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ABSTRACT

In this paper, we argue that we can reach a better understanding of the relationships between firm resources and competitive advantage by considering actions that firms take against their rivals' resources in factor markets and political markets. We outline market and firm characteristics that facilitate the deployment of competitors' resource-oriented strategies. We then argue that the effectiveness of the firm's actions on its competitors' resources depends on the competitive responses of the competitors being attacked.

Keywords: Resources; Resource preemption; Strategic factor markets; Corporate political strategies; Scarcity rents; Competitive interactions

Competitors' Resource-Oriented Strategies: Acting upon Competitors' Resources through Interventions in Factor Markets and Political Markets

The popularity of cell phones has turned airwaves into a scarce and extremely valuable resource. Over the past decade, the US Federal Communications Commission (FCC) has auctioned off the rights to use the airwaves for billions of dollars. In 2004, the battle over the airwaves intensified when a latecomer to the industry, Nextel, a company that relied on lower-quality frequencies, negotiated with the FCC to relinquish its frequencies to remedy interference with emergency services and gain in exchange a new slice of a 1.9-gigahertz spectrum for US$850 million (Belson, 2004; Birnbaum & Noguchi, 2004). This negotiation triggered intense lobbying battles in Washington, DC, as established competitors were not willing to see Nextel become a significant player in their market. Drawing on strong financial backing and lobbying teams, Verizon Wireless, Cingular Wireless and other firms led an expensive fight to persuade regulators that the transaction with Nextel was not a fair trade, and that Nextel was underpaying by more than US$1 billion for the airwaves. They claimed that this valuable spectrum should not be given away without competitive bidding, lest taxpayers be deprived of the real value of this resource, and that they were willing to pay more than Nextel for the newly available airwaves.[1]

This episode is a striking example of how firms interact and fiercely compete in factor markets and political markets, not only to access valuable and scarce resources for themselves, but also to exert control over their competitors' resources. Although competition in factor markets or political markets is a central consideration in a firm's strategy, the idea of exerting power in a resource environment and attacking rivals' resources has not been fully articulated in existing literature. Resource-based view (RBV) scholars have made great advances in understanding how a firm can build a resource position through the development of its own resources (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984), but they have paid

relatively little attention to the firm's relationships with its external resource environment and its actions on competitors' resources. Studies on competitive interactions have mainly focused on product markets (e.g., Armstrong & Collopy, 1996; Gimeno & Woo, 1996; Karnani & Wernerfelt, 1985), but we know little about competitive interactions in factor markets or in political arenas. Recently, strategy scholars who study employee poaching (Gardner, 2002, 2005; Rao & Drazin, 2002; Sørensen, 1999) and intellectual property rights (Grindley & Teece, 1997; Ziedonis, 2004), have started to recognize the competitive interactions of firms in resource markets and some potential anti-competitive implications of those actions (Lerner, Tirole & Strojwas, 2003).

In this paper, we argue that we can reach a better understanding of how a focal firm creates and sustains a competitive advantage by considering its actions on its competitors' resources. As resource-based view scholars explicitly recognize, "competitive advantage derives from firm-specific resources that are scarce and superior in use, *relative to others*" (Peteraf & Barney, 2003: 311, emphasis added). Competitive advantage is a relative notion, and a focal firm can act to widen the gap between itself and its competitors by degrading the resource position of its competitors (without necessarily improving the position of its own resources *per se*). To degrade the resource position of its rivals, a firm can deploy strategies in its resource environment to reduce the quantity and/or effectiveness of its rivals' resources. The purpose of this paper is to explore how and when firms employ strategies in factor markets and political markets to attack the resource position of their competitors and increase their own scarcity rents.

Figure 1, below, depicts the positioning of our paper. We highlight in gray the strategies we study in this paper. In our framework, a focal firm intervenes in factor markets and political markets to reduce the quantity and/or effectiveness of its rivals' resources. Reducing the quantity of available competing resources directly impairs the competitors'

production capacity if those resources were previously fully utilized by competitors and are in short supply, compared to the demand for their services. Decreasing the effectiveness of competitors' resources can also hurt their production capacity, if target competitors have to turn to less effective resources to carry out their production. Actions that increase rivals' resource costs or impair the effectiveness of their resources, reduce the quantity they can profitably produce. Competitors' output capacity restriction then feeds the residual demand that accrues to the focal firm. Increased residual demand can generate additional scarcity rents for the focal firm.

******** Insert Figure 1 about here *******

In this paper, we combine several streams of literature: the resource-based view of the firm (RBV), industrial organization economics (IO), corporate political activity (CPA), first-mover advantage (FMA) and competitive dynamics (CD) literatures. The resource-based view helps us understand the role of valuable resources and scarcity rents to the focal firm, and leads us to argue that a focal firm can increase its scarcity rents by reducing the quantity or effectiveness of its competitors' resources. Both industrial organization economics and corporate political activity literature contribute to our understanding of the market (IO) and non-market mechanisms (CPA) that a focal firm can use to exert control over its external resource environment. Combining these three streams of literature provides value, as it meshes an internal perspective that focuses on a firm's characteristics (RBV) with two perspectives that emphasize the relationship of a focal firm with two distinct external resource environments. We then use the first-mover advantage and competitive dynamics literature to take into account competitive interactions in factor markets and political markets, and examine which type of competitors' resource-oriented strategies are likely to elicit retaliation from competitors being attacked.

The paper is organized as follows: in the next section, we define the terms we use throughout this paper, determine the scope of the paper and present the relationships between actions on competitors' resources, residual demand and scarcity rents to the focal firm. We then outline market and firm factors that influence the focal firm's propensity to deploy actions against its rivals' resources in factor markets and political markets, respectively. We then emphasize how competitive responses of the competitors being attacked influence the sustainability of the scarcity rents of the initiating firm. Last, we discuss the implications for future research and policy.

BACKGROUND

Definitions

In this paper, we define resources as tangible or intangible assets that "are tied semi-permanently to the firm" (Wernerfelt, 1984: 172). Resources are said to confer an enduring competitive advantage on a firm to the extent that they are valuable, rare, and hard to imitate or substitute (Barney, 1991). A focal firm can take actions to upgrade its own stock of resources in order to maximize the value offered by its own resources (i.e., by raising customers' willingness-to-pay for the focal firm's product or by reducing the costs of acquiring or using its resources): this is a "focal firm resource-oriented strategy". A focal firm can also take actions in its resource environment to degrade the resource position of its rivals in order to widen the gap between the value offered by its own resources (which might remain unchanged) and the value offered by its rivals' resources (which has been reduced by the focal firm's actions): this is a "competitors' resource-oriented strategy". These two types of resource-oriented strategies are not mutually exclusive.

A focal firm can take two kinds of actions to exert control over its competitors' resources: 1) the focal firm can reduce the quantity of resources that are available to its competitors. In this case, competitors whose stock of resources is restricted can no longer

serve the same level of demand because of output restriction; 2) the focal firm can also impair the effectiveness (i.e., the quality or value-creating ability) of its rivals' resources. In this case, competitors whose resources have been impaired can no longer serve their demand with the same level of effectiveness. We call the effectiveness (or value-creating ability) of a resource its ability to create value for customers (i.e., their willingness to pay) in excess of the costs of acquiring and using that specific resource (Besanko, Gupta & Jain, 1998; Brandenburger & Stuart, 1996; Peteraf & Barney, 2003). Impairing the effectiveness of a competitor's resources can raise competitors' cost of acquiring and using that specific resource or can reduce the customer's willingness to pay for the competitor's products because the impaired resource no longer produces the same amount of benefits for the customer (Brandenburger & Stuart, 1996).

A focal firm can intervene in two types of resource environments to attack its rivals' resources: 1) factor markets; and 2) political markets. Factor markets are the markets where resources that firms need to compete in their product markets are exchanged (Barney, 1986). A focal firm can intervene in factor markets not only to enhance its own resource position through effective resource-picking (Barney, 1986, 1988; Makadok, 2001), but also to deliberately weaken a rival's resource position. The "political market" (or market for political influence) is an arena in which demanders of policies (e.g., firms and consumers) interact with providers of policies (e.g., politicians and bureaucrats) to shape policies that favor demanders' interests (Baron, 1995; Boddewyn, 1993; Bonardi, Hillman & Keim, 2005; Buchanan, 1987). Demanders of policies provide suppliers with information, financial incentives and votes in exchange for favorable policies (Buchanan, 1968, 1987). Firms deploy political strategies to shape their political environment and generate public policy outcomes that are favorable to their economic survival and success (Hillman, Keim & Schuler, 2004; Keim, 2001; Keim & Baysinger, 1988; Marcus, 1984; Mitnick, 1981; Schuler,

1996). According to Mahon (1993), political strategy is defined as "those activities taken by organizations to acquire, develop and use power to obtain an advantage *(a particular allocation of resources)* in a situation of conflict" (196, emphasis added). Regulations play a very important role in the process of defining, trading and allocating resources among firms, thereby influencing the quantity and effectiveness of resources that competitors can use (Maijoor & van Witteloostuijn, 1996).

Following Winter (1995), we define scarcity rents as the operating profits earned by a firm controlling superior effective resources that are in short supply compared to the demand, thereby constraining the output of the firm.[2] Last, we define the profit from the ownership of a resource as the difference between its scarcity rent, that is generated by the possession of a resource, minus the cost of acquisition of that specific resource. This profit is said to be "above-normal" (i.e., it generates a positive economic profit) when it is superior to the opportunity cost of the capital used to realize the profit.

Competitors' Resource-Oriented Strategies: Effects on Competitors' and Focal Firms' Resource Positions

In this section, we present how the focal firm's interventions in factor markets and political markets influence rivals' and the focal firm's resource positions. In the top left quadrant of the matrix shown in Figure 2, is the strategy of attacking rivals' resource quantity or effectiveness by intervening in factor markets. On the one hand, preemption of scarce resources (Lieberman & Montgomery, 1998) reduces resource availability, and employee poaching (Gardner, 2002, 2005; Rao & Drazin, 2002; Sørensen, 1999) has a direct negative effect on the target rivals' stock of resources. For instance, in their study on Hollywood film studios, Miller and Shamsie (1996) found that studios competed with one another to obtain exclusive long-term contracts with movie stars: "Often, stars were signed up simply to prevent other studios from being able to benefit from their talents" (page 531). On the other

hand, actions against rivals' resources can raise the cost of acquiring or using needed resources – as demonstrated in the IO "Raising Rivals' Costs" literature (Salop & Scheffman, 1983, 1987). These actions can also reduce the effectiveness of target rivals' resources by forcing them to turn to substitute resources of lower quality. For instance, a firm whose key employees have been hired away can no longer offer the same level of services, which inevitably reduces their customers' willingness to pay.

In the bottom left quadrant of the matrix, is the strategy of attacking rivals' resource position by intervening in political markets. On the one hand, a focal firm can decrease the quantity of resources available to its competitors by making preemptive acquisitions of regulated resources such as taxicab medallions, licenses, or airport slots. On the other hand, a focal firm can engage in lobbying activities to make its rivals' resources less acceptable to its clients, customers, shareholders or other parties associated with the broader institutional context, and thereby make those depreciated resources more costly to use. For instance, in the waste disposal industry, tougher standards for landfills under the Solid Waste Disposal Act were supported by Waste Management, the USA's largest waste management group, which lobbied with several environmental groups, and were opposed by small companies that could not afford to comply with the tougher standards (Dean & Brown, 1995; McWilliams, Van Fleet & Cory, 2002).

The two right quadrants represent the effects of actions on rivals' resources in factor markets (top right quadrant) and political markets (bottom right quadrant) on the focal firm's resource position. These actions can increase the quantity (and potentially their effectiveness) of available resources to the focal firm – assuming that those newly acquired resources, such as poached employees, are portable (Groysberg & Nanda, 2004), but they can also have a neutral effect. Indeed, in some cases, the focal firm prefers to hoard the newly controlled resources (i.e., not to use them actively for its current businesses, or delay their use) and

eventually, in some extreme cases, to destroy them (Santos & Eisenhardt, 2004). For instance, Kitch, Isaacson and Kasper (1971) found that the number of taxi medallions in Chicago was set at a level too low to serve demand, and that the two major taxicab operators were underutilizing the medallions they had. McWilliams and colleagues (2002) argue that political strategies that aim at raising rivals' costs by blocking the use of substitute resources, may create the opportunity for a focal firm to capitalize on its valuable, rare and costly to imitate resources. "When this can be accomplished, government restriction on the resource forces competitors to pay a higher price for the resource or to use an inferior resource" (McWilliams *et al*., 2002: 709). These actions do not enhance the resource position *per se* of the focal firm, but they create a favorable resource asymmetry by degrading a target rival's resource position.

**** insert Figure 2 about here***

Relationship between Actions on Rivals' Resources, Residual Demand and Scarcity Rents to a Focal Firm

Figure 3 illustrates the relationship between competitors' output restriction, a focal firm's residual demand and a focal firm's scarcity rents. In Figure 3, we depict a situation in which a focal firm can produce only up to quantity Q_S because of the fixed supply of some critical productive resources. For convenience, we assume that the marginal cost of the focal firm is constant up to Q_S, and then infinite. The light gray area represents the focal firm's profit from its ongoing operations. In this situation, the operating profits can be identified with the scarcity rent that is generated by the fixed-supply asset owned by the focal firm (Winter, 1995). Moreover, the focal firm faces a residual demand that represents the part of the total demand that is not served by competitors (Carlton & Perloff, 1990: 262). In the absence of collusion among competitors, the positive operating profits are scarcity rents that are the result of the combination of the focal firm's low marginal cost, the fixed supply of productive resources and high residual demand.

*****Insert Figure 3 about here******

We use this model as a starting point and focus on the consequences of changes in residual demand. The construct of residual demand is of central interest because, by holding total demand constant,[3] its level is determined by the characteristics of competitors' productive resources. More precisely, reduced quantity or impaired effectiveness of rivals' resources (which we assume to be capacity-constrained) affects the focal firm's scarcity rents through changes in the residual demand curve. When the residual demand is pushed up, the amount of scarcity rents earned by the firm is increased. If the focal firm cannot expand its production, the price at which it can sell its output increases from $P_S^{Initial}$ to P_S^{New}, which also increases the scarcity rents earned by the focal firm (see area filled in gray in Figure 3). Notice that this increase in scarcity rents is independent of any changes of the focal firm's resource position.

Boundaries of the Paper

The general framework (Figure 1) and model (Figure 3) we presented above contain several assumptions that also constitute boundary conditions of our study.

First, we focus on the focal firm's actions on rivals' resources that take place in factor markets and political markets and exclude its actions in product markets that could also hurt rivals' resources. For instance, negative advertising ("bad mouthing" competitors) can reduce customers' willingness to pay for the rivals' products or raise the rivals' costs of acquiring resources from their suppliers (Brandenburger & Stuart, 1996).

Second, inelastic supply of factors of equivalent effectiveness is an important assumption underlying our framework. We assume that rivals are capacity-constrained and thus cannot easily turn to substitute resources – at least in the short run – when being attacked. If target rivals can readily switch to substitute inputs (e.g., AMD chips when Intel chips are unavailable), actions on rivals' resources do not constrain production, and thus do not feed the residual demand to the focal firm. Clearly, the amount of scarcity rents earned by

limiting the supply of a factor depends on how long it will take to create or find a substitute (Peteraf & Bergen, 2003).

Third, we concentrate on scarcity rents as an outcome of actions on rivals' resources: the focal firm benefits from deploying actions against its rivals' resources through increased scarcity rents. Acting upon rivals' resources could also potentially generate monopoly rents and efficiency rents for the focal firm. On the one hand, actions on rivals' resources could provide the focal firm with monopoly rents. This would happen in cases when the focal firm could use the newly acquired resources to increase its output capacity in order to serve the newly formed residual demand, but decides not to do so, preferring to produce below its capacity potential. In this case, the firm's profits represent "a mix of scarcity rents and monopoly returns" (Winter, 1995: 162) because the firm is deliberately restricting its output (hence the monopoly rents) while its resources are not replicable by competitors (hence the role of scarcity).[4] On the other hand, a focal firm that preempts rivals in the acquisition of scarce resources (including "natural resources", process inputs or "space") can achieve "economic rents"[5] (Lieberman & Montgomery, 1988: 44) if the preempting firm is able to purchase resources at market prices below those that will prevail later in the evolution of the market. Furthermore, preemptive actions can also constrain competitors' output expansion (Kerin, Varadarajan, & Peterson, 1992; Lieberman & Montgomery, 1998), which ultimately reduces opportunities for scale and learning benefits (Dierickx & Cool, 1989).

While we recognize that these boundary conditions limit the scope of our study, this focus is necessary to provide the depth of analysis needed to apprehend actions against rivals' resources in upstream factor markets and political markets.

PROPENSITY TO ACT UPON COMPETITORS' RESOURCES IN FACTOR MARKETS

In this section, we examine whether market conditions and firms' characteristics can facilitate the focal firm's deployment of actions against its rivals' resources in factor markets.[7]

Market Contingencies

Formation or discontinuity in the resource environment. A focal firm has more opportunities to shape its resource environment and therefore to intervene in factor markets when the environment is in formation or undergoing some discontinuity. Formation or changes in the environment often provides the focal firm with opportunities to preempt resources (Lieberman & Montgomery, 1988) or control competing resources (Santos & Eisenhardt, 2004), whereas such opportunities are more limited when the market is mature and very well structured among entrenched competitors. Nascent markets are characterized by high uncertainty, where newly competing firms do not know which standards and product features will win and which resource configurations will prevail (Anderson & Tushman, 1990; Mosakowski, 1997). In such an uncertain and loosely defined external context, a focal firm may take actions against emerging, competing resources to shape the resource landscape to its advantage and ensure some organizational stability for itself in its environment. In particular, a focal firm may take aggressive steps to eliminate competing resources and standards in order to generate positive feedback loops in favor of the resources and standards it owns. In their study on how entrepreneurial firms shape the boundaries of a nascent market, Santos and Eisenhardt (2004) found that some acquisitions were followed by the shutting down of certain critical technological developments, which had not been planned in the negotiation process.

Discontinuities in the environment (such as changes in technology or customer needs, new entrants, etc.) often give firms opportunities to take actions against their rivals' resources. It is likely that established firms with strong stakes in the market (dominant position, high sunk costs, heavy dependency on that specific market) will treat discontinuity,

such as the emergence of a new technical subfield, as a threat, and will take actions to avoid its resources from becoming obsolete (Eisenhardt & Martin, 2000; Kogut & Zander, 1992; Mitchell, 1989; Tripsas, 1997). In addition to taking actions that would reinforce its own resource position (Leonard-Barton, 1992), an established firm could decide to act against the newly threatening resources. In their study of high- to medium-technology acquisitions, Cassiman, Colombo, Garrone and Veugelers (2003) find that the termination of concurrent and non-concurrent R&D projects was mentioned by 50% to 56% of merging firms with similar technology specialization. In that study, managers who participated in mergers between firms in the same technological field, and were asked about the technological implications of the deal, attributed quite high scores to the "elimination of a competing product standard" and the "decrease of the danger of being imitated." Cassiman and associates (2003) suggest that M&A partners with similar technology specialization tend to reduce their R&D efforts and face less technological competition after the acquisition. Accordingly, we propose:

> ***Proposition 1***. *When the resource environment is in a stage of formation or undergoing some discontinuity, firms are more likely to deploy actions against their competitors' resources in factor markets.*

Small number of competitors. Traditional analysis in industrial organization economics (e.g., Scherer & Ross, 1990) considers that competitors are more likely to collude, explicitly or tacitly, in industries that include a small number of firms. This would imply that there should be fewer competitive actions among firms. However, for a given level of collusion among players, we argue that the presence of a small number of competitors renders initiatives to control their resources more effective, and therefore more likely to be undertaken. When the number of competitors is high, a focal firm faces an increasingly difficult task in controlling the fate of their resources because of 1) increased difficulties in locating and influencing the resource-sourcing mechanisms of its rivals, 2) increased costs of

the focal firm's interventions and 3) lower benefits of those interventions. First, the fewer the competitors, the more knowledgeable the focal firm is about the nature of the competitors' resources, their sourcing patterns and the mechanisms by which their resources can be influenced. A high number of competitors increases the diversity of resource profiles, requiring a stronger ability on the part of the focal firm to scan a broader resource environment and reduce predictability of competitors' behavior. Second, the lower the number of competitors, the greater the likelihood that the focal firm will intervene in factor markets in a cost-effective manner. Actions against a specific competitor incur fixed costs which are better recouped if the focal firm deploys its actions against a few competitors rather than spreading out its efforts on numerous, smaller competitors. Third, the more firms there are in an industry, the weaker the interdependence among these firms. The increase in residual demand, due to one firm's difficulties, would be split among more competitors. In turn, this would reduce the incentive of a focal firm to engage in such actions because it would appropriate only a fraction of the benefits of the action. This is consistent with classic models of competition among firms that take into account strategic interdependence (Tirole, 1988). Accordingly, we propose:

> ***Proposition 2****. When the resource environment is characterized by a small number of competitors, firms are more likely to deploy actions against their competitors' resources in factor markets.*

Property-based resources. A focal firm is more inclined to take actions to control competitors' resources for resources that have well-defined property rights. Property rights control "appropriable" resources: those that tie up a specific and well-defined asset (Barney, 1991). When the focal firm obtains the exclusive ownership of a valuable resource that cannot be legally imitated by rivals, it controls that resource, and it can thereby obtain superior returns until the market changes to devalue the resource. Property-based resources include long-term contracts that monopolize scarce resources, exclusive rights to a valuable

technology and licenses (Miller & Shamsie, 1996). Most competitors will be aware of the value of a rival's property-based resources, but may lack the legal right (first-mover preemption)[8] or the means to duplicate these resources (Conner, 1991). Property-based resources buffer an organization from competition by controlling assets that are not available to rivals, at least not under equally favorable terms (Black & Boal, 1994). "Property rights allow a firm to control the resources it needs in order to gain a competitive edge. They may, for example, tie up advantageous sources of supply, keeping them out of competitors' hands." (Miller & Shamsie, 1996: 522). In contrast, knowledge-based resources, which are subtle and hard to understand, and rely on complex knowledge and social mechanisms, cannot be easily controlled (Lippman & Rumelt, 1982). "Knowledge-based resources allow organizations to succeed not by market control or by precluding the competition, but by giving firms the skills to adapt their products to market needs and to deal with competitive challenges" (Miller & Shamsie, 1996: 522-523). We thus propose:

> ***Proposition 3****. When the resource environment is characterized by the existence of resources with well-defined property rights, firms are more likely to deploy actions against their competitors' resources in factor markets.*

Firm Contingencies

Resource heterogeneity. Firms that benefit most from changes in their resource environment can potentially earn above-normal profits by deploying competitors' resource-oriented strategies. Market imperfections can be created or exploited because of asymmetric expectations about the value of a target resource, either as a standalone resource (private information) or in combination with the bidder firm's resources (unique fit) (Barney, 1986). By the same logic, we argue that firms can have asymmetric expectations about the value of rivals' resources to be controlled (and eventually to be hoarded to prevent others from using it).

Those asymmetric expectations can be assessed in terms of 1) differential gains or 2) differential losses. On the one hand, firms can enjoy differential gains from controlling their resource environment. For instance, imagine a market with two competitors using two different production processes. An inventor has created a new technology that would enable both firms to improve their efficiency, but the new technology would give more benefits to the firm whose production process is more compatible with the new technology. The firm with better compatibility with the new technology could leverage this advantage to strike an exclusivity deal with the inventor, thus denying its competitor access to the new technology. The firm with the less compatible technology would not be able to offer the inventor as much money as its competitor, and would subsequently be put at a disadvantage in the resource market. The firm acquiring the exclusivity would therefore not only benefit directly from using the new technology, but also indirectly from preventing the competition from using it.

Thus, the firm that benefits most from attacking competitors' resources is more likely to take pre-emptive or competitive actions in factor markets. If firms benefit equally from actions against competitors' resources, the focal firm initiating the change in factor markets bears the costs of the action, while other firms free ride on those efforts. By the same logic, if all the players are interested in taking similar actions in factor markets, and value the resources the same way, the initiating firm cannot expect to earn abnormal returns. For instance, if we assume that there exists a competitive market for "hoarded resources", competition among bidders will make the costs of acquiring those resources high enough to prevent the acquiring firm from earning more than a normal profit (Barney, 1986; 1988; Capron & Pistre, 2002; Mahoney & Pandian, 1992).[9] Accordingly, we propose:

> ***Proposition 4a****. When competing firms experience differential gains from controlling resources in factor markets, the firm that expects higher gains is more likely to deploy actions against its competitors' resources in factor markets.*

On the other hand, a focal firm can suffer from differential strategic losses if the target resources were to be controlled by its rivals. Thus, the firm that incurs the highest losses for not controlling the target resources is more likely to propose a higher price than its competitors in order to prevent its rivals from controlling them (see Jehiel & Moldovanu (2000), as well as the notion of "asymmetric externalities"). For instance, imagine that some manufacturing firm is put up for sale and that there are two potential buyers: a bigger firm in excess capacity that does not intentionally produce at full capacity and a smaller competitor that fully uses its capacity, and needs additional capacity to grow. The smaller firm is constrained only by the lack of additional capacity. If the smaller competitor acquires the capacity that is for sale, it will be able to expand its production and serve more customers. This will depress prices, which will be detrimental to the bigger firm. If the bigger firm acquires the capacity that is for sale, its production level will remain the same, as the firm already has excess capacity. Hence, the bigger firm would not gain further market share from the acquisition, but it would avoid a likely reduction of its profits and stifle the expansion of the smaller competitor. If the loss of profit the bigger firm anticipates if it does not acquire the additional capacity that is for sale, is greater than the gains expected by the smaller firm, the bigger firm will be willing to pay more for the resource, even though it will not use it.

This example shows that resources that are essential for one firm (here, the smaller firm), because they allow it to increase its production (Winter, 1995), can be preempted successfully and profitably by another firm (here, the bigger firm) for which buying the resource has no intrinsic value, except to protect its current advantage. We thus propose:

> ***Proposition 4b***. *When competing firms experience differential losses from not controlling resources in factor markets, the firm that expects higher losses is more likely to deploy actions against its competitors' resources in factor markets.*

Of course, uncertainty about the value of resources may expose buyers to the "winner's curse", whereby the winning bidder overestimates the value of the resource it has

acquired by failing to recognize that its information about the value of the resource may be biased (e.g., Thaler, 1988). Yet winner curse situations can also be exploited by the focal firm as a tactic to hurt its rivals' costs when acquiring the targeted resources. A focal firm can purposefully influence conditions that entice their rivals into a winner curse situation, thereby hurting the winning bidder's costs. For instance, Hoppe, Jehiel and Moldovanu (forthcoming) mention the German experience of 3G auctions in which the auction design allowed incumbents to take action to increase the price paid by entrants. Later on, entrants lacked the funds necessary to develop their wireless network, and were therefore arguably victims of a form of winner's curse.[10]

Scanning capability heterogeneity. Firms have heterogeneous capabilities to scan and conduct searches for innovative ideas in their external resource environment. The search activities of different firms in an industry are subject to considerable variety, and this variety is a product of various managerial choices about how best to organize the search for innovation (Levinthal & March, 1993). Firms that are embedded in resource-rich networks and exhibit superior ability to scan their external environment are better at locating, assessing, using and recombining resources from external sources, which makes them more innovative (Ahuja, 2000; Laursen & Salter, 2004). In this paper, we argue that the firm's ability to scan its external environment is a critical component not only to increase its own innovation (Cohen & Levinthal, 1990; Rosenkopf & Nerkar, 2001) but also to be able to deploy strategies that target rivals' resources. Firms that have strong ability to scan their external environment are more able to monitor external knowledge, identify the emergence of new threatening substitute resources and perceive actions of rivals that can be detrimental to their resource position (Peteraf & Bergen, 2003). They are therefore more inclined to intervene in factor markets to control threatening resources. Accordingly, we propose:

Proposition 5*. When competing firms have differential capabilities in scanning their resource environment, the firm that enjoys superior scanning capabilities is more likely to deploy actions against its competitors' resources in factor markets.*

Performance culture heterogeneity. Firms have different approaches to competing in their markets and measuring their ultimate performance. Some firms are more inclined to pursue competitor-oriented goals than others, who pursue more self-oriented goals. Several studies in marketing and experimental game literature show that many individuals and companies use competitor-oriented objectives (Armstrong & Collopy, 1996). Competitor-oriented firms are likely to devote substantial resources to collecting competitor-oriented information and evaluating their performance in market share, rather than absolute profitability, than self-oriented firms would do. By the same logic, we argue that managers who operate in a culture that is highly competitor-oriented, are more likely to behave competitively in their resource environment and gauge their resource advantage in comparison with that of their competitors. When managers focus their attention on their company's relative resource advantage, they are more likely to engage in competitors' resource-oriented strategies. Accordingly, we propose:

Proposition 6*. When competing firms have different performance cultures, the firm that has the most competitor-oriented culture is more likely to deploy actions against its competitors' resources in factor markets.*

PROPENSITY TO ACT UPON COMPETITORS' RESOURCES IN POLITICAL MARKETS

In this section, we examine whether market conditions and firms' characteristics can facilitate the focal firm's deployment of actions against its rivals' resources in political markets.

Market Contingencies

Institutional formation or discontinuity in the resource environment. It has been argued in the corporate political literature that "the opportunities for a firm to influence a public policy issue decrease as an issue moves through the life cycle" (Baron, 2000; Keim,

2001). “This means that after a certain point, a firm may lose its opportunity to have an effective impact on a particular public policy” (Bonardi *et al.* 2005: 406). Applied to our context, we argue that firms have more opportunities to shape policy when their resource environment is in the process of institutional formation or undergoing some discontinuity (such as deregulation). It is harder to influence the political process in a more mature and structured resource environment where norms are established and interests of competitors are entrenched. For instance, when there is an industry norm that is clearly set regarding resources (Oliver, 1997), action on policy to increase the acceptance of new resources that depart from established norms are less likely to succeed. Consumers are more likely to make the effort to mobilize against the use of these new resources (John & Klein, 2003; Klein, Smith, & John, 2004). For instance, customers’ opposition to the use of genetically modified crops in Europe fueled some companies’ efforts to forbid the use of GMC throughout the Continent (*The Economist*, 2003, 2004). This suggests that established firms may attempt to leverage the existence of organized interest groups (Lyon & Maxwell, 2004) that are already biased against some types of resources in order to advance their own interests at the expense of a new participant that offers different resources. We thus propose:

> ***Proposition 7****. When the resource environment is in a stage of institutional formation or undergoing some institutional discontinuity, firms are more likely to deploy actions against their competitors’ resources in political markets.*

Small number of politically active competitors. The level of competition in the political market depends on the number of competitors that are active in this market (Bonardi *et al*., 2005). Some competitors do not compete in the political marketplace because they do not have any lobbying capability. As shown in our introductory example, setting up a team of lobbyists is very expensive and involves high one-off costs. Moreover, because of these costs of political organization, many firms do not have any dedicated staff for organizing or supervising political activities. Consequently, it is possible that only a fraction of a firm’s

competitors have dedicated resources to influence political markets. The extent to which firms have an established political strategy can also vary from industry to industry, depending on how the industry is regulated (Hillman, 2005). This implies that the level of political competition faced by a firm depends on the number of competitors that are actually politically active, which can be a small or high proportion of the total number of competitors of the firm. In a context of high level of competition, political interventions are less attractive because they are more likely to result in a lack of concrete change in policy. Accordingly, we propose:

> ***Proposition 8****. When the resource environment is characterized by a small number of politically active competitors, firms are more likely to deploy actions against their competitors' resources in political markets.*

Degree and nature of political influence of consumer groups. Consumers can hardly intervene in factor markets, but they naturally take part in political markets, directly through their votes, and indirectly through their participation in interest groups that defend their specific interests (such as the National Consumer League or Public Citizen in the USA or the National Consumer Council in the UK. The influence of consumer groups on the outcome of lobbying battles has been illustrated in several studies. Shaffer and Ostas (2001) and Castellblanch (2003) both found that smaller firms were able to thwart the lobbying efforts of larger firms because the smaller firms could form alliances with consumer groups and influence legislators more effectively. This suggests that consumer interest groups, when they exist, are forces to reckon with in the political market, especially when building coalitions is necessary for influencing policy makers (Campbell, 1998; Lord, 2000). As a result, interventions on their part are likely to influence actions that restrict access or usage of resources.

The political influence of consumer groups on firms' likelihood to deploy actions against competitors' resources is contingent upon 1) their level of political power and 2) the

extent to which their interests are aligned with those of the focal firm. For those actions that hurt not only competitors but also consumers' interests (such as actions that hinder competition in an industry), a focal firm is more likely to deploy actions against its competitors' resources when the targeted consumer group exerts a weak political influence. In such a situation, the targeted consumer group would have to overcome the costs of organizing collectively in order to side with competitors that are threatened (Krattenmaker & Salop, 1986a). Yet, for those actions that hurt competitors but serve consumers' interests – or at least a specific group (for instance, the emergence of a technology standard can be a tremendous benefit for consumers), a focal firm is more likely to deploy actions against its competitors' resources when the targeted consumer group, whose interests are aligned with those of the focal firm, exerts a strong political influence.

Accordingly, we propose:

> ***Proposition 9.*** *When the resource environment is characterized by a weak (strong) political influence of consumer groups, firms are more likely to deploy actions against their competitors' resources in political markets for those actions that are detrimental (beneficial) to consumer groups.*

Firm Contingencies

Resource heterogeneity. As we argued in regard to actions in factor markets, firms that benefit most from changes in their political markets are more likely to deploy actions in political markets. For instance, a firm that innovates new technologies for reducing pollution should lobby its government to toughen environmental regulations, which will put competitors with less advanced "green technologies" at a resource disadvantage (Nehrt, 1998). Similarly, McWilliams and colleagues (2002) argue that heterogeneous resources imply that firms may be affected differently by a common regulation. This differential impact may imply that some firms could incur the costs of engaging in political activities while their competitors are unable to defend themselves effectively. If firms benefit equally from

changes in regulation, the focal firm initiating the change in policy bears the costs of its actions, while other firms free ride on those efforts. By the same logic, if competing firms value the regulated resources to be controlled (such as airport slots, taxi cab medallions, etc.) in the same way, the winning firm ends up paying the full price (or even overpaying) for the targeted regulated resources. As a result, the focal firm's actions to influence legislation can create above-normal profits if its cost of complying with the newly defined standards and of organizing political lobbying do not exceed the benefits associated with a widened gap between the focal firm and its rivals' resource position. We assume here that managers are sufficiently informed and calculative to form reasonably accurate expectations about the future costs and benefits of their political actions. This means being able to correctly estimate the costs of political actions, and notably account for the possibility of a costly competitive escalation, as well as being able to understand how changes in regulation will impact the profitability of the focal firm, and of its competitors. Accordingly, we propose:

> ***Proposition 10a***. *When competing firms experience differential gains from influencing regulation on resources in political markets, the firm that expects higher gains is more likely to deploy actions against its competitors' resources in political markets.*

Along similar lines of thinking, the firm that incurs the highest losses for not controlling a regulated resource is more likely to take actions to prevent competitors from taking control of that specific resource (Jehiel & Moldovanu, 2000). For instance, imagine that an airport slot is put up for sale and that there are two potential buyers: a bigger airline in excess capacity that does not use all its slots, and a smaller airline that fully uses its slots. The smaller airline is constrained only by the lack of additional takeoff slots. If the smaller airline acquires the slot, it will be able to expand and serve more customers, thereby depressing the airfare prices. If the bigger airline anticipates a loss of profit from not controlling those extra slots that is superior to the gain expected by the smaller airline, the bigger airline will be willing to pay more for the slots, even though it will not use them. Accordingly, we propose:

Proposition 10b*. When competing firms experience differential losses from not controlling resources through political markets, the firm that expects higher losses is more likely to deploy actions against its competitors' resources in political markets.*

Note that for political markets, many actions concern regulations that are designed to affect all resources of a particular type (e.g., regulations creating taxes on certain production processes). In this case, similarities of resources among target competitors increase the effectiveness of a focal firm's lobbying efforts by multiplying the number of competitors that can be affected through a single political action. Of course, we here assume that the focal firm's resources are different from those of its rivals so that the firm can be sheltered from the effects of its own actions.[11] If a similar competing resource is widely used across competitors, the focal firm that uses a distinctive resource will find it easier and more beneficial to take political action against similar competing resources. For instance, a "green" energy firm lobbying for more stringent safety standards in nuclear power generation will affect all firms using this technology. This multiplying effect increases the appeal of using these strategies because it increases the returns on making resources artificially scarce. Accordingly, we propose:

Proposition 10c*. When the focal firm's competitors widely use similar types of resources that are different from those used by the focal firm, the focal firm is more likely to deploy actions against its competitors' resources in political markets.*

Heterogeneity in lobbying capabilities. Firms differ in their ability to influence their political environment because of their differing political connections and resource endowments. We expect firms that have strong political connections to be more likely to intervene in political markets to shape the policy pertaining to their resource environment in their favor. Political connections are the result of the firm's history, the academic and professional background of its executives, its lobbying past investments, and the degree of government intervention in the industries in which the firm participates (Hillman, 2005; Bonardi, 2004). Hillman (2005) showed that firms in more regulated industries had more

politicians on their boards, presumably in order to better manage their dependence on regulators. If the management team of a firm has more links, either at a personal level or through the board of directors, with policy makers than its competitors, it should be able to carry a political strategy at a lower cost. In the same vein, some firms may be better able to serve the interests of politicians if they can help tip the electoral balance in politically disputed areas (Bertrand, Kramarz, Schoar & Themar, 2005). We thus propose:

> ***Proposition 11a****. When competing firms have different political connections, the firm that enjoys superior political connections is more likely to deploy actions against its competitors' resources in political markets.*

We also expect firms with superior resource endowments to have more power to influence politicians than firms with weaker resource endowments. The literature on multinationals-host country relationships (Doz & Prahalad, 1980; Lecraw, 1984; Moon & Lado, 2000) argues that the bargaining power of firms *vis-à-vis* governments depends on some firm-specific characteristics. In particular, this stream of literature has shown (Fagre & Wells, 1982; Lecraw, 1984) that governments are more likely to accommodate firms that have a technological leadership. Governments are more wary of entering into conflict with firms that can provide the economy with advanced technology, and are therefore more likely to accommodate their interests. Accordingly, we hypothesize:

> ***Proposition 11b****. When competing firms have different resource endowments, the firm that enjoys superior resource endowments is more likely to deploy actions against its competitors' resources in political markets.*

SUSTAINABILITY OF SCARCITY RENTS AND COMPETITIVE INTERACTIONS

So far, we have examined strategies that a focal firm can use in its resource environment to act against its rivals' resources. However, it is important to recognize that these competitors' resource-oriented strategies do not take place in isolation. Attacks are rarely made with impunity, and the ultimate effectiveness of a competitive action depends largely on defenders' responses (Chen, 1996; Chen & MacMillan, 1992; Smith, Grimm & Gannon,

1992). Both first-mover advantage (FMA) literature (Carpenter & Nakamoto, 1990; Gatignon, Anderson & Helsen, 1989; Lieberman & Montgomery, 1988) and research on competitive dynamics (CD) (Chen & Miller, 1994; Chen, Smith & Grimm, 1992) stress that the sustainability of pioneering advantage or of the benefits of a competitive move must be evaluated against the response it may elicit from the group of rivals being attacked.

In this section, we argue that the sustainability of the focal firm's scarcity rents that stem from its actions on rivals' resources may be negatively affected if these actions trigger intense and fast retaliation from the competitors being attacked. We examine the extent to which the nature of actions initiated by the focal firm and the competitors' capabilities influence the likelihood of retaliation from the competitors being attacked.[12]

Competitive impact of the focal firm's actions. Competitors are more likely to become aware and willing to respond to an action that has great competitive impact on their businesses. If the focal firm attacks resources that are strategically important to their rivals, and thus substantially degrade their resource position in their key markets, target competitors will act to defend themselves. For instance, when Airbus attempted to prevent the Japanese authorities from subsidizing Japanese suppliers of Boeing, Boeing aggressively responded by reactivating a dispute with Airbus at the WTO on other matters (The Economist, 2005). Evidently, Japan is a key product market for Boeing, and the Japanese suppliers in question were essential for launching a new Boeing airliner model, the 787.

The competitive impact of the focal firm's actions is also amplified when these actions target a large number of competitors. Actions that target the core business of a large number of competitors (or large competitors in concentrated industries) will trigger an immediate response because they represent a clear and imminent challenge (Chen & Miller, 1994). In addition, actions affecting several competitors are more likely to be visible, attract wide public attention, and involve consumer groups who can side with the competitors being

attacked to defend their interests. Thus, a focal firm taking actions that have a high competitive impact on its rivals will elicit numerous and rapid responses (Chen & Miller, 1994; MacMillan, McCaffrey & Van Wijk 1985). Accordingly, we propose:

> ***Proposition 12****. The greater the competitive impact of the focal firm's actions on its competitors' resources, the less sustainable the focal firm's scarcity rents.*

Yet, actions that target core resources of a large number of competitors can be attractive to the focal firm because of the higher pay-off their actions produce, if successfully achieved, compared to actions that have less impact (such as a series of gradual actions on a few competitors in peripheral resource domains). The risk/returns trade-off must be assessed by the focal firm, and will partly be a function of the time lag that is necessary to respond to the focal firm's attacks. The time response lag varies with the difficulty to imitate the focal firm's actions and competitors' capabilities to retaliate or to turn to substitute resources.

Difficulty of imitation of the focal firm's actions. The difficulty for competitors to respond to preemptive moves (FMA) or competitive moves (CD) initiated by the focal firm, is a key driver of the sustainability of the focal firm's scarcity rents. The longer the elapsed time between the focal firm's actions and the competitors' reactions, the more the focal firm can recoup its cost of actions in factor and political markets by leveraging its "relatively superior" resource position in its product markets over a longer period of time. A longer time lag also increases the likelihood for the focal firm to shape its resource environment to its advantage in the longer run. For instance, in lobbying activities that aim at attacking the legitimacy of rivals' resources (for instance, genetically modified crops), a longer time response provides the focal firm with more time to promote awareness and shape consumers' preferences (Brown & Lattin, 1994), which renders late retaliation irrelevant.

Time to respond depends on the implementation requirements of those actions. When an action is easy to imitate, that is, if it can be countered simply and without much organizational disruption, competitors will respond quickly. If the response requires

substantial resource commitment and major organizational restructuring, rivals will be less likely to respond, or will respond more slowly (Chen & MacMillan, 1992; Chen & Miller, 1994). For example, a few years ago, Netscape employees were flooded with offers to recruit them to work for other companies. Netscape retaliated by recruiting employees from those same companies. By the same logic, competitors will find it hard to respond to complex attacks that require specific expertise (such as forming an in-house team of lobbyists in the case of Verizon) or require substantial resources (such as making preemptive acquisitions). Accordingly, we propose:

> ***Proposition 13****. The easier the imitation of the focal firm's actions on its competitors' resources, the less sustainable the focal firm's scarcity rents.*

Competitors' retaliation capabilities. A focal firm may be hesitant to target resources of a rival that seems likely to retaliate. Assuming that all affected competitors would be equally motivated to respond to an attack because of its high competitive impact, the focal firm contemplating an action on its rivals' resources will assess its own capability of acting in comparison with the potential defender's capability of retaliation (Chen, 1996, Peteraf, 1993). **"**Organizational requirements for response would be more manageable for competitors with resource bases similar to the attacker's than for those with very different ones" (Chen, 1996: 115). Competitors with similar financial resources, political influence, and influential lobbyists represent credible threats of retaliation. For instance, in 2001, Bruce Wasserstein, who had recently joined Lazard Frères investment bank, made attempts to recruit two of his former colleagues from Wasserstein Perella, sold in 2000 to Dresdner Kleinwort Benson (now DrKW). DrKW had ready resources to challenge Lazard's actions and fought back on legal grounds. After arbitration, Lazard had to pay millions of dollars to finally hire Wasserstein's former colleagues. Had Lazard raided the key personnel of a weaker competitor, the competitive response might have been much softer for lack of resources of the defender.

Proposition 14. *The greater the resource similarity of the competitors being attacked with that of the focal firm, the less sustainable the focal firm's scarcity rents.*

Competitors' ability to switch to substitutes. So far, we have framed the nature of competitive responses as direct similar responses that will hit back at the focal firm's resources (such as deploying similar poaching strategies, escalating lobbying battles). However, such actions can be costly for the competitors who initiate them, and escalating retaliation in factor markets and political markets can have long-term deleterious effects for both the focal firm and the target competitors. Furthermore, some retaliatory actions from the target competitors can mainly hurt the focal firm's resource position (initiation of lawsuits), but do not help restore the resource position of the target competitors. In this case, competitors that have been attacked may prefer to avoid escalating retaliation, and instead turn to substitutes. As reminded by Peteraf and Bergen (2003), the limiting factor for resource competition is not scarcity in terms of resource type, but scarcity in terms of resource function or use. Yet, turning to substitutes is commonly fraught with difficulties. Substitutes tend to be located in a more distant resource environment, and identifying them may require strong scanning capabilities (Peteraf & Bergen, 2003). In addition, once identified, substitutes may not be readily usable, and may have to be adapted to produce equivalent functionality to that of the resources that have been degraded by the focal firm. Altogether, we expect that the durability of the focal firm's scarcity rents depends on the ability of the competitors being attacked to switch to substitute resources. Accordingly, we expect:

Proposition 15. *The greater the ability of the competitors being attacked to switch to substitute resources, the less sustainable the focal firm's scarcity rents.*

Figure 4 represents the set of hypotheses we have developed in this paper.

*** Insert Figure 4 about here ****

DISCUSSION

In this paper, we argue that we can better understand the relationship between a firm's resources and its competitive advantage by considering the actions that a firm can take to control its resource environment. We argue that a focal firm can enhance its resource position relative to that of its competitors' by acting upon its competitors' resources. Factor markets and political markets represent competitive arenas where a focal firm can deploy a variety of strategies to reduce the quantity or effectiveness of its competitors' resources, thereby increasing its own scarcity rents. We outline market (formation or discontinuity, small number of competitors, existence of property rights, and influence of different interest groups) and firm characteristics (resource heterogeneity, scanning capability, competitor-oriented culture, and lobbying capability) that facilitate the deployment of competitors' resource-oriented strategies. Finally, we argue that the sustainability of the scarcity rents of the focal firm is a function of the competitive impact of the focal firm's actions, the difficulty to imitate those actions, and the capabilities of the competitors being attacked to retaliate or switch to substitute resources.

Implications for theory. Examining actions on competing resources can provide new insights into the source of value and scarcity of a firm's resources and complement the work of RBV scholars, who recognize that strategic resources are scarce and value-creating, relative to other resources. Actions on competitors' resources affect the resource position of the competitors being attacked, which, in turn, can enhance the focal firm's resource position in a relative way. In this respect, our perspective fits with the resource-based view, as it focuses on the rents accruing to the focal firm, thanks to the distance between a focal firm's resource position and that of its competitors. However, the mechanisms by which a firm enhances its resource position that we outline in this paper, depart from RBV mechanisms: while the RBV focuses on internal efficiency arguments, we focus on external power and resource control arguments. The RBV has traditionally shied away from the notion of market

power in favor of efficiency arguments (Conner, 1991; Foss, 2000). In this paper, we argue that both superior internal efficiency of resource development and superior control over its resource environment help the formation of a firm's superior resource position.

Firms' actions in their external resource environment have not been ignored by the RBV, yet they have been treated as actions that are ultimately intended to enhance the focal firm's resource position *per se*. On the one hand, the RBV has pointed out the role of factor markets as a mechanism by which firms can overcome their own internal development constraints (Mathews, 2003; Barney, 1988). On the other hand, the RBV has started to delineate the external environmental conditions in which firms' resources could be most successfully deployed (Miller & Shamsie, 1996; Song, Droge, Hanvanich & Calantone, 2005). In both cases, the external resource environment is treated as an exogenous element. In contrast, we treat it as endogenous: a focal firm takes actions to shape and control its external resource environment in its favor, notably by attacking its competitors' resources in factor markets and political markets. Furthermore, our paper contributes to the RBV by explicitly considering how firms can manipulate the scarcity of existing rival resources, while studies in the RBV tradition have paid scant attention to scarcity as an endogenous phenomenon.

By treating the external environment as endogenous, market control and power notions emerge as important components of a firm's resource strategies. In this respect, our approach shares similarities with the resource-dependence view in which firms use a variety of strategies to reduce their dependency on other organizations (Pfeffer & Salancik, 1978). Pfeffer & Salancik (1978) describe similar mechanisms that firms can use to exert control over resources possessed by other firms with whom they have critical resource exchange. Actions in factor markets, such as acquisitions, help firms achieve stability in their environment. Pfeffer and Salancik (1978) also see the broader institutional environment as an

arena where firms can exert influence to control critical resources and refer to the "ability to make rules or otherwise regulate the possession, allocation and use of resources and to enforce the regulations" (Pfeffer & Salancik, 1978: 49). Yet, our view departs in several respects from the resource-dependence view, notably in the way interdependence is defined. According to Pfeffer and Salancik (1978), an organization's vulnerability to extraorganizational influence is determined by the extent to which the organization has come to depend on certain types of exchange for its operations (critical input or output that is controlled by a few external organizations). Such dependence is determined by real resource exchange between firms at different stages of the value chain. In our view, interdependence among competitors, or potential competitors, is defined at a more abstract level. Firms are interdependent in their resource environment to the extent that a resource decision of one firm can affect the relative resource position of another firm with which it may have no real resource exchange. For instance, the decision of a firm to preempt a resource may prevent another firm from entering a new resource domain.

Related to our previous point, we also emphasized the notions of competitive interactions in the firm's resource environment by drawing on the first-mover advantage and competitive dynamics literatures. On the one hand, FMA literature has developed the notion of asset preemption as one mechanism by which a firm could obtain a first-mover advantage, and has seen time response lag as an important driver of the sustainability of the pioneering advantage. We note that there has been growing recognition in the FMA literature that "researchers studying first-mover advantages should reposition their work within the broad theoretical framework provided by the RBV" (Lieberman & Montgomery, 1998). Yet, FMA, as well as RBV, remain largely focused on strategies that will enhance the position of the initiating focal firm's resources *per se*, and do not focus explicitly on the extent to which first-movers can shape and control their external resource environment. On the other hand,

competitive dynamics literature has helped examine how the effectiveness of actions on competitors' resources is determined by the competitive responses that those actions elicit. Our view extends previous CD studies by applying the notion of competitive interactions to a firm's resource environment, and illustrates how actions on rivals' resources are an integral part of the repertoire of firms' competitive actions (Chen, 1996).

Finally, we argue that a focal firm can take actions to shape its broader institutional context to impair its competitors' resources, and we have outlined a set of market-level (institutional formation or discontinuity, small number of politically active competitors, low influence of consumers group) and firm-level contingencies (resource heterogeneity, lobbying capability heterogeneity) that facilitate the deployment of those political actions. By doing so, we provide complementary insights into the CPA literature that has so far focused only very little on the impact of political actions on the access and effectiveness of resources of the focal firm and its competitors.[13]

Implications for future research. We hope to motivate additional research into the nature of resource competition in factor markets and political markets. We believe that much progress needs to be made to understand the complexity of resource competition and how firms build their unique resource position. In future work, combining insights from the resource-based view and from the resource-dependence view constitutes a promising area of research. Recent research has started to emphasize the role of power in firms' boundary decisions (Santos & Eisenhardt, 2005), and to account for firms' actions in the market for resources that constitute a mix of power and efficiency rationales (Cassiman *et al*., 2003; Santos & Eisenhardt, 2004).

Along similar lines, further work needs to explore the notion of firms' resource interdependence. While the resource-dependence view has stressed the notion of resource dependence (direct relationship between two firms), competitors' resource-oriented strategies

are deployed because firms are strategically interdependent in their resource decisions. In this regard, it might be useful to draw on social network analysis. Both competitive interdependence and cooperative interdependence shape the network of relations and competitive interactions between firms in their resource environment. From a competitive standpoint, firms that transform inputs to produce similar outputs compete for access to similar resources (horizontal interdependence) or substitute equivalent resources (diagonal interdependence) (Abrahamson & Fombrun, 1994). In general, more structurally equivalent firms should be prone to higher levels of competition among themselves (Abrahamson & Fombrun, 1994; Burt, 1992; White 2002). The arguments we have developed in this paper imply specifically that competitive actions on competitors' resources should be most frequent among firms that share similar customers ("horizontal competition for customers"), so residual demand for the focal firm is affected, and among firms that use dissimilar productive resources ("diagonal competition for resources", Abrahamson and Fombrun [1994]), since in that case actions are less likely to backfire on the focal firm, and competitive response is more likely to be delayed. From a cooperative standpoint, a coalition of networks of actors can join forces to control external resources, or a network of actors being attacked can coordinate their efforts to respond to the focal firm's actions. Moreover, the value of resource preemption may need to be assessed at the level of the coalition, rather than at the level of the individual firm. Broadening the analysis of resource competition from interactions between firms to interactions between coalitions of firms is an interesting avenue for future research (Welch & Wilkinson, 2005).

We also hope to motivate further work that links CPA and the firm's resources. Further work on demonstrating how strategic interventions in political markets can enhance a firm's resource base is promising, as this idea has not been fully articulated in current literature. In this paper, we have not examined how the national regulatory regime could

influence the feasibility and effectiveness of competitors' resource-oriented strategies in political markets. Clearly, the nature of the regulatory regime and the bargaining power of the government is an important source of variation to examine in future work (Nehrt, 1998; Henisz, 2000). Highly volatile political environments that lack regulation or do not enforce regulation undermine the effectiveness of political actions on competitors' resources.

Also promising is research that would examine the interrelationships between actions in factor markets and those in political markets. Our paper is a step toward the integration of market and non-market strategies in a single paradigm, as the drivers of competitive reactions we outline are similar across factor and political markets. We expect that threatening actions against competitors' resources will trigger competitive escalation in both types of resource environment (although future work may be needed to explore more subtle differences in competitive interactions between the two environments). Yet, more needs to be done to understand the interrelationships between market and non-market strategies. This integration has been called for by several authors (e.g., Bonardi *et al*. 2005), but most analyses of political markets are carried out with scant attention to other arenas of competition, while most analyses of firm resource strategy do not take into account the role of the political context. In a direct extension of the current research, further work could examine under which circumstances conducting actions in both factor and political markets can be either synergistic or harmful. To be effective, actions taken in factor markets must be consistent with those that are deployed in political markets. For instance, a firm that simultaneously lobbies for expansion of strategic factor trade (such as a new bandwidth available), and does not have the ability to intervene in factor markets to buy the newly available resources, pursues an inconsistent strategy across its two resource environments. A firm that takes inconsistent actions across markets damages its corporate reputation *vis-à-vis* its various stakeholders: competitors, consumer groups, politicians and bureaucrats. The trade-offs that

govern the choices of political versus factor market strategies also need to be investigated, as both types of strategies can result in very different costs and benefits.

In terms of performance, we also limited our analysis to the impact of competitive responses on the sustainability of the focal firm's scarcity rents. Future research could also examine the long-term impact of these actions on the focal firm's performance. In the longer run, competitors' resource-oriented strategies can potentially have downside effects for the focal firm itself: 1) tarnished corporate reputation, 2) employee demotivation, 3) weakening of its internal resource development efforts due to the cost of opportunity associated with the deployment of competitors' resource-oriented strategies.

Further research could use our line of inquiry to revisit some research that has been done on specific actions in resource markets such as alliances, mergers and acquisitions, and employee poaching. For instance, the literature on acquisitions and alliances has predominantly emphasized the role of acquisitions as a mechanism that helps acquiring firms overcome their own internal development constraints – a "resource-based" view of alliances and acquisitions (Ahuja & Katila, 2001; Capron, 1999; Capron, Mitchell & Swaminathan, 2001; Rothaermel & Deeds, 2004). As we outline in this paper, it is likely that a mix of power and efficiency rationales drive actions in factor markets. For example, it would be useful to examine whether the acquirer phases out successful target brands or abandons promising technologies. In a similar vein, no empirical studies have closely investigated the extent to which some alliances are diversion tactics that prevent a threatening partner from exploiting its current resources to their full potential.

Finally, one of the main challenges of our research is to empirically test the propositions we develop. Among the empirical challenges is the direct measurement of the effect of these strategies on competitors' resources. While publicly available information may make it relatively easy to identify which resources belonging to competitors are affected by a

focal firm's strategy, evaluating the extent to which they are degraded, notably the extent to which their level of effectiveness is impaired, may be difficult without access to proprietary (e.g., accounting) information. Furthermore, it might be difficult to identify when a discontinuity in the resource environment occurs (some actions might be gradual and do not have a significant impact until the accumulation of those actions triggers a "tipping point" in the resource environment).

The notion of market power in the resource environment is difficult to measure in that it can only be observed when exercised. In this respect, the economics literature has made significant forays into empirical testing of phenomena such as vertical foreclosure (Chipty, 2001; Cuellar & Gertler, 2002) or raising rivals' costs strategies (Hastings & Gilbert, 2002). Recent works in economics (Chipty, 2001; Cuellar & Gertler, 2002; Hastings & Gilbert, 2002) have used sophisticated economic modeling to disentangle preemption and the efficiency benefits of vertical integration. Another empirical strategy is to use event studies to evaluate changes in the market value of competitors following a focal firm's actions on its competitors' resources (Rey & Tirole, forthcoming). Recent work on preemptive acquisitions has also examined the effects of acquisition announcement on both acquirer and competitors' returns (Molnar, 2003). In strategy, recent studies have found preliminary evidence that power might be exercised in the resource environment (Cassiman and colleagues [2003] and Santos and Eisenhardt [2004]).

Implications for policy. Needless to say, we must address the prescriptive implications of our approach with great care. We mentioned earlier that the RBV has barely focused on how firms should attempt to control their external resource environment. RBV scholars' internal focus on the focal firm's resource efficiency is consistent with their reluctance to develop a theory of strategy or competitive advantage that hinges on the notion that firms limit competition in the product market to the detriment of customers. We share the

same concerns, and we recognize that some actions on competitors' resources are clearly anticompetitive in intent.

Yet, a better understanding of how firms intervene in factor markets and political markets to shape their resource environment can help policy makers refine their antitrust policy. Although there is growing awareness that firms display some degree of noncompetitive behavior in both product markets and factor markets, the main focus of antitrust policies has been on the actions of dominant established firms in their product markets. Actions taken at earlier stages are more difficult to identify and evaluate, yet they deserve close scrutiny, notably in the market for innovation. Indeed, as the economy moves toward innovation-based growth, opportunities for the manipulation of knowledge-based assets are more numerous (Scheffman & Higgins, 2003). This would require antitrust authorities to scrutinize firms' actions in strategic factor markets, notably those that take place in the market for corporate control of small innovative firms. Acquisitions of high-tech firms can clearly affect technological competition. Yet, whether the merged firm is able to secure more technology market power will depend on whether the acquisition creates barriers to entry in technology, or whether the threat of potential future technological entry remains intact. Assessing the contestability of factor markets requires a shift in the antitrust analysis of consequences of M&As from products to resources.

An antitrust policy that recognizes the importance of scarce productive resources should pay special attention to phenomena such as the hoarding and the destruction of resources, and to firms' efforts to redefine what resources are acceptable to use. Combining the RBV's refined understanding of the heterogeneity of firms' productive resources with IO's sophisticated understanding of firms' strategic actions to exert control in markets can help develop more sophisticated antitrust guidelines. It has already been argued that the RBV, by providing alternative concepts and explanations for firm behavior and profitability, has the

potential to contribute to antitrust theories that make extensive use of structure-conduct-performance (SCP) logic (Lockett & Thompson, 2001).

In conclusion, we hope that our work will encourage discussion and empirical investigation of how firms compete and shape their resource environment, and especially how they intervene in factor markets and political markets. We submit that competition in these markets deserves to be studied with particular care and methods. The outcome of this competition will shape, to a large extent, how competition unfolds in product markets and how firms develop idiosyncratic superior resources that are effective and scarce, *relative* to others.

ENDNOTES

After an expensive lobbying battle, the FCC stuck with its initial intentions and awarded new high-quality airwaves to Nextel.

[2] Scarcity rents, as defined by Winter (1995), are very close to the "payments to resources" defined by Lippman and Rumelt (2003) because they do not take into account the cost of acquisition of the resource. Moreover, note that scarcity rents are different from accounting profit because parts of the operating profit that is due to the existence of a resource can be appropriated by some insiders of the firm (Coff, 1999) and show up as costs on the income statement of a firm.

[3] In this development, we assume that the total demand curve remains at the same level. This may not necessarily be true, however, because of externalities of consumption and changes in consumers' expectations. Some industries show strong externalities of consumption, either positive (e.g., telecommunications) or negative (e.g., luxury goods). If some customers are not served anymore, there may be an effect, positive or negative, on the total demand, and therefore on the level of residual demand. Moreover, when consumers' expectations about the future of the industry matter, notably at early stages of industry development, there can also be effects on the total demand curve. In the formation stage of an industry, impairing a rival might actually cast doubt on the industry's ability to satisfy needs as a whole, reducing total demand. On the other hand, acquiring a rival technology to eliminate it might lead the industry to a standard that increases total demand because consumers are now confident of interoperability.

[4] Finally, note that an increase in the stock of productive resources of the focal firm, thanks to the acquisition of competing resources that restrict others' output, may not translate automatically into an increase in production capacity of the focal firm, because the latter's output can be restricted by different types of resources. For instance, a focal firm can preempt and hoard airport slots but can be restricted by a lack of planes. So, when this firm preempts the slots, it is still earning scarcity rents, not monopoly rents in the sense of Winter (1995).

[5] According to Lieberman and Montgomery (1988; Footnote 3, page 44): "The basic argument is standard economic analysis, and can be traced back to Ricardo's analysis of rents captured by landowners (first-movers) in the market for wheat in nineteenth-century England".

[6] Several empirical studies on first-mover advantage find that preempting resources provides opportunities for greater market share (for a review, see Kerin, Varadarajan, & Peterson, 1992).

[7] Our framework relies on the existence of market imperfections to generate differential gains. Globalization and Internet development make these market imperfections harder to come by. Globalization blurs national boundaries and expands factor trade as well as increasing the likelihood of competitors being forced to switch to substitute resources. The Internet contributes to greater transparency of markets, which reduces the time lag to collect information on competitors' actions and increases speed of competitive responses.

[8] Typically, it is only the fortunate or insightful firms that are able to gain control over valuable property-based resources before their full value is publicly known (Barney, 1988). Once the value is publicly known, it is likely that several competitors will value the property-

based resources the same way, but one has been able to capture it first (because of asymmetric expectations about the value of that resource).

[9] The opposite case of perfect competition among buyers for a scarce resource is the situation of a single buyer facing several suppliers of resources (i.e., a monopsony). In the case of factor markets, this situation could arise if the resources available in the factor market are worthless without those that are already controlled by the buyer. In essence, a situation of monopsony may happen in cases where the synergies between the resources of the buyer and the resources available in factor markets are extremely strong compared to anything that can be offered by competitors. Monopsony in factor markets can therefore be seen as a particular case of differences in synergies between buyers, as described by Barney (1988).

[10] Interestingly, our discussion of the role of potential losses for preemption also suggests that what may look like a winner's curse, i.e., overpaying compared to the direct benefits of acquisition, may not actually be one, once the opportunity cost (i.e., the losses) from not acquiring has been taken into account.

[11] It is actually possible to construct examples in which a firm would benefit from a regulation that increases its own costs as well a those of its competitors, provided the negative effect on the competitors' ability to serve their customers is strong enough (Krakenmatter & Salop, 1986b).

[12] We assume in the remainder of the section that managers in the focal firm are forming conjectures about the reactions of their competitors. Yet, in general, it is not clear that managers make this type of conjecture about competitors' reactions. Experimental work on strategic competitive reasoning (Montgomery, Moore & Urbany, 2005) suggests that managers lacking proper training tend to fail to think about how their actions will modify the future behavior of their competitors. Failure to anticipate competitors' reactions may lead focal firms to overestimate the sustainability of the benefits of actions on competitors' resources. However, we speculate that managers that undertake these strategies are likely to make efforts to anticipate how their competitors will react because the very use of these strategies presupposes that they take into account the effect of their actions on competitors.

[13] Our paper emphasizes firms' interests as the drivers of interventions in political markets in a way that parallels recent work in institutional theory that argues that firms can manipulate their institutional environment to gain legitimacy (e.g, Oliver, 1991). Our approach departs from institutional theory in that we analyze the impact of these actions on competitors in terms of ability to create economic value rather than in terms of legitimacy. For instance, we do not consider the increase in legitimacy that may accrue to a firm that imitates its competitors' political strategies.

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Figure 1. Research Scope

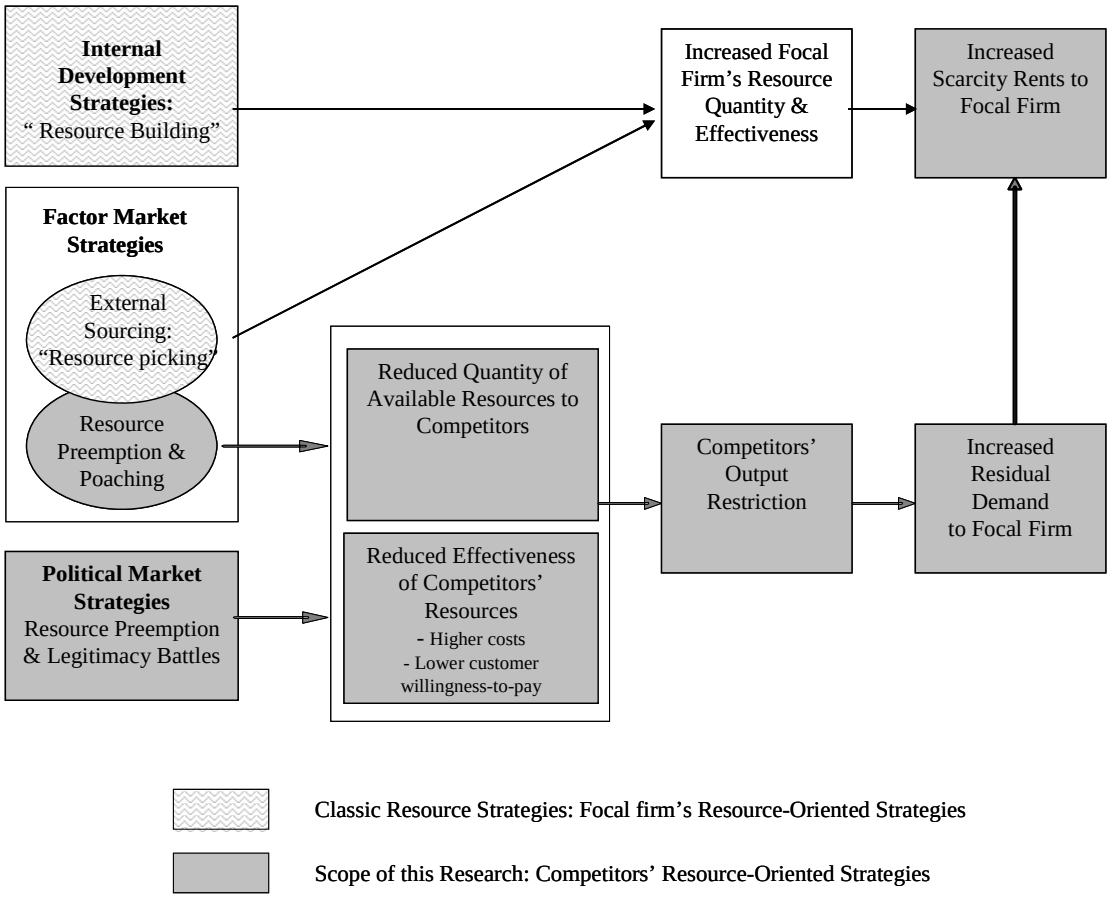


Figure 2. Effects of Competitors' Resource-Oriented Strategies on Rivals' and Focal Firm's Resources

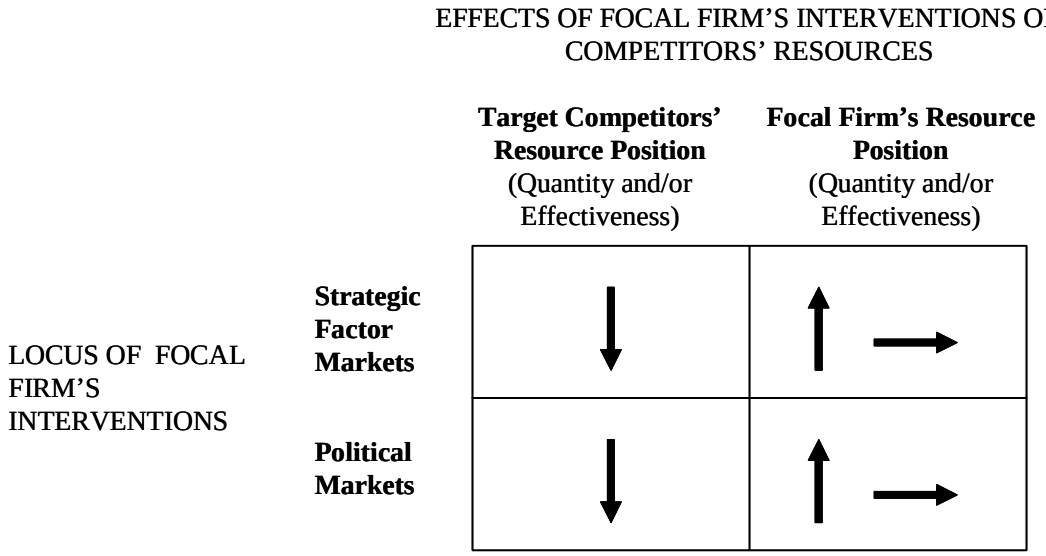


Figure 3. Relationship Between Residual Demand and Scarcity Rents to Focal Firm

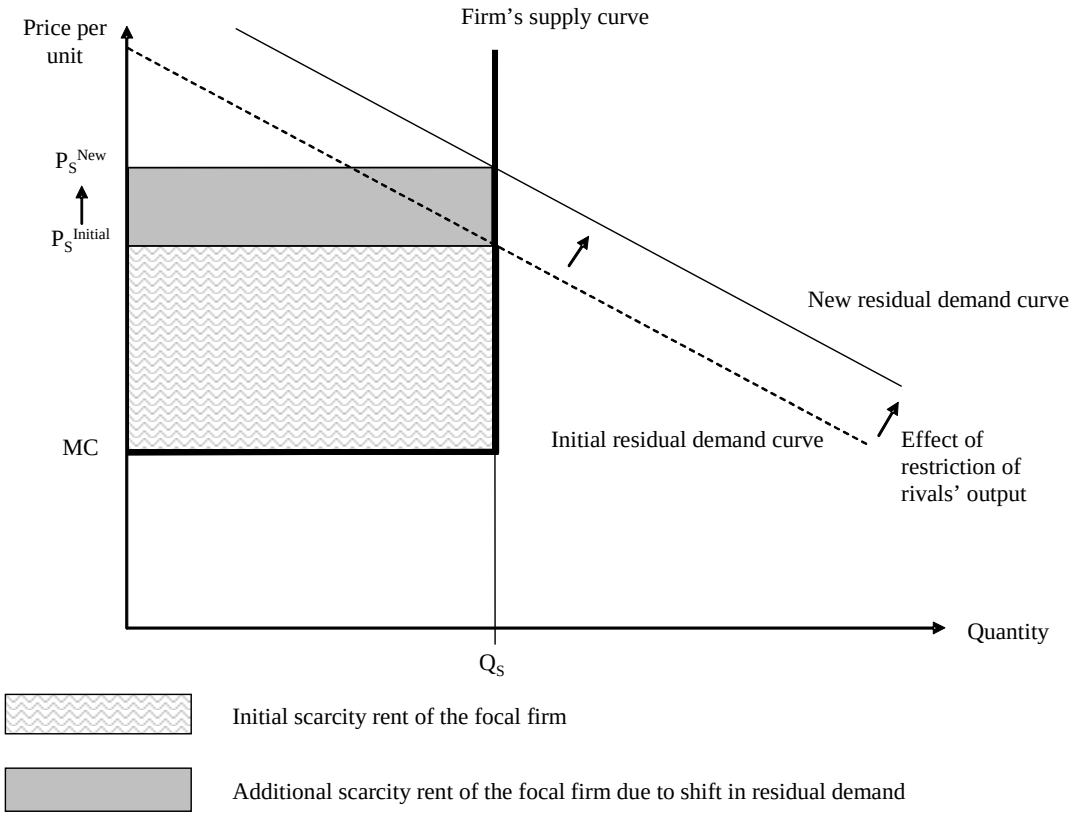
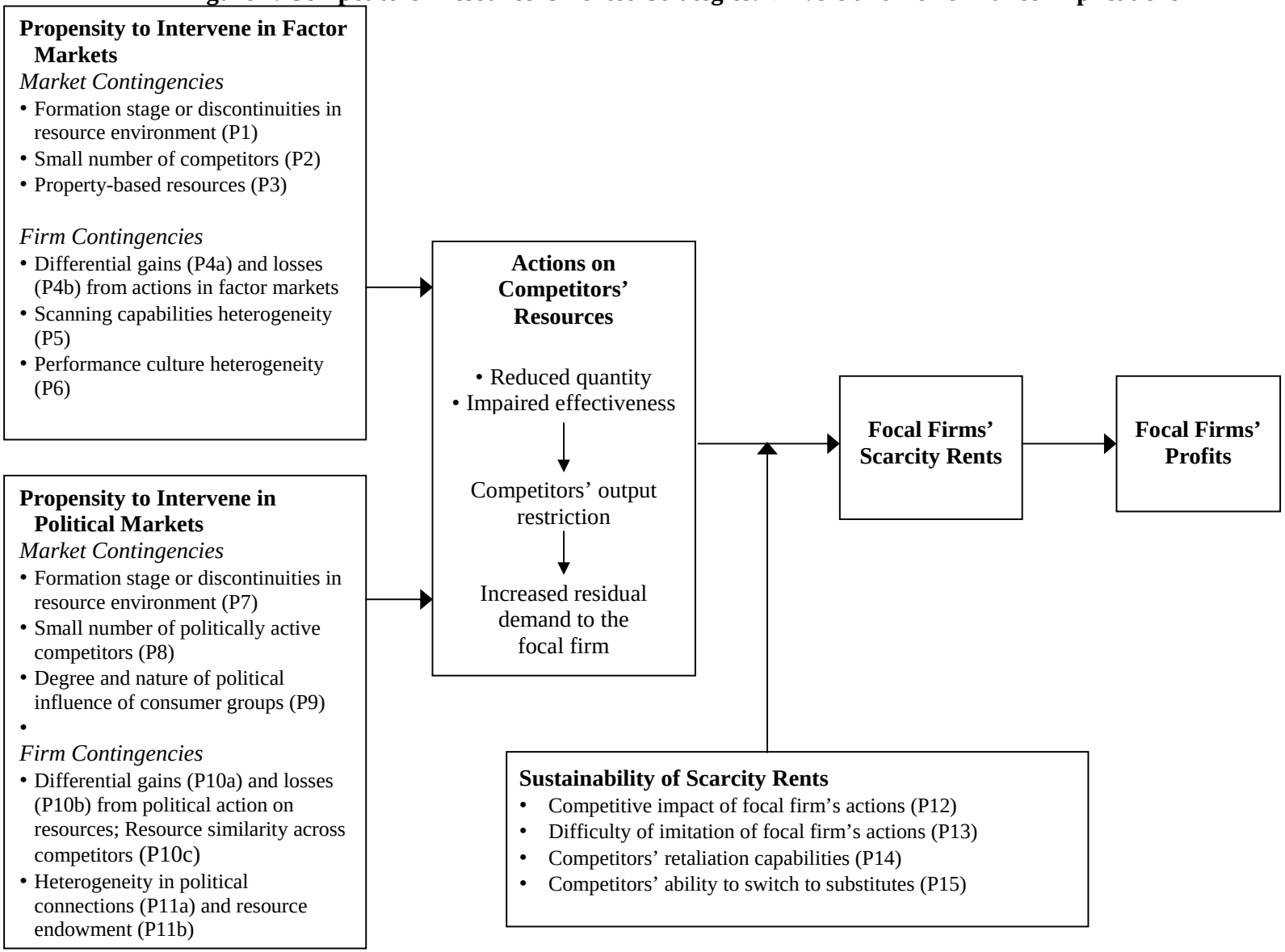


Figure 4. Competitors' Resource-Oriented Strategies: Drivers and Performance Implications



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