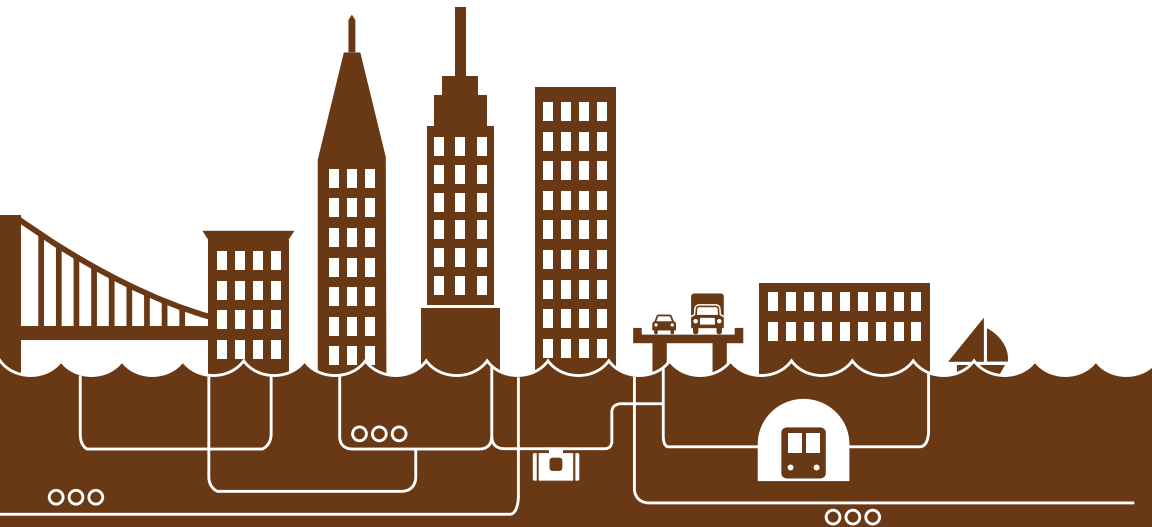


PRIVATE MAINSTREAMING: CONTRACTS AND ADAPTATION

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ABSTRACT:

This article develops a concept for 'Private Mainstreaming,' which is a process for developing intra-organizational capacities to horizontally identify, manage and diffuse value-add innovation primarily through the utilization of contracts. Private Mainstreaming is an extension of the concept of 'Public Mainstreaming' wherein climate policies are horizontally integrated across a variety of divisions and agencies with the intent to build cross-linkages across heterogeneous actors based on the emergence of common values and language. This concept is premised by an examination of the nature of institutional and legal adaptation through the mechanisms and influences of rules. While adaptation scholarship has focused almost exclusively on public law and policy, understanding the nature and mechanisms of private sector adaptation through contracts is critical to understanding larger dimensions of socioecological and institutional adaptation. This article sets the stage for future research into the operationalization of organizational mainstreaming in the promotion of more robust adaptive capacities in the private sector.

KEY WORDS:

Mainstreaming, Climate Change, Adaptation, Institutionalism, Law & Economics

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I. INTRODUCTION

The severity of the impact of climate change on civil society will depend on the extent to which society will be able to distribute limited resources in order to mitigate risks, to invest in resilient social and physical infrastructure and to build adaptive capacities to accommodate the larger social, economic and environmental unknowns. Arguably, the widely distributive impact of climate change is well beyond the capacity of the public, private or civic sectors to accommodate in isolation. It is assumed that, in the best case scenario for reasons of equity and justice, it is the rule of law which will help guide the allocation of capital to make investments necessary for a collective process of adaptation which results in co-benefits between the public and private sectors (Paavola and Adger 2002; Adgar 2006; Toth 2013). However, absent positivist public laws which impose or facilitate adaptation across sectors, adaptation in the private sector is dependent, in part, on process and technological innovations that create new value that offsets the costs of change (Stern 2007; Fankhaeser, Sehleier and Stern 2008; Gans 2012). Without value-added innovation that inures, in part, to private beneficiaries, private capital is unlikely to be motivated to make investments which offer co-benefits for public beneficiaries, unless those co-benefits offer equal or greater levels of return relative to alternative investments which bear exclusively private benefits (Lockie 2013).

This raises a broader research question—assuming that political and institutional stagnation thwart the ability of society to resolve the competition for limited resources in a timely and efficient manner—what role will positive law have in the promotion of adaptation which advances benefits to an equitably distributed class of public and private interests? This article argues that while the scholarship has focused on the socioecological adaptation through the operations of public law and policy, private law should also be evaluated as an equally critical and flexible instrumentation for the promotion adaptation. This argument is premised in part on the position that institutional change is based on both exogenous and endogenous influences that may arise from the operations of climate policy and contracts, respectively. This research examines the extent to which the adaptation of private law through contract, together with specific organizational processes, can and does promote the capacity of organizations to adapt.

Scholarship has identified a process of Public Mainstreaming (“Public Mainstreaming”) wherein elements of climate change planning and design are incorporated horizontally across a wide array public sector policies and agencies (Kok and De Coninck 2007; Brouwer, Rayner and Huitema 2013; Wamsler, Luederitz and Brink 2014). The intent of mainstreaming is to develop a process of horizontally integrating climate change policies from across

an organization and/or organizations with the intent to build cross-linkages across heterogeneous actors based on the emergence of common values and language (Juhola and Westerhoff 2011). For these reasons, Public Mainstreaming is argued to be a more effective alternative to designated climate policies which are top-down and generally do not benefit from modes of experimentation or even the validity generated by more localized decision makers and circumstances.

This article argues that the general principles of mainstreaming also apply to the private sector. The concept of Private Mainstreaming ("Private Mainstreaming") suggests that value-add innovation may be: (i) identified and managed by organizational structures that mediate conflicting interests and define common values; and, (ii) memorialized and diffused by contracts. Innovation must be distinguished as creating additional value that, at the minimum, off-sets the costs of adaptation, as institutional and organizational changes bear a transactional cost and perhaps an opportunity. Through an examination of existing literature, and as exemplified through hypothetical scenarios by and between real estate assets, organizations, markets and rules, the concept of Private Mainstreaming sets forth a logical explanation for how firms are likely to adapt or develop the capacity to adapt.

Private Mainstreaming has potential applicability, as firms develop management processes and structures for promoting

the capacity of the firm to recognize and diffuse innovation. This has been particularly true in recent years with the development of adaptation units in Fortune 500 companies to management supply chain disruptions (Westervelt 2015). Ultimately, Private Mainstreaming could be viewed as an operation for the promotion of a firm's adaptive capacity which is theoretically dependent on modes of organizational and human intelligence for the recognition and management of change (Staber and Sydow 2002; Grothmann and Patt 2005; Pahl-Wostl 2009; Keenan 2015a). To this end, this research may also contribute to a larger debate as to the merits of the 'Porter Hypothesis' (Porter 1991; Porter and Van der Linde 1995) by showing that organizational processes and non-regulatory policies (e.g., disclosure, communications, etc...) help explain why firms may or may not economically benefit from environmental innovation (Arjaliès and Ponssard 2010, Ambec, et al. 2013).

As climate change accelerates in its impact on the built environment, the promotion of the adaptive capacity of actors within the built environment is critical for preventing a potentially broad distribution of transactional costs associated with a failure: (i) to mitigate risks; (ii) to be resilient to known risks; and, (iii) to be adaptive to the long-term known and unknown risks occurring within the useful life of individual assets, portfolios and cities at-large. A failure to build adaptive

capacities is likely to result in amplified impacts which cut across private and public sectors; and, as such, Private Mainstreaming may provide a useful concept for building adaptive capacities when public law and policy otherwise falls short in accommodating innovation.

II. RULES AS MECHANISMS OF ADAPTATION

A. INSTITUTIONAL ADAPTATION

Institutions can be defined as a set of rules guiding the behaviour of its members across time and space (Giddens 1984). These rules take time to develop and offer a degree of stability for its members through common practices and traditions. At the same time, institutions are constantly in a state of flux as rules evolve and adapt (Id.). For the purposes of this article, the institutions of the built environment are defined by the rules and norms which operate to guide the financing, development, design, operations and transactions of property, real estate and infrastructure. Therefore, to conceptualize the adaptation of the institutions of the private sector and its constituent actors (e.g., organizations/firms), it is necessary to conceptualize the nature of rules as they relate to the evolution and adaptation of institutions. Thereafter, rules—as manifested in the rule-of-law—can be understood as mechanisms by which human intent

may have some control or design, for better or for worse, over the process of adaptation.

The formation and evolution of institutions follows three primary lines of thought (Hall and Taylor 1996). Rational Choice Institutionalism (“RCI”) argues that the “rules of the game” are exogenously derived and serve as a constraint on behavior (Shepsle 2008). RCI has positioned institutions as positive social phenomena which are made up of formal and informal rules which produce desirable and stable outcomes for its members. RCI acknowledges a set of individual preferences of its members and provides a platform for reducing transaction costs over the course of regular interactions between its members. One limitation to RCI’s functionalist view of institutions which hinders its application for understanding institutional change, “[is] that it deduces preferences of actors from the structure of existing institutions, when in fact they may embody past choices that no longer reflect current concerns.” (O’Riordan and Jordan 1999: 84). As will be discussed in the adaptation of public law, this has been viewed to be significant problem which motivates adaptation.

An additional line of thought is derived from Sociological Institutionalism (“SI”) which argues that institutions are endogenously derived as the “‘play of the game’ or strategies created when agents repeatedly interact in a particular

situation.” (Brousseau et al. 2011:10). As individuals regularly play a game they develop a belief system about others’ strategies in that game that forms the basis for a confirmation as to the stabilizing equilibrium of the game. In this sense, SI believe that institutions shape the rules of the game and the range of individual options for playing the game based on their own preferences, which are themselves rationally grounded in a set of socially defined morals. This is in contrast to RCI which argues that preferences are individually maximized as a matter of classical economics, and, as such, they drive the formation of the rules and hence the formation and operation of the institution itself.

This intrinsic and extrinsic divide between defining the game and responding to the game represents the ontological duality inherent in institutions in that an institution’s members ultimately define and change the institution but are at the same time operating within predicate and historical institution(s) which in some measure are creating path dependencies—if not a range of constraints—on their behaviors. Historical Institutionalism (“HI”) acknowledges this duality in that it attempts to explain the existence of institutions based on predicate and historical institutions which created path dependencies for actors as the institutions evolve (North 1990; Thelen 1999). This body of theory originated as a means of explaining why two or

more different states approach the same problem with very different rules and formal institutions. In contrast to RCI, as interpreted by W.R. Scott, HI argues that “[i]ndividual preferences are not stable and often result from rather than precede or determine choices. Institutions construct actors and define their available modes of action; they constrain behavior, but they also empower it” (Scott 1995: 27). As Thelen notes, there has been a great deal of cross-fertilization between HI, RCI and SI, as HI allows for a “narrative” (i.e., social constructionist) explanation of empirical phenomena at a macro-scale from which RCI and SI theory was not well suited to validate and/or explain in their focus on the micro (1999: 371).

This article attempts to construct a narrative for the institutions of commerce that attempts to describe what is likely already happening as a matter of organizational adaptation through contracts. The division between exogenous and endogenous rules is analogous to the division between public climate policies and private contacts. As Fitzpatrick notes, “[i]nstitutions-as-constraints theories focus on institutions as exogenous rules of the game. Institutions emerge through political processes of interest group bargaining rather than the equilibrium coordination of interacting individuals.” (2014: 3) Therefore, it is assumed that public climate policies are an outcome of political interest group bargaining and not equilibrium seeking behavior

of coordinating agents, as is the case in the endogenous rules of institutions. As such, it is the operations of contracts and game playing that resolve in a coordinated equilibrium defined by the exchange of resources that is analogous to endogenously derived rules. This division is important to the extent that this article assumes, like HI, that institutions may change and adapt by a combination of exogenous and endogenous influences. Therefore, if society focuses largely on matters of public policy in addressing climate change, it may be missing an opportunity to advance adaptation through private contracts which may have an equally impactful influence on the adaptation of institutions that are critical to society.

In terms of timing and pace, theories of institutional change run along a spectrum from radical to organic evolutionary change (Hayek 2013). The middle ground is one populated by incrementalism and the notion of institutional design which is loosely defined by a deliberate imposition of rules which cause, influence or perhaps accelerate institutional change (Bromley 1991; Alexander 2002). It has been suggested that institutional design is at the core of planning practice, regardless of whether one follows the rational and communicative models (Innes 1995; Innes and Booher 2015). However, scholarship has been largely focused on a clear dichotomy of design versus evolution (Gualini 2001; Buitelaar, et al. 2007). Not all institutions are created

the same, and different modes of change and evolution may apply to different institutions (North 1990). As will be discussed, the implementation of processes consistent with Private Mainstreaming may be viewed to be consistent with institutional design as a deliberated act or acts that promotes an adaptive capacity of the organization. By contrast, the mechanisms (i.e., rules) of the adaptation of institutions are in a constant state of flux (e.g., gradual shifting of contractual terms and values) which is consistent with the incremental nature of evolutionary change. Therefore, it is assumed that the adaptation of institutions is likely a combination of design and evolution that are in dynamic response to exogenous and/or endogenously derived rules.

B. LEGAL ADAPTATION

Adaptation is a process and is measured by a host's capacity to adapt (Keenan 2015a). Adaptation is not an absolute good. Adaptation at one scale and one perspective (e.g., private interests) may be maladaptive at another scale and perspective (e.g., public interests)—and, vice-versa. Private sector adaptation may result in inequalities; and, as such, the design of an adaptive capacity has a latent moral imposition. In addition, it is the operation of property rights and contracts that likely contributed to the acceleration of human induced climate change (Harstad 2012). However, contracts are morally neutral instruments even though they may transfer moral

intent (Haran 2013; Fried 2015). The intent of this section is to provide some theoretical legal basis for describing what is likely already happening in the process of organizational adaptation through contracts. While this adaptation may result in inequalities, it may also result in co-benefits that inure to public beneficiaries. This is particularly true in the built environment where public and private divisions of space and capital are not always clear.

While elements of this Private Mainstreaming are normative to the extent that their incorporation may advance a firm's adaptive capacity, the overall concept is likely to be descriptive of current or actual phenomena in the operation of law. Thinking about the evolution and adaptation of law is not a recent phenomenon, as one might expect with the recent proliferation in the complexity of law. Writing in 1924, Benjamin Cardozo viewed the adaptation of law as a function of judicial discretion when he wrote, "[i]f abrogation is permissible in cases of extremity, still more plainly permissible at all times is continuing adaptation to varying conditions. This is not usurpation. It is not even innovation. It is the reservation for ourselves of the same power of creation that building up the common law through its exercise by the judges of the past." (1924: 137). However, Cardozo's perspective was relatively narrow in terms of the larger social and equitable values of interpreting common and statutory law within the confines of nuanced facts and/or changing moral or cultural values (e.g., preferences).

The legal theorist Wolfgang Friedmann (1959) argued that there were two fundamental restrictions on the unlimited adaptation of the law that Cardozo referenced. The first restriction is based on the operations of constitutional law and common law precedent which imposes restraint on judicial discretion. The second restriction is the necessity to balance the utility of adaptation with the value of certainty in the law. Friedmann observed that following periods of judicial adaptation of the law to social problems, there were generally subsequent periods of "consolidation and reaction" (Friedman 1959: 28). The often underappreciated intellectual impact of Darwinian evolution on jurisprudence has held that incremental change of laws are function of "[e]volution, not revolution; slow and unconscious adaptation, not self-conscious institutional engineering..." (Ackerman 1991: 6). Therefore, it could be argued that legal adaptation in its plurality of process is fundamentally not an outcome of institutional design but evolutionary process.

With the emergence of positive economic analysis, scholars have argued that not only was common law effective in its ability to adapt but it was also efficient (Posner 1977). This led to a great deal of debate as to nature of the biases of judges and litigants and the incentives of the parties for either rent-seeking or efficiency seeking actions. In a parallel line of thought to adaptive capacity (Fazey 2007; Pelling, et al. 2008), some have carried this research

forward by examining the extent to which legal adaptation is predicated on a court's capacity for learning and for acquiring information (Hadfield 2011). However, this larger body of scholarship from Cardozo forward was predicated on the assumption that litigation was the principal mechanism for adaptation. Given the complexity of the existing vast amount of administrative and regulatory law, the more contemporary discourse on the adaptation of law has focused on the internal designs of administration and management of laws and regulations.

In terms of regulatory and administrative law, the current state of environmental, natural resource and land use law provides a highly relevant perspective, especially when contextualized to climate change and the built environment. As Craig (2010) observed, these legal regimes are ill equipped to deal with climate change because they are based on stationary principles of preservation and conservation. Craig calls for a series of bi-modal legal principles which balance flexibility and discretion on one hand and precautionary principles on the other. In a framework for adaptive management, Craig and Ruhl (2014) carry forward these principles through formulation of an administrative system which is not exclusively reliant on 'front-end' analysis and the rationality of the present. The authors position an alternative administrative order which builds in more periodic moments of discretion and a greater role for the public as means of gathering intelligence about the nature

and impact of environmental change. The authors contrast this adaptive management approach with the broad strokes of market based mechanisms. As will be discussed, a concept for Private Mainstreaming—which operates in part on a finite scale of bi-lateral contract negotiations premised in part on market forces—it is also reliant on administrative innovation to give legitimacy to the innovation that the process of mainstreaming seeks to validate, transact and diffuse. For example, technological experimentation of energy systems in a building will need to pass muster with building code administrators who might not otherwise be incentivized to or oversee an experimental technology.

This is consistent with what many have normatively positioned as a response to the complexity of law, in that collaborative (e.g., public and private) mechanisms of policy making arguably offer a wider range of potential paths which address, in part, the problem of path dependencies of historic decisions based on information which is now out of date (Axelrod 1997; Dorf and Sabel 1998; Hornstein 2005; Broto and Bulkeley 2013). There is now global recognition that local governments offer the optimal scale for legal, process and technical experimentation (Amundsen, Berglund and Westskog 2010; Brunner and Lynch 2013; Nalau, Preston and Maloney 2015).¹ As Flatt (2012) argues, local political will together with broad police powers—albeit delegated—place local governments in a position to tailor local solutions to local

problems which may not be perceptible or scalable in terms of responsive or preparatory interventions by the federal government. As such, an evaluation of the adaptation of law in the advancement of larger measures of socio-ecological adaptation is perhaps most fruitful at the local level and within the confines of the built environment which is almost entirely a function of local governance, economy and society.

Because public and private interests are so interconnected within the built environment at a local level, this scale provides a ripe level of analysis for understanding the experimentation and diffusion of innovation which is dependent on the adaptation of not only public law and legislative policies but private law and market rules and norms. There is some empirical precedent for the role of private contract law driving institutional adaptation as mediated by public law. This occurred most notably with the promulgation of various state and federal brownfield amendments that allowed risk to be managed through contract, including insurance contracts, in the remediation and redevelopment of toxic brownfield sites (Keenan 2005). The result was a great deal of innovation in terms of governance and technology which led to a new generation of brownfield sites being redeveloped (Orts and Deketelaere 2001; Wernstedt and Hersh 2006; Buchanan 2010).

In relating institutional theory to the legal scholarship cited herein, it can be argued that public climate policies are largely exogenously derived through plurality of the legislative and judicial processes and that private contract formation is largely endogenously derived through strategic game playing in markets. Together these exogenous and endogenous influences drive larger cycles of institutional formation and adaptation. Again, this division is not clear-cut because even the rules of the game are historically path dependent on a point in the institutional cycle where rules might have been exogenously derived, and even exogenously derived rules are subject to some measure of game playing by judges and litigants. Brousseau and Raynaud make a complimentary argument which acknowledges the limitation of exogenously derived rules that are mitigated in part by the operation of contracts.

These rules may take the form of state-level collective rules or social norms that grant agents initial rights and offer coordination solutions, thereby setting the initial transaction costs. However, this order is both incomplete and imperfect. It is incomplete because it cannot cover the diversity of coordination needs of heterogeneous agents; it is imperfect because it provides only

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1. Under COP21, local governments will for the first time have a seat at the table in global climate change negotiations in Paris in December, 2015.

broad, general solutions that may not be well adapted to particular or evolving situations. For this reason, agents have an incentive to make individual efforts toward tailoring their property rights over economic resources, transferring these rights, and ensuring that they are enforced (Barzel 1989). Such efforts take the form of bilateral contracts between parties that (incompletely) describe each party's commitments and related enforcement devices (2011: 68).

By focusing exclusively on the adaptation of relevant commercial institutions as designed by public climate policies, the scholarship has overlooked the value of a theory of adaptation driven in equal measure by contracts which are produced at a much more finite scale (i.e., bi-lateral regulated market negotiation) and are arguably more facile in their ability to coordinate collaborative partners. If contract law is the instrument of the diffusion of innovation, then it is the process of Private Mainstreaming where contracts, rules, organizations and institutions collectively adapt in a synchronistic fashion yet be explored. It is not one or the other—it is a combination of influences between policy and contract that will give some measure of design to the ongoing evolution of markets and firms.

This research is positioned with a larger known phenomena as to the lag between innovation and regulation

which poses a significant barrier the rule mechanisms of adaptation (see generally, Oster and Quigley 1977; Jaffe and Palmer 1997; Brunnermeier and Cohen 2003). When contextualized to the built environment, innovation comes in multiple forms generally attributable to technological innovation in building and infrastructure systems and process innovation (e.g., regulatory experimentation) in land use and environmental planning. While the latter is principally driven as a matter of process by public law, it is the former which is the primary object of the concept developed herein.

III. PRIVATE MAINSTREAMING

This article extends the concept of mainstreaming in the public policy domain to the normative concept that private sector organizations (i.e., firms) at various scales are able to mainstream adaptation through corporate actions and strategies, as instrumented through contract. As noted above, the notion of adaptive management leaves open the door for the relevance of public, private and public-private contracts. As a general principle, mainstreaming is a process of horizontally integrating climate change policies from across an organization and/or organizations with the intent to build cross-linkages across heterogeneous units based on the bottom-up emergence of common values and language. The intent is to facilitate a series of homogeneous translations as to the nature of impacts

and the definition of interventions and strategies to address known, anticipated and unknown impacts and risks. If mainstreaming is successful, then the adaptive capacity of the subject organization is more robust in that the organization has the capacity to identify, utilize and transact innovation which is critical for addressing risks and opportunities associated with climate change.

In the context of Public Mainstreaming, innovation is derived largely from process innovation in terms of administration and management within local and/or state government. This process innovation also serves to advance the identification, evaluation and promotion of technological innovation, as in Private Mainstreaming. However, with Private Mainstreaming, innovation may manifest along more conventional pathways of operation and transaction which may or may not be subject to same degree of institutional constraints, as previously referenced in the stationarity of law and HI. As innovation is defined and property rights are assigned thereto, mechanisms which promote institutional change scale up from within the organization to a constellation of organizations and then beyond to a wide array of actors and institutions.

This article will use the fiction of a building, a real estate firm and set of related built environment actors to illustrative the

concept of Private Mainstreaming. It is first useful to conceptualize the nature of the intent and operationalization of mainstreaming in a commercial context. Climate change poses a vast array of stimuli with varying degrees of proximity to climatic conditions which may be distilled to costs relating ultimately to either supply or demand. Likewise, it is assumed that a private firm's goal is to seek a state of stable equilibrium which maximizes profit and minimize costs. As such, value-added innovation is a mechanism for minimizing costs and creating additional enterprise value through the exploitation of opportunities in response to and/or preparation for the disruptions in either the supply and operations of buildings or the demand from users and investors.

A. INTRA-ORGANIZATIONAL PROCESSES

In more immediate terms, the goal of strategically mainstreaming in the private sector is two-fold. First, it contextualizes a specific risk which may be unrealized to a known range of problem-solution sets within an existing organizational capacity. This is important as a means of identifying and communicating the risk and for deliberating contextual modes of action for addressing the risk. For example, flooding within commercial buildings has historically impacted below-grade critical buildings systems which have in turn impacted user operations. By mainstreaming the risk within

design, maintenance and operations departments of an organization, there exists an opportunity to reference not only the technical or physical impact of flooding but also how and to what extent those physical risks may be manifested on the operations side of the asset in terms of business continuity of users, for example. By compartmentalizing and dividing a singular risk into multiple risks managed by different departments within the organization, there exists an opportunity for the collective organizational enterprise to become adaptive to not just the risk of flooding but other related risks such as power surges and brownouts on hot days. This method has been observed to be consistent with managing supply chain risks in highly turbulent markets, wherein each element of risk is positioned within the context of systematic and dependent relationships for each relevant division/unit of a firm (Trkman and McCormack 2009).

Second, by aligning multiple benefits from a singular cost—or, a relative incremental cost of mainstreaming—it increases the marginal benefit of the action in terms of the static benefit of the intended original object of action (i.e., state prior or parallel to mainstreaming), as well as the benefit associated with risk mitigation and/or transfer. In returning to the example above, a department responsible for overseeing design of a critical power system may

require a passive connection to the electrical system for autonomous power generation. The cost of implementing this technology may only add one or two percentages points to the cost of the power system. The reason for this design requirement may be based on the mainstreamed deliberations from both the operations and maintenance departments within the organization. In the example above, the relatively limited incremental costs of designing and constructing a passive connection may mitigate business continuity risks which minimizes actuarial risk that may be reflected in lower insurance premiums among other benefits. Of course, if the amortized cost of this incremental technology is grossly misaligned with the actuarial, actual or perceived risk in net present value terms, then it might not be worthwhile to proceed; but, this too is also a positive outcome to mainstreaming as adaptation may involve both action and inaction in the allocation of resources.

A challenge and opportunity then to mainstreaming which unites the first and second strategic processes is to promote consistent measures of value and risk across departments and to aggregate benefits which may accrue to the actions of one department at costs borne by another department. An early review of case studies in interdepartmental conflicts, suggests that the management of these processes is accomplished

through a combination of rewards and consequences (Walton and Dutton 1969). Empirical research in the intra-organizational diffusion of IT has suggested that managing departmental conflict is most effective when: (i) inter-departmental contracts are utilized to enforce incentives and consequences; and, (ii) contracts that are regularized are more effective than limited one-time contracts for shaping this cooperative behavior (Bhattacharjee 1998). In the example above, the design department now bears a higher construction cost which benefits the operations and maintenance departments. This disconnect between departmental accounting may result in certain frictions. However, mainstreaming in the private sector could be conceptualized to not only include adaptation internal to each department but across departments. In this dual intra-organizational scale, the top-down cross-departmental deliberation may act to net-out these disparate departmental allocations of costs and benefits as a both a methodological or accounting proposition (e.g., formal contracts) and as a political or communicative proposition (e.g., informal contracts). The question then becomes what is the normative executive hierarchy of departments or personnel which could mediate and execute mainstreaming?

Prior research has suggested that senior executives in small and mid-sized firms and corporate real estate and service

executives in a large firm have served this mediation role (Keenan 2015a, 2015b). However, this is unlikely to be scalable or sustainable as the diversity of external influences is beyond the capacity or attention of leadership that is tasked with a variety of tasks and roles. Research in technology firms have suggested that each department or division should be responsible for not only mediating and resolving conflicts, but they should anticipate and plan for conflicts that might arise as innovation is first identified (Marshall and Vredenburg 1992; Meyers, Sivakumar and Nakata 1999; Kim and Pae 2007). While the answer to this question is entirely dependent on a variety of conditions outside of the scope of this article, it is hypothesized that several departments may serve this cross-departmental intra-organizational role depending on the nature of the subject innovation, as characterized by its compatibility, complexity and observability (Kim and Srivastava 1998). As previously cited, many corporations now have designated adaptation units that have to-date mainly focused on supply-chain disruption. As such, should innovations specific to the built environment be advanced by an adaptation unit that focuses exclusively on elements relating to technological and process innovation? Empirical research across a variety of technology dependent industries has suggested that a focused unit with a refined capability to design contracts is likely to be the most effective organizational structure to promote innovation (Argyres and Mayer 2007).

The most immediate facet of corporate strategy for mainstreaming is within the risk management department. Enterprise risk management is generally an autonomous department within an organization which identifies, mitigates, avoids, absorbs and transfers risk in various other departments including, strategic planning, marketing, accounting, compliance, governance and ethics, law, operational quality assurance, design and construction, operations, asset management and audit departments. While the identification and management of risk falls within the risk management department, the department may or may not be able to enforce or mediate mainstreaming across other departments depending on the organizational governance structure and the department's level of sophistication in identifying and managing risk which often falls outside of known actuarial parameters (i.e., statistical probability) and/or methods (i.e., inability to measure non-proximate phenomena yet to exist). Borgelt and Falk argue that risk management tends to 'dumb down' complexity that works against the development and diffusion of innovation (2007). Prior research suggests that risk management departments in real estate firms are ill equipped to incorporate climate change into their methodologies and practices (Keenan 2015b). Other potential departments which conventionally work across various departments are strategic planning, law and operations. However, each one of these departments may be subject to the same aforementioned

institutional and practical limitations. These constraints reinforce the arguments for a designated specialized unit consistent with the findings of Argyres and Mayer (2007)

The process of incorporating mainstreaming may be department specific in its initial stage with secondary phases being defined by cross-departmental sub-organizations and/or processes that mediate and execute mainstreaming across departments as those frictions arise. From a macro perspective, the creation of new processes and the modification of existing processes as a consequence of mainstreaming within an organization, whether that is for conventional risk management or the utilization of new technologies, represents discrete notions of process innovation. Therefore, the optimal outcome is the identification and underwriting of innovation so that future assignments of value and property rights may be managed pursuant to contracts outside of the organization. However, it is also conceivable that intra-organizational agreements also serve as an instrumentation to similar ends, particularly as it relates to motivating cooperation through incentives and consequences by managers

B. CONSTELLATION OF ORGANIZATIONS

Aside from the advantages

and hurdles to mainstreaming in an intra-organizational context, there exist influences within a group of organizational actors which also bears influence on institutional change in favor of adaptation. While some have theorized that institutions possess an innate adaptive capacity independent of the operation of rules and norms (Gupta et al. 2013), the limited definition utilized herein of institutions as merely rules and norms suggests an alternative perspective on institutional change and adaptation. Through an actor-oriented perspective, this article conceptualizes a 'constellation' of organizations which relate to each other through multi-lateral interactions—in this case, in the built environment—in both cooperative and non-cooperative terms (Scharpf 1997). It is assumed, as Scharpf identifies, that institutional change can either be deliberate by design or can be through evolutionary processes of mutual adaptation (Brennan and Buchanan 2008; Shivakumar 1998). Of course, one notable exception to this horizontal cooperation is the provision of anti-trust regulation (Jorde and Teece 1993). By mutually aggregating incremental exercises in risk taking in the advancement of innovation, the constellation can more fluidly and flexibly accommodate change. This is particularly relevant for real estate where the costs of institutional non-compliance are great by virtue of the fixity and lack of diversification and hybridity of property rights for land and buildings.

While the mainstreaming processes may be different at this intermediate constellation scale from those of the intra-organizational scale, the discrete innovative outcomes derived from intra-organizational mainstreaming may be diffused through the constellation by the instrumentation of contract as mechanism of mutual adaptation (Williamson 2002). Case studies in multiple sectors have identified firms that have developed intra-organizational contracting capacities that have advanced inter-organizational innovation, including aerospace (Crocker and Reynolds 1993), IT (Kalnins and Mayer 2004), biotechnology (Lerner and Merger 1998) and healthcare (Rolfstam 2008). In continuing the example above, let us assume that Firm A undertook the mainstreamed actions cited above in designing, installing and operating passive energy connections for autonomous power generation. At the same time, Firm B has mainstreamed a variety of strategies within their legal and accounting departments, and, as such, these departments are aware of the value associated with the technology. If Firm A contracts to sell to Firm B, and Firm B requires contractual language which requires Firm A to warrant the condition of the equipment, then Firm B is benefiting from constellation level mainstreaming. It is also possible that Firm A benefits because it can now assign value to the technology in a manner which is

understood by Firm B's accounting department and is allocated to the purchase price. Even if Firm B did not recognize the technology and its underlying value, Firm A's contract (or, offer) would put Firm B on notice of the innovation whether or not the transaction closes. As this contractual language is proliferated and modified by and between Firms A and Yx and B and Xy, then a variety of actors and institutions are adapting by virtue of a change and/or modifications of the rules and norms.²

Overtime, as these contracts create larger bodies of private law, they themselves form the basis for an intermediate level institution which supports innovation (or, at least particular types of innovation such as technology). This is consistent with Brousseau and Raynaud's theory that,

Intermediary institutions emerge to address coordination problems at a lower cost than bilateral and generic devices. Collective ordering yields benefits due to the combination of at least three effects in the design and enforcement of rules: economies

of scale and scope, learning and specialization benefits, and reduction of collective welfare losses by managing interdependencies among community members (2011: 68).

An example of this intermediate institution grounded in contract and private law is the Leadership in Energy and Environmental Design (LEED) standards promulgated originally by the U.S. Green Building Council— itself positioned within a constellation of organizations. The rules of the program were designed to promote technological innovation in building systems, design and management and were ultimately diffused by everything from local community benefits agreements to covenants within commercial leases for tenants operation in the buildings. Likewise, when many LEED buildings did not perform as they were predicted, it was litigation based on contract rights which helped drive not only another generation of technology but another generation of more sophisticated contracts. This highlights the mutual dependency between public and private law as an influence of institutional adaptation.

2. Of course, it could also be maladapting if the economic allocation of resources to manage a risk are ultimately inefficient by virtue certain biases and illusions collectively shared by the organizations within the constellation that do not represent actuarial or actual risk. Likewise, innovation may possess both positive and negative values in its utilization and generalized application.

C. RELATIONSHIP BETWEEN PUBLIC AND PRIVATE MAINSTREAMING

Aside from mainstreaming innovation in contract, cooperative or semi-cooperative behavior in the diffusion of innovation may be motivated by factors which are not necessarily reducible in immediate terms to monetary value, such as social approval (Rege and Telle 2004). One form of social approval is regulatory approval, which coincidentally may also be reduced to a monetary value in terms of timing, efficiency and risk and/or may also be reduced to contract (e.g., community benefits agreement, brownfields contracts, etc...). For instance, regulatory process innovation by one actor may set the stage for other actors to benefit and for collective adaptation as referenced through constellation interaction. A classic example of this is the constant development of on- and off-site mitigation interventions and strategies developed pursuant to various wetlands and environmental regulations, such as within a wetlands banking platform (Robertson 2004). The innovation is either in terms of bioremediation technology or methodologies for assessing impact and benefit. Contractual agreements with the Army Corps of Engineers and various agencies are closely monitored by industry in order to place a price and a risk metric to certain untested innovations.

Mainstreaming in the literature is conventionally referenced to acts within public policy development which are horizontal in the sense that legitimacy is derived from the alignment of adaptation with other public policy goals—very often with dominion over private actions and benefits (Klein et al. 2007; Buuren, et al. 2014). Unfortunately, the private sector is often too quickly conceptualized as providing “constraints” to the legitimacy or efficacy of mainstreaming in the public sector (Dovers and Herzi 2010: 218). To the contrary, private actors may initiate bottom-up regulatory mainstreaming through the promotion of value which benefits regulators or even the general public.

In returning to our hypothetical scenario, there may be a situation in which the laws and regulations relating to the energy, environmental and construction domains have not explicitly caught up with the passive energy technology sought to be utilized in the building by Firm A. If Firm A takes the steps to lobby for and even litigate for the adoption of public policies and regulations which allow for the utilization of the technology, then Firm B, Y_x , and X_y all benefit from these actions which may arise by virtue of contract or by their own independent use of the technology in other buildings. Pursuant to this example, these benefits—assuming a positive value innovation—would be amplified as they scale up from the building to the organization to constellation of organizations and perhaps even to

intermediate institutions which allow for the innovation to be scaled down back to the building.

This highlights the constant cycle between exogenous and endogenous rules over the lifecycle or institutions whose duality of influence is observed to be reciprocal, if not mutually dependent. Likewise, it can also be conceptualized that institutions reflexively adjusts rules for the implementation of innovation as both a deliberate and evolutionary process which results in a constant feedback loop of trial and error in the development and diffusion of innovation. By examining case specific technological and process innovations and contextualizing their realization within this framework, it is anticipated that future researchers will be able to not only identify barriers and efficiencies in the process of mainstreaming they will be able to position normative structures which accommodate those finds. It is likely that these processes are already underway in organizations and institutions and have yet to be fully evaluated or understood.

larger question is the extent to which the speed and depth of the adaptation of institutions, organizations, laws and rules will intersect in synchronistic fashion with environmental, economic and social objects that bear the impact of change. While some measure of lag is to be expected, the concept for Private Mainstreaming is intended to identify a logical connection between contracts and the adaptive capacity of organizations that may result in process and technological innovations that is diffused across various scales of the institutions of markets and people. While this may ostensibly be self-serving to private interests, the capacity to adapt may very well serve co-benefits to public interests. In a regulated economy, such as real estate, institutional and organizational adaptation is a reflection of the intersection between public and private rules. Therefore, the public sector will be tasked with understanding the nature of innovation and the mechanisms of its diffusion, so as to maximize the opportunities for co-benefits where they may exist.

IV. CONCLUSIONS

As a set of rules in a constant state of evolution, yet manipulated by design, there is nothing static about institutions—adaptation is as perpetual as existence. The same can be said for even the most discrete elements of public and private law. As climate change progresses in its severity and impact, the

Future research has the opportunity to continue to advance an understanding of the operationalization of adaptive capacities through various potential applications of Private Mainstreaming. For instance, what are the optimal organizational structures to mediate friction between the assignment and control of innovation within an organization? How can these structure work collaboratively

as a matter of firm policy to draft and enforce contractual provisions? What are the internal controls for understanding when experimentation no longer accommodates strategic goals? As major global firms such as Nike, Hewlett-Packard and Starbucks continue to develop sophistication in their adaptation units, there is an opportunity to develop empirical research which draws out a series of values and risks and the extent to which these values and risks are registered and weighted along a continuum from day-to-day business to the long-term shareholder value for future generations (Westervelt 2015).

While companies will be drawn into litigation and will rely on public laws to protect their interests and to efficiently and justly mediate the allocation of limited resources, private contracts will fill the void where timing, efficiency and predictability are critical values. In order to promote a firm's adaptive capacity, it will be necessary for these contractual relationships to move outside of the limited confines of risk management and legal departments to engage a much broader range of intra-organizational actors who are often themselves the source of innovation. Likewise, firms will need to develop external modes of intelligence which extend beyond supply chains and customer networks in order to register incremental changes and to identify innovation as it is underwritten, assigned and transacted.

While the market forces associated with the assignment property rights and the negotiation of contract might be timely and efficient, they will not always result in just or equitable outcomes. Therefore, Private Mainstreaming has to be contextualized within a broader concept of the necessity of law to adapt in both the private and public domains. While the scholarship to-date has focused on the public regulation of direct impacts, it is the indirect consequences of climate change in economic and social terms which must also be addressed. A failure to think across a wide variety of legal domains, organizations, and institutions will result in a piecemeal approach which is likely to lead to inefficient outcomes whose costs will ultimately lead to greater social inequality and environmental injustice. Ultimately, society will need to 'mainstream' not only from the scale of institutions and organizations but at the scale of each individual as they balance their ethical responsibilities between consumers and citizens which serves as the basis for the foundation for the legitimacy of the rule of law and the ordering of civil society (Hart 1961).

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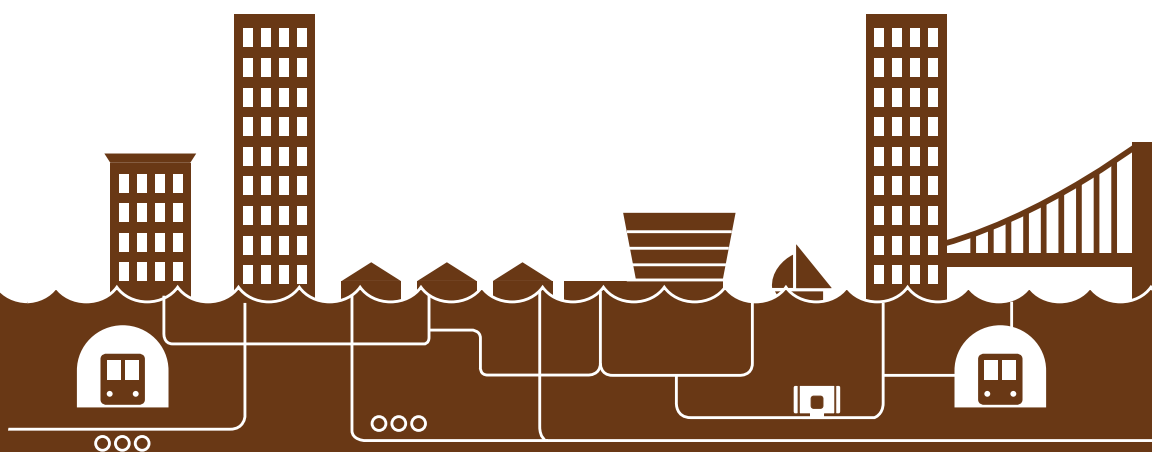
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