Resources, Capabilities, and Routines in Public Organization

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Abstract

States, state agencies, multilateral agencies, and other non−market actors are relatively under−studied in the strategic entrepreneurship literature. While important contributions examining public decision makers have been made within the agency−theoretic and transaction−cost traditions, there is little research that builds on resource−based, dynamic capabilities, and behavioral approaches to organizations. Yet public organizations can be usefully characterized as stocks of physical, organiza−tional, and human resources; they interact with other organizations in pursuing a type of competitive advantage; they can possess excess capacity, and may grow and diversify in part according to Penrosean (dynamic) capabilities and behavioral logic. Public organizations may be managed as stewards of resources, capabilities, and routines. This paper shows how resource−based, (dynamic) capabilities, and behavioral approaches shed light on the nature and governance of public organizations and suggests a research agenda for public entrepreneurship that reflects insights gained from applying strategic management theory to public organization.

Published: 2011
URL: http://www.business.illinois.edu/Working_Papers/papers/11−0101.pdf

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Abstract

States, state agencies, multilateral agencies, and other non-market actors are relatively under-studied in the strategic entrepreneurship literature. While important contributions examining public decision makers have been made within the agency-theoretic and transaction-cost traditions, there is little research that builds on resource-based, dynamic capabilities, and behavioral approaches to organizations. Yet public organizations can be usefully characterized as stocks of physical, organizational, and human resources; they interact with other organizations in pursuing a type of competitive advantage; they can possess excess capacity, and may grow and diversify in part according to Penrosean (dynamic) capabilities and behavioral logic. Public organizations may be *managed* as stewards of resources, capabilities, and routines. This paper shows how resource-based, (dynamic) capabilities, and behavioral approaches shed light on the nature and governance of public organizations and suggests a research agenda for public entrepreneurship that reflects insights gained from applying strategic management theory to public organization.

Keywords: Resources, dynamic capabilities, behavioral approach, public organization

1. Introduction

That governments own and control resources is so much a part of daily discourse that we almost take it for granted. Analyses of taxation and government expenditures are as ubiquitous as taxation itself (Kiesling, 1992; Samuelson, 1986). Specialized fields of antitrust analysis, law & economics, political economy, public administration, and regulatory economics all focus on interactions among public and private actors. Typically, we think of governmental bodies controlling land, buildings, and budgets; yet government agencies as organizations control many more kinds of resources: infrastructure such as highways (Small & Verhoef, 2007) and prisons (Hart, Shleifer & Vishny, 1997), sensitive information about top-secret military activities (Vandenbroucke, 1993), knowledge systems such as rules of law (Tamanaha, 2005), and organizational assets such as the cultures of bureaucracy and routines at established agencies (Peters, 2001).

Demand for insight about the nature and effective governance of public organizations has never been greater. In the wake of the financial crisis and economic downturn, public and quasi-public entities such as credit-ratings agencies, the Federal Reserve System, Freddie Mac and Fannie Mae have been thrust in the spotlight (Brunnermeier, 2009). What were their roles in the housing bubble and bust (Coleman, LaCour-Little & Vandell, 2008)? A US legislative effort to subject the Federal Reserve System to greater Congressional scrutiny brings many of these issues to the fore. Should central banks be mostly free from public and legislative oversight and sanction, and should they be subject to political or market discipline (Blei, 2009)? More generally, what are the objectives and constraints facing such organizations? Are they mainly serving public or private interests?

The September 11, 2001 attacks raised similar questions about US domestic security (Posner, 2010; Wise, 2002). Oliver Williamson's 2009 Nobel Lecture noted that the creation of the US Department of Homeland Security by consolidating formerly free-standing defense and intelligence services into a large, diversified organization is analogous to the formation of private conglomerates

and other well-known business restructurings, and yet there was little analysis of the efficiency implication of the consolidation, despite decades of research on diversification and other corporate consolidations.[1] What are the consequences of integrating previously independent units with separate cultures, organizational forms, and mandates? How can integration enable cost synergies and innovation? What are potential costs and risks, including "big government" *per se* (Wolf, 1993)?

Research in public and private administration has long acknowledged the central importance of resources in shaping goals in the public sector. Allison's (1971) seminal account of the Cuban missile crisis showed how military objectives are shaped by available resources and how these resources affected options, each with costs and risks. Baum and McGahan (2010) submit that current US and UK action in Iraq has been shaped in part by the conceptualization of military goals enabled by the joint deployment of private and public resources. During the Vietnam War, resource dependency and the bureaucracy of administration that accumulated around particular resources so constrained strategic options that the US persisted even in the face of conditions that, had they been evident at the outset, might have deterred military action (Sheehan 1998).

We maintain that the strategic entrepreneurship field can offer significant insights into the nature and governance of public organizations. Indeed, public entities, like private firms, have been described using the language of entrepreneurship theory (Klein, *et al.,* 2010; Short, Moss & Lumpkin, 2009). Governments, government agencies, charitable organizations, social enterprises, and other "non-market" decision-makers are alert to *recognize* (Dyer, Gregersen & Christensen, 2008; Miller, 2007), *discover* (Shepherd, McMullen & Jennings, 2007; Sleptsov & Anand, 2008), and *create* (Alvarez & Barney, 2007; Luksha, 2008) opportunities for realizing economic value. They exercise *judgment*

[1] Agarwal, Barney, Foss and Klein make a similar point concerning the government-led merger of Chrysler and Fiat: "The justifications for these actions are familiar to anyone who studies corporate strategy — the mythological search for synergy." But "most such corporate combinations — even those done voluntarily in non-crisis settings — fail to realize sought-for synergies" (2009: 474-475).

over the mobilization and deployment of resources under uncertainty, seek the insights of users, introduce technological and organizational innovations, and develop novel strategies (Felin & Zenger, 2009; Klein, 2008; Shah & Tripsas, 2007; Van de Ven, Sapienza & Villanueva, 2007). Yet a central facet of public organizations that has not been examined comprehensively is the creation, stewardship, dynamics, and allocation of public resources, routines and capabilities.

Unlike much of the extant entrepreneurship literature that emphasizes Kirzner's (1973, 1997) "pure entrepreneurship" concept of alertness to profit opportunities, which is divorced from resource ownership (Foss & Klein, 2010), the emerging strategic entrepreneurship field emphasizes the close relationship between entrepreneurship and organization. Organizations consist of bundles of heterogeneous (relational, cultural, and institutional) resources and strategic entrepreneurship constitutes the assembly, deployment, and redeployment of resource bundles under conditions of uncertainty (Dacin, Dacin & Matear, 2010; Foss & Klein, 2011). Entrepreneurship, in this sense, is not a purely cognitive act, but is manifest in action. To understand the entrepreneurial function, then, we must examine the organizations that entrepreneurs establish, maintain, reshape, and dissolve.

What about non-market organizations? Important differences arise between public and private organizations concerning the definition and measurement of objectives, the ability to measure performance, and the role of governance. More generally, governments and government agencies transform resources into outputs and deploy the *services* of these resources (Penrose, 1959) to achieve particular goals, which typically are not related to profitability, although they may be well expressed in terms of self-interested behavior. These factors play an important role in the allocation of resources. Thus, an organizational economics approach to strategy (Mahoney, 2005) — including agency theory, transaction costs theory, property rights theory, the resource-based & dynamic capabilities view, and behavioral approaches — can shed light on the activities and performance of non-market decision makers (Baron, 1999; Bryson, Ackerman & Eden, 2007; Hillman & Hitt, 1999).

The organizational economics and strategy literatures on the firm have given relatively little attention to the existence, boundaries, internal organization, growth, management, and performance of non-market organizations (Hill, Keim & Schuler, 2004). Research in public administration and political science examines issues such as the growth of public agencies (Horn, 1995; Peters, 2005), but few research studies in these fields build explicitly on concepts and theories from organizational economics and firm strategy that deal with the richness and complexity of management problems. Although agency and transaction costs theory have informed research on public entities (Moe, 1995; Spiller & Tommasi, 2003), the resource-based and dynamic capabilities approaches have rarely been employed (McWilliams, Fleet & Cory, 2002; Oliver & Holzinger, 2008). The same holds for behavioral theories (Cyert & March, 1963; Simon, 1947).

This relative lack of emphasis is surprising since public organizations can be characterized as stocks of physical, organizational and human resources; they interact with other organizations in pursuing a type of competitive advantage; they can possess excess capacity, and may grow and diversify in predictable patterns partly in accordance with Penrose's (1959) logic of entrepreneurship. Importantly, ideas developed by Cyert and March (1963) and Simon (1947) can be at least as relevant for public organizations as they are for private ones. For example, the absence of a clear and binding bottom-line, (such as profitability), is likely to favor sub-goal pursuit more than in case of private firms. Therefore, dynamic capabilities and behavioral approaches may provide additional insight on the behavior, governance, and performance of public entities.

The current paper provides a critical reassessment of the extant research literature on public organizations as managerial entities, emphasizing contributions from economic and organizational theories of the firm, particularly resource-based, dynamic capabilities, and behavioral approaches. We begin with a treatment of "public" resources. What makes an opportunity, activity, or outcome "public" or "private"? While these questions have been addressed in other fields, we seek to develop

answers that reflect the organizational and strategic aspects of public enterprise. Some resources used by public entities — buildings, office equipment, and human capital — have private market values, and these public entities may compete with private entities for the services of these resources. Other resources — such as a town's name or identity — either cannot be or are not used privately and have no market values in this sense. Objectives and constraints can differ greatly between market and non-market participants (Bonardi, Hillman & Keim, 2005; Bonardi & Keim, 2005; Hirschman, 1982).

The next section applies the distinction between public and private resources to public agencies as organizations that are managed analogously to firms. We show that resource-based, dynamic capabilities and behavioral approaches to the firm have rich implications for public policy that complement the perspectives of neoclassical economics, agency theory, and transaction costs theory. For example, many state agencies have grown and diversified by a logic informed by behavioral and Penrosean (dynamic) capability approaches. Just as understanding of public organizations may be enhanced by application of management theories, the study of theories of firm behavior may be informed by a richer understanding of the logic of growth in the public domain.

The third and final section suggests that applying current theory to public-sector challenges of resource development, capability-building, and the cultivation of knowledge and behaviors can improve the efficacy of public administration. Recent developments in strategy regarding the valuation of resources and resource combinations open a window on issues of public policy, where organizational performance is intractably difficult to evaluate. We now know a great deal about how to identify and assess the value of private-sector resources, individually and in combinations, and by extending these insights to the public sector, publicly-owned resources can be effectively managed. This section also takes up the interplay between public and private organizations.

2. The resources and capabilities of public organizations

Critical to resource-based, dynamic capability and behavioral approaches to organizations are the concepts of resources, capabilities, and routines. While public organizations such as government bodies, and multilateral agencies (e.g., the United Nations and World Health Organization) produce public *outputs* — i.e., they mostly do not sell their products on the market, and thus cannot rely on financial measures of firm-level performance (Mises, 1944) — they employ both public and private *inputs*. The problem of measuring the value of output is central to agency theory, and this divergence between goals of public and private organizations has stimulated considerable research in the field of public administration on the agency problems confronting public organizations. Resource-based and capabilities approaches to organizations focus more on inputs (resources) and, perhaps because public organizations often participate in the same input markets as private firms, there is far less research literature on the resources and capabilities of public organizations.

To make headway in the analysis of public organizations, we require clear definitions. What exactly are "public" resources? How do they differ from "private" resources (e.g., can they be characterized in terms of uniqueness, inimitability, and divisibility)? What do these differences imply about how resources are acquired — i.e., are there strategic factor markets (Barney, 1986) for collectively owned, politically controlled resources — and how are they combined and re-combined (Maritan & Florence, 2008)?

Answers to these questions require us to conceptualize the appropriate unit of analysis for understanding public participants. Should the focus be on communities, city governments, states & provinces, national governments, or multinational authorities? We take on the challenge by first acknowledging that just as scholars study small, large, and multinational firms and the interactions between them, so should we study public agencies with various spans of authority and interactions between them. Second, we define public agencies without referring to the "public interest," which is

clearly multi-faceted, frequently changing, and difficult if not impossible to define (Arrow, 1951). Third, we confine our attention to public agencies that "own" and control resources either formally or informally. Many of the agencies that we examine have constitutional, legislative, or other formal authority to create resources through the levying of taxes or the accrual of fees through some well-defined mechanism. What distinguishes the agencies that we examine is their stewardship over resources that are not under the exclusive control of any other private or public actor. In other words, to qualify as a subject of our study, an organization must be owned and/or controlled by a body with legally-sanctioned coercion rights, and must possess decision rights over the governance of resources (Olson, 1965). We turn first to theory for greater clarity in definitions of public resources. We then explore the relationships between public resources and public organizations, and finally turn in this section to questions about how public resources are governed.

2.1. The nature of public resources

Consider public resources: "Public" in this context cannot refer simply to "collectively owned," as many, if not most, private resources are owned or controlled by groups (shareholders, partners, family members). It also cannot refer simply to a resource's public-goods characteristics (non-excludability and non-rivalry in use) because private organizations rely on resources that are at least partly public goods such as knowledge, reputation, and goodwill. Hence a meaningful definition of public resources must distinguish between market and non-market ownership and control: private resources, in other words, are owned and/or controlled by identifiable individuals or groups operating in a voluntary, market setting, while public resources are owned by bodies that have the ability to use legally-sanctioned coercion to acquire and deploy them.[2]

[2] There are nuances, as private firms may obtain and use resources by state favor, and grant of privilege. Legal and political rules define and enforce the system of property rights, within which private ownership is exercised, so even "private" resources may rely on "public" elements for their existence and protection (Klein *et al.,* 2011).

How are public resources valued? Public organizations own or control private resources, which are acquired in factor markets and may have market values (buildings, IT systems, lobbying skills, and reputation) (Besley & Coate, 2001; de Figueiredo & Kim, 2004). However, other resources owned or controlled by public organizations do not have private value (e.g., military resources and physical infrastructure that could not also be privately used). Public entities may also own or control resources that have supra-private value; in other words, the value of the resource would be mis-stated by its private analogue either because of commons problems or because the public nature of the resource cannot be valued privately. For these reasons, valuing public resources is difficult.

One approach under the resource-based view is to characterize resources as valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). The VRIN criteria yield insight about the *existence* of sources of potential competitive advantage within firms, and are analogous in the public domain to the emergence, boundaries, and growth of assets within a public jurisdiction that must compete for decision rights with other agencies that may seek to control resources similarly. VRIN criteria are relevant in explaining in part, why a state exists. The protection of VRIN resources from being usurped by rival groups-states is an often studied theme in political economy and institutional economies (North, 1981). Moreover, the control of property rights over VRIN resources by state functionaries will have important implications for transaction costs, taxes accruing to the principal, and intra-national competition to control them. In addition, the development and leveraging of VRIN resources can be a potent source of competitive advantage for nations (Porter, 1990).

The *sustainability* of competitive advantage in the private sector has been associated with control over resources that are (a) difficult to transfer across organizations, often because of their intangibility (Itami & Roehl, 1987); (b) inimitability; (c) non-substitutability; and (d) durability, which distinguishes resources from activities (Porter, 1991). In the public sector, key resources can have the same character: They are durable assets, which are difficult to transfer between agencies, unique

and thus difficult to substitute in the achievement of the agency's mission. Sustainability criteria are important for explaining the behavior of public agencies as bureaucracies often build a scaffolding of administrative structure on top of resources that may form the original basis of their charter.

Theories of *appropriability* in the private sector emphasize how key resources can yield competitive advantage for organizations. Mechanisms of appropriability fall into four categories: (a) complementarity, (b) property rights, (c) governance, and (d) embeddedness. Complementarity arises when an organization possesses multiple assets that in combination enable the achievement of goals and is directly analogous in the public sector to resource combination. Property rights relate to the ability of a controlling organization to exclude others from profiting from the deployment of a key resource. In the public sector, the proprietary benefits in fulfillment of mission achieved through property rights are generally observable. Governance theories relate to the organization's ability to deploy resources better than potential rivals, and extend into the public domain. Finally, embeddedness in the private context relates to the ways in which an organization builds a cluster of activities and complementary resources around the strategically important resource, and thereby appropriate returns from the resource by making its extraction difficult. Public agencies and organizations that contract in the public interest may appropriate benefits from resources through exactly this process.

In the analysis of private-sector resources, insight is often obtained by examining the interplay between the e*xistence, sustainability,* and *appropriability* of competitive advantage obtained by an organization through its access to resources. For example, some organizations that have sustained competitive advantage historically may no longer appropriate the advantage because of hazards that have evolved dynamically. Alternatively, a mature organization may appropriate advantages from resources and thus sacrifice their sustainability. Examining public resources for their existence, sustainability, and appropriability benefits requires a detailed understanding of their characteristics.

2.2. Public resources and public organizations

While there is substantial scope for applying resource-based logic to the public domain, we suggest that it can be usefully analyzed within Penrose's (1959) resources approach, especially as it is linked to behavioral theory (Cyert & March, 1963). This theoretical linkage is useful because in Penrose (1959), firms are conceived as bundles of resources that provide services towards a particular objective, and that deployment of resources may be pursued under bounded rationality conditions. This conceptualization can apply directly to public organizations, which are also resource bundles — the main difference being the objective. Unlike the private firm's focus on economic profits (or value capture), the objective of public organizations is meant to be the pursuit of the public interest (or value creation). This theoretical linkage has applications to the nature, growth, and boundaries of public organization, as well as the public–private nexus as explained below.

This paper posits that all organizations and their constituent individuals aim to capture value from their actions, action potential, and perceived to be value-creating advantages (Pitelis & Teece, 2010). In the case of private firms, success takes the form of profit (or value capture). However, in order to capture value a private organization must often create it in the first place (Penrose, 1959). Similarly, a public organization purportedly aims to create value for the wider public interest (Morris & Jones, 1999). However, at the level of the individual, the public agency, and/or the state as a whole, some part of the created value needs to be captured — public actors, like private actors, respond to incentives. Such value capture can take the form of the re-election of the politician, the survival and growth of the public agency, and the raising of revenues through taxes by the state. In this context, the aim of the private sector is to appropriate created value, while the aim of public organization is to create and appropriate value. The two objectives are closely related, but there are important differences and implications for issues such as growth, boundaries, internal decision-making and functions, and differential advantages derived from dynamic capabilities.

Despite increased interest in "hybrid" forms of organization, the treatment of intra-organizational decision-making is not in the foreground of transaction costs, resource-based or dynamic capabilities approaches. They are, however, at the heart of the behavioral view (Cyert & March, 1963; March & Simon, 1958). Fundamental insights of the behavioral view relate to adaptive aspirations and expectations, attention, bounded rationality, information processing, inducement-contributions balancing of stakeholder interests, interdependence, organizational coalitions, routines, organizational learning, problemistic and/or slack-induced search, sequential decision making, sub-goal pursuit, satisficing, uncertainty avoidance, and the quasi-resolution of intra-firm conflict through the use of organizational slack (Cyert & March, 1963; Pitelis, 2007; Simon, 1952; Thompson, 1967). In such an environment, human thinking is the most important resource, and organizational decision makers must be mindful of the scarcity of attention (Ocasio, 1997; Simon, 1947). In operations management terms the bottleneck is the brain. Simon notes the strategic implication: "An information-processing subsystem (a computer or new organization unit) will reduce the net demand on the rest of the organization's attention only if it absorbs more information previously received by others than it produces — that is, if it listens and thinks more than it speaks" (1982: 175).

Bounded rationality has several important consequences including (1) selective perception of information, (2) adaptive, sequential information processing, (3) mental effort that is reduced by heuristic procedures, and (4) a process of active reconstruction for memory (Bingham, Eisenhardt & Furr, 2007; March & Simon, 1958; Simon, 1982). Systematic biases result, including insensitivity to prior probability of outcomes and to sample size, misconception of chance, failure to recognize regression to the mean, insufficient adjustment and anchoring, illusory correlation, and biases in the evaluation of conjunctive and disjunctive events (Kahnemann, Slovic & Tversky, 1982). Given these biases, the behavioral approach considers the organization as an adaptive response to uncertainty and bounded rationality, and a vast information processor that is more efficient than any given

individual. Further, the main effect of the information and communications technology revolution has been to make capacity for attention rather than information the critical scarce resource in most organizational (and personal) decision making (Ocasio, 1997). Indeed, information is what consumes attention, frequently resulting in information overload (Simon, 1982).

These ideas concerning organizational capabilities apply even more to public organizations than to private firms. Capabilities are programmatic, typically have elements of tacit knowledge, and are largely embedded in organizational routines (March & Simon, 1958). These routines serve several important functions, including organizational memory as organizations remember by doing (Nelson & Winter, 1982), and are facilitated by common language and coding (Arrow, 1974). Routines can also serve as a truce in inter-organizational conflict to maintain internal political stability, which enhances the efficacy of organizational slack (Cyert & March, 1963). Public organizations, lacking the feedback mechanism provided by market signals of profit and loss, are particularly dependent on evolved organizational capabilities. The absence of a clear bottom-line, tends to engender "soft budget constraints" (Kornai, 1986), thus facilitating sub-goal pursuit.

There are synergies in theory development between Penrose's (1959) evolutionary theory and Cyert & March's (1963) behavioral approach. In Penrose's (1959) theory of firm growth, slack is endogenous. It arises because specialization, learning by doing, and intra-firm knowledge creation and innovation lead to an excess capacity of resources. Entrepreneurial managers in pursuit of profit aim to leverage these resources to capture value. In this sense, entrepreneurial innovation induces slack, which motivates further innovation (Pitelis, 2007). The absence of a direct profit motive in public organization breaks this positive loop because slack, emergent or intended, need not engender appropriable innovation. Instead, it is more likely to be used for the purpose of attenuating intra-organizational conflict (Cyert & March, 1963). The growth of public organization in this context serves uncertainty avoidance more than risk taking and value capture strategy. Moreover, given the

difficulty in relating the objectives of public entities to some notion of the public interest, public-sector innovation may destroy, not create, social value. Public entrepreneurship, in Baumol's (1990) terminology, may be unproductive and even destructive, rather than productive.

The nearest analogue to the profit motive of public organization is tax collection. Taxes can help satisfy the multivariate objectives of state functionaries, be they re-election, private benefit, and quasi-conflict resolution. Considering that public organization *per se* is not meant to be a profit-making entity, the question emerges as to how it can best create conditions for maximizing revenues (in the form of taxes), given that tax collection does not taken place at the individual public organization level, but typically at a higher, local authority and/or state (and federal) levels.

Concepts of absorptive capacity and differential dynamic capabilities (Cohen & Levinthal, 1990; Dosi *et al.*, 2000, 2008; Penrose, 1959; Teece, Pisano & Shuen, 1997) are important in this context, as are the concepts of *market extension* (Olson, 2000), *market creation* (Casson, 2005), and *market co-creation* (Pitelis & Teece, 2010). Olson (2000) employed the concept of market extension to explain how states can raise more revenues not only by minimizing transaction costs and attenuating conflict, but also by creating value proactively. The emphasis on market extension-derived value creation extended North's (1990) focus on transaction cost minimization and suggests that public organizations can help extend existing markets through requisite actions. In the private entrepreneurship literature, Casson (2005) submits that private entrepreneurs and firms can create markets. Pitelis and Teece (2010) go further in positing that market and value co-creation are important means through which entrepreneurs can achieve their value capture objectives. In this framework, private organization helps effect this entrepreneurial co-creation, in tandem with customers, suppliers, competitors, and other stakeholders participating in this value creation process, including public organization and the state.

The concept of market and value co-creation suggests that public organizations and the state as a whole can help enhance overall value creation, which, indeed is the pool of prospective taxes. In this context, market and value co-creation can be seen as an important vehicle through which the state can achieve its complex objectives, all served by the raising of taxes. The concept of market and value co-creation moreover extends and operationalizes Ostrom's (1990) focus on institutional and organizational complementarities. While laudable, and supported by compelling evidence in some public-goods contexts, Ostrom's (1990) view, nevertheless, gives insufficient attention to issues of moral hazard and differing objectives and conflicts, which are central to agency and behavioral approaches. Market and value co-creation can help satisfy mutual public and private objectives while simultaneously providing the slack for requisite innovation by the private (value creation) and conflict alleviation (distribution) by the public.

Market and value co-creation involves absorptive capacity, dynamic capabilities, and differential advantages, and requires the establishment of legal frameworks, as well as the allocation and re-allocation of property rights to help co-create markets that can better capture appropriable value. Markets with existing VRIN-type resources and/or with a promise to develop such resources could be a candidate. Their selection by the state requires knowledge, as well as appropriate organization and incentive structures that filter and frame decision-making processes (Tsoukas, 2009). It requires that public agents and public entrepreneurs aim to capture the value brought about through market and value co-creation. As private firms also aim to capture value engendered through market and value co-creation, this approach brings closer the aims of public and private actors. At the same time, it is based on the existence of different comparative advantages: the private sector in the setting-up of organizations that help co-create markets and value; the public sector in facilitating that process through the reduction of transaction costs, the extension of markets, and the co-creation of markets and value. Both public and private organization requires legitimization, intra-firm conflict

resolution, ideology, and leadership. These are, however, applied in different domains, intra-firm and intra-society, respectively. This difference in domain also points to the different and requisite (dynamic) capabilities of private entrepreneurs versus public entrepreneurs, and the need for shared governance and mutual accountability (Klein *et al*., 2010).

Leveraging modern developments in the management field can extend insights from law, economics, and political science by emphasizing the requisite capabilities of private and public actors and highlighting the coordination and management of market and value co-creation. This framework differs from extant views on the nature, growth, and boundaries of comparative economic organization. We maintain that market co-creation is an underpinning *raison d'être* of both private and public organization. It also helps explain the growth and evolution of private-public interaction, which is becoming increasingly sophisticated in a knowledge-based economy that requires resources, routines, and (dynamic) capabilities for market co-creation. The boundaries between public and private are predicated not only on dynamic transaction costs (Langlois, 1992), but also on differential (dynamic) capabilities in setting up private organizations for the purpose of value capture through market and value co-creation (by private agents). Our approach also emphasizes the definition, protection, re-allocation, and distribution of property rights and the provision of institutional frameworks, mental models, and incentives that help co-create markets and appropriable value, a share of which is acquired by public organizations as taxes. Learning how to manage public and private market and value co-creation to mutual advantage, and creating incentive and organizational structures to do so, will partly determine the competitive advantage of nations.

2.3. Governance of public resources

Given that many publicly-owned, and/or controlled resources are also private goods, how should governance decisions be made? As public interests change, how should public ownership and control of resources change? How should public agencies govern private resources that impinge on

public interests? How should resources that arise at multiple levels of government be coordinated? What is the role of private actors in monitoring and governing public organizations?

The research literature in political science on organizational agency has delivered substantial insights regarding answers to these critical questions. Yet agency in isolation cannot provide a comprehensive explanation for the effectiveness and efficiency of alternate governance mechanisms. Public and private participants often compete in the same factor markets, even if public organizations usually do not sell their output in markets. Moreover, public officials, like corporate managers, do not own the resources they acquire and deploy but act as stewards on behalf of ultimate owners. As in the corporate governance literature, this relationship suggests potential agency problems such as the overuse or misuse of resources. While the management literature offers considerable insights on control mechanisms used by shareholders to limit managerial discretion in corporations, the research literature on governance and control of states and state agencies is neither generally taught in business schools nor given a prominent place in strategic management research. Klein *et al.* (2010) discuss some of the problems faced by non-market organizations in limiting discretionary behavior by state functionaries. Non-market participants operate in a more complex, and typically weaker, selection environment than private firms; objectives are complex and ill-specified; performance targets are difficult to formulate; and feedback may be indirect. This ambiguity suggests the importance of administrative procedures to discourage rent-seeking.

Ideas from organization theory and behavioral science provide important insights into these governance issues. Organization theory, while significantly developed in the field of public organization, has not been systematically applied to the administration of particular resources *per se*. Consider, for example, public resources such as those deployed in banking systems, military initiatives, large-scale humanitarian relief actions, and major infrastructure projects. Major resources may include, respectively, the public trust, authority to challenge a sovereign, and an international air

traffic control system. The creation, preservation, deployment, and enhancement of each resource may involve interaction between many public and private participants, each with overlapping but distinctive agendas. Examining the legitimacy, status, and agency of each type of organization in the governance of resources carries the promise of yielding key insights for explaining how resources can be better managed.

Under conditions of complexity and/or uncertainty, bounded rationality fundamentally affects the way that organizations govern resources (Simon, 1982). Organizational defenses (Argyris, 1990) and groupthink (Janis, 1972) are two dysfunctional governance processes that may emerge as public participants with access to strategically valuable resources seek to deploy them in situations of goal ambiguity and conflict. Allison's (1971) political model of the Cuban missile crisis describes competing psychological profiles of critical decision makers as powerful determinants of their positions regarding resource allocation.[3] Further, research on governance under conditions of uncertainty and bounded rationality is needed to develop principles for evaluating administrative structures as stewards of critical resources.

3. Public organization as resource administration

What are the core elements of a resource-based, capabilities, and behavioral approach to public organization? By analogy, consider economic theories of the firm. Economists since Adam Smith (1776) have written about the effects of state action on business activity, but the application

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[3] Allison (1971) notes that examination of bureaucracy in the Carnegie tradition (Cyert & March, 1963; March & Simon, 1958; Simon, 1947; Simon *et al.* 1950) is a linear descendent of Weber's (1947) classic study of bureaucracy, which explored the advantages of bureaucracy as an "ideal" type, emphasizing the rationalistic, impersonal, and specialized aspects of bureaucracy, as well as many of Weber's (1947) followers who presented the *disadvantages* of bureaucracy. Merton (1940) emphasized inefficiencies and dysfunctional aspects of bureaucratic impersonality when it crossed into rigidity — a theme highlighted in political science by Lindblom (1977) and in management by Leonard-Barton (1992). Selznick (1948) observed large and decentralized bureaucracies, and emphasized the problem created by divergent sub-goal pursuits, a decidedly Carnegie theme. Gouldner (1954) placed in the foreground the possibility that revealing explicit rules internally may lead to minimally acceptable behavior and thus decreased efficiency. The strategic entrepreneurship literature has begun to give research attention to how private enterprises respond to government bureaucracy (e.g., Boettke et al., 2007; Luo & Junkunc, 2008).

of economics and strategic management theories to non-market organizations is a more recent phenomenon (Buchanan & Tullock, 1962; Riker, 1962; Riker & Ordeshook, 1973). Public choice economics and positive political theory model political actors with the same tools used by economists to model market participants: preferences, constraints, exchange, and equilibrium. The emerging field of "non-market strategy" (de Figueiredo, 2009; Shughart & Razzolini, 2003) treats campaign finance, lobbying, litigation, and other political and legal activity as integrated elements of firms' strategies for value creation and capture (Grossman & Helpman, 2001; Schuler, Rehbein & Cramer, 2002). Below we show how conventional and transaction cost economics perspectives on public organization differ from the kind of evolutionary and behavioral approach we describe here.

3.1. Conventional and transaction costs perspectives

Conventional economics tends to explain public organization in terms of market failure and with an eye to restoring allocative efficiency as defined by the first fundamental theorem of welfare economics (Dasgupta, 1986). Early treatments focused on defense, the provision of justice, and public works to justify the existence of the state (Mueller, 2003). The market failures approach has subsequently been developed to include "imperfect" market structures (such as monopoly) and other types of (positive and negative) externalities. Coase's (1960) logic focused on the "internalization of externalities," explaining hierarchical organization, both private and public, as a response to market failure resulting from high transaction costs (Arrow, 1970; Coase, 1937, 1960).

Coase also points out that: "we find a category 'market failure' but no category 'government failure.' Until we realize that we are choosing between social arrangements, which are all more or less failures, we are not likely to make much headway" (1964: 195). Similarly, Demsetz states that: "The view that now pervades much public policy economics implicitly presents the relevant choice as between an ideal norm and an existing 'imperfect' institutional arrangement. This *nirvana* approach differs considerably from a *comparative institution* approach in which the relevant choice is

between alternative real institutional arrangements" (1969: 1). Williamson concurs, adding that "[hypothetical organizational] ideals are operationally irrelevant. Within the feasible subset, the relevant test is whether (1) an alternative can be described that (2) can be implemented with (3) expected net gains. This is the remediableness criterion" (1996: 210).

Following similar logic, and building on Williamson (1996), the current paper maintains that the public sector is also likely to be beset with uncertainty, bounded rationality, asset specificity, and opportunistic behaviors. This reasoning provides a transaction (organizational) costs explanation of government failure that helps complement public choice approaches (Mueller, 2003; Wolf, 1979). Government failures can be at least partially explained by the myopia, rigidity, and conflicting policies of government agencies, and by political forces that allow interest groups to influence elected and unelected officials to initiate and perpetuate inefficient policies that enable these interest groups to accrue rents (Datta-Chaudhuri, 1990; Henisz & Zelner, 2003, 2005; Winston, 2006). Williamson's (1975: 118–122) focus on the limits of vertical integration in the private sector concerning internal procurement (logrolling), internal expansion, and program persistence biases applies even more strongly in the government sector (Mueller, 2003). Thus, the transaction costs approach is useful in explicating markets, private and public failures, and institutional failures, which enables a comparative assessment of imperfect (market, private hierarchy or hybrid, governmental, and public-private hybrid) alternatives. Transaction costs theory also predicts the boundaries of market, firm and public organization in terms of relative transaction (versus organizational) costs, and thus explains endogenously why all production is not organized through one big firm, or by the state (central planning).

Political science research has begun to incorporate concepts of bounded rationality, asset specificity, bilateral dependency, and the fundamental transformation (Williamson, 1985) into its analysis of political action and political institutions. Williamson (1999) submits that government and

private action can be regarded as alternative modes of governance — virtually everything done by government could, in principle, be done, or has historically been done, by private participants — and thus transaction costs theory can shed light on efficient governance modes for various transactions. For instance, transactions in the public sphere include procurement transactions that are "akin to those of make-or-buy" (Williamson, 1999: 319) and regulatory transactions that are "often beset with asset specificity" (1999: 320), which implies that transaction cost reasoning is useful.

Williamson (1999) introduces a new key attribute in addition to asset specificity, uncertainty and frequency for the analysis of public transactions: *probity*. Probity refers to the "loyalty and rectitude with which certain public transactions are to be discharged" (Ruiter, 2005: 292). As government purports to embody the public's authority, sovereign transactions require probity, and specific configurations of asset specificity, uncertainty, frequency, and probity determine the efficient choice of governance structure among market, private hierarchy or hybrid, and government (Williamson, 1999). A lesson that can be drawn from these insights is that probity hazards may spur organizational innovation.

However, Moe (1995) points out key differences between market and political organization that render the application of transaction costs theory to politics problematic. Moe's analysis (1995) builds on the concepts of "political uncertainty" and "political compromise." The concept of political uncertainty suggests that within the political framework the government succeeds in "usurping the property rights of others" rendering economic choices by decision makers as different from those in the market. Under political uncertainty:

> [Decision makers] would be concerned with more than simply making efficient choices about the use and disposition of their property. They would also be concerned with taking action to protect their rights from usurpation — and with making current choices about their property that recognize and adjust for the possibility that other actors might seize their rights to the property in the future (Moe, 1995: 123).

This reasoning does not simply imply a different setting in which transactions take place, but is more fundamental: it is "uncertainty about the very basis of all transactions" (Moe, 1993: 124). This political uncertainty requires considerations of the specific costs of political transactions.

Political compromise refers to the larger setting in which a transaction takes place. Any contract is the result of "bargaining and haggling" under which process the participants make a number of compromises in order to reach a mutually satisfying solution. But in politics "those who are able to exercise public authority can impose their preferred outcomes on everyone else" (Moe, 1995: 126), which means one party does not make compromises while the other is forced to make whatever compromises the party with authority requires.

Conventional and transaction cost economics illuminate important issues on the rationale for public provision of goods and services, the agency and governance costs associated with alternative modes of provision, and the effect of probity on governance. However, these perspectives shed little insight on the static and dynamic performance effects of organizational form. How do public agencies achieve and sustain competitive advantage? How do they grow and diversify over time? How do routines and capabilities emerge and evolve, and how do they affect actions and outcomes? To answer these questions we consider evolutionary and behavioral approaches to organizations.

3.2. Evolutionary and behavioral perspectives

The transaction costs framework in its early stages was comparatively static, and thus less applicable to the growth and evolution of institutions.[4] Later developments by North (1981, 1990) adopted an historical, evolutionary perspective while incorporating the view that the driving force of economic change is a dominant group of "principals," which is more akin to behavioral theory. On

[4] See Gibbons (2005), however, for the case that Williamson's early writings present two distinct theories of the firm, including an "adaptation" theory, in which hierarchy serves to facilitate "adaptive, sequential decision-making," that is independent of Williamson's better-known rent-seeking theory.

the basis of such innovations, North (1990) explained the state in terms of the pursuit by principals of increased wealth (to tax) though increased efficiency and reduced transaction costs. North (1990) noted, however, that the pursuit of systemic transaction costs reductions may be hindered by the principals' need to tax the emerging wealth. This objective leads to induced favors (transfers of property rights) to organized groups (such as monopolies), which North (1990) maintained would more easily be taxed. Thus, the principals' interests may differ from the interests of the larger society. This conflict could produce systematic and systemic inefficiencies. Moreover, the actions of the principals are constrained by competition from other potential principals and rival states.

North (1990) joined transaction costs, public choice, property rights, and agency-based views in a path-dependent, evolutionary context. However, North (1990) remained firmly within the confines of conventional economic logic and did not consider resource-based, dynamic capabilities, and behavioral approaches, currently of much interest within the strategic management and strategic entrepreneurship fields and which the current paper maintains can offer fundamental insights.

Behavioral economics has experienced a renaissance in recent years (Frantz, 2009), with many applications to finance, but fewer to organization and management. What are the implications for public organizations and public policy? An emerging literature — sometimes termed "libertarian paternalism" — seeks to apply behavioral insights to the design of public policies (Camerer *et al.*, 2003; O'Donaghue & Rabin, 2003; Thaler & Sunstein, 2003). This literature suggests that private participants suffer from biases and cognitive limitations such as lack of willpower or self-control, status quo bias, optimism bias, and susceptibility to framing effects leading them to make decisions that may be inconsistent with their own preferences (Ariely, 2008; Thaler & Sunstein, 2008). By making marginal changes to the options available to market participants ("nudges"), the private benefits and costs of various actions, and the informational environment in which choices are made, market participants can be led to make "better" choices without reliance on top-down regulation.

As critics have pointed out, however, this research literature downplays the cognitive and behavioral limitations affecting policymakers. The most obvious is Hayek's (1945) "knowledge problem" which limits the ability of government officials to design effective paternalistic policies (Caballero, 2010; Rizzo & Whitman, 2009a). The well-known incentive problems under bureaucracy are relevant to paternalism as well (Glaeser, 2006). There is also what Rizzo and Whitman call the *slippery-slope problem:* the vulnerability of these proposals "to slippery slopes that can lead from modest paternalism to more extensive paternalism" (2009b: 667). This concern, in Penrose's (1959) terms, is with the growth and diversification of the paternalist policy-making apparatus. The idea of slippery slopes in policy design, fueled in particular by the cognitive and behavioral limits of the policy-making team, shares much with behavioral theories of firm growth.

More generally, behavioral considerations should be incorporated, along with informational and transaction cost problems, into comparative institutional analysis — not only the choice between markets, hierarchies, and hybrids (Williamson, 1996), but also the choice among public policies. On the one hand, the conventional welfare economics challenged by Coase (1960, 1964), Demsetz (1969), and the public-choice approach did tend to present an unsophisticated view of state participants (e.g., portraying regulators as omniscient, benevolent social planners). On the other hand, the Chicago School approach while successfully challenging such an unsophisticated view, has received its own share of criticisms. For example, Eggertsson (1990) submits that Demsetz (1969) held an overly optimistic view of how property rights would develop to internalize externalities when the gains of internalization exceed the costs. Characteristic of this optimistic view, the formulation of decision making with regard to property rights is solely in terms of *private* benefits and *private* costs. This price theory approach, however, neither deals with the free-riding problems that plague group decision making nor attempts to model political processes.

In short, as applied to political action, conventional economics theories of the firm attempt to explain the "prices" and quantities of non-market transactions, agency-theoretic approaches focus on the incentives given to public bureaucrats, and transaction costs theory considers the make-or-buy decision and the efficient governance structures for various transactions. None of these approaches, however, addresses the political equivalent of *sustained competitive advantage* — why do some government bodies, bureaus, and agencies capture more value, public or private, than others? Why do some persist, expand, and diversify while others are dismantled, absorbed by other agencies, or radically re-structured? Here we submit that resource-based, dynamic capabilities and behavioral theories of the firm add significant insight. We elaborate on these implications in the next section.

4. Implications and discussion

4.1. The nature and boundaries of public organizations

Private and public organizations, seeking to leverage the resources, routines and capabilities they own and manage, evolve and interact in complex ways. One insight from our earlier discussion of market and value co-creation is that the capabilities of legal and regulatory systems, for example, emerge and extend along with those of the industries they govern and regulate. A salient example is the allocation of the electro-magnetic spectrum (Coase, 1959; Faulhaber & Farber, 2003). In most countries radio frequencies are owned, *de jure,* by the nation as a whole, and leased to private operators under public, regulatory supervision. Coase (1959) analyzed the nature, behavior, and efficiency consequences of the US Federal Communications Commission as the commercial radio industry was born. More recently, as demand for spectrum allocation has grown dramatically, telecommunications regulators learned to use complex auction mechanisms in an attempt to allocate frequencies to their highest-valued users, with mixed results (Crampton & Schwartz, 2000; Klemperer, 2002). The capabilities (and limitations) of the regulatory apparatus emerged and

expanded as the industry itself took shape, and has continued to evolve as the technology matured. Today, formal legal institutions are struggling to keep up with market and technological developments in the area of intellectual property (e.g., digital media).[5]

How can such processes of co-creation be managed and/or directed to minimize the harm from rent-seeking, judicial and administrative error, regulatory capture, and regime uncertainty? We are unaware of any research examining this problem from a resource-based or dynamic capabilities approach; it seems like a promising opportunity for joint work by legal scholars, regulatory economists, and strategy scholars. More generally, researchers should look at the relationships among various levels of institutional and organizational activity, along the lines of the four levels suggested by Williamson (2000): *embeddedness* (informal institutions, customs, traditions, norms, and religion), the *institutional environment* (formal rules of the game such as property law), *governance* (the play of the game, as manifest in contracts and organizations), and *resource allocation and employment* (prices and quantities, and incentive alignment). Decisions about resource allocation, focusing on equating benefits and costs at the margin, are made moment-by-moment, while changes in governance, aiming to align governance structures with transactional characteristics, occur more slowly. Changes to, and the evolution of, the institutional environment and embedded norms take place even more gradually, and are (particularly in the case of embedded norms) typically the "spontaneous" result of unintended consequences. Research on public organizational capabilities must take the time dimension into account.

Private firms evolve and adapt in response to changes in the institutional environment, in efforts to create and capture value. Evidence on firm boundaries, for example, suggests that firms may internalize transactions as a response to weaknesses in the institutional environment. In

[5] Even in the case of the spectrum, critics charge that an open-access, commons-based model (e.g., fee simple rules with easement provisions) could make better use of modern frequency needs and capabilities than the current exclusive-license property-rights model (Faulhaber & Farber, 2003).

countries with stable legal institutions, relatively efficient courts, and reasonable default rules for contract terms, for example, contracts tend to be less complete. If contracting parties can rely on the courts to fill in the gaps, there is less need to write out every contingency? Likewise, if a country has an efficient external capital market, firms can be smaller and more specialized, relying more on the capital markets to allocate resources among business units. However, if the external capital market performs poorly, diversified business groups may arise to utilize their comparatively efficient internal capital markets (Khanna & Palepu, 2000). Having said this, Agarwal*, et al.* (2009) find that firms tend to establish better mechanisms for corporate governance in countries that already have strong rules for investor protection, suggesting a complementary, rather than substitute, relationship between aspects of the institutional environment and firms' preferred institutional arrangements.

This analysis suggests opportunities for developing strategic entrepreneurship theory. Resources exist at various levels, with their degrees of "publicness" and "privateness," endogenous to the levels at which they are managed. Consider, for example, as simple a resource as a truck. The truck may be privately owned by an individual and thus constitute a private resource. And yet if the truck were equipped with a GPS system or were used on public highways, then its complementarities with the national satellite system, its pollution characteristics, its contribution to road congestion, and the taxes paid on the vehicle would all constitute public resources. In a national defense emergency, the truck could be construed as a public resource as part of the national fleet of vehicles. How and when the public interest trumps the private interest of the truck owner depends on the nature of the resource itself as well as the agency relationship between public organizations and the individuals that constitute the public. The endogeneity of the resource's character to the public interest represents a major new research area.

4.2. Growth and governance

Behavioral views of organizations emphasize adaptive expectations, bounded rationality, organizational learning, routines, problemistic and/or slack-induced search, satisficing, sequential decision making, uncertainty avoidance, and the quasi-resolution of intra-firm conflict through the use of slack. To see how these characteristics are reflected in public organization, consider Higgs's (1987) analysis of the growth of government in the US in the twentieth century, which shows that many New Deal regulatory agencies were thinly disguised, quickly resurrected versions of similar, ostensibly temporary, agencies set up during World War I, enacting virtually identical policies.

Moreover, the expanded role taken on by the state during these periods remained largely in place once the crisis passed, leading to what Higgs (1987) terms a "ratchet effect." In the language of management theory, Higgs's (1987) general line of reasoning is that government officials (regulators, courts, and elected officials), as well as private agents such as business executives, farmers, and labor unions develop capabilities in economic and social planning during particular crisis periods and that, due to indivisibilities and transaction costs, tend to possess excess capacity in periods between crises. To leverage this excess capacity, they look for ways to keep these "temporary" measures in place.[6]

As capabilities emerge and develop they may also be shared between private and public organizations, partly through the "revolving door" linking top-level management positions across government and corporate entities. Defense contractors, global construction firms, and private

[6] Downs's (1966, 1967) influential analysis of bureaucracy emphasizes personnel dynamics, rather than the development of capabilities, as the driver of growth. Government agencies expand and contract in response to changes in public demands for their services. Because bureaucracies tend to concentrate decision authority at the top of the hierarchy, the personalities of top officials are particularly important, and periods of rapid growth tend to attract a disproportionate share of "climbers," who particularly value power, income, and prestige. Led by climbers, '[t]he bureau becomes continuously more willing and able to innovate and to expand its assigned social functions by inventing new ones or 'capturing' those now performed by other less dynamic organizations. Such further expansion tends to open up even more opportunities for promotion. This in turn attracts more climbers, who make the bureau still more willing and able to innovate and expand, and so on. Rapid growth of a bureau's social functions thus leads to a cumulative change in the character of its personnel, which tends to accelerate its rate of growth still further" (Downs, 1966: 19–20).

military companies whose senior leadership positions are occupied by former military and government officials are an obvious example. A 1971 congressional report on U.S. conglomerates described Litton Industries, then a major military contractor, as follows: "Sophisticated in the inter-relationships between the government and private sectors of commercial activities, Litton has sought to apply technological advances, novel management techniques, and system concepts developed in government business to an expanding segment of the commercial economy" (U.S. Judiciary Committee, 1971: 360) These "system concepts," of course, were the financial accounting and statistical control techniques pioneered by Litton CEO Tex Thornton in World War II, when heading the "Whiz Kids" at the Army's Statistical Control group (Sobel, 1984). Robert McNamara, his leading protégé, would then apply the same techniques to the management of Ford Motor Company, and later to the management of the Vietnam War (Byrne 1993; Shapley, 1993).

How are these kinds of co-evolutionary processes best managed and governed? Can they be channeled into uses that create social value? Here the role of governance is particularly important. Penrose (1959) emphasized that competitive advantage is generated not by resources per se, but the *services* of those resources. The value of these services depends on the knowledge and effort of the firm's management team (Foss, *et al.* 2008; Kor, 2003). As Alchian and Demsetz put it: "efficient production with heterogeneous resources is a result not of having *better* resources, but in *knowing more accurately* the relative productive performances of those resources" (1972: 793). Performance can thus be improved not only by substituting resources, but by replacing the top-management team.

Governments and government agencies are often slow to change leadership, however. Elections take place at infrequent intervals; agency heads are sometimes removed for poor performance but may be retained or replaced for political reasons. As noted, the creation of the US Department of Homeland Security as a recombination of the resources of seven previously existing, stand-alone agency provides an interesting case. Did this reorganization represent an efficient

consolidation, leveraging scale and scope economies by using fixed factors more efficiently and reducing transaction costs among operating units, or was it a political response to a crisis that avoided replacing members of the appropriate top-management teams?

4.3. Rules versus discretion

Just as private organizations are characterized by both rules and actions — what Pentland and Feldman (2008) call "ostensive" and "performative" aspects, respectively, of routines — public organizations have both their official, stated rationales and purposes, and their *de facto* policies and procedures. To what extent should these policies and procedures be constrained to follow fixed, typically formal, guidelines, as opposed to granting latitude and autonomy to public agents? This question recalls the "rules versus discretion" debate in monetary economics. Giving public agents the latitude to deviate from their expected routines raises challenging issues. Hayek (1960), in particular, maintained that public policy should be guided, wherever possible, by abstract, general rules, rather than discretionary procedures.[7]

4.4. Privatization and quasi-privatization

Consider, as another example, the placement of publicly-owned resources such as prisons and military capability into the hands of private agents for stewardship and deployment (Avant, 2005; Baum & McGahan, 2010; Cabral, Lazzarini & Azevedo, 2010). Private actors may be able to lower the costs of deployment, but the resources may not be preserved or developed in the public interest. Therefore, there may be a conflict between preserving the resource's value, and deploying the resource, in the public benefit.

Theories of regulatory capture, regulatory agency, public efficiency, and project finance have dealt extensively with the hazards and opportunities in private administration. Yet the transfer of

[7] On the tension between Hayek's (1960) emphasis on the rule of law and spontaneous order, see Daumann (2007).

resources for private administration for the public benefit is only one example of the ways in which private and public participants interact over critical resources. Opportunities for innovation through public–private partnerships, privatization, and public administration are sorely needed for addressing the public-policy that arises, for example, through the (temporary) public ownership of General Motors. What can the government accomplish in the stewardship of GM's resources that could not be accomplished when the firm was privately owned and managed? The deepest opportunities may reside in re-configurations of resources in pursuit of the construction of a national high-speed train system, or in the advanced of new standards for the promotion of highly-fuel efficient vehicles.

5. Concluding Remarks

This paper posits that resource-based, dynamic capabilities and behavioral approaches are applicable to the issue of the boundaries and governance of public organization and the public–private nexus. Indeed, some behavioral ideas may be even more relevant to public organization (March & Olsen, 1996; Scott, 1995). The leveraging of comparative advantages by public and private actors in market and value co-creation can provide a framework on the nature and boundaries of comparative economic organization, while behavioral ideas can add value toward explaining how to govern these activities. The analysis also points to the importance of examining the transitions in behavior that occur as resources pass from private to public control and vice-versa.

We emphasize that the next generation of strategic entrepreneurship research, applied to public issues, must go beyond unsophisticated views of state actors on the one hand, and overly optimistic views of property rights evolving toward efficiency via private contracting on the other hand. One of the first steps required is to join private contracting models of property rights evolution with the interest-group theory of legislations and government — what Eggertsson (1990) calls the *interest group theory of property rights*. Empirical research in public choice and positive political theory shows that the characteristics and behaviors of public actors can be parameterized and

incorporated into broad-sample econometric analysis (using data, for example, on agency size and growth, characteristics of agency management teams, budgets, characteristics of the regulatory code, and lobbying contacts between public agencies and private actors). Exploiting secondary data, as well as collecting primary data, on these characteristics should prove useful in examining the growth and diversification of public agencies, the persistence of agency behavior, and similar phenomena. In-depth case studies, whether historical (as in Higgs, 1987) or contemporary, should be valuable as well.

Finally, in terms of theory development, the current paper extends resource-based theories of private competitive advantage to the public sector by (a) identifying resources, (b) assessing the existence of strategic resources, (c) evaluating the sustainability of organizational advantage, and (d) assessing the appropriability of value by an organization. These extensions are summarized in **Table 1.** Dynamic capabilities and behavioral perspectives provide additional insights. For example, we maintain that the concept of market and value co-creation and the leveraging of resources and (differential) capabilities to effect this can, on the one hand, provide a novel explanation of the nature of the state and its growth, as well as the public-private nexus. On the other hand, behavioral ideas, such as bounded rationality, the absence of a clear objective function, and the use of slack in conflict resolution (as well as ways in which organizational and incentive structures emerge and can frame decisions and filter information) can help explain the failure of many public organizations to achieve sustainable value and market co-creation. The devising of governance structures to obtain this objective is critical for efficient public governance, and can be realized through the leveraging of strategy and political entrepreneurship scholarship. We can and will do better.

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Table 1: The extension of resource-based theories of private competitive advantage to the public sector

	Private	**Public**
Identification of resources	Owned or controlled by identifiable individuals or groups operating voluntarily in a market setting	Owned by states or any communal authority that has the ability to use legally sanctioned coercion to acquire and deploy
Criteria for assessing the *existence* of strategically important resources (Barney 1991)	Useful for assessing the source of competitive advantage defined in terms of superior performance over rivals	Useful for identifying how and why decision rights are allocated across public agencies; amenable to the analysis of the emergency, boundaries and growth of public agencies
• **Valuable**	Resources must be deployable into a commercially valuable process where they may yield returns	Resources must be deployable into a publicly valuable process that is adjudicated through budget allocation, re-election, or re-appointment
• **Rare**	Resources must be scarce, and in particular must be difficult to acquire among rivals who compete to attract the returns to the resource	Resources must be scarce, and in particular must be difficult to acquire by rival agencies that seek to perform the services of the focal agency
• **Inimitable**	Resources must be hard to imitate either through construction or acquisition	Resources must be difficult for rival agencies to create or acquire either through market processes or by coercion
• **Non-Substitutable**	Resources must not be subject to being "built around" or substituted	Resources must not be subject to being "built around" or substituted
Criteria for assessing *sustain-ability* of organizational advantage	Useful for determining whether competitive advantage will persist over time	Useful for determining whether an organization will persist over time
• **Difficult to transfer**	Akin to rarity -- Resources must be tied uniquely to the organization to confer sustained advantage upon it	Resources must be identified or tied uniquely to the focal agency to confer sustainability
• **Inimitability**	same as above	same as above
• **Non-Substitutability**	same as above	same as above
• **Durability**	Resources must endure to create long-term advantage	Resources must endure to be the basis of longevity
Criteria for assessing the *appropriability* of value by an organization • **Complementarity**	Multiple assets enable the achievement of organizational goals	Resources are combined within agencies in pursuit of organizational mandate, mission or goals
• **Property rights**	The ability of a controlling organization to exclude others from profiting from the deployment of the resource	The ability of a controlling agency to conserve the resource in support of the achievement of mandate, mission or goals
• **Governance**	The organization's ability to deploy resources more effectively and efficiently than potential rivals	The organization's ability to deploy resources more effectively and efficiently than challengers to the agency's position
• **Embeddedness**	The ways in which an organization builds clusters of activities and complementary resources around the focal resource	The ways in which an organization builds clusters of activities and complementary resources around the focal resource