its sources, rather than as a theory. In which case the RBV's message would be that firms should strive to differentiate themselves by developing and obtaining resources to which no other firm has access – and at a cost less than the resulting increase in price or decrease in costs. This may not seem noteworthy to today's managers: "This is so obvious that I suspect that we soon will drop the compulsion to note that an argument is 'resource-based'." (Wernerfelt, 1995: 173). Yet, almost fifteen years after this comment, management scholars still feel this compulsion.

Alternatively, if we are to consider the RBV a theory, we must find a way to decouple or deny the tautology. This would require that 'value' means something different in the *explanans* than in the *explanandum* and thus that the value of a firm's resources and capabilities must be determinable independently of the value of products/services delivered to the firm's customers. The imprecise and tautological definitions of value offered in the seminal work have triggered several debates around whether value in the RBV is determined endogenously (by the firm), exogenously (by the market) or otherwise. Where Makadok (2001a) and Makadok & Coff (2002) argue value is determined endogenously in terms of the resource's contribution to profit after being combined with other 'complementary' resources; Priem & Butler (2001a) argue it is

determined exogenously by the market. Since Barney (2001) agrees explicitly with Priem & Butler, we must assume value in the RBV should be determined exogenously. But the RBV itself does not provide the means for such alternative external determination (Priem & Butler, 2001b).

A second route for addressing the tendency to tautology could be to attend to the time lag between acquiring VRIN resources and gaining an SCA. This would mean that the value of a firm's resources and capabilities at time $t = x$ is considered the *explanans* (having VRIN resources) and the value at time $t = x + 1$ is considered the *explanandum* (SCA). In other words, a firm's SCA today depends on the non-resource-produced transformation of its prior resource bundle. This move would reframe the RBV as a theory of path dependency or constraint over strategic resource allocations in which there is little room for managers to lead their firm intentionally towards SCA. Explanations for deviations from such a pre-defined path then must be sought outside the RBV. Yet it is precisely these explanations that are most interesting and that might illuminate how or why firms differ even when they have similar initial resource endowments and make radical changes over time. Since both arguments take us well beyond the current RBV discourse, we conclude the RBV is still more of a heuristic than a substantial theory about differentiated resources and SCA production. At the heart of the canonical RBV, then, we see increasing difficulties with establishing external 'objective' bases for resource value, and argue later that incorporating more subjective and firm-specific notions of value might better address this critique.

Critique # 8. The Definition of Resource is Unworkable

A final telling critique to the RBV focuses on its axiomatic definitions, especially that of resource. Exemplary definitions are:

“By a resource is meant anything which could be thought of as strength or weakness of a given firm. More formally, a firm’s resources at a given time could be defined as those (tangible and intangible) assets which are tied semi-permanently to the firm” (Wernerfelt, 1984: 172)

“Firm resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness” (Barney, 1991a: 101; 2002: 155).

“The firm’s *Resources* will be defined as stocks of available factors that are owned or controlled by the firm” (Amit & Schoemaker, 1993: 35, or. italics)

These are clearly overly inclusive (Priem & Butler, 2001a). While Barney (2001) suggests the all-inclusiveness is part of the RBV’s strength, it is surely a weakness so long as it drives the theory towards tautology. Specifically, if we accept these all-inclusive definitions there is nothing strategically useful associated with the firm that is not a resource. Since attributes such as trust, cost leadership, economies of scale, and learning curve economies might also be considered resources (Barney, 2001; Barney & Clark, 2007; Barney & Hansen, 1994), indeed we find every reason to regard having an SCA a resource as well.

The inclusive definitions of resources are problematic for two reasons. First, they do not sufficiently acknowledge the distinction between those resources that are inputs to the firm and the capabilities that enable the firm to select, deploy, and organize such inputs. This problem is particularly apparent when we consider the notion of a 'dynamic capability'. These have been defined as “The firm’s processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new

resource configurations as markets emerge, collide, split, evolve, and die” (Eisenhardt & Martin, 2000; Teece et al., 1997; Winter, 2003). Similar distinctions have been offered by Makadok (2001b), Amit & Schoemaker (1993), Barney, Wright & Ketchen (2001) and Peteraf (1993). While these authors distinguish capabilities from resources, the inclusive definitions above clearly include them and treat all in the same way. Hence, we are left puzzled about the RBV’s core concept.

A second problem is that the RBV does not address fundamental differences in how different types of resources may contribute in a different manner to a firm’s SCA. While the RBV recognizes different types of resource – for example physical capital, human capital, and organizational capital (Barney, 1991a) – it treats them all in the same way. Along this line, Barney & Clark (2007) suggest the typologies so far offered are mere labels for which the basic logic of the RBV still holds. They also suggest that different labels would only be appropriate if these referred to an alternative logic of linking a firm’s assets with its SCA. While they seem to favor a single logic and terminology – not caring whether this would be labeled ‘resource-based’, ‘capability-based’, or ‘competence-based’ – our conclusion is quite opposite: the RBV could improve substantially if its basic logic would be refined by explicitly recognizing differences between types of resources – static, dynamic; tangible, intangible; financial, human, technological; deployed, in reserve; perishable, non-perishable; and so on – and between types of resource ownership.

Conclusions on the Critiques

The eight critiques and our assessments of them are summarized in Table 1. We argue the RBV can withstand five quite well when its variables, boundaries, and applicability are more clearly specified. Three critiques, though, cannot be so easily dismissed. These concern the indeterminate nature of two concepts fundamental to the RBV – resource and value – and the RBV’s narrow explanation of a firm's SCA. The common theme underlying these last three critiques is that the RBV has clung to an inappropriately narrow neo-classical economic rationality. With its over-emphasis on the possession of individual resources, and insufficient acknowledgement of the importance of bundling resources and of the human involvement in assessing and creating value, it does not sufficiently capture the essence of competitive advantage, neither statically nor dynamically. We conclude the RBV can only fulfill its promise as a central theory of SCA through a re-consideration of these fundamentals. Below we offer our views on how future theorizing and research might do this.

Insert Table 1 about here

FUTURE DIRECTIONS

While the RBV has been subject to its fair share of academic sniping, we conclude three critiques are deeply damaging. They show where further development is needed if the RBV's reputation is to be sustained. In the rest of this paper we outline directions, summarized in Table

2, for some specific future theorizing and research that, we hope, will help take the discourse forward.

Demarcating and Defining Resources

As Critique #8 argued, to advance the RBV, clearer demarcations between what are and what are not resources, and between various types of resource, are needed. This reductionist strategy is in line with the RBV's own initial micro-foundational impulse. Clearly, some of the RBV literature attempts to distinguish resources from capabilities. Yet a limitation of the capabilities approach is that even the processes of resource development and deployment are – like the resources themselves – conceptualized as capacities, inclining us to think in terms of their possession rather than in terms of integration and application. To arrive at a better-determined concept of resources and capabilities, it is useful to distinguish capacity from action (or process) explicitly; resources and capabilities should both be conceived as capacities that enable a firm's actions (Hodgson, 2008). They allow firms to perform their actions but – at the same time – constrain them. Future theorizing would also benefit from distinguishing explicitly between building or acquiring capacity (which includes resources and capabilities) on the one hand, and the managerial processes of deploying that capacity on the other hand. By doing so, a more practical resource-based theory about which resources and capabilities to deploy and which to keep in reserve might be developed.

So far, empirical studies on the RBV have primarily adopted a variance approach with a set of resources and capabilities as independent variables and performance or SCA as the dependent variable. Such research leaves the processes by which resources and capabilities are deployed

black-boxed. Opening this black-box requires the repertoire of empirical research methods to be extended towards process-based approaches (e.g., Groen, Wakkee, & De Weerd-Nederhof, 2008; Van de Ven, 2007; Van de Ven & Polley, 1992). Only by combining both approaches will we be able to understand which resources and capabilities are sources of SCA and how some firms are able to perform better than others (Holcomb, Holmes Jr., & Connelly, 2009; Mahoney, 1995; Makadok, 2003; Sirmon, Gove, & Hitt, 2008; Sirmon, Hitt, & Ireland, 2007).

The distinction between capacity and action – between potential and realized value – will also benefit from further analysis of property rights issues around the RBV. Typically the canonical RBV literature trivializes ownership, suggesting it is complete and unconstrained. Property rights comprise rights to consume, obtain income from, and alienate resource attributes (Alchian, 1977; Alchian & Demsetz, 1973). By assuming firms have a complete and undifferentiated control over resources, the RBV fails to recognize the various types of rights that can be associated with a particular resource and the strategically significant distinctions between them. As a result, it assumes a resource is owned by one firm only and that this firm has the complete control over this resource. Decades of theorizing property rights have demonstrated this is a gross oversimplification; if only because there would be no rights to acquire a resource if the rights of individuals were unlimited (Coase, 1960). The control over a resource by a single firm is limited since a firm can only obtain part of the rights associated with the resource, and often has to share the resource with other firms (Demsetz, 1967). Firms, then, can be considered to have ‘bundles of partitions of property rights’ (Kim & Mahoney, 2005: 236) or, preferably, as an ‘integrated bundle of interacting property-rights’ (Spender, 1983: 2). Based on a property rights perspective, the RBV should focus not only on resources *per se* but even more so on the specific rights associated with them. It is the distribution of property rights across several firms

that affects the extent to which the potential capacity of a resource can be realized (Kim & Mahoney, 2005). When the distinction between resources and property rights is taken into account, future research on the RBV might generate deeper understanding of how, in the practical world of legal and institutional constraints, resources actually contribute to SCA and performance. Given especially that human and intellectual capital are hard to own or control, a property rights and contracts perspective may prove particularly useful in analyzing how human and intellectual capital can be sources of SCA in relation to the firm (Bowman & Swart, 2007; Coff, 1997; Dean & Kretschmer, 2007).

To further enhance the RBV, future studies should also consider that different types of resources might contribute to a firm's SCA in different ways. We need typologies with direct and identifiable implications for the theory that would classify resources based on their manner of contributing to a firm's SCA. Differentiating between resources and emphasizing their different characteristics could prove useful. The deeper suggestion is to move from seeking an 'objective' or external definition of resource or value to one defined by the situation or context, implying there cannot be a single universal way of categorizing resources (Mahoney, 1995; Penrose, 1959). While there are many ways of approaching this, we shall limit the discussion to one category we think deserves special attention.

No resource is probably more problematic than knowledge (Spender & Scherer, 2007). The RBV literature suggests the main difference between knowledge and other types of resources resides in its intangibility. Another characteristic of knowledge, hardly taken into account in the RBV, is its non-rivalrousness – meaning that its deployment by one firm, or for one purpose, does not prevent its redeployment by the same or another firm, or for another purpose. On the contrary, deploying knowledge may *increase* it (Winter & Szulanski, 2001). The distinction

between rivalrous and non-rivalrous resources has axiomatic implications for the RBV. Based on strategic factor market logic, the RBV assumes resources are scarce and firms must compete to obtain the best. While such neo-classical economic logic applies to rivalrous resources it cannot apply to non-rivalrous resources for which there is no scarcity. Cooperation and co-development may prove to be effective ways of obtaining strategically significant knowledge. When knowledge increases after deployment, externalities can arise and sometimes all can benefit from others' applying that knowledge. By engaging this distinction between rivalrousness and non-rivalrousness, the RBV can better capture the fact that many firms nowadays cooperate intensively – while still competing. As we look within firms, the management of non-rivalrous resources differs greatly from the management of rivalrous resources. If a resource can be used only once, managers must focus on its efficiency in use and attempt to take advantage of as many productive opportunities as possible (Penrose, 1959). But if a resource is increased by its deployment that resource should probably be deployed as widely and frequently as possible; the more it is deployed, the more advanced it will become. We believe further theorizing and research on learning-by-doing and learning-curve implications of the RBV should prove fruitful here (Yelle, 1979).

As we have argued above, the RBV focuses on individual and separable resources and their inherent characteristics. As Newbert (2007) demonstrates, resource configurations (or combinations as they are called there) are more likely to explain performance than single resources. This empirical evidence suggests that a component level of analysis is insufficient (see also Critique #6). If we are to understand the complementarity and substitutability of resources in a firm, we need to consider the organizational level as well. Some attempts at this have been made in the knowledge-based literature, of which Spender's and Grant's work may deserve

further attention. Spender's (1994, 1996, 2005) distinction between individual and social knowledge points to crucial differences between individual and organizational resources. Grant (1996a, 1996b) provides the rudiments of a resource-based theory based largely on these differences. Paraphrasing Penrose's distinction between resources and services, Grant (1996a) argues it is not resources themselves that generate CA, but the managerial capabilities to *integrate* these resources (see also Kraaijenbrink & Wijnhoven, 2008). Grant goes on to develop a hierarchy of integration capabilities from the level of individual resources to the level of organizational capabilities. Combined with the notions of asset co-specialization and complementarities (Stieglitz & Heine, 2007; Teece, 2007) and the insight that complex interdependencies exist between multiple levels of strategy (Kor & Leblebici, 2005), Grant's work provides a promising starting point for further developing the RBV with a more refined concept of resource.

Towards a Subjective and Firm-Specific Notion of Resource Value

As summarized in Critique #7, the RBV's notion of value has been subject to broad and effective criticism. Clarifications have helped (e.g., Peteraf & Barney, 2003) but have not fully resolved the RBV's tendency to tautology. Moreover, they do not sufficiently address the observation that firms can generate an SCA from apparently valueless or even burdensome resources. The RBV's defining assumption is that value is a characteristic of one or more of the firm's resources. This assumption is based on (boundedly) rational reasoning as a method of inference and further assumptions about the continuity and predictability of markets. These assumptions may not hold in environments that are not mature or predictable. As Penrose argued, markets give resources a

certain price, but the value that a firm creates and captures from them is not fully determined by that price (Penrose, 1959). Thus the management's own 'subjective' assessment of the value of a resource and is every bit as determining of its possible value to the firm as any reasoning or quality inherent to the resource itself.

Along these lines RBV-theorists may want to reconsider, as do Witt (1998, 1999, 2007), Sarasvathy (2001; Sarasvathy & Dew, 2005), and Baker & Nelson (2005), that the processes of value assessment include those of conceiving ways to create and capture novel value through a specific resource. This moves us beyond the closed universe of discourse that characterizes much of neo-classical economics and, given its neo-classical roots, much of the RBV discourse, and into a humanly-constructed world in which value creation starts from our imaginings and leads to constructive and explorative action. As Foss et al. (Foss et al., 2007a; Foss, Foss, Klein, & Klein, 2007b; Foss & Ishikawa, 2007; Foss & Klein, 2005), Kor, Mahoney, & Michael (2007), and Alvarez & Busenitz (2001) argue, the practical assessment and evaluation of resources involves subjectivism, knowledge creation, and entrepreneurial judgment.

There is an element of Say's Law here, the implication that supply creates its own demand, for the effective imagination of a novel product or service can lead to the creation of its own market. As in the case of value assessment, the entrepreneur plays a pivotal role. Merely imagining value does not create and capture it. For its actual creation, firms will need all kinds of resources to help turn their ideas into reality – including having other firms or people value what has been produced (Anderson & Narus, 1999; Lepak, Smith, & Taylor, 2007). The role of the entrepreneurs cannot be limited to imagining value that others do not see. Rather, it must embrace bringing the resources together in such a way that the value they imagine is delivered. This imagining of value and the bringing together of resources can be considered a process of

mutual interaction in which resources partially shape peoples' mental models and these enable them to find value in the resources (Foss et al., 2008; Mahoney, 1995). Thus value must be discovered and created through practice that is anticipated and reflected upon imaginatively and subjectively. Likewise selling is a social process by which managers or entrepreneurs create value by convincing others of the value of their products. This implies value creation involves all kinds of internal and external social influence mechanisms including the use of rhetoric, power, and bargaining (Coff, 1999).

The key differences here from the current RBV are that in environments that are not highly predictable and mature, the primary locus of value creation may lie within the firm, within the imaginative and creative capabilities of the people involved in it, rather than in the market and the prices of the resources they obtain (Denrell, Fang, & Winter, 2003; Romer, 1990). By 'the people involved' we imply both the employees and the many not conventionally considered to be members of the firm, such as 'lead users' (von Hippel, 1986) or those who materially shape its infrastructure, such as government regulators. Hence, while we agree with Penrose (1959), Foss et al. (2008), Kor & Mahoney (2004), and Mahoney (1995) that the entrepreneurial or managerial team plays a pivotal role in recognizing and creating value, our conception of the people involved is even more inclusive. Locating the source of value creation within the imagination of those networked provides room for radical, disruptive innovation and a dynamic view of value in the RBV (Foss & Foss, 2008). Where the external focus on resources tends to stress the path dependent, evolutionary nature of change, it may be the sudden idea that ignites revolutionary modes of value creation. As these more subjective and creative notions of value are incorporated into the RBV, they bring human imagination back to the center of strategic management theorizing.

The idiosyncratic nature of resource value is further shaped by the specific institutional context of a particular firm. The value of resources in the RBV may therefore also be better understood as it incorporates insights from legal, institutional and property rights theorizing. Demsetz (1967) explicitly reminds us it is the value of the property rights that determines the value exchanged in a transaction rather than anything immanent in the underlying resource. Considering the various types of property rights that exist, we conclude a single resource can be a source of multiple values that differ between actors. One firm may have the right to consume a resource, even while another has the right to obtain income from that same resource, and yet another has the right to alienate some of the resource's attributes. While the underlying resource is notionally the same for all three, the values derived may differ substantially. It is the 'socially recognized rights of action' that are valuable here (Alchian & Demsetz, 1973). In other words it is what an individual firm or person is able and allowed to do with a resource that determines much of its value, as Coase (1960) suggested.

The RBV as a Theory of Sustained Competitive Advantage

By addressing the critiques to these two fundamental notions of the RBV, the previous two sections also serve as a starting point for addressing a final critique – Critique #6, that the VRIN/O criteria are not necessary and sufficient for SCA. We can bring what was said above on resources and value together with our suggestions on how the RBV might be developed into a more viable theory of SCA. We have suggested the clarity and explanatory power of the RBV should improve when it distinguishes clearly between the building, acquisition and possession of capacity (resources and capabilities) and the processes of deploying that capacity in the firm's actions. This distinction leaves the RBV's central proposition intact. As long as SCA embraces

the firm's *potential* to best its rivals (Peteraf & Barney, 2003) the RBV is correct in its focus on the building and possession of capacity. However, the moment we try to explain or predict the firm's actual performance, i.e. its generation and appropriation of rents, the RBV turns out to be incomplete because it ignores the material contingencies of the firm's situation (Becerra, 2008; Powell, 2001) – precisely those considerations germane to the 5-forces analysis that the RBV sought to critique. To explain performance future studies should take into account the context and *processes* of resource deployment in realizing the value of resources.

We have also suggested future work on the RBV needs to account better for the many different types of resources, distinguishing between rivalrous and non-rivalrous resources, component-level and organizational-level resources and so on. But taking these into account impacts the RBV's central proposition. Rather than taking a single concept of resources and capabilities and a single logic in resource-based theory, we need more refined propositions on the complex and dynamic relationships between particular types of resources, SCA, and rent creation. Moving between component-level and organizational-level resources will also help to further surface the role of organization (O) in the RBV's central proposition. Rather than simply proposing an appropriate organization should be in place, it becomes more interesting to probe how newly developed or acquired resources should be matched and integrated with the resources already in place, as in mergers and acquisitions. As such, enhancing the notion of organization can lead to further insights in the selection and transformation of newly gathered resources and adjustments needed to the existing resources in place.

Concerning the VRIN characteristics, our critiques and suggestions have centered on the notion of value. In the RBV, a firm only has SCA when it possesses resources that have a higher value in a future market than in the current market and when competitors do not have these

resources. But as we move towards a more subjective and creative notion of value, the key to SCA is both the Penrosian disjunction between resources and services, and the acts of imagination that bridge the two, repairing or synthesizing them into a viable organization (Spender, 1994). Consequently no firm can come into being without SCA, for this simply refers to the finite gap between the resources deployed and the outcome necessary to overcome the inevitable transactions costs, inefficiencies and frictions. Thus beyond managing these resources there is the challenge to manage the imaginative processes which enable the firm to grasp the strategic disjunction between its resource-set and the market situation in which it is operating. It gains what we call ‘advantage’ only by successfully avoiding the equal possibility of ‘disadvantage’ (Powell, 2001), by using imagination more effectively than its competitors in the search for novel means and ends. This involves acquiring, mobilizing, deploying, energizing, and retaining imaginative people. Future work on human resources will have to uncover how firms can do this (Chadwick & Dabu, 2009).

A final issue to which the critiques draw attention is the limited way in which the RBV deals with dynamic issues such as boundaries, timing, innovation, and entrepreneurship. With its focus on the possession of resources and capabilities, the RBV is inherently static, not well equipped to explain the timing of *when* value is created, rents are appropriated and how firms innovate and generate new sources of SCA. At the same time, recent developments in the streams of research on entrepreneurship (e.g., Langlois, 2007; Sarasvathy & Dew, 2005), dynamic capabilities (e.g., Teece, 2007), and the Austrian economics (Foss et al., 2007a; Foss & Ishikawa, 2007), may provide stepping stones to advancing more dynamic variants of the RBV – and some of the insights from these streams of research have been incorporated in this paper. Overall we suggest that to maintain its position as the favored theory of strategic management,

RBV theorists need to pay new attention to those streams of research and embrace some of their insights.

Insert Table 2 about here

CONCLUSION

Our review itemized eight main issues with the RBV, of which three should not be dismissed too lightly. Of course, out of necessity we have simplified many authors' critiques and may be guilty of trying to remake arguments they have already made quite adequately. Notwithstanding, we hope we have shed additional light on the broad range of critiques offered to-date and thereby provided a way to separate the more telling from the less so.

As our review and suggestions for future theorizing and research indicate, we feel the RBV community has clung to an inappropriately narrow neo-classical economic rationality and has thereby diminished its opportunities for progress over the last decade or so. We feel the sharpest yet most productive critiques have come from writers embracing the non-mainstream economic positions variously labeled Austrian, Knightian, evolutionary or otherwise 'non-equilibrium'. From their point of view the challenge is not to dissolve or recapture these critiques in a neo-classical equilibrium framework, the very opposite. So there is some irony in many RBV writers' assumption that Penrose is the RBV's 'godmother', for her views were Austrian through and through (Connell, 2007). The way forward, we feel, is to move the RBV's agenda into the inherently dynamic Austrian framework, not by accentuating the rather unfortunately labeled 'dynamic capabilities', but by incorporating time, space and uncertainty-resolution into the RBV's

axiomatic base. Going back to Marshall's work, every indication is that all SCA in a reasonably well-run socio-economy is perishable unless continuously invigorated by successful innovation. Inasmuch as the RBV's original impulse was to critique Porter's 5-force analysis (Spender, 1983, 1994; Wernerfelt, 1984), we must conclude his real-estate metaphor of sustained superior positioning has done its valuable work but should now give way to the post-modern innovator's anxiety about the never-ending race against the market's own clock. We hope that our suggestions for future theorizing and research will help provoke this shift and help the RBV evolve into a more fully contextualized and managerially-relevant theory of competition management.

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TABLE 1
Summary and Assessment of Critiques to the RBV

Critique	Assessment
1. The RBV has no managerial implications.	Not all theories should have direct managerial implications. Through its wide dissemination, the RBV has evident impact.
2. The RBV implies infinite regress.	Applies only to abstract mathematical theories. In an applied theory such as the RBV levels are qualitatively different. It may be fruitful to focus on the interactions between levels rather than to consider higher levels prior as a source of SCA.
3. The RBV's applicability is too limited.	Generalizing about uniqueness is not impossible by definition. The RBV applies to small firms and startups as well, as long as they strive for an SCA. Path dependency is not problematic when not taken to the extreme. The RBV only applies to firms in predictable environments.
4. SCA is not achievable.	By including dynamic capabilities, the RBV is not purely static. Though, it only explains <i>ex post</i> , not <i>ex ante</i> sources of SCA. While no CA can last forever, a focus on SCA remains useful.
5. The RBV is not a theory of the firm.	The RBV does not sufficiently explain why firms exist. Rather than requiring it to do so, it should further develop as a theory of SCA and leave additional explanations of firm existence to TCE.
6. VRIN/O is neither necessary nor sufficient for SCA.	The VRIN/O criteria are not always necessary and not always sufficient to explain a firm's SCA. The RBV does not sufficiently consider the synergy within resource bundles as a source of SCA. The RBV does not sufficiently recognize the role that judgment and mental models of individuals play in value assessment and creation.
7. The value of a resource is too indeterminate to provide for useful theory.	The current conceptualization of value turns the RBV into a trivial heuristic, an incomplete theory, or a tautology. A more subjective and creative notion of value is needed.
8. The definition of resource is unworkable.	Definitions of resources are all-inclusive. The RBV does not recognize differences between resources as inputs and resources that enable the organization of such inputs. There is no recognition of how different types of resources may contribute to SCA in a different manner.

TABLE 2
Suggestions for Future Theorizing and Research

Demarcating and Defining Resources

1. Theorize the distinctions between the building, acquiring and possessing capacity (which includes resources and capabilities) versus the processes of deploying that capacity.
2. Conduct more process-based empirical research within the RBV frame to probe how resource-based SCA and performance are related.
3. Integrate the insights provided by property rights theory into resource-based theorizing to improve our understanding of how resource attributes contribute to SCA and performance.
4. Identify types or characteristics of resources that help refine the predictions of the RBV – that differ in the manner they contribute to a firm’s SCA. Specifically:
 - a. Explore the distinction between rivalrous and non-rivalrous resources and the impact of this distinction on the predictions of the RBV.
 - b. Expand on the distinction between resources and integrative capabilities and on the hierarchical relationship between individual and collective resources.

Towards a Subjective and Firm-Specific Notion of Resource Value

5. Bring human imagination into the center of the RBV:
 - a. Investigate the value assessment processes by which new ways to create and capture novel value are conceived.
 - b. Study whether and how human ideas ignite revolutionary modes of value creation.
6. Study the social influence mechanisms through which entrepreneurs create value by convincing others of the value of their products.
7. Focus theorizing about 'value' in the RBV on the socially recognized rights of action associated with resources rather than on some abstract objective value of the resources themselves.

The RBV as a Theory of Sustained Competitive Advantage

8. Develop a resource-based explanation of SCA that focuses on the differences in people’s capacities to identify or imagine and judge the potential risks and benefits associated with the ownership of resources.
 9. Develop refined propositions on the relationship between specific types of resources and a firm’s SCA.
 10. Study how new resources are selected and how they can be matched with the existing resources in place in the organization.
 11. Embrace insights provided by recent developments in the streams of research on entrepreneurship, dynamic capabilities, and Austrian economics in the RBV.
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