The Institutional Collective Action Framework

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Matching the scale and coerciveness of policy intervention to the specific scale and nature of policy problems is a well-established principal of policy design, but is exceedingly difficult to achieve in practice. This is because institutional collective action (ICA) problems arise directly from the division or partitioning of authority and policy responsibility in which decisions by one government in one or more specific functional area impact other governments and other government functions. Fragmented governmental jurisdictions are pervasive and have long been an issue of contentious debate in the study of public administration and policy (Zimmerman 1974). Delegation of service responsibilities to a multitude of authorities and specialized policy arenas may provide resilience, responsiveness to local needs, but it also creates ICA dilemmas such as diseconomies of scale, positive and negative externalities, and common property resource problems. If local actors pursue strategies based on their short-term interests, then the collective action problem dictates that the outcomes of individual decisions will be collectively inefficient absent the presence of institutions that can integrate decisions across policies and/or jurisdictions. The extent to which these ICA problems exist in real world policy decisions depends on the specific policy arena, the governmental and non-governmental units affected, and the nature of the collective problems they face.

As a framework to study and understand policy and governance, ICA focuses explicitly on the externalities of choices in fragmented systems. ICA compares the impact of alternative mechanisms introduced to mitigate these collective action problems and how these mechanisms evolve, are selected, or are imposed. In most general terms the problem is how to provide and produce a multitude of public goods and services that have different economies of scale and that are demanded by citizens at different levels of quantity and quality. Thus fragmentation or centralization each can pose obstacles to matching the supply of public goods to the demand for public goods at multiple scales.

ICA dilemmas have horizontal, vertical, and functional manifestations. A horizontal collective action problem arises if the governments are too small (or large) to efficiently produce on their own a service each government wishes to provide, or if production of the service
produces externalities that spill across jurisdiction boundaries. Vertical collective action problem occur between actors at different levels of government when organizations at more than one level of government pursue similar policy objectives simultaneously such as in economic development or environmental management. Functional collective action problems reflect fragmentation by specific functions and policy areas. Functional collective action problems are defined by the connectedness of services, policies and resource systems because externalities occur between functional areas and policy arenas as well as governmental units. For example land use development and regulation decisions will likely have consequences for natural resources, transportation, economic development and other specialized policy arenas across the region.

Service production externalities and fragmented authority have long been central to public administration, but these issues are not emphasized in contemporary policy theories, despite the prevalence of ICA dilemmas. In metropolitan service provision and other settings, positive and negative externalities are exacerbated by the polycentric pattern of governments that are encouraged in order to provide customized mixes of specialized public goods to suit the taste of local constituencies.

A policy arena is composed of formal policymaking venues with statutory authority to make policy decisions enforceable by the government, formal rules about participation and decision processes in each venue, and policy actors who are concerned with these policies. To apply the ICA framework we need to specify: (1) the nature of the collective problem that they face; (2) key actors directly or indirectly involved in the policy arena; (3) the potential risks associated with action and inaction of actors in the arena; and (4) the incentives explaining the motivation of the actors. This essay describes the ICA framework, outlines its basic assumptions, its application to the study of governance arrangements, and discusses its implications for theories of policy and governance. The next section outlines the institutional mechanisms for mitigating institutional collective action dilemmas and classifies them according to two dimensions: the extent to which by they are broad and encompassing in scope or focused on a specific function and relationships, and on the integration and enforcement mechanism that is relied upon. We then advance a general proposition that incentives to participate will favor the type of mechanism that provides the greatest gain for the least cost under different conditions of collaboration risk. We then explore the transaction costs barriers to the emergence of these
institutions and describe how ICA has been applied in empirical studies. In conclusion a research agenda is advanced.

**Conceptual Foundations and Assumptions**

The theoretical framework builds directly on an extensive collective action literature concerned with situations in which individual incentives lead to collective outcomes not desired by any of the individuals and extends the approach to institutionally defined composite actors. The capacity for strategic action in collective choice situations depends on the extent of preference integration among members of the composite actor such as a governmental authority and its capacity for conflict resolution when preferences diverge (Scharpf 1997; Andrew and Kendra 2012). This framework can be applied to a wide range of policy dilemmas in which local governing units can potentially achieve outcomes better than they could achieve acting individually by reducing barriers to mutually advantageous coordinated action as represented by the transaction costs required for achieving joint agreements. In doing so it integrates elements of the Ostroms’ public economy framework, and transaction cost theories of organizations, policy design, and political markets.

ICA is complementary to the theory of local public economies advanced by the Ostroms which is also grounded in economics, but not transaction cost economics. Rather its starting point is industrial organization. From the Ostrom perspective tradeoffs for addressing spillover effects are not among risks and transactions costs, rather they are among control, efficiency, political representation and self-determination (Ostrom, Tiebout and Warren 1961; McGinnis 1999; Oakerson and Parks 2011). In local public economies theory there is no attempt to predict the adoption of a specific form of integration mechanism, rather, the explanation is limited to identifying and accounting for different service industries, how they are assembled, the strengths and weaknesses of different forms, and their relative performance.

Transaction cost analysis provides a systematic means to consider the many barriers that prevent authorities from reaching coordinated decisions: information costs limit the range of options being considered by boundedly-rational actors, negotiation costs limit actors from reaching agreement for the limited options they know, external decision costs limit autonomy in conforming to collective decisions, and enforcement costs limit the ability to make credible commitments. Higher transaction costs are a barrier to mitigating the ICA dilemma. Because the
institutional mechanisms to resolve ICA dilemmas range from bilateral exchange relationships to establishment of authorities to make collective decisions binding all participants, ICA framework combines elements of contracting theory and collective action theory (Feiock 2009; Feiock and Scholz 2010). Intergovernmental relationships are embedded in larger social, political, and economic structures. Thus, agency and social network theories provide a basis for identifying benefits and transaction costs of creating institutions to mitigate ICAs.

The design of mechanisms to address ICA dilemmas emerge through a dynamic political contracting process among local authorities as reflected in bargaining and negotiation among the officials of affected entities (Lubell et al. 2005). Each weighs the utility that they expect to receive cooperatively with the utility that they gain when acting non-cooperatively, but the joint gains produced may not be sufficient to stimulate the collective action necessary for local actors to create these mechanisms. For example the consolidation of multiple units and functions in a governmental authority may mitigate the ICA dilemma by eliminating independent authorities but the costs of centralization include uncertainties about the balance of authority among actors, and levels, disruption of ongoing governance activities, and the potential transformation of the inter-organizational dilemma into an intra-organizational ICA dilemma sometimes just as difficult to resolve (e.g., Whitford 2010). ICA problems are not confined to governmental policies and authorities, but I use examples of governmental policy dilemmas in metropolitan areas to illustrate the following sections. The final section extends the framework to address ICA issues involving non-governmental actors and policy actions as well.

**Mechanisms for Resolving ICA Dilemmas**

Collaboration to resolve an ICA begins with recognition of interdependencies among local governments in which decisions or actions of one government affect the actions of others. Feiock and Scholz (2010) suggest that the range of institutions that have emerged to mitigate ICA problems can be best understood as falling on a single dimension according to the degree of autonomy the mechanisms afford local actors. Yet these tools also vary with regard to whether they focus on collective multilateral relationships or on individual bilateral exchange. This section elaborates these ideas by defining a formal taxonomy of institutions for resolving ICA dilemmas, and arraying them along two dimensions. First, according to whether the coordination mechanism relies primarily on political authority, legal or contractual arrangements, or social
embeddedness and second, by how encompassing the solution mechanism ranging from bilateral agreements on a single policy dimension to multilateral solutions to more complex problems to ultimately multiplex policy arrangements for collective choice by a larger set of actors. The first nine cells rely on the voluntary acceptance and participation in the mechanism by the individual authorities facing the dilemma, with the extent of collaborative challenges rising to the right and upward. The last three cells in the right hand column constitute mechanisms that are imposed on local actors by a higher authority, and therefore are not necessarily a product of collaboration.

**Figure 1 Here**

**Integration Mechanisms**

Network embeddedness, mutually binding contracts or agreements, delegated authority, and imposed authority provide four general mechanisms available to integrate decision making across local governmental authorities (Feiock 2009) and define the horizontal dimension of Figure 1. The nature of these mechanisms makes them more or less costly for individual governments to enter into or exit the collaboration. Entering or exiting a collaborative relationship is most difficult with collaborative arrangements mandated through governmental authority and easiest with cooperation based on voluntary relationships and social constraints.

Under embedded relations, agreements among local units are coordinated and enforced through a network of social, economic and political relationships rather than formal authority for the enforcement of collaborative agreements. Self-organizing policy networks that rely on this mechanism offer potential advantages over more formal solutions by avoiding avoid rancorous political conflicts and enhancing the search for mutually advantageous resolution of ICA. By ensuring flexibility for rules, procedures to be decided and adjusted locally, mechanisms enforced by embedded social relations can customize informal rules of conduct to best fit the local conditions and specific ICA situations. To the extent that self-organizing institutions contribute to local social capital, the resolution of one ICA provides the basis for resolving related and unrelated ICAs affecting the same actors as well.

Informal policy network structures emerge from interactions among institutional actors without central planning. Even formal authority structures in political systems rely on informal, self-organized relationships for performance and stability to buffer the system from changing
demands. Network interactions that tie responses to actions in one functional area to those in other policy areas or across time may help members identify partners who are less likely to defect and build enforcement structure to reduce transaction costs.

Under contracting, local actors legally bind themselves to mutual action. Contractual relationships require the consent of those involved, so mechanisms based on contracts preserve the autonomy of local actors while providing a more formalized mechanism for resolving externality issues of concern to all parties. To the extent that enabling legislation minimizes the transaction costs involved in developing, negotiating, and enforcing agreements, the Coase (1960) theorem suggests that contracting can resolve diverse externality problems. Contractual agreement networks are described as the an outcome of purposive activities of individual actors to forge relationships and solve problems by discovering or creating solutions within a given set of constraints including knowledge, time, resources, and competition (Agranoff and McGuire 2003). The ability to make legally binding agreements can be quite flexible, involving bilateral agreements between two institutional units, or in other cases setting up a voluntary organization that bind these local actors to some degree, but rely on mutual consent. These arrangements are formally constituted, but voluntary in the sense that members participate at will and must approve activities. These institutions generally have limited authority to force members to do what they do not want to do, and the forces of both cooperation and competition remain within the arrangements (Gerber and Gibson 2009).

Under delegated authority the local actors delegate power to an authority or district that can take action directly. Under imposed centralized authority a higher level authority creates a new governmental unit or intervenes to consolidate authority and direct the actions of the underlying units in order to internalize ICA dilemmas. Higher level governments often have authority to resolve fragmentation problems by expanding the geographic or functional jurisdiction of government. For example, the political consolidation of general purpose local government unites multiple governments into a consolidated metropolitan city government. Higher level governments can also design and mandate special districts or networks to internalize impacts over a broad geographic area for specific functions. The political and administrative costs of relying on centralized mechanisms such as these examples, limit the scope of their use. Existing government units generally resist their loss of autonomy and
production efficiencies are achieved at the cost of reducing the ability of local units to vary the provision of services to reflect different local preferences.

**Institutional Scope**

Governance mechanisms for addressing ICA also vary in term of the encompassingness of the scope of relationships addressed by the solution mechanism. Scope combines two dimensions- the number of actors and the number of policy functions involved. Scope defines the vertical axis of Figure 1. Along the bottom row are mechanisms that focus on individual relationships such as exchanges of information, resources and commitments among a pair of actors related to single service function. These more narrowly targeted exchanges range from informal networks of dyadic relationships to service contracts to mandated agreements or externally imposed special purpose districts.

At the other extreme multiplex collective relationships that address multiple functions and services simultaneously and are applied collectively to all affected actors. Mechanisms with the most encompassing scope can sometimes operate informally, but as the complexity of interactions increases, they generally involve collective governance through decision bodies representing all or most of the affected entities. The public administration literature has traditionally looked to this type of governance body with sufficient authority as the mechanism to effectively mitigate ICA dilemmas (DeHoog, Lowery and Lyons 1990; Lowery 2000). Along the middle row are mechanisms between these extremes that include a more limited set of policies or functions and are multilateral in that they encompass multiple actors but not everyone affected. The 12 mechanisms are summarized below in Table 1.

**Table 1 here**

**Matching Institutions to ICA Dilemmas – Transaction Costs and Risk**

We exclude externally imposed mechanism from the analysis (cells 10-12), thus when confronted with an ICA dilemmas the actors choose among some or all of the nine collaborative mechanisms in Figure 1. Because we are interested in the link between specific ICAs and the governance mechanisms applied to resolve the dilemma, we wish to evaluate their effectiveness in mitigating the underlying dilemma and understand the transaction costs that influence the
choices among mechanisms. In any given policy arena, externally-imposed rules combine with the underlying collective problem to determine the specific incentives facing each actor. Self-organized collective actions embody problems of both coordination and cooperation depending on types of actors and policies. There may be coordination problems in efficient diffusion of intentions, plans and policies, however simultaneously there will be also cooperation dilemmas because some actors may act opportunistically or free ride on the actions of others (Berardo and Scholz 2010). The preference of local actors for specific mechanisms to mediate ICA will depend on collaboration risk that reflects the nature of the problem, existing institutions in place, and the transaction costs local actors face.

**Collaboration Risk**

Coordination, division, and defection issues create risk for participation in any of the mechanisms classified in Figure 1 that seek to address the fragmentation of jurisdiction or function that underlies ICA (Maser 1998; Feiock 2007; 2009; Andrew and Kendra 2012). The nature of the specific problem is important in shaping the level of risk that particular ICA issue imposes on the actors. If the problem is simply one of coordination, then everyone is better off by acting together or adopting a common standard. For example, the sequencing of traffic signals, or the adoption of joint purchases arrangements are pure coordination problems. In these cases risk does not involve division or defection because any equilibrium or joint standard is acceptable to all. In game theoretic terms it is like a matching game where the problem for the players is securing information to avoid uncoordinated outcome. Local authorities may seek to coordinate their decisions around central actors through participation in mechanisms such as informal networks regional organizations or formal and informal or contractual network that link to key actors that possess critical information or form “weak-tie” relationships (Shrestha 2010; 2012; Feiock, Lee and Park 2102).

Coordination problems arise when local governments attempt to organize interjurisdictional activities. Coordination is necessary when the tasks at hand are complex and the interconnectedness of activities and policies is critical for success. If coordination is necessary but a broad array of activities are to be undertaken, the risks of incoordination are higher and hence stronger commitment mechanisms are required and frequent communication
among the participating parties to reduce information asymmetries is needed (Maser 1998; Andrew and Kenda 2012).

Division problem occurs when there are mutual gains from joint action and local authorities agree on general goals but encounter difficulty in dividing and distributing the benefits among themselves (Steinacker 2004). Incentives are aligned because everyone is better off if they collaborate than if they don’t, but there are multiple equilibria that vary in their distribution of costs and benefits among the actors and thus their perceived fairness. This is somewhat analogous to the “battle of the sexes” in game theory. Agreements are difficult to establish and maintain given the anticipated costs associated with the negotiation and deliberation process. Disagreement on the distribution of joint benefits or perception of unequal or disproportionate benefits to some participants at the expense of others, pose powerful barriers to collaboration. Division problems are especially problematic when relationships are based only on a single function and bargaining across policy is not possible. Absent reliable information, potential participants have incentives to underrepresent their capacities and seek to free ride. Thus bargaining and negotiation over the process to allocate benefits and costs may be extensive (Ugboro, Obeng, and Talley 2001; Steinacker 2010).

Defection risk is also a barrier to application of self-organizing mechanisms. Defection risk is fundamentally different than coordination and division risk because the parties have conflicting interests. Thus defection problems emerge when the decision of one participant in an agreement can result in a worse condition for the other participants. This is similar to the prisoner’s dilemma game in which it is in individual actor’s interest to act defect from a collaborative agreement. Policy decisions are particularly risky when local governments are faced with limited information, uncertainty about the future, and the prospect that people or organizations behave opportunistically Brown and Potoski (2005). Studies of prisoner’s dilemmas situations reveal that the credibility of commitments to a collaborative arrangement is critical in determining the risk faced by the actors. More authoritative institutions and third party enforcement may then be necessary to establish credible commitments and resolve the collective contracting and collective action difficulties created by fragmentation. Dilemmas in which defection might be in the interest of some or all participants means local actors confront high risk situations with the potential for opportunism. Thus they may seek mechanisms that are more encompassing and based on contracts or delegated authority.
Mechanism Choice

Transaction costs associated with the various integration mechanisms to address ICA dilemmas include the standard information, bargaining and enforcement costs of putting together collective action, as well as the loss of autonomy to the individual actors. Buchanan and Tullock (1962) refer to this transaction cost as the imposition of “external decision costs” that result when collective choice resulting from participation in a given mechanism deviate from the actors preferred choice. In Figure 1 the diagonal dimension defines the cost to local actors of participating in the proposed mechanism. The costs will be minimal when the scope of collaboration is narrow and enforcement is based on embedded social relations. The costs will be highest when mechanisms involve a collective decision process encompassing multiple policies and actors and delegated authority.

Figure 1A here

Mechanisms that are more encompassing and authoritative are more effective in addressing difficult ICA problems, but also impose higher transaction costs on participants. The relationship between transaction costs and effectiveness in dealing with complex ICAs defines the diagonal in Figure 1A. Thus a general proposition to help integrate the descriptive research currently available on these mechanisms is that: Incentives to participate will favor the type of mechanism that provides the greatest gain for the least cost. Low transaction cost mechanisms toward the lower left in Figure 1A will tend to emerge in low-risk ICAs, while higher-cost mechanisms will be favored as coordination, division and defection risks increase.

I assume that participation incentives are determined by the expected net benefits of the mechanism. Net benefits reflects the difference between the transaction costs of adopting and continuing to participate in a particular mechanism and the expected gains as determined by its effectiveness in mitigating the dilemma for participants. Costs capture the current value of all current and future transaction costs, and the gain represents the current value of all benefits provided by membership in the mechanism. Risk in the underlying ICA reflects the risks of not being able to coordinate on a course of action (incoordination); not being able to agree to a division of costs despite agreeing on the action (division); or risk that once action is agreed upon others may renege or free ride (defection).
As the level of risk imposed by a dilemma increase, transaction costs required to achieve optimal effectiveness for a given mechanism will increase and the level of achievable effectiveness will decline. In Figure 1A, as we move on the diagonal from lower left to upper right, mechanisms impose higher costs even for dilemmas with low risks, but maintain higher effectiveness at higher risks. For example informal policy networks impose the lowest transaction cost and can readily coordinate activities when the situation is well understood by the actors and there is little incentive for members to cheat. Absent division or defection risk this is a relatively simple coordination problem. More collective or more formal contractual relationships with higher transaction costs may be required as parties to an agreement have somewhat different preferences or face greater temptations to cheat. Moving up and to the right, the higher transaction costs of governance mechanisms would not be warranted unless the risks involve are sufficiently high that a lower cost mechanism would not be effective.

Figure 2 illustrates this hypothesis by comparing two hypothetical mechanisms that differ in cost and effectiveness. The horizontal axis represents risk of incoordination, inequity or defection, and the vertical axis represents both the costs and the expected gains in resolving the dilemma. In order to provide a zero-one scale to compare across different dilemmas, both costs and gains are divided by the current value of the highest attainable gain from the (pareto optimal) resolution of the dilemma. Thus gains represent the efficiency of the mechanism in terms of the proportion of the optimal resolution that is achievable for a given level of risk.

Mechanism A represents a low transaction cost mechanism such as an informal network. As the degree of risk increases, the optimal gain achievable by this mechanism requires added investments in design elements that increase transaction cost, as reflected in the increasingly steep upward-sloping solid line. Even with the optimal design for a given risk, the expected gains cannot be maintained as risk increases, as indicated by the increasingly steep decline in the dotted line representing expected gain in Figure 2. In the policy network example, more investment in relationships would be necessary as risk increased, but even the strongest informal relationships may be insufficient to prevent partners from defecting as the temptation to defect increases.
Figure 2 here

Mechanism B, represented by the blue and purple lines in Figure 2, such as a multilateral interlocal agreement imposes considerably higher cost even at low risk, but the costs increase more slowly and expected gain decays more slowly in response to higher risk when compared with mechanism A; formal contractual relationships require more effort to establish than informal relationships or agreements, but the availability of third-party enforcement can provide more effective commitments in risky dilemmas.

The incentives for participation in either mechanism for a dilemma with a given level of risk will depend on the net benefits, as determined by the difference between the expected gains and costs. Mechanism A has positive net benefits in the example for all risks below 1.4, as indicated by the gray area in the graph. Mechanism B has net benefits for higher levels of risk than mechanism A, since the costs increase more rapidly while the benefits drop more rapidly for mechanism A than B at higher levels of risk. Once the level of risk exceeds the intersection of cost and gain curves, neither mechanism provides positive net benefits and there would be no incentive for voluntary participation in either mechanism. Since the costs are so much lower at lower risk for mechanism A than mechanism B, A would be preferred over B until net returns are equal (i.e. the same distance between cost and benefit curves) as indicated by the line at risk = 1.

Accounting for the Nature of ICA Problems and Transaction Costs

This general proposition and its assumptions are offered as starting points for a unified perspective linking ICA dilemmas and mitigating mechanisms. The range of mechanisms defined earlier provides a major complication to our initially simple model of fragmentation. In order to empirically capture the relationships underlying the general proposition depicted in Figure 2 we need to define the potential benefits and transaction costs faced by local actors in ICA situations. Previous work (Feiock 2007; 2009) identified higher level rules, characteristics of goods homogeneity within and across governments and political structures as potential sources of transaction costs in collaborative decisions. In addition the configuration of existing mechanisms for addressing jurisdictional fragmentation are can impose or mitigate transaction costs.

An initial step in applying the ICA framework is to identify the relevant actors, the nature of the dilemma they face, and hence the problems of coming to agreement. The type of ICA
problem is critical to the emergence and effectiveness of the nine governance mechanism classified in Figure 1. There are a multitude of potential ICA issues, but the most common in practice involve: 1) coordination gains from matching service delivery activities across jurisdictions; 2) economies of scale in the production of infrastructure; 3) minimizing common pool resource problems; or 4) internalizing externalities imposed by other local authorities. With each problem local entities confront a different set of incentives which then influence the likelihood that they will cooperate (Steinacker 2010).

The achievement of coordination gains and scale economies in service production has long been seen as a primary motivation for interlocal collaboration in metropolitan areas (Kwon and Feiock 2010). Cost savings or economic efficiencies are possible simply by coordinating ongoing activities with other jurisdiction to reduce redundancy or take complimentary action. For a relatively simple coordination or matching problem the informal mechanisms to the left on Figure 1 have the potential to solve the coordination problems without imposing costs on each jurisdiction.

Coordination to achieve scale economies is more complex for urban services, especially those that involve large-scale, capital-intensive investments. Here coordination produces a lower average costs for all the affected governments because they will not to duplicate the expensive infrastructure within their smaller geographic areas, creating compatible incentives. However, large investment in a specific fixed asset puts the government that commits to its provision at risk. Its needs the contribution of other governments to help pay for the service in order to cover what would otherwise be unused capacity built into the system. The largest government in the area may take the lead and provide the service but only commit to the larger scale if there is a legally binding guarantee of payment from the smaller governments. The risks associated with building excess capacity may require solution mechanisms depicted more to the right on Figure 1 that rely on contractual enforcement or governmental authority such as a special district or long-term service contracts with all the participating governments. Since each government service achieves economies of scale at different levels and only a handful experience extreme scale effects, these issues will be handled as single issues, falling in the bottom row of Figure 1 with a narrow scope.

Common pool resource (CPR) problems have partially compatible incentives for most units. Cooperation will lead to greater preservation of the underlying resources; however, while
there is an incentive to preserve the good, there is also an incentive to extract as much of the resource as possible while other continue to constrain their use. Risk in a CPR can be moderate, but it continues across time, so each participating government decides if they will honor the lower demand placed on the CPR in each time period. Where future benefits from continued cooperation remain high, embeddedness and contractual authority may be adequate to sustain the effectiveness of the governance mechanism. Embeddedness in networks or working groups provides the mild reinforcement of continued working relationships and greater information about the participants. As the individual gain from defection increases, stronger structures are needed. This could take the form of more formal arrangements, such as movement to legal contracts or partnerships, or an increase in connectivity or scope of policy relationships so that the cost from defecting in the CPR arena may jeopardize benefits gained in another policy arena.

Negative externality problems create the hardest case because incentives of local authorities are directly opposed. The governmental entity that imposes a negative externality on its neighbors has no incentive to alter its behavior. Each jurisdiction directly benefits from oversupplying the negative externalities or undersupplying the positive ones. Both establishing an initial agreement and maintaining it over time are problematic. If the costs of the continuing externality situation are extremely high, the resolution is likely to require a single authority with the capacity to integrate the impacts across a larger geographic area such as the governance arrangements on the right hand side of Figure 1.

The ICA literature has identified several factors that motivate local governments to enter into cooperative efforts to solve collective problems. At the individual level, collective action efforts are intendedly rational and goal directed, so collective action is more likely to be achieved in small groups because the actors can easily recognize and reduce their transaction costs of cooperation (Olson 1965). However institutional collective action is more complex since multiple factors influence the transaction costs of interlocal cooperation for local decision makers (Post 2004; Feiock 2007; Zeemering 2012). These are summarized in Table 2, with each heading discussed in the following paragraphs.

Table 2 here

Hierarchically imposed rules shape the strategies available to each of the actors in their individual efforts to capture the benefits and minimize the costs of collaboration. In the U.S.
incentives and constraints vary tremendously across states, some facilitating but others impeding the effectiveness and availability of various mechanisms. For example, restrictions on new municipal incorporations are likely to increase existing cities’ bargaining power (Feiock and Carr 2001).

Organizational economists argue that the specificity of assets employed in an exchange and the difficulty of measuring the outcomes and performance create transaction costs problems for potential partners (Williamson 1985). Transaction specific durable investments that can’t be redeployed to other uses create risks arising from mutual dependencies. If an agreement requires governments to make long-term specific commitments it limits their options if the other party reneges. For example, for public goods that with significant economies of scale such as a landfill or crime lab, the party providing the asset is exposed to risk because the investment greater than that necessary to cover its own needs and contributing governments face the risk that the producer will shift capacity to serve its own needs first. Measurement difficulties increase search costs and make coordination, monitoring, and enforcement more difficult when outcomes of services that are not easily disaggregated (Ferris and Graddy, 1986).

Homogeneity of preferences, both within units and across units have transaction cost implications. Community homophily in terms of the racial, economic, and ideological composition of citizens in a jurisdiction reduces decision costs in aggregating preferences. Homophily also facilitates accountability. It is easier for local officials to speak for the jurisdiction in bargaining and negotiating with other organizations and governments when they represent more homogeneous communities.

Similarities and differences across potential collaborators also have transaction cost implications. Buchanan and Tullock (1962) introduce the concept of external costs to describe the costs individuals bear from agreeing to accept decisions that deviate from their own preferences. Homophily provides a safeguard against political and economic power asymmetries that would advantage one of the parties and create problems for negotiating fair divisions of benefits. Proximity matters because neighbors have incentives to cooperate based in the costs of sharing services. Shared borders create repeat play among neighboring jurisdictions that constrains opportunism and provides opportunities for mutual commitments to common goals.
The incentives that motivate the actions of public officials who participate in these decisions are shaped by the institution structures at the local level (Clingermayer and Feiock 2001; Zhang and Feiock 2010). Many scholars study the influence of selective interests and incentives on the policy decision making and the design of public agencies based on a transaction cost theory (Burns 1994; Dixit 1996; Epstein and O’Halloran 1999; Feiock, Jeong and Kim 2003; Frant 1996; Miller 2000). Both executive and legislative institutions are linked to interlocal cooperation. Understanding the consequences of different institutions has been a major theme in this literature (Carr and Karuppusamy 2009; Frederickson, Johnson and Wood 2004; Feiock and Lee and Park 2012).

**Interactions Among the Mechanisms**

The existing set of institutions can influence the costs and benefits of new ones. For example regional organizations might complement and support self-organizing mechanisms by providing critical resources such as information, administrative resources, and social capital to member governments that reduce the transaction costs of less encompassing mechanisms such as bilateral and multilateral contacting and informal network information sharing (LeRoux, Brandenburger and Pandey 2010). Highly encompassing institutional mechanisms might also encourage exchanges among members by playing a “network broker” role (Provan and Milward 2001).

Alternatively, centralized authorities and regional entities might crowd out or substitute for more voluntary self-organizing mechanism cooperation through their centralized structure and activities. The ICA framework can provide an integrated view of the roles of more centralized and encompassing mechanisms on more narrowly focused and self-organizing mechanisms by taking into the account interactions among multiple integration mechanisms. For example, councils and districts can be the product of collective action among decentralized governmental units as “creatures of local governments.” Alternatively, regional organizations can be mandated through consolidations or creation of regional districts by higher level governments. In the latter case they are regarded as “creatures of the state” and have broad obligations that are at least partially imposed by central authorities. Decentralized relations may complement self-organizing efforts among local governments for solving common problems, but
more centralized and encompassing structures and solutions sometime substitute for or crowd out voluntary self-organizing collaboration efforts (Brooks 2000; Lubell et al. 2002).

Highly encompassing collective mechanisms such as regional multipurpose governments, special districts, and multilateral mechanisms that make binding or non-binding decisions that apply to all affected stakeholders are fundamentally different from more narrow and individualistic mechanisms that involve exchanges and agreements that a single organization enters into with one or more other local governments, such as interlocal service agreements (Andrew 2009a; Feiock 2009). Nevertheless, collaborative agreements between individual local governments are often formed within the boundaries of a larger collective institution. Thus it is important to understand how the degree to which an actor participates in the regional organization and the level of activity of the regional organization influence the likelihood that these individual level collaborative exchanges occurs among member governments.

**Empirical Applications of ICA**

In the last few years ICA has gained considerable traction in part because it provides a rigorous and theoretically informed framework for understanding and integrating the large descriptive and historical literatures on the administrative design of centralized and decentralized governance structures in public administration and the rapidly evolving literatures on network governance and networks management. It has also stimulated a substantial body of empirical research that examines assumptions and tests hypotheses generated from the framework.

The ICA approach has been applied in a number of policy arenas. The largest bodies of empirical work have focused on resource management especially water resources (Schneider et al. 2002; Scholz Berardo and Kile 2008; Berardo and Scholz 2010) and on local economic development (Feiock et al. 2010; 2012; Lee et al. 2012; Minkoff 2012a; 2012b). ICA has also been applied to the study of regional planning (Gerber et al. 2013), public safety (Andrew 2010), emergency management, land use and service delivery in metropolitan areas (Krueger and Bernick 2010) and other areas. Recent work has expanded the focus of ICA to examine service multiplexity (Sherstha and Feiock 2009) and complex interactions among policy arenas (Lubell et al. 2010). While each of the mechanisms for resolving ICA dilemmas has been subject to previous work, a rich literature linking them to specific problems, risks, and transaction costs has
developed in recent years. The literature on informal networks to address local dilemmas in particular has expanded rapidly

Efforts at voluntary creation of a consolidated metropolitan general purpose government most often fail. ICA accounts for this as a result of political conflict and the availability of alternative, less costly integration mechanisms (Carr and Feiock 2004). The political and administrative costs of creating regional governments limit the scope of consolidation and special district solutions to a narrow range of ICA problems. An extensive literature focused on these managed service implementation networks has developed (Bardach 1998; Milward and Provan 2000; Mandell 2001; Meier and O’Toole 2001; Agranoff and McGuire 2003; Graddy and Chen 2006; Provan and Kenis 2008). Regional authorities can be created and imposed by higher level governments to integrate overlapping functions. For example many states use regional level multipurpose special districts to mitigate the horizontal problem of metropolitan service provision for geographic consolidation of services like planning, resource management, schools, or emergency services (Mullin 2009; Andrew 2009a). Kwon et al. (2013) has examined how transaction costs influence the performance of regional districts. Tavares and his associates report similar results for Portuguese local governments and confirm the importance of transaction costs in collaboration decisions (Tavares 2010; Rodrigues et al. 2012; Tavares and Camões 2007).

Single purpose special districts provide a less obtrusive means of internalizing unconsidered impacts over a broad geographic area for a specific function. Farmer (Farmer 2010; Carr and Farmer 2011) examine the effects of state constraints on local choices to form single function districts.

Councils of Governments and other regional organizations are focused on collective and multi-policy relationships among local actors. They take a variety of forms. The most common form in the U.S. are regional councils of governments (COGs) and metropolitan planning organizations (MPOs), designed to manage federal transportation issues in metropolitan areas by allocating federal funds.

Partnerships and other multilateral interlocal agreements are entered into voluntarily by local units. Some obligations may be negotiable but they generally require participants to accept common terms of agreement and obligations for action. Partnerships often include both public and private organizations and take on a broad based area. For example, regional economic
Development partnerships have become an increasingly popular approach to organizing regional economic development efforts (Feiock et al. 2009). Development partnerships are an “alliance formed by local governments, often with the help of private sector firms and nonprofit organizations, which has a mission of enhancing the economy of a multijurisdictional area” (Olberding 2002, 253). Watershed partnerships are another example of regional partnership institutions that collectively address a wide variety of water-related issues at the watershed level relying on collaborative participation by governmental and nongovernmental actors (Lubell et al. 2002). A growing literature based in ICA links the formation and performance of partnerships organizations to the transaction costs of collaborative actions (Park and Feiock 2007; Lee and Park 2007; Andersen and Pierre 2010; Pierre 2011).

Contract Networks link individual units through joint ventures and service contracts that require the consent of those involved (Kwon and Feiock 2010; Zeemering 2012). This set of governance tools preserves local autonomy while providing a formalized mechanism for resolving externalities and other issues of concern to the parties. The work of Manoj Shrestha (Shrestha 2010; Shrestha and Feiock 2009; 2011) investigates pay for service contracts and how local governments reduce risk by embedding relationships within a larger set of contractual agreements. Chris Hawkins and his associates have investigated the influence of various transaction costs on participation in joint ventures (Hawkins 2009; 2010; Hawkins and Feiock 2011; Hawkins and Andrew 2010; 2011).

Multilateral agreements link multiple actors through self-binding agreements. Carr et al. (2009) use data describing service production arrangements of cities in Michigan to examine the proposition that service production decisions are conditioned by the communication networks created through institutional linkages in addition to the transaction characteristics of services. Mutual aid agreements for emergency management are perhaps the most prominent examples of multilateral agreements. Andrew (2010) explores how interlocal agreements can be structured to provide adaptability to address various ICA issues faced by local actors. He finds that interdependent risks posed by the opportunism of contracting partners can best be controlled by mutually-reciprocating, overlapping relationships within closed subgroups that are associated with the development of trust and social capital. This is also supported in transportation and economic development (Minkoff 2012).
Multiplex self-organizing systems rely on embeddedness for policy coordination (Shrestha and Feiock 2009; Bae and Feiock 2012). Agreements that are difficult to negotiate individually may be more feasible when they are embedded in a set of relationships for a related policy. Multiple relationships between a pair of actors signify more trust and, therefore, greater chances for future exchanges. Likewise, cross policy reciprocal relationships can provide both parties greater assurance for much more stable exchange than if the relationships one directional. Because agreements often overlap they may also be supported by norms of reciprocity (Thurmaier and Wood 2002). Andrew (2009b) argues that ties developed locally produce general patterns of regional integration as bilateral ventures, agreements and contracts create a unique formation of contractual ties at the macro-level.

Working Groups or councils meet regularly on an informal basis to share information and coordinate service activities. Working-group coordination often takes the form of routine interactions among professionals or community conferences (LeRoux and Carr 2007). In the Tampa Bay Florida area, city managers in the coastal communities meet monthly over lunch to share ideas, information, and informally coordinate actions through mutual consent absent any formal authority or enforcement mechanism. Andrew and Carr (2012) examine participation by officials from 73 local governments in regional emergency preparedness planning committees in the Dallas–Fort Worth metropolitan area. Their analysis supports the proposition that bonding structures within these groups produce more active participation.

Policy network structures emerge unplanned from interactions among local actors. Informal networks coordinate complex decisions within the formal structure. They preserve full local autonomy and require no formal authority, although higher level government can influence their development (Schneider et al. 2003). The overall structure of a network often emerges from simple, but prominent, structural network components, which, in turn, can be used as building blocks to succinctly describe the network (Snijders et al. 2006; Robins et al. 2007; Lubell et al. 2010). Informal policy networks and their structures are expected to reflect both coordination problem among potential partners and cooperation dilemmas (Scholz, Berardo and Kile 2008; Berardo and Scholz 2010). ICA informs the partner selection problem by providing cues to decide with whom to build relational ties (Feiock and Scholz, 2010). The structure of interorganizational networks can be viewed as a macro phenomenon that emerges from the micro-level decisions of organizations seeking to gain access to resources and to minimize the
uncertainty associated with choosing collaboration partners. In high risk situations
trustworthiness and credible commitments become more important than information in guiding
the selection of network partners (Scholz, Berardo and Kile 2008; Berardo and Scholz 2010).
Therefore, actors seek relationships to monitor others’ activities (Feiock et al. 2012).

The relationships and interactions among mechanisms have also been explored. Thurner
(2010) identified how the formal structure of the EU facilitated informal interactions among
ministry chiefs to address collective problems. Thurner’s analysis suggests that characteristics
identified from the self-organizing informal systems contribute to more efficient design of
central authority. On the other hand, Kwon et al. (2013) find that regional authorities can crowd
out informal networks and interlocal agreements.

There have also been attempts to extend ICA to additional contexts and settings. Several
studies have applied ICA in international contexts including investigation of integrative
mechanism for policy collaboration in Korea (Park 2012), Portugal (Tavares and Camões 2007)
Norway (Andersen and Pierre 2010) and the EU (Thurner 2010).

Most recently ICA has been extended to examine contracting and collective action by
nonprofit service delivery organization and NGOs to address local ICA dilemmas through
voluntary sector action or partnerships with governmental organizations. Jang (2012) examines
the ICA dilemmas faced by nonprofit service delivery organizations and how choices of
integrating mechanisms are shaped by transaction costs. (Jang 2012; Jang and Feiock 2012). Lee
et al. (2012) examine interorganizational collaboration networks in economic development that
link public, for profit, and nonprofit organizations in efforts to address issues of functional and
organizational fragmentation issues in local development policy (Lee et al. 2012).

Discussion

The purpose of this essay is to map the general relationship between ICA problems and
the array of mechanisms that have evolved to mitigate the problems. The emphasis has been on
matching the potential advantages of different mechanisms with the underlying dimensions of
the problem. The next phase of development needs to focus on interactions and dynamics that
we have mentioned but not elaborated here. The concepts of risk, gains, and transaction costs in
this simplified perspective aggregate many factors that can interact in important ways that
require more disaggregated analysis. For example, empirical investigations of the actual shapes
of costs and benefit curves for each type of mechanism are likely to differ for the different dimensions of risk that have been lumped together in this analysis.

Furthermore, the dynamics of mechanism development need to be better understood, particularly since different mechanisms and different rules within each mechanism affect not only the expected gains, but the distribution of these gains over different sets of actors. Incentives to participate are likely to be at least as affected by distributive as by efficiency consequences of the mechanism, and particular nature of the ICA dilemma may induce other incentives as well. For example, local and central actors may seek centrally-imposed solutions rather than self-governing ones in some plausible scenarios. In some cases, local authorities may prefer to abdicate authority over a troublesome policy dilemma in order to avoid being blamed or being pressured by powerful interests, as when municipal governments support the shift of hospital and health care functions to counties and special districts. Similarly, powerful constituencies that are most affected by a dilemma may oppose a self-organizing institution that would require compromise and instead may use their influence on central actors to maintain or impose an authority structure they can dominate. In other cases, central actors may oppose self-organizing mechanisms that distribute all the gains of cooperation to powerful local constituencies not favored by central actors. Thus the anticipated redistributive aspects of these mechanisms are important to understand not only for normative concerns about the benefits from self-organizing governance but also for understanding the incentives of those involved in developing them.

We focus attention on the kinds of institutions that have developed primarily from the efforts of actors directly confronting problems of fragmentation and the resultant decision externalities—of unconsidered impacts imposed by one actor on another. To understand any of the integration mechanisms we need to understand how participation in that mechanism might reshape the motivations in ways that can support collaboration. That is, instead of assuming that the structure of the mechanism is exogenously determined by some statutory authority and analyzing only on the effects of that mechanism, we need to examine the forces that generate solutions to the ever-changing problems of fragmentation and centralization in policy systems.

The mechanisms for dealing with local ICA dilemmas vary considerably from state to state and county to country. They also vary across different specialized policy areas and functions. Their existence underscores the extensive task awaiting scholars analyzing the ability
of any given institution to resolve a given problem of fragmentation. The comprehensive investigation of the evolution of mechanisms to address ICA dilemmas over time must account for differences in service types, local conditions, political institutions, and the structure of relational networks. Such an undertaking might start by mapping the structure of intergovernmental institutions, organizations, agreements and networks across a small set of metropolitan regions. The broader research agenda would need to investigate governance arrangements in multiple states or countries to account for variation in higher level government rules and examine a broad set of public goods and services.

In sum, we currently know too little about mitigating mechanisms to know whether or not the limitations and alternative scenarios overwhelm the advantages and principles favoring self-organizing solutions to ICA dilemmas. The public administration debate between centralized and decentralized governance mechanisms is now being played out across the social science and applied policy fields (Hooghe and Marks 2003). Many scholars have addressed the importance of different governance arrangements for solving collective problems (Gulick 1957; Walker 1987). ICA provides a road map and analytic tools to continue this journey.
References


Minkoff, Scott L. 2012b. “From Competition to Cooperation: A Dyadic Approach to Interlocal Agreements.” American Politics Research


Zeemering, Eric. 2012. “Political Support for Interlocal Agreements” manuscript.


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1 Institutional collective action dilemmas can also arise within a single decentralized organization where specific programs policies or function are the responsibility of individual subunits.
Figure 1: Mechanisms for Integrating ICA Problems

<table>
<thead>
<tr>
<th>Encompassing Complex/Collective</th>
<th>Multiplex Self-organizing Systems</th>
<th>Councils of Governments/MPOs</th>
<th>Regional Authorities</th>
<th>Externally Impose Authority/Annexation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate/multilateral</td>
<td>Working Groups</td>
<td>Partnerships/Multilateral ILAs</td>
<td>Multi-Purpose Districts</td>
<td>Imposed or Managed Network</td>
</tr>
<tr>
<td>Narrow single issue/bilateral</td>
<td>Informal Networks</td>
<td>Service Contracts</td>
<td>Single Purpose Special Districts</td>
<td>Imposed District/Mandated Agreements</td>
</tr>
</tbody>
</table>

Figure 1A: Mechanisms and Transaction Costs

<table>
<thead>
<tr>
<th>Encompassing Complex/Collective</th>
<th>Highest</th>
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<tbody>
<tr>
<td>Intermediate/multilateral</td>
<td></td>
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<tr>
<td>Narrow single issue/bilateral</td>
<td>Lowest</td>
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</table>

Embeddedness | Contracts | Delegated Authority | Imposed Authority
Figure 2: Mechanism Choice and Degree of Risk

The diagram illustrates the relationship between the degree of risk and the choice of mechanism. The x-axis represents the degree of risk, while the y-axis shows expected gains minus transaction costs as a proportion of Pareto optimal. The regions for Mechanism A favored, Mechanism B favored, and neither mechanism favored are indicated. The lines represent different costs and gains associated with each mechanism.
Table 1
Collaborative Mechanisms for Addressing ICAs

1. Informal Networks.
Networks interactions provide the greatest local autonomy and can foster norms of trust that help participants identify partners where defection is less likely. Repeated face-to-face interaction is especially important in order for norms of reciprocity to develop and cooperative agreements to form (Axelrod, 1984). Policy network structures emerge unplanned from interactions among local actors. Informal networks are often preferred by local actors both to preserve local autonomy and power but also to ensure local variation.

2. Contracts
Contracts link individual units through joint ventures and service contracts that require the consent of those involved. This set of governance tools preserves local autonomy while providing a formalized mechanism for resolving externalities and other issues of concern to the parties. Contract networks link local governments in legally binding agreements, Mutual aid agreements for emergency management are perhaps the most prominent example, but they emerge to address a variety of issues.

3. Mandated agreements
Mandated agreements require two or more public authorities to enter into service agreements. They specify the nature scope and some of the terms of agreements. In mandated agreements the higher level authority may provide funding, but it also mandates the formation of collaborative relations among specified local governmental actors. Single purpose special districts provide a less obtrusive means of internalizing unconsidered impacts over a broad geographic area for a specific function.

4. Working Groups
Working groups or councils are voluntary associations of elected or appointed public officials that meet on an informal basis to share information and coordinate service activities. Informal group decisions can take the form of collectively reinforced shared understandings and expectations that, although only socially enforced, are binding. Working-group coordination can also take the form of routine interactions through professional associations or community conferences (LeRoux 2007).

5. Partnerships
Partnerships and other multilateral interlocal agreements are entered into voluntarily by local units. They generally require participants to accept common terms of agreement and obligations for action. Partnerships often include both public and private organizations and take on a broad based area. For example, regional economic development partnerships have become an increasingly popular approach to organizing regional economic development efforts (Feiock et al. 2009; Olberding 2002). Watershed partnerships are another example of regional partnership institutions that collectively address a wide variety of water-related issues (Lubell et al. 2002).

6. Constructed Networks
Constructed networks encompass mechanisms designed or coordinated by third parties such as higher-level government to structure multilateral relationships across related policy areas. A higher-level authority provides funds and incentives for actors to participate in collaborative service arrangements. Typically a higher-level government designates a lead organization with responsibility for developing, managing and coordinating intergovernmental service provision (Provan and Kenis 2008). An extensive literature focused on these managed service implementation networks has developed (Bardach 1998; Milward and Provan 2000; Mandell 2001; Meier and O’Toole 2001; Agranoff and McGuire 2003; Graddy and Chen 2006).

7. Multiplex Self-Organizing Systems
Multiplex self-organizing systems rely on embeddedness for policy coordination Across various policies and functional areas. Agreements that are difficult to negotiate individually may be more feasible when embedded in a set of relationships for a related policy. Multiple relationships between a pair of actors signify more trust and, therefore, greater chances for future exchanges. Likewise, cross policy reciprocal relationships can provide both parties greater assurance for much more stable exchange than if the relationships one directional. Because agreements often overlap they may also be supported by norms of reciprocity (Thurmaier and Wood 2002). Andrew (2009) argues that ties developed locally produce general patterns of regional integration as bilateral ventures, agreements and contracts create a unique formation of contractual ties at the macro-level. A working self-organizing system may be a critical yet little observed factor that differentiates better-functioning metropolitan arenas from their less functional counterparts.

8. Councils of Governments
Councils of Governments and other regional institution organizations are focused on collective and multi-policy relationships among local actors. Structure and responsibilities are statutory, rather than negotiated, often based on federal and state laws. They take a variety of forms. The most common form in the U.S. are regional councils of governments (COGs) and metropolitan planning organizations (MPOs), designed to manage federal transportation issues in metropolitan areas by allocating federal funds.

9. Regional Authorities
Regional Authorities with sufficient functional and geographic scope can “internalize” the externality and scale problems. One example is the uniting multiple local governments into a consolidated metropolitan general purpose government. Despite this efficiency rationale, efforts at city-county consolidation in the U.S. have been mostly unsuccessful. The failures of consolidation efforts can be attributed to political conflict and the availability of alternative, less costly coordination mechanisms (Carr and Feiock 2004). The political and administrative costs of creating regional governments limit the scope of consolidation and special district solutions to a narrow range of ICA problems. Existing agencies and government units generally resist any loss of authority. The larger units gain efficiencies in production, but frequently at the cost of reducing the ability of local units to vary the provision of services to reflect heterogeneous local preferences.
Table 2: Sources of ICA Transaction Costs

<table>
<thead>
<tr>
<th>Higher-Level Rules</th>
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<tbody>
<tr>
<td><em>The existing set of statutes and case law-the externally impose rules</em></td>
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<tr>
<td>The powers and responsibilities delegated to local units or retained by higher level governments determine the specific authority of each venue in each arena and shape the strategies available to each of the actors in their individual efforts to avoid negative externalities and capture positive externalities.</td>
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<th>Transaction Characteristics of Goods</th>
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<tr>
<td><em>Characteristics of public goods and services such as asset specificity and measurement difficulty</em></td>
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<tr>
<td>The local actors affected by ICAs often must make transaction-specific investment to complete an exchange and these resources are not easily deployed in alternative uses. In addition the outcome the transaction may not be easily evaluated.</td>
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<tr>
<th>Community Homophily</th>
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<tr>
<td><em>Economic, demographic and ideological similarity among citizens of a governing authority.</em></td>
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<tr>
<td>Homophily in the socio-economic and ideological political basis for valuing public goods produces common interests and reduces agency problems and the cost of aggregating preferences.</td>
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<th>Preference Divergence Across Units</th>
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<tr>
<td><em>Economic, demographic and ideological similarity among authorities.</em></td>
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<tr>
<td>Similarity in preferences in public goods provides information and signals common interests that minimize external decision cost of acceptance of collective choices contrary to internal preferences.</td>
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<tr>
<th>Political Structure</th>
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<tr>
<td><em>Forms of government, electoral representation and other political system structures</em></td>
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<tr>
<td>Electoral systems and the structure of executive authority of individual shape the information available and the incentives faced by leaders of individual authorities. Common structures across authorities constrain risks of opportunistic behavior.</td>
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<tr>
<th>Existing Local Institutions Integrating ICA problems</th>
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<tbody>
<tr>
<td><em>The interaction among various mechanisms for integrating fragmentation</em></td>
</tr>
<tr>
<td>One integration mechanism may compliment another and reduce the transaction costs of its adoption. Alternatively, one mechanism may substitute or crowd out another by increasing it cost.</td>
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</tbody>
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