

## RESEARCH NOTES AND COMMENTARIES

# INCREMENTAL VALUE CREATION AND APPROPRIATION IN A WORLD WITH MULTIPLE STAKEHOLDERS

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*There is a renewed interest among strategy scholars in the relationship between stakeholder theory and the dynamics of value creation-appropriation in firms. Further advancements in this field are arguably impeded by an incomplete conceptualization and measurement of value and by scant characterization of the different patterns of stakeholder value appropriation. We develop a conceptual framework—based on an analytical taxonomy of value creation and appropriation—consistent with a more complete notion of value and wherein the trade-offs in stakeholder value appropriation can be included. In essence, our analytical taxonomy contributes to enlarge the spectrum of value creation-appropriation scenarios to be considered by researchers working on the stakeholder view of strategy.* Copyright © 2014 John Wiley & Sons, Ltd.

## INTRODUCTION

There is an increasing interest in the relationship between the stakeholder view of strategy and the dynamics of value creation-appropriation (VCA) in firms (Amit and Zott, 2001; Blair, 1998; Bowman and Ambrosini, 2000; Brandenburger and Stuart, 1996; Coff, 1999; Lepak, Smith, and Taylor, 2007). The introduction of stakeholders as claimants and capturers of value in their interaction with the firm opens up an opportunity to investigate further this relationship in novel ways (Asher, Mahoney, and Mahoney, 2005).

In the neoclassical economic model, there are only two relevant “stakeholders”: the consumer and the producer and, hence, the economic value generated is simply the sum of the consumer

and the producer surpluses. In recent years, the *resource-based view (RBV)* has extended the neoclassical vision of economic VCA by examining which specific resources and capabilities will generate rent for the firm (Amit and Schoemaker, 1993; Barney, 1991; Bowman and Ambrosini, 2000; Castanias and Helfat, 1991; Lippman and Rumelt, 2003). The RBV attributes most rent to resources and capabilities that are embodied in individuals who can be referred as stakeholders of the firm with a claim over the rents generated (Coff, 1999). In consequence, it is not sufficient to posit that resources generate rent for the firm without decomposing the firm into multiple stakeholders who (1) *create* value by bringing in resources and capabilities that are firm-specific, causally ambiguous, and socially complex and (2) *appropriate* some of the value created in their relationship with the firm (Coff, 1999, 2010).

This broader stakeholder-based view of VCA offers the theoretical foundation to a stakeholder approach to economic valuation where some stakeholders do obtain positive net present value (NPV) (i.e., rents) in their interaction with the firm (Asher et al., 2005). In this sense, the *total* value created

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by a firm must also include the value captured by its stakeholders.

This research note seeks to contribute to the current debate on value creation and stakeholder value appropriation by advancing an analytical taxonomy of the various kinds of VCA in firms. We build on the notion of value creation and appropriation developed by Brandenburger and Stuart (1996). The proposed taxonomy is consistent with an inclusive definition of *total* value creation and it offers a more complete characterization of the different patterns of stakeholder value appropriation, bringing greater precision to current discussions on this topic in strategic management research. Based on our taxonomy, it is possible to assess if each dollar appropriated by one stakeholder has a positive, neutral, or negative effect on the *total* value created by the firm. Toward this, we introduce the concept of *value creation elasticity of stakeholder value appropriation* (VCA elasticity), which captures the relationship between the value appropriated by a stakeholder and the total value created in a period of time.

## TOTAL VALUE CREATION AND STAKEHOLDER VALUE APPROPRIATION

*Value* is a core concept in strategic management research.<sup>1</sup> A fundamental distinction must be made between shareholder value creation and *total* value created by the firm and its stakeholders. The former refers to the value accrued to the firm's owners while the latter refers to the total economic value accrued by *all* the stakeholders of the firm. For the purpose of this research note, we define a stakeholder as "any group or individual who creates and captures economic value in its interaction with the firm."

Drawing on the economics literature, Brandenburger and Stuart (1996) define *total* value created

<sup>1</sup> There is a vast literature on *value* in strategic management (see, for example, Bowman and Ambrosini, 2000; Brandenburger and Stuart, 1996; Davis and Kay, 1990; Lepak *et al.*, 2007). Here we do not distinguish between *value* and *rent* (Rumelt, 1987) and between different types of rents and quasi-rents (Castanias and Helfat, 1991; Peteraf and Barney, 2003). There are also other definitions of value proposed in the literature different from the one used in this note (Bowman and Ambrosini, 2000; Lepak *et al.*, 2007). We use indistinguishably the terms *economic gains*, *productivity growth*, or simply *value* to refer to the total value created and appropriated by the various stakeholders according to a productivity measurement model to be outlined in later sections of this note.

by a firm as *willingness to pay – opportunity cost*. The firm acquires resources, such as capital, labor, and raw materials from suppliers and transforms these resources into products and services sold to its customers (Figure 1). According to the vertical chain in Figure 1, customers capture more value when their willingness to pay for the product increases or when the price paid to the firm decreases. Suppliers capture more value when their opportunity costs decrease or by increasing the purchasing costs to the firm. Lastly, firms capture more value when they increase the price customers pay or when their production costs decrease.

Traditional corporate metrics of value creation use simple measures such as net income or profit ratios, which can easily be compared across competitors. There are other more refined metrics such as economic added value (Davis and Kay, 1990), which estimates economic profit deducting the firm's costs of capital. All these measures present the advantage of being relatively easy to compute, but they fail to account for the value the firm is creating for *all* its stakeholders (Harrison, Bosse, and Phillips, 2010: 70), in addition to the value accrued to capital providers. Although not directly observable in the firm's accounting statements, the returns to other stakeholders are also significant in terms of, for example, employees' increased salaries or consumers' reduced prices.

While Figure 1 is consistent with *total* value creation, it has the limitation that it reduces the number of stakeholders to customers, suppliers, and the firm. Hence, we advocate for a more comprehensive view of VCA which is shown in a simple illustrative way in Figure 2.

The vertical chain of value decomposition shown in Figure 2 explicitly includes a wider range of stakeholders. Now the black box "firm" disappears. Instead, we refer to capital providers' value appropriation. While shareholder value maximization includes only the shaded portion in Figure 2 (price – costs), *total* value created relates to the whole range of value from customers' willingness to pay to stakeholders' opportunity costs. A firm creates *total* value either by increasing customers' willingness to pay or by reducing its other stakeholders' opportunity costs. The price charged to its customers and all the intermediate costs (salaries, taxes, raw material prices, etc.) simply determine how the total value created will be divided.

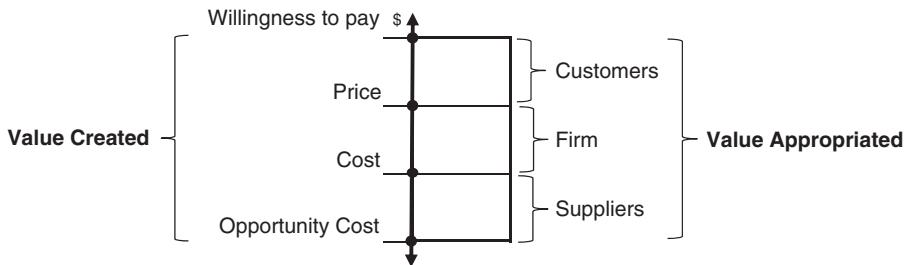


Figure 1. Value creation = willingness to pay – opportunity cost (Brandenburger and Stuart, 1996).

### Incremental value creation and the VCA model

One persistent challenge with the framework presented in Figures 1 and 2 is the difficulty to estimate reasonably in a generalized way the willingness to pay and opportunity costs of the various stakeholders in empirical settings (Bowman and Ambrosini, 2000; Brandenburger and Stuart, 1996; Davis and Kay, 1990). In order to overcome this limitation, we propose to use *increments* in value created and value appropriated instead of the absolute amount of value created and appropriated in one period. The underlying assumption is that the increase in total value created in between two periods of time must be equal to the sum of the increases in the value appropriated by the various stakeholders in the same period.

Using *incremental* total value created presents the advantage that willingness to pay and opportunity costs can arguably be assumed away if they do not differ much from one period to the next.<sup>2</sup> If willingness to pay and opportunity costs are assumed to be relatively stable for two periods of time, then changes in VCA are mainly driven by variations in prices and costs. For example, if a customer pays \$1 for a product in one period and in the next period she pays \$1.5 for the same product, then there is a decrease of 50 percent in the value captured by this stakeholder, *ceteris paribus*.

A second major advantage of using incremental values is that value created and appropriated by

stakeholders can reasonably be estimated using publicly available data of observable prices, costs, inputs and outputs with general productivity models based on the literature on Total Factor Productivity (TFP), which is often used in economics (Harberger, 1998, 1999). For simplicity, we loosely refer to this type of model as the “VCA model.”<sup>3</sup>

Generally, the VCA model estimates the total value created and appropriated by the stakeholders who have an economic relationship with the firm. It can be roughly written as

$$\begin{array}{c} (\Delta Y/Y) - s_L(\Delta L/L) - s_K(\Delta K/K) - s_M(\Delta M/M) - s_Z(\Delta Z/Z) \\ \xleftarrow{\Delta \text{ Total value created}} \\ s_L(\Delta w/w) + s_K(\Delta r/r) + s_M(\Delta m/m) + s_Z(\Delta z/z) - (\Delta p/p) \\ \xrightarrow{\Delta \text{ Stakeholder total value appropriated}} \end{array} \quad (1)$$

where  $Y$  is the amount of the firm's total output;  $p$  is the price of the firm's product;  $L$  is the quantity of labor (number of employees);  $w$  is the wage rate;  $K$  is the amount of capital employed by the firm;  $r$  is the rate of return on capital;  $M$  is the amount of materials and other purchased inputs;  $m$  is the price of purchased materials;  $Z$  is the quantity of top managers in the firm; and  $z$  is the top managers' salary and bonus rate. The shares of employees, capital providers, suppliers, and managers in the total revenues of the firm

<sup>2</sup> By contrast, abrupt changes in willingness to pay or opportunity costs introduce measurement errors. These changes may signal, for example, substantial changes in product quality or human capital specialization. To some extent these changes in quality represent a limitation of our approach, but they also can be seen as factors influencing how the VCA elasticities may vary across firms. For instance, these changes in quality are likely to affect the bargaining power of stakeholders (Coff, 1999). We further discuss this issue in the concluding section of the note.

<sup>3</sup> The VCA model was first introduced in the strategic management field by Lieberman and Balasubramanian (2007), and it has been further developed conceptually and empirically in two recent works (Garcia-Castro, Balasubramanian, and Lieberman, 2013; Lieberman, Balasubramanian, and Garcia-Castro, 2013). The model provides rough estimates of total value creation and appropriation based on economic gains. It is based on a number of assumptions, such as relatively constant willingness to pay and opportunity costs for two periods of time, and it has some inherent limitations that we discuss toward the end of the research note. Obviously, insofar as some of the key assumptions did not hold, VCA estimates of value creation and appropriation would be understating the true numbers.

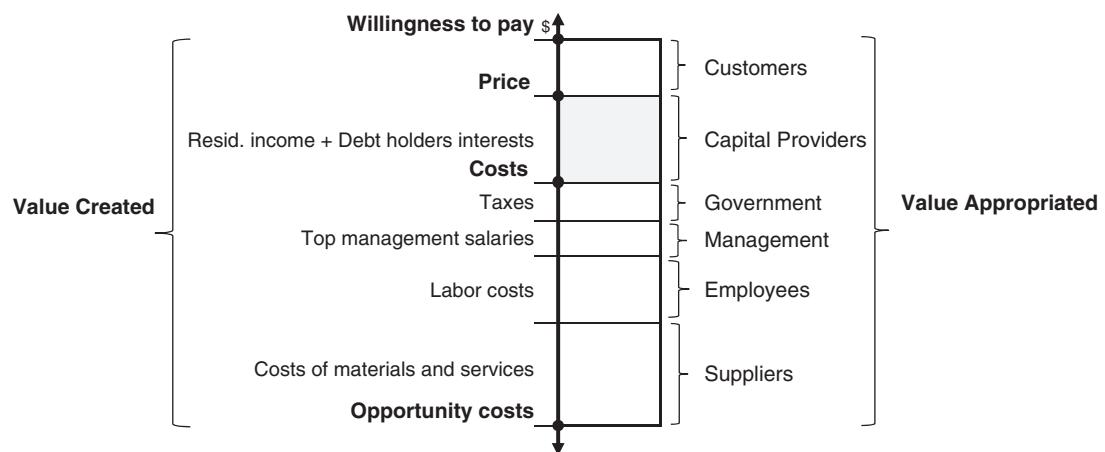


Figure 2. Value creation and appropriation with multiple stakeholders.

are  $s_L = (wL/pY)$ ,  $s_K = (rK/pY)$ ,  $s_M = (mM/pY)$  and  $s_Z = (zZ/pY)$ , respectively.

Equation 1 denotes that the increase in the total value created by the firm in each period must equal the incremental total value distributed among stakeholders. The left-hand side of (1) represents the increase in output ( $Y$ ) in excess of the increases in the quantities of inputs used—i.e., the percentage change in the efficiency of the inputs utilized by the firm. The right-hand side of (1) represents the distribution of these economic gains among stakeholders—employees  $s_L(\Delta w/w)$ , capital providers  $s_K(\Delta r/r)$ , suppliers  $s_M(\Delta m/m)$ , top management  $s_Z(\Delta z/z)$ , and customers ( $\Delta p/p$ )—in terms of increments of the payments made to the production factors.

Under the VCA model, the increase in *total* value created is assumed to be exactly equivalent to its economic gains appropriately measured using (1). Likewise, the increase in total value appropriated is assumed to be exactly equivalent to the net variation of payments received by all stakeholders. In (1),  $s_K(\Delta r/r)$  represents the portion of value increases captured by capital providers (shareholders + debt holders). Obviously, insofar as there is no increase in the *total* value created in the period, any increase in  $s_K(\Delta r/r)$  necessarily implies a reduction in the fraction of value captured by at least one other stakeholder. However, a simultaneous increase in the value captured by all stakeholders is possible if there is an overall increase in the *total* value created—left-hand side of (1).

The VCA model elicits a way to both conceptualize and estimate in empirical research the *total*

incremental value created and distributed by the firm. Previous research in this field tends to assume value creation-appropriation to be a two-stage game where value is created in the first stage and, then, it is appropriated in a second stage (Coff, 1999). As such, value creation-appropriation is generally treated as a zero-sum game where value is created in the first stage and held constant to distribute in the second. Incremental value creation and appropriation does, however, emphasize the possible nonzero sum nature of the game because the increment in total value can be positive or negative in between two periods of time, giving way to the heterogeneous patterns that we characterize in the next section.

## STAKEHOLDER APPROPRIATION TRADE-OFFS

We consider first the simplest situation with only two stakeholders: employees ( $L$ ) and capital providers ( $K$ ). We denote the *total* value created in the firm as  $VT$ .  $\Delta VT$  is the percentage increase in total value created in the period and it can be estimated in empirical settings using the VCA model as  $(\Delta Y/Y) - s_L(\Delta L/L) - s_K(\Delta K/K)$ ;  $\Delta VL$  is the percentage increase in value appropriated by employees, and it can be estimated as  $s_L(\Delta w/w)$ ;  $\Delta VK$  is the percentage increase in value appropriated by  $K$ , and it can be estimated as  $s_K(\Delta r/r)$ .

For any two periods of time, the total increase in value created and captured can be written as  $\Delta VT = \Delta VL + \Delta VK$ . The increase in total value created  $\Delta VT$  is a function of the resources and

capabilities contributed by all stakeholders to the firm (Barney, 1991; Coff, 1999). We treat total value created as an exogenous variable—not discussing its key determinants. By contrast, value distribution depends on the negotiation between the various stakeholders of the firm. Some of the incremental total value created ( $\Delta VT$ ) is distributed to employees ( $\Delta VL$ ), while capital providers capture the residual value ( $\Delta VK$ ) or any other combination. There are three main possibilities, depending on the sign of  $\Delta VT$ : positive-sum game, negative-sum game, or zero-sum game (Table 1).

Table 1. Stakeholder value appropriation trade-offs

		Stakeholder value appropriation		
		Elastic VCA $\frac{\Delta VT}{\Delta VL} > 1 \quad \frac{\Delta VT}{\Delta VK} > 1$	Neutral VCA $\frac{\Delta VT}{\Delta VL} = 1 \quad \frac{\Delta VT}{\Delta VK} = 1$	Inelastic VCA $\frac{\Delta VT}{\Delta VL} < 1 \quad \frac{\Delta VT}{\Delta VK} < 1$
Total value creation	Positive-sum game ( $\Delta VT > 0$ )	I $\Delta VL + \Delta VK +$ <i>Sharing gains</i> (Wal-Mart, Toyota)	II $\Delta VL + \Delta VK 0$ or $\Delta VL 0 \Delta VK +$ <i>Stakeholder neutrality (gains absorption)</i> (Low conflict U.S. airlines 1990s)	III $\Delta VL + \Delta VK -$ or $\Delta VL - \Delta VK +$ <i>If + &gt; -</i> <i>Over-appropriation</i> (Nissan, 1980s, 1990s)
		IV $\Delta VL - \Delta VK -$ <i>Sharing losses</i> (Iberia 2008–2013)	V $\Delta VL - \Delta VK 0$ or $\Delta VL 0 \Delta VK -$ <i>Stakeholder neutrality (loss absorption)</i> (Lincoln Electric)	VI $\Delta VL + \Delta VK -$ or $\Delta VL - \Delta VK +$ <i>If + &lt; -</i> <i>Over-appropriation</i> (General Motors 1980s, 1990s)
		VII $\Delta VL + \Delta VK -$ or $\Delta VL - \Delta VK +$ <i>If + = -</i> <i>Zero-sum</i> (Legal cap on bankers' bonuses, High conflict U.S. airlines)		
	Strategic implications			
	Managing for stakeholders (Harrison et al., 2010)		Property right (Asher et al., 2005)	Stakeholder power (Coff, 1999)
	<ul style="list-style-type: none"> <li>• Distributional justice</li> <li>• Reciprocity norms</li> <li>• Trustworthiness</li> </ul>		<ul style="list-style-type: none"> <li>• Ownership over resources/capabilities</li> <li>• Legal rights</li> </ul>	<ul style="list-style-type: none"> <li>• Unified action</li> <li>• Access to information</li> <li>• Replacement cost</li> <li>• Exit cost</li> </ul>

examine the relationship between  $\Delta VT$  and  $\Delta VL$ , there are three distinctive possibilities:

$$\frac{\Delta VT}{\Delta VL} > 1 \text{ Stakeholder elastic VCA}$$

$$\frac{\Delta VT}{\Delta VL} = 1 \text{ Stakeholder neutral VCA}$$

$$\frac{\Delta VT}{\Delta VL} < 1 \text{ Stakeholder inelastic VCA}$$

These three ratios measure the *value creation elasticity of stakeholder value appropriation*.<sup>4</sup> The first ratio,  $\frac{\Delta VT}{\Delta VL} > 1$ , indicates *stakeholder elastic VCA* where any additional gain by L implies an increase of the value appropriated by K. In contrast,  $\frac{\Delta VT}{\Delta VL} = 1$ , indicates *stakeholder neutral VCA* where any additional gain by L has a neutral (zero) effect for K. Finally,  $\frac{\Delta VT}{\Delta VL} < 1$  indicates *stakeholder inelastic VCA* where any additional gain by L necessarily implies a decrease of the value appropriated by K.

These variations in stakeholder elasticity introduce three different value-appropriation scenarios as depicted in Table 1 (**I**, **II** and **III**). Scenario **I** refers to win-win situations, where an increase in total value created is distributed among K and L. There are numerous examples of this among fast growing firms. For example, Wal-Mart has generated a 200,000 percent return to shareholders during the first 30 years since its initial public offering. At the same time, Wal-Mart was well-known—until recently—for its millionaire truck drivers and its above-industry average profit sharing and stock ownership plans for employees (Makadok, 2003). Another illustrative example of a cooperative game is Toyota's sustained productivity increases in the 1980s and 1990s, which were captured by both employees and capital providers (Jacoby, 2005).

The increase in total value created can be fully captured by one stakeholder, leaving the other stakeholder with neither win nor loss. We refer to this situation as *stakeholder neutrality* (**II**) because the increased appropriation of value by L(K) leaves K(L) unaffected—i.e., all the incremental value is fully absorbed (gains absorption) by L(K). Consider, for example, the effect of wage increases in the U.S. airlines industry from 1987 to 2000. Gittell *et al.* (2004: 174) find that the net impact of wages on profitability is neutral in air carriers

with a history of low union–management conflict due to the productivity gains associated with higher wages—the productivity improvements offset the costs of these higher wages, leaving shareholders unaffected. U.K. grocer Tesco offers another example. Tesco saved up to 45 percent on the travel budgets of key departments by substituting video-conferencing for long-haul travel, which increased employee productivity (Bisson, Stephenson, and Viguerie, 2010). If these productivity gains went fully to employees in the form of higher salaries and wages, then we would be in scenario **II**. Alternatively, shareholders might also capture part of these gains together with employees (**I**).

Finally, one stakeholder can capture value at the expense of the other (**III**). In these situations one stakeholder appropriates value in excess of the total value created—i.e., over-appropriation. The Japanese automaker Nissan illustrates well this scenario. Nissan's overall increase in value created in the 1980s and 1990s was not as high as Toyota's, but it was still overly positive. However, most of the gains flew to employees while gains to capital were negative during this period (Lieberman and Balasubramanian, 2007).

### VCA negative-sum game ( $\Delta VT < 0$ )

VCA negative-sum games are situations where there is a decrease in the total value jointly created and at least one stakeholder necessarily loses some value. There are three different scenarios (**IV**, **V**, and **VI**), depending on the sign of the VCA elasticity. Under scenario **IV** both L and K lose some value from one period to the next. The airlines industry offers some examples of this. Consider for example, Spain's flagship air carrier, Iberia. Since the mid-2000s, Iberia was struggling as a consequence of low-cost competition in the domestic market and increasing fuel costs (*Financial Times*, 2013b). As the total value created shrunk, the company reduced pilots' and other aircrew members' wages. With this strategy, Iberia sought to distribute part of the economic losses among employees as well, instead of having them fully absorbed solely by capital providers.

A second scenario is *stakeholder neutrality* where the decrease in total value created is entirely absorbed (loss absorption) by one stakeholder with neither positive nor negative externalities for the other stakeholder (**V**). The piece-rate incentive system of Lincoln Electric illustrates this scenario

<sup>4</sup>  $\Delta VT$ ,  $\Delta VK$  and  $\Delta VL$  refer to percentage, not absolute, increments. All VCA model estimates in (1) are expressed in percentage changes; hence their pairwise ratios are elasticities.

(Chilton, 1994). As Lincoln Electric's incentives were closely tied to employee productivity through piecework systems for base wages and year-end bonuses, a temporal decrease in output was mostly absorbed by labor, leaving capital providers mainly unaffected.

Finally, scenario VI is similar to III, but now stakeholders are more likely to engage in a cut-throat competition to capture value in situations where the total value created declines. Consider the case of General Motors in the 1980s and 1990s when GM experienced a significant decrease in total value created. Despite this downturn, GM's employees managed to obtain significant economic gains through salary increases and other benefits while capital suppliers suffered the largest economic losses, leading to a situation of over-appropriation of value by GM's employees (Lieberman and Balasubramanian, 2007).

### VCA zero-sum game ( $\Delta VT = 0$ )

As pointed out above, previous research tends to conceptualize the VCA process as a two-stage game where value creation takes place at the first stage and value appropriation at the second (Bowman and Ambrosini, 2000; Coff, 1999; MacDonald and Ryall, 2004). If this is the case, then,  $\Delta VT$  is argued to be given and constant; and hence, value appropriation depends exclusively on each stakeholder's bargaining power in the second stage, as Coff (1999) remarks.

This static view is equivalent to  $\Delta VT = 0$ , where any increase/decrease in the value appropriated by L(K) will necessarily imply an *equal* decrease/increase of the value appropriated by K(L) (VII). Put another way, value appropriation becomes a *zero-sum game* where any marginal gain by L(K) necessarily implies an identical loss for K(L).

There are many illustrations of zero-sum games of this kind in the economy. Consider, for example, the 2013 EU policy to cap bankers' bonuses (*Financial Times*, 2013a). This new legislation might lead to a zero-sum situation—at least in the short run—because it will likely imply some transfers of value from banks' top management to their shareholders or other stakeholder groups. It is possible, of course, that while this compensation cap may not affect the total value created in the short run, in the long run it might have a negative effect on the value creation process if EU banks have less access to specialized human capital for top management

positions due to such caps on bonuses. Gittell *et al.* (2004) also provide a well-documented example of zero-sum situations in the U.S. airlines industry. They find that while the net effect of wage increases on profitability was neutral in air carriers with low union–management conflict (II), wage bargaining becomes a zero-sum game in those carriers with historically adversarial relationships with the unions and deteriorated workplace cultures (Gittell *et al.*, 2004: 176–177). In these later cases, these authors found that employees' appropriation of incremental value comes at the expense of shareholders (VII).

### A world with multiple stakeholders

The value capture dynamics depicted in Table 1 become more complex when the analysis is extended to more than two stakeholders, although the underlying logic remains the same. One way to think of VCA in the presence of three or more stakeholders is to replace simply one of the stakeholders ( $\Delta VL$  or  $\Delta VK$ ) in Table 1 for *increments in value appropriated by all the other stakeholders in the firm taken as whole*.

For instance, in positive-sum games ( $\Delta VT > 0$ ), if a stakeholder has elastic VCA,  $\frac{\Delta VT}{\Delta VL} > 1$ , then all the other stakeholders in the firm, taken as a whole, will necessarily appropriate some positive economic value. In contrast, if a stakeholder presents inelastic VCA,  $\frac{\Delta VT}{\Delta VL} < 1$ , then other stakeholders in the firm, taken as a whole, will necessarily suffer a decrease in value appropriated. Similar analyses apply for zero-sum ( $\Delta VT = 0$ ) and negative-sum games ( $\Delta VT < 0$ ) following the analytical taxonomy displayed in Table 1.

Alternative elasticity analyses can be done between  $\Delta VT$  and any other stakeholder in the firm using the percentage increments of value as measured by the VCA model (1). Obviously, as the number of stakeholders increases, so does the number of possible VCA combinations. While a full treatment of all these combinations may be difficult in empirical settings, the VCA model may help researchers explore some of them in more tractable ways. In the end, how relatively elastic or inelastic these different VCA ratios are in a firm, industry, or a national legal system or how these elasticities evolve over time is an empirical question. And whether increases in total value created ( $\Delta VT$ ) are large enough to offset the incremental costs for the firm due to higher rents paid to a given stakeholder

(e.g.,  $\Delta VL$ ) is also likely to depend on the firm, industry, or country analyzed.

## CONCLUDING DISCUSSION

There exists a great interest in the strategic management field to advance in the study of the dynamics of value creation and stakeholder value appropriation. Although, we count with significant conceptual strides in this field (e.g., Bowman and Ambrosini, 2000; Brandenburger and Stuart, 1996; Coff, 1999; Lepak *et al.*, 2007; MacDonald and Ryall, 2004), some challenges still remain. Some of these challenges are related to the definition and measurement of *total* value created and appropriated and how to develop an analytical framework through which trade-offs in value appropriation can be studied more systematically.

This research note contributes to the current discussion in two ways. First, we draw on a broad definition of value creation where value is not solely the value accrued to capital providers but the *total* value accrued to all the stakeholders of the firm. We propose utilizing value creation and appropriation *increments* to avoid partially some of the limitations associated with the measurement of willingness to pay and stakeholders' opportunity costs. We briefly refer to the VCA model as a generalized method to estimate empirically these increments in value, using economic gains based on TFP models widely used in economics (Harberger, 1998, 1999).

Secondly and more importantly, we develop a framework—based on an analytical taxonomy of value creation and appropriation—wherein the trade-offs in stakeholder value appropriation can be systematically included and provide some examples to illustrate them. In essence, our analytical taxonomy contributes to enlarge the spectrum of VCA scenarios to be considered by researchers. Theoretical research and formal models in this field often adopt a static approach where VCA becomes a zero-sum game: value creation is treated as a first-stage primitive function; and then, in a second stage, stakeholders bargain over the value created (e.g., Brandenburger and Stuart, 1996; Chatain and Zemsky, 2011; Coff, 1999; MacDonald and Ryall, 2004). Dynamically, however, VCA needs not to be a zero-sum game leading to the games stylized in Table 1. Our framework elaborates on this dynamic view, offering a more comprehensive categorization of the distinctive possibilities, distinguishing

between positive, negative, and zero-sum value creation games and between elastic, neutral, and inelastic value-appropriation situations. The incremental approach of the VCA model is essential to analyze value creation and appropriation in such a dynamic way and to study VCA elasticities, since elasticities are usually expressed as percentage changes.

Once we take into account explicitly the distinctive VCA scenarios in Table 1, the question of how and why these gains and losses are distributed in firms becomes pertinent. While an exhaustive analysis of these questions is beyond the scope of our research note, we would like to outline some implications for strategic management research as well as suggest avenues for future research.

There are at least three main theoretical lenses to which the VCA can be applied in strategic management studies as included in Table 1: property rights (Asher *et al.*, 2005), stakeholder bargaining power (Coff, 1999; Pfeffer, 1981; Porter, 1980), and the managing for stakeholders literature (Bosse, Phillips, and Harrison, 2009; Freeman, 1984; Harrison *et al.*, 2010). The three offer complementary explanations to the patterns of stakeholder value appropriation described above.

The *property rights* view holds that whenever a stakeholder legally owns a value-generating resource, she will be able to appropriate the value thus created (Asher *et al.*, 2005; Collis and Montgomery, 1998: 39). Private ownership of a value-generating resource may involve a variety of property rights, including the right to exclude nonowners from access, the right to appropriate the stream of economic rents from use of and investments in the resource, and the right to sell the resource to others (Libecap, 1989). In a simple situation where there is only one resource required in the value-creation process and this resource is legally owned by a stakeholder, one would expect neutral VCA (elasticity = 1) since the owner of such resource can fully claim and capture the value generated. Therefore, a promising direction for future research is to understand if and how different property rights regimes affect VCA elasticity across firms or national/legal systems.

However, the less clearly defined property rights over resources and capabilities are, the greater the importance of relative *bargaining power* in determining the division of returns between the firm and its stakeholders (Grant, 2010: 139). Coff (1999) argues that a stakeholder bargaining power is a

function of (1) the capacity for unified action; (2) access to key information; (3) replacement cost to the firm, and (4) the costs of exit to the stakeholder. Factors such as firm-specific human capital will enhance employee bargaining power since such specialization typically raises the replacement cost to the firm. Porter (1980) demonstrates that powerful suppliers and customers often capture much of the profitability in an industry. Also, MacDonald and Ryall (2004) examine how competition and bargaining power affect value appropriation by firms. In these situations of strong stakeholder bargaining power, if this power is used to bargain and claim value, it is plausible to assume relatively inelastic VCA (elasticity < 1). Hence, future research could analyze whether high stakeholder bargaining power is associated with relatively inelastic VCA.

Finally, beyond property rights and stakeholder bargaining power arguments, VCA elasticity may be driven by firms' voluntary discretionary investments in selected stakeholders in order to maintain distributional justice, respect reciprocity norms, and build trustworthiness (Harrison *et al.*, 2010: 61). The *managing for stakeholders* literature sustains that some stakeholders obtain rents because managers voluntarily "overinvest" in some of them, seeking to foster increased cooperation and to ensure superior profits in the long run (Bosse *et al.*, 2009). Because this distribution of value ultimately seeks to maintain a certain organizational balance among stakeholders (Harrison *et al.*, 2010), it is plausible that these noncompetitive situations are associated with relatively elastic VCA (elasticity > 1).

The relationship between the aforementioned conceptual strides and the VCA elasticities need not be one-to-one but it is likely that they are correlated, especially if the elasticities are measured over long periods of time.

We acknowledge that previous empirical research has partially addressed some of these issues. For instance, Ogden and Watson (1999) find in a study of the U.K. water supply industry that firms can create value for shareholders and customers simultaneously. There is also some evidence that employee gains do not necessarily lead to shareholder losses in the U.S. airline industry and that, in fact, VCA becomes a positive-sum game when wage increases are accompanied by labor and aircraft productivity increases (Gittell *et al.*, 2004). More recently, Garcia-Castro and Lieberman (2012) use U.S. airlines industry data

to uncover that some patterns of stakeholder value appropriation are common across air carriers (e.g., positive value appropriation by air passengers and fuel suppliers) while others are firm-specific (e.g., value captured by capital providers). While these and other studies are valuable, most of them rely on ad-hoc measures of stakeholder value appropriation, making it difficult to compare directly the empirical results obtained. Additional, more systematic empirical research is needed to describe, explain, and predict further these alternative scenarios. Also, future research could address the fundamental issue of how frequent the seven scenarios in Table 1 are in practice, if there is some correlation between them, and what is the relationship between each of the quadrants and stakeholder effort to contribute to total value creation.

Our conceptual framework presents the advantage of being quite generalizable, and yet it can be directly applied to empirical settings—as most of the parameters in the VCA model can be estimated using public corporate data. However, it also presents some limitations. First, since our framework is applied to increments in value creation and appropriation, it overlooks situations where firms face systematically different opportunity costs or willingness to pay. However, because these differences are systematic and stable over time, they can be analyzed qualitatively and separately from other transitory changes in VCA.

Second, changes in quality that affect the willingness to pay or opportunity costs of the stakeholders are largely overlooked by the VCA model (1). If willingness to pay or opportunity costs change abruptly from one period to the next, the final VCA estimates might be under- or overstated. Notwithstanding that, it is feasible to find industries where these two parameters are relatively stable over time or to apply the VCA to specific (short) periods of time with no significant changes in willingness to pay or in stakeholders' opportunity costs. In each of these two situations, the VCA model offers accurate estimates.

Lastly, VCA elasticities impose some constraints. Because the VCA elasticity is a ratio between two percentage increases, the simultaneous analysis of multiple stakeholders requires that stakeholders are grouped in order to make pairwise comparisons, as shown in Table 1. While this can be seen as a limitation of our approach, it is also interesting in itself to explore how the value captured by one stakeholder affects the value distributed to other

stakeholders in the firm, taken as a whole. This latter analysis can be done for each stakeholder vis à vis all other stakeholders in the firm.

Despite these limitations, our proposed framework offers greater precision to the fundamental question of how value is created and distributed in firms. Future research can draw on the framework presented and further examine its nuances as we advance some ways in which VCA elasticity can be predicted and used in empirical studies. In this sense, the discussion of value creation and appropriation presented in this note moves the research agenda in strategic management forward.

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