Chapter 13

The Paradox of the Weak State Revisited:

Industrial Policy, Network Governance, and Political Decentralization

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As the chapters in this volume make clear, industrial policy is back in vogue. This is not to say that the much maligned practice of "picking winners" has been rehabilitated, nor is our point that otherwise timid governments intervene more frequently when depression strikes. We mean rather that this volume both draws on and adds to an incipient literature showing that state actors across the developed and the developing worlds have increasingly been looking for—and finding—useful ways to intervene in the industrial economy.

In this chapter, we take stock of industrial policy's return to favor with a contribution that—like the others in this volume—challenges the market fundamentalist agenda. But our chapter is also more explicitly programmatic than most of the others. We argue that the current framing that underpins most progressive calls for a new industrial policy premised on the strategic collaboration between government and private sector suffers from a major—but correctible—flaw: it represents industrial policy as a response only to *market* failure.

Why is this a problem? We believe that framing the case for industrial policy in the United States in terms of market failures unnecessarily leads us into some of the same despairing traps that undid calls for industrial policy in the 1980s because it does not sufficiently recognize that the decentralization of production and the advent of open innovation have created new spaces for useful and welfare-creating cooperation between government agencies, public institutions, and private actors.

Recall that contributors to the long and contentious body of literature on the alleged merits and putative preconditions of strategic industrial policy were ultimately skeptical of the possibilities of state intervention in the United States. They held that the resolution of market failures presupposed political centralization and authoritative decision making, and that government action was therefore undercut by federalism and the separation of powers. Indeed, in

their classic 1982 call for government intervention designed to combat the "deindustrialization of America," Barry Bluestone and Bennett Harrison portrayed decentralization as an inveterate obstacle to their goal (Bluestone and Harrison 1982: 180-88; see also Goodman 1979). And they were not alone. In more or less the same time period Ira Magaziner and Robert Reich (1982: 378) found it hard to fathom "a coherent industrial policy in a non-parliamentary system in which power is divided between Congress and the President, and shared with an array of commissions, agencies, boards, and administrations." Frank Dobbin (1997: 93, 90) traced the fact that "Washington's knee-jerk reaction to industrial policies of all varieties has been to enforce market competition" not only to the "administrative incapacities" of the American state but to the culture that reinforced them. And Mel Dubnick (1984: 25) worried that efforts to introduce a national industrial policy would provoke "intense programmatic and constitutional confrontations between national and state governments over policy jurisdictions and the nature of federalism."

While separation of powers and federalism—which we'll collectively refer to as *political decentralization*—may well have constituted an obstacle to industrial policy in the old world of vertical integration and Fordism when the original "industrial policy debate" began (see esp. Johnson 1984), they need not prove so problematic in the current era (variously labeled "post-Fordist," "flexible," "networked," etc.). Leaving aside the question of whether the shift has been fully realized or not, few doubt the fact that decentralized production networks—or what we will term *organizational decentralization*—have come to play at least as important a role in industrial governance as do vertically integrated firms and markets. They loom especially large in the rapid, innovation-based industries that industrial policies are designed to promote.

This decentralization reopens the question and design of industrial policy, for it is hardly obvious that decentralized interventions to make those networks function are inferior to a "one size fits all" effort to prop up ailing hierarchies or ensure their replacement with adequately functioning markets. By implication, industrial policymakers and planners should be at least as concerned with what we have elsewhere termed "network failures" as they are with market failure (Schrank 2010). But we fear that in practice, the case for industrial policy continues to be framed in terms of market failures and their correction.

Our point is not so much to find fault with the authors making that case as it is to argue that they have been misled by a more general gap in a governance literature: even those authors most concerned to show that networks represent a distinct mode of governance have paid little systematic attention to just what it means for a network to "fail."[1] This leaves better-developed theories of market and organizational failure to dominate the discussion, and thus to serve as the working theories that public and private officials use to direct their interventions. As a result, almost by definition, those policymakers are driven to look for ways in which markets can be made to function, or in which they can be supplanted by hierarchies, rather than to create or improve the functioning of decentralized production networks.

This flies in the face of considerable research showing that when an organizational field is characterized by volatile demand, rapid innovation, or chronic uncertainty more generally, production and distribution are often best governed by networks rather than by markets or hierarchies (Powell 1990; Smith-Doerr and Powell 2005). The problem, in short, is to ensure that those networks function effectively. The propensity of networks to fail has been recognized

implicitly in the literature on network governance (Podolny and Page 1998). There is also evidence that the relative propensity of firms to govern their affairs through networks rather than markets is amenable to policy intervention (Whitford and Zeitlin 2004; Whitford 2005). But these interventions have been explored in an ad hoc manner if they have been studied at all, and industrial policymakers have therefore been left to defend their efforts not as correctives to network failure but as correctives to market failure (Schrank 2010).

What are the likely consequences of the oversight? If industrial policies were framed as correctives to network failure, they would be able to exploit the synergies between decentralized political institutions and decentralized production. Insofar as they are framed in terms of market failure they are likely to fall prey to sophisticated forms of market fundamentalism. By misdiagnosing network failures as market failures, one implicitly advocates interventionist market making or hierarchy construction even where interventionist network making might work better. There is therefore reason to abandon the framing that brought us to a dead end during the original industrial policy debate. We need a new framing that takes the extant socioeconomic landscape as well as U.S. political institutions on their own terms.

In this chapter, we offer just such a framing. We argue that the decentralization of production and the spread of a "new logic of organizing" (Powell 2001) gives reason to think explicitly about network failure, its causes, and the remedies that those causes imply. When we distinguish between problems that are due to failed networks and those that are products of failed markets, we are forced to reexamine the state's role in economic development more generally.

In particular, we argue that the ensuing emphasis on experimentation, local knowledge, and flexibility that characterizes network governance means that political decentralization, which has traditionally been perceived as an impediment to industrial policy, has features as well as bugs.

The remainder of the chapter is divided in three sections. In the second section, we examine recent formulations of the case for industrial policy and show that their framing in terms of market failure—absent a parallel discussion of network failure—leaves that case murkier than it should be. In the third section, we argue that this absence mirrors a gap in the governance literature more generally. We therefore provide a working definition of "network failure" to generate a preliminary typology which, along with examples drawn from recent analyses of innovative industrial policy, we use to show that state interventions can in fact do something about network failures. In the fourth and concluding section, we reconstruct the case for industrial policy by showing (1) that there is good reason to believe that the contemporary economy is as rife with network failures as it is with market and government failures; (2) that solutions to network failure demand experimentation, local knowledge, and flexibility and are therefore facilitated, rather than undercut, by political decentralization; and (3) that such solutions are already being pursed by technologists and policymakers throughout the United States and deserve far more attention than they've received to date.

The Case for a New Industrial Policy

To show that the case for a new industrial policy tends to be formulated in terms of market failure—when in our view it should be framed in terms of network failure—we rely on a pair of recent articles that have made the case for a new industrial policy particularly well: Fred Block's (2008) "Swimming Against the Current: The Rise of a Hidden Developmental State in the United States"; and Dani Rodrik's (2004) "Industrial Policy for the Twenty-First Century."

We rely on these papers for three reasons. First, they are well-known and self-consciously programmatic statements. Block's article—a very clear and recent synthesis of the case for a revamped industrial policy in the North American context—has of course inspired the project that gave birth to this volume. And Rodrik's (2004: 2) paper is very widely cited and similarly argues that the "softening of convictions" between proponents of strong state leadership on the one side, and unbridled liberalization on the other, represents a "rare historic opportunity to fashion an agenda for economic policies that takes an intelligent intermediate stand."

Second, both papers make clear that renewed calls for industrial policy do not represent a return to a bygone ideology. Those calls are driven rather by real changes in the organization of industry in both the developed and developing worlds. In Rodrik's words (2004: 1), "it is increasingly recognized that developing societies need to embed private initiative in a framework of public action that encourages restructuring, diversification, and technological dynamism." Block (2008: 170) notes that there may be many differences between the United States and Europe in terms of policy, but they are alike in at least one key respect: "governments have played an increasingly important role in underwriting and encouraging the advance of new technologies in the business economy."

Third, and most importantly, while Rodrik is talking about the developing world and Block about the United States, both make clear that global changes in the organization of industry have changed the industrial policy game for *everyone*. They agree, as Rodrik (2004: 38) writes, that "it is pointless to obsess, as is common in many discussions of industrial policy, about policy instruments and modalities of interventions. What is much more important is to have a process in place which helps reveal areas of desirable interventions. Governments that understand this will be constantly on the lookout for ways in which they can facilitate structural change and collaboration with the private sector." Or as Block (2008: 171) explains, the United States and Europe are no longer trying to distill and translate lessons from the experiences of developmental bureaucratic states in Japan and South Korea that were "designed to help domestic firms catch up and challenge foreign competitors." Rather, the big new thing is "something very different called a Developmental Network State" (DNS) that "involves public sector officials working closely with firms to identify and support the most promising avenues for innovation."

There are, of course, differences in the details of Rodrik's and Block's agendas for a new industrial policy. But similarities in the underlying logic mean that they can reasonably be taken to represent the essence of the contemporary case for industrial policy. Moreover, from the point of view of our argument, neither Block nor Rodrik is a "straw man." While we argue that the positions as they frame them remain overly wedded to the need to correct market failures, both are openly aware of the limits of that framing and are searching for something better.

The Case

The case—in Rodrik's (2004: 38) words—for a "twenty-first century industrial policy" breaks with the idea that effective industrial policy requires "an autonomous government applying Pigovian taxes or subsidies," carefully measuring those outcomes and then adjusting the subsidies. Rather, particularly for a world in which production is increasingly decentralized, the idea is an industrial policy based on "strategic collaboration between the private sector and government with the aim of uncovering where the most significant obstacles to restructuring lie and what types of interventions are most likely to remove them" (Rodrik 2004: 38).

As Block (2008: 172) explains, this means an industrial policy defined by "four distinct but overlapping tasks—targeted resourcing, opening windows, brokering, and facilitation."[2] Such an approach to industrial policy means that government officials consult with technologists in both business and academia to identify technological challenges "the solution of which is expected to open up important economic possibilities." At the same time, they must also recognize that "many good ideas for innovation will bubble up from below and might not fit with targeted priorities being pursued by particular agencies," and must thus make sure these do not get lost. Brokering and facilitation come to the fore because the real constraints on innovation tend to be on the demand side (Rodrik 2004: 4). Industrial policymakers thus find themselves spending time and resources helping new entrepreneurs "make the business connections that they need to create an effective organization and helping them find potential customers for a product" (Block 2008: 173). Or they seek to clear obstacles to the creation of viable markets including, for example, establishing standards and regulatory frameworks so that potential purchasers know that a "product actually does what is promised and will work effectively" (Block 2008: 173).

Note that all of these tasks are premised on the belief that a fast-changing world requires the encouragement of *activities*—"a new technology, a particular kind of training, a new good or service" (Rodrik 2004: 14)—rather than the encouragement of *sectors* per se. The point is to move beyond a principal-agent model designed to "align the agents' behavior with the principal's objectives at least cost" and to instead forge a "more flexible form of strategic collaboration between public and private sectors, designed to elicit information about objectives, distribute responsibilities for solutions, and evaluate outcomes as they appear" (Rodrik 2004: 18). It is to make clear that industrial policy ought to be about *self-discovery* and thus to take the sting out of the traditional objection that governments have imperfect information by pointing out that the private sector *also* has imperfect information. It is, Block (2008: 170) writes, to reject market fundamentalism and to fight the "current of a hostile political philosophy" which accepts that markets fail but holds that government failures are in general more pernicious.[3]

Where the market fundamentalists cry that liberalization and privatization are necessary because regulators cannot be trusted, Block and Rodrik argue that government autonomy from private interests is not an unalloyed good, with Rodrik (2004: 37) observing that in many countries it is not industrial policy but rather "privatization [that] has turned out to be a boon for insiders or government cronies." The real question is simply whether the state is able to connect otherwise disconnected groups—say, technologists and capitalists. And it cannot do this unless it "can elicit useful information from the private sector" which it can do "only when it is engaged

in an ongoing relationship with it" (Rodrik 2004: 4). They thus fear that market fundamentalist opposition to such relationships—since they can enable regulatory capture—might ironically lead instead to government failure. Private actors are unlikely to undertake joint investments with politically or financially vulnerable public agencies. And public agencies therefore hide their vulnerabilities from their private sector interlocutors. Yet this generates a "democratic deficit" that allows "certain entrenched corporate interests to put their needs ahead of the public interest" (Block 2008 194).[4]

Drawing on this insight, Block and Rodrik build on Peter Evans's (1995) studies of the developmental state to argue that industrial policy is well served by "embedded autonomy." That is, they hold that it depends on an "apparently contradictory combination of corporate coherence and connectedness" in which elements of Weberian bureaucracy with its sense of professionalism and attachment to meritocratic advancement are combined with an embedding of state actors in a "concrete set of social ties that bind the state to society and provide institutionalized channels for the continual negotiation and renegotiation of goals and policies" (Evans 1995).

But they also build on Evans's original formulation by emphasizing two additional points that in our view form the core of the contemporary case for industrial policy. First, they underscore that neither business nor the state is a monolith. The best industrial policy in a given locale depends on the *actual* institutional setting. Not only is there no particular sector to be privileged a priori, but there is no particular state agency that ought to administer industrial policy in all cases. Block centers his discussion of effective industrial policy in the United States on ARPA and the NIH not because they have been the only or even the most natural centers for administering strategic collaboration with the private sector. His point is simply that they *were* highly competent agencies that *were* engaged in strategic collaboration with the private sector. As a result, they were able to develop measures to nurture new industries and thus "to translate the nation's scientific and technological leadership into commercially viable products that would be produced in the United States" (Block 2008: 179). Rodrik (2004: 22-24) writes that while it is "common to complain about incompetence and corruption in government bureaucracies," in fact "bureaucratic competence varies greatly among different agencies even within the same country." Industrial policy should openly take this into account and vest authority for the encouragement of desirable activities in "agencies with demonstrated competence," even if this has implications for "the tools of industrial policy that can be used."[5]

Second, decentralization favors—rather than inhibits—the exploitation of "embedded autonomy" and encouragement of activities rather than sectors by unleashing the efforts of competent agencies. Block (2008: 174) makes the point that "for opening windows and brokerage to be most effective, it is desirable to have some redundancy." Otherwise, "a single small office [perhaps one that is insufficiently embedded with the sector in question] might be able to completely shut down a promising line of investigation by denying funding." But with "multiple windows and multiple potential brokers, an idea might be able to survive and ultimately flourish despite initial negative responses."[6] Certainly there is still a need for coordination between elements of such a new industrial policy. But it ought not to be in principal-agent mode. The point is to be able to discover potentialities in existing resources, relations, and competencies. As Rodrik (2004: 31) writes, "the challenge is not to reinstitute industrial policy, but to redeploy the machinery that is already in place in a more productive

manner." It is to recognize that "a first-best policy in the wrong institutional setting will do considerably less good than a second-best policy in an appropriate institutional setting" (Rodrik 2004: 17).

Block and Rodrik, in short, outline a powerful case for a new model of industrial policy that combats the market fundamentalists by pointing out that the *actual* obstacles to economic development are often different from those hypothesized ex ante. They thus locate responsibility for administering industrial policy in decentralized centers of competence within the state apparatus, and emphasize that those centers must be freed to build relationships with the private sector.

We accept in the main the case that Block and Rodrik lay out. But we believe there is still something missing. The case is pitched on the one hand in terms of the *limits* of markets, and on the other in terms of the *possibilities* of collaborative networks that bring together public and private actors to "solve problems in the productive sphere, each side learning about the opportunities and constraints faced by the other" in ways that make state interventions in markets more likely to succeed (Rodrik 2004: 21). The *possibilities* of markets are, of course, well-known. There is no need for Block and Rodrik to discuss them further, nor need we. But the *limits* of networks are less well-known and should be much more explicitly incorporated into the case for a new industrial policy. Insofar as a new industrial policy demands the replacement of failed markets with functioning networks, there should be much more attention to real-world limitations in those networks. Without this sensitivity, the case for a new industrial policy remains vulnerable to a sophisticated form of market fundamentalism, albeit through a back door.

Failed Markets or Failed Networks?

It is typical for discussions of the relative merits of state intervention in market functioning to be framed in terms of the prevalence of market failures and the possibility of public solutions—objections to the assumptions of perfect markets and imperfect governments. Existing theories of market and government failure dominate the contemporary discussion. They do so because they self-consciously serve to diagnose problems and thereby direct public and private officials toward meaningful solutions.

But, as noted at the outset of the chapter, efforts to stimulate industrial policy in the 1980s foundered when framed in these terms. So it is refreshing that Block and Rodrik look to networks and "strategic collaboration" for novel solutions to previously vexing governance problems. Their work here usefully parallels a broader shift in a governance literature that has been profoundly reshaped by portrayals of "networks that are neither market nor hierarchy" (Powell 1990) and of the "networked polity" (Ansell 2000) as distinctive—and not hybrid—modes of coordination and governance.

This parallel literature has a number of laudable aspects. Not only has network governance been shown to be quite common, its characterization as a "distinctive form of coordinating economic activity" (Powell 1990: 301) has also been roundly shown to accord with

the beliefs and practices of actors who are party to the transactions themselves (Uzzi 1996: 677; see also Lorenzoni and Lipparini 1999; Shane and Cable 2002; Schrank 2004; Whitford 2005).

Because it has also been shown that network governance can in some situations foster learning, investment, and joint problem solving far better than can alternative modes of governance, we are generally pleased that the industrial policy debate has begun to import insights from analyses of network organizational governance. However, we remain worried that the case for a new industrial policy may import not merely the main insights of the literature on network governance, but also its main flaw: a tendency to focus on network success to the exclusion of network failure.

We do not mean to say that the literature on network governance has paid no attention to network failure. To the contrary, it has revealed that more than half of all network relationships go belly up in short order and shown that many more that would be desirable in theory nonetheless fail to get off the ground (Podolny and Page 1998). But attention to such failures has not been systematically incorporated into an analysis of network functioning (or nonfunctioning) in a literature that has sought instead simply to understand why the propensity to form collaborative arrangements varies across firms, regions, sectors, and time periods. Failures are taken only as evidence that the network is the fragile exception in need of explanation rather than as a possible rule from which deviations might occur. Such a presumption is at best unwarranted and at worst inconsistent with the fundamental organizing principle of economic sociology—economic transactions are "always embedded" in social relations (Granovetter 1985; Krippner 2001; Block 2003; Polanyi 1944).

An implausible assumption of omnipresent networks is by no means superior to the ahistorical fiction of universal markets. Networks are neither more nor less obvious forms of governance than markets—or, for that matter, hierarchies—and their failure should therefore be theorized rather than assumed.

To do otherwise is to confirm rather than challenge the idea "that markets are the starting point" (Powell 1990: 298). This idea is reinforced by the existence of a well developed literature on market failure replete with distinctions between "absolute" failures that are attributable to externalities and "relative" failures that are associated with transaction costs (Arrow 1970; see also Papandreou 1994). And it is seconded by the view that the only—and generally inferior—alternative is hierarchy. This view has given birth to a sophisticated literature on failure populated not just by studies in organizational ecology of the causes of organizational disappearance (absolute failure), but also by an institutional literature attentive to the "ubiquity of problems in organized activity" (Perrow 1981) that has thus theorized what Meyer and Zucker (1989) refer to as the "permanently failing organization."[7]

By way of contrast, the literature on decentralized production networks includes no corresponding theory of their failure (Schrank 2010), an absence that is particularly glaring when the stimulation of network governance is put forth as a policy aim. Hence, while it is beyond the scope of this chapter to offer a general theory of network failures, we provide a working definition that we can use to distinguish between their different sources. We do so to illuminate the strengths and weaknesses of framing the call for a new industrial policy in terms that call for an alleviation not just of market failures but also of network failures.[8]

We define network failures as situations in which network governance is either absent or compromised but would be desirable were it to obtain (e.g., unstable demand, dispersed and rapidly changing knowledge, and/or complex interdependencies). And, based on our reading of the extant literature, as well as our own empirical work, we posit that such failures tend to occur when social, cultural, or institutional control mechanisms do not adequately squelch *opportunism* and/or have not ensured contracting parties access to and knowledge of appropriate *competencies*. These control mechanisms underpin the ethics of exchange that allow economic relations to emerge and endure in the absence of legitimate or formal organizational authority.

We represent network failures in this way for two reasons. First, we want to underscore that there are many transactions which simply should not be pursued through networks. Evidence that networks can succeed where both markets and hierarchies fail need not imply that network governance should be pursued in all instances. Sociological triumphalism notwithstanding, some (perhaps most) production and distribution is more efficiently pursued in either markets or hierarchies. We thus invoke "desirability" as a scope condition for network governance and failure. If network governance is not desirable in the first place, we cannot speak of a network failure.

We recognize, of course, that what is (and is not) desirable is subject to debate. But the extant literature provides direction. Network governance tends to be desirable for the production or distribution of goods and services characterized by volatile demand conditions, complex interdependencies on the supply side, or rapid technological changes.[9] We neither need nor want networked organizations to get us our toilet paper, nor do we want them to get us our home telephones. We may, however, want networked actors to get us our environmentally friendly pulping mills (Kivimaa and Mickwitz 2004) or our next generation cellular phones.

Second, our invocation of an ethic of exchange that squelches opportunism and directs actors toward appropriate competencies is consistent with prevailing definitions of network governance but simultaneously suggests that these features have *distinct* "flip sides." Network failures can derive from *either* opportunistic behavior *or* honest ignorance on the part of one or more transacting parties. To paraphrase Tolstoy, functional instances of network governance are in a sense alike; it's the dysfunctional ones that differ. In other words, we can speak generally of the network as a distinct mode to be counterpoised to the market and to the hierarchy, but it does not follow that when networks fail , these failures are of a piece. And we highlight the difference between opportunism and incompetence in order to correct a widespread tendency in the literature to simultaneously distinguish between and conflate the two.

The issue, as Charles Sabel's (1993; 1994; 2006; Helper, MacDuffie and Sabel 2000) work on "studied trust" and "learning by monitoring" has shown, is that ideal-typical network governance is fundamentally underpinned by a sort of virtuous interplay of safeguards against opportunism and the search for relevant competencies. However, writing elsewhere with Michael Dorf (1998: 308, emphasis added), even Sabel portrays "the fear of engaging an *incompetent or unreliable* partner" as the biggest obstacle to the emergence of decentralized production without drawing a distinction between the two. Similarly, when Gerrit Rooks (2000: 127, emphasis added) and his collaborators look at "how inter-firm co-operation depends on embeddedness," they manage simultaneously to be attentive to and to conflate the distinction—writing that a firm

will "tend to exit from a relation with a partner who turns out to be *incompetent or unreliable*" in the same manner.

Such conflation is relatively unproblematic when we are talking about network functioning. But when things break down—which can happen when *either* is lacking—the distinction is of greater import. This first became clear to us when we jointly reflected on our independent interviews with buyers and suppliers in the decentralized production of durable and nondurable goods like auto parts, machinery, and apparel.[10] When asked why their various relationships would underperform or go belly up, we realized, our respondents used colloquial expressions like "he screwed me" or "they screwed up." But there is an interesting, if subtle, difference between "screwing" your exchange partner and "screwing up." After all, the former necessarily implies opportunism and the latter need imply nothing more than a lack of competence or inability to solve a joint problem. When asked to clarify which of the two labels applied in which particular case, however, our respondents would often demur. They could not say with any certainty whether they had been victims of competency shortfalls or deliberate self-dealing and in their eyes it didn't matter. Either way, they had to find new exchange partners.

However, while it may not matter to the victims of failure whether their problems are due to an inability or an unwillingness to live up to the terms of an agreement, when we look at those same failures from a public policy standpoint, we see a different picture. It is not enough to know that network failures are due to bounded rationality; we need to know the bounds. If we do not distinguish between failures that are fundamentally derivative of opportunism on the one side, and those that are ultimately rooted in the systemic ignorance of relevant competencies on the other, how are we to fix them? Certainly network governance fails when exchange partners screw each other *and* it fails when they screw up. But partners screw each other more often when formal and informal institutions fail to inhibit opportunism; and they screw up more often when such institutions fail to facilitate the search for new information beyond the network.

This simple distinction underpins an initial typology of network failures (see Table 13.1) that can be used to guide policy interventions designed to address actually existing network failures—by which we mean instances in which the sorts of activities that should be governed by networks are governed by poorly performing networks—if they are governed by networks at all.[11]

Table 13.1. Varieties of Network Failure

		Opportunism (within the network)	
		Low	*High*
Isolation (from different networks or institutions)	Low	Ideal typical networks	Contested networks
	High	Involuted networks	Network stillbirth or breakdown

Source: Schrank and Whitford (2009a).

The concordant cells describe instances in which issues of opportunism and issues of competence reinforce each other. Ideal-typical networks like the ones identified in the northwest quadrant presuppose a search for new information and safeguards against opportunism among existing exchange partners. Examples would include Silicon Valley and the Italian industrial districts (Piore and Sabel 1984; Whitford 2001). In the southeastern quadrant, absolute network failures are products of a combination of isolation from new information and opportunism among existing exchange partners and are manifested in network stillbirth or breakdown. Examples of the former might include the high-tech cluster that failed to emerge around Rensselaer Polytechnic Institute in Troy, New York (Leslie 2001), and the breakdown of strategic alliances like the one between Fiat and General Motors (Whitford and Enrietti 2005).

The discordant cells represent situations in which formal and/or informal institutions tend either to mitigate opportunism or to facilitate search but not both, thus begetting "partial" network failures that are analogous to the "relative" market failures (Arrow 1970; Papandreou 1994) and "permanently failing organizations" (Meyer and Zucker 1989) studied by economists and organizational theorists respectively.

Take the southwest quadrant. We know that opportunism is mitigated where informal or formal institutions fail to nourish trust, confidence, and loyalty, and is more likely to dissipate where norms of reciprocity and good faith are pervasive. This certainly occurs in places where kinship relations, ethnic networks, and religious communities serve as bulwarks of community and reciprocity, but it can also be driven by political parties, trade associations, and labor unions that are potentially more susceptible to policy intervention. However, such institutions may mitigate opportunism without assuaging competency gaps, in which case there is substantial risk of "involution" due to isolation from new information sources that occurs regardless (or perhaps because) of the level of trust or good faith in the network. And in fact, there are many well-documented case of just such partial network failures, including most notably Gernot Grabher's (1993) celebrated analysis of "the weakness of strong ties" in the Ruhr Valley. Grabher shows that the substantial industrial decline of the heartland of the German coal, iron, and steel complex in the 1970s and 1980s was fundamentally regional and thus only contingently sectoral. Despite—or perhaps because of—strong institutions to mitigate opportunism, the parties to the network became functionally, cognitively, and politically locked in to transacting with each other, and thus were caught off guard by a series of fundamental technological and market changes occurring elsewhere in the industry.

In the northeast quadrant, by contrast, we reference situations in which formal and informal institutions foster the growth of skill and technical capacity. This can of course be driven by the same organizations and institutions that build trust—trade associations and labor unions—but it may also be a consequence of public institutions like schools, vocational and training institutions, development banks, and industrial extension services. However, it is possible that such institutions may assuage competency shortfalls without adequately blocking opportunism. And there is again strong empirical evidence that this occurs, manifesting in what we label "contested networks" that fail due to patterns of contestation rooted in the intersection of organizational dynamics and institutional legacies. MacDuffie and Helper (2006) and Whitford (2005; Whitford and Zeitlin 2004), for example, conclude that such conflictual

networks are common in American durable manufacturing, and argue that they are a consequence of an interaction between low trust and high, but dispersed, competencies. These partially failed networks tend to be stable because partners have become locked into "task-level collaboration" due to an outsourcing of design that leaves no single party able to develop workable products alone, but tend also to perform poorly because companies remain imbued with legacies of exit, and are enmeshed in a system of corporate governance that generates immense pressures to meet short-term targets (Hall and Soskice 2001b).

When partial network failures obtain, the case for industrial policy to correct those failures is both strong and straightforward.[12] Partial network failures rooted in opportunism should push policymakers to create and take advantage of confidence-building measures and institutions, including trade associations, peak business associations, cartels and cooperatives, mediation services, and alternative dispute resolution procedures. For network failures rooted in ignorance or isolation, by contrast, policymakers ought to focus on building and exploiting educational and training institutions including not only vocational and technical schools but also industrial extension services, overseas marketing agencies, and supplier development programs.

The case for industrial policy to mitigate absolute network failures (network stillbirth) is more complicated, and we caution that policymakers should think seriously about the opportunity costs of different policy options. Certainly there are sectors and activities in the economy that are favored by network governance; but it is a big world and there is no a priori reason to believe that policymakers should focus on those sectors and activities to the relative detriment of sectors favored by market or hierarchical governance. Once that case has been made, however, the good news from recent analyses of American industrial policy is that state actors have in some instances proven able not merely to bolster poorly performing networks but also to seed the emergence of networks de novo.

Moreover, those same studies suggest that once the decision is made to undertake policy to combat network stillbirth, the distinction between efforts to combat "screwing" and "screwing up" can help us understand how that can usefully be done. The key is to recognize that although state actors may not have much to work with when networks are stillborn (by definition), political decentralization still makes it easier for state actors to exploit what Schneiberg (2007: 2) refers to as institutional "flotsam and jetsam." Writing in response to an institutionalist literature that has historically been skeptical of the possibilities of agent-driven and endogenous institutional change, Schneiberg argues that the historical record gives reason to be mindful of the fact that while typologies are useful, and types can even be thought to exist, they are rarely totalizing. In fact, he writes, "agent-centered" institutional change can draw on "elements of alternative economic orders and abandoned or partly realized institutional projects" and can, in so doing, generate otherwise unrealized "possibilities of change and innovation" (see also Crouch and Farrell 2004; Crouch 2005).[13]

Applying this optic to Block's (2008) descriptions of a "hidden developmental state in the United States," and to other recent analyses in a similar vein by authors looking in greater detail at American policy interventions to favor technologies that are relatively new and well-suited to network production, we find that the "flotsam and jetsam" in question is represented by (1) highly connected technologists who were induced to search for, and then to acquire or incorporate, new competencies and skills through public action; or (2) untapped but disconnected

reservoirs of competencies that were complemented by new institutions designed to mitigate fears of opportunism, thus uncorking improvements in network governance.

The first pattern is well exemplified in Matthew Keller's (2010) chapter on "The CIA's Pioneering Role in Public Venture Capital Initiatives." Recall that Keller analyzes the formation and development of In-Q-Tel, the CIA's not-for-profit venture capital wing, whose success in turn led to a "broad expansion of VC or quasi-VC models within other defense and technology-focused agencies, including the Department of Defense, the Army, the Navy, NASA, the National Technology Alliance, and additional agencies tied to the management of the Department of Energy laboratories."

For our purposes, two elements of Keller's story are particularly interesting. First, Keller makes clear that the "initial imperatives driving government agencies to adopt the model had little to do with stimulating economic growth," but was rather a response to the fact that while the CIA, like other government agencies, had very strong ties to key parts of the American corporate sector (the military-industrial complex), the "dispersed nature of the computer-related technology boom" meant that those ties were no longer the right ties. Rather, Keller writes, "agencies that contracted with the large firms and suppliers favored by traditional procurement and service contracts were automatically receiving 'second order' technologies that had been created by a small firm," leaving little room for "shaping innovations to specifically fit targeted agency needs." The response was novel. The CIA borrowed the VC model, not to make money but rather to "expand and strengthen the networks of experts at the disposal of federal agencies" with the ultimate aim of shaping the "promising and targeted technologies rather than designing them." It has achieved some success, but, as Keller makes clear, "the public VC model is not able to stimulate the development of new ideas conceived by government agents—at least in its current configurations, it is designed to access markets, not to create them."

Second, the model Keller describes is a product of political decentralization. Keller notes that the initial public VC efforts occurred at the state level and were then copied by the CIA, which was in turn borrowing ideas from the Energy Department's national labs, where greater connections to commercial technologists had proven fruitful. Thus the public VC model was protected from the market fundamentalists not only by the fact that it could be justified to Congress in terms of national security but by the fact that it was spawned subnationally, where the commitment to market fundamentalism is more variegated in the first place.

The broader lesson is that decentralization is a feature rather than a bug in the new world of industrial policymaking. There is space for experimentation within the U.S. state that, if successful, can diffuse to other parts of the policy apparatus. In-Q-Tel would not have been undertaken if the orders had to come from on high; it was undertaken at lower levels of government, trickled up, and then across other agencies similarly trapped by an older and relatively involuted model of procurement.

For the second pattern—that of institutions that mitigate issues of risk and opportunism—we turn again to the national labs, but this time to the chapter by Schrank (2010) documenting the growth of network governance in an emergent renewable energy cluster in New Mexico.[14] Schrank's story contains two elements of particular interest. First, like Keller, Schrank tells a story of institutional change in the interstices of the American state in which a remnant of Cold

War policy was turned into an instrument of industrial policy almost by accident. New Mexico has historically been a bastion of "oil patch" politics. The state's political scene, even more so than the national political scene, is dominated by oil and gas interests that "have evinced little—if any—interest in renewable energy," electing instead to "[decry] efforts to develop alternatives to fossil fuels." However, as the national labs had somehow to reinvent themselves in the aftermath of the Cold War, Sandia lab in particular took advantage of the relatively decentralized nature of the American bureaucracy to exploit new freedoms granted them by changes in federal regulations. They, like other labs, were allowed to create cooperative agreements so long as they would "enhance their ability to pursue their 'core mission'"—which in their case was weapons development.

Schrank also shows that while "Sandia's private partners were for the most part foreign to Albuquerque the lab officials responsible for technology transfer believed that co-location and clustering were central to their long term success." And their efforts gained the support of state and local politicians. The region was obviously blessed with tremendous technical and technological competencies, precisely due to the presence of the labs and the many Ph.D. scientists they employed.

But competency alone does not make a cluster of network governance (if it did, every major university would be at the center of a cluster). How then to encourage spin-offs? Schrank argues that the key factor has been Sandia's effort to create a safety net for entrepreneurial scientists and engineers, primarily through a program that allows Sandia employees to take leave to bring their inventions to market, but also through consulting and brokerage services that help their fledgling companies find capital, develop business plans, and so on. These programs, Schrank argues, not only sheltered potential entrepreneurs from risk but led them to maintain ties to the labs and to each other, each more secure that should problems arise they were welcome to return to the labs.

The Case for a New Industrial Policy: Empirical or Normative?

We began this chapter by recognizing an emerging consensus that changes in the organization of industry have created new ways for states to stimulate economic restructuring and productivity growth. To outline this emerging consensus, we drew on recent programmatic statements by Dani Rodrik and Fred Block which make it clear that these calls for a new industrial policy no longer talk about helping particular firms catch up to foreign competitors, nor do they obsess about policies, instruments, and modalities of intervention. Rather, they seek to build bridges between the public and private sector, and to put a process in place that can identify and support the most promising avenues for innovation.

<txt>Like Block and Rodrik, we see new space for an industrial policy construed as a process of collective discovery able to usefully encourage the production of innovation. We are thus heartened by their dressing down of market fundamentalism. But we worry that their case as currently pitched does not properly challenge the strongest market fundamentalist case to be made against a new progressive industrial policy.

In particular, we think that the sort of market fundamentalist against whom Block, Rodrik and others in their camp have largely made their arguments are for the most part what Jeffrey Henderson and Richard Applebaum (1992: 20) label "market ideological" in nature. Henderson and Applebaum's label was coined to fill in the empty cell of Chalmers Johnson's (1982) famous typology of political economies (see Table 13.2).

Table 13.2. A Typology of Industrial Political Economies

		Locus of Decision Making	
		Plan	*Market*
Nature of decision making	Rational	Postwar Japan	Postwar US
	Ideological	USSR	Neoliberal US (Reagan era onward)

Source: Derived from Johnson (1982) and Henderson and Applebaum (1992).

Johnson divided the industrial countries into three camps depending on the locus of decision making (plan or market) and the nature of decision making (rational or ideological). Where the United States was market rational and Japan was plan rational, the Soviet Union was plan ideological in that party leaders let their ideology trump their national interests.

Henderson and Applebaum's innovation was to fill in the empty fourth cell by recognizing that in the 1980s the United States had abandoned market rationality for market fundamentalism—an irrational, ideologically motivated commitment to deregulation, privatization, and liberalization. And it is against this version of market ideology that Block and Rodrik target their arguments.

Market fundamentalists (or ideologues) hold that he or she who governs least governs best. This relies on a tendentious reading of the historical record that is ever on the lookout for government (but not market) failure. But at least in these crisis-ridden times, it has been widely enough discredited that the more serious worry is another sort of market fundamentalist who is well aware that markets are social institutions that require copious regulation to function properly and who recognizes that much of what the state does is essentially market making (which requires much more than simply guaranteeing property rights).

Members of this second group, best represented by Peter Hall, David Soskice, and their collaborators (2001b), are *market rational*. They claim that different "varieties of capitalism" are differently amenable to market making and to network-making policy interventions and that the differences are in part due to national political institutions and cultures. Hall and Soskice emphasize coordination and "the kinds of institutions that alter the outcomes of strategic

interaction" (Hall and Soskice 2001a: 5-6), and focus particularly on "the quality of the relationships the firm is able to establish" with both internal and external actors. The implication is that "a firm encounters many coordination problems. Its success depends fundamentally on its ability to coordinate effectively with a wide range of actors." They also argue that interlocking complementarities between institutions mean that economies can be expected to cluster with relatively little hybridity into one of two types at a national level: liberal market economies (LMEs), with the United States and the United Kingdom as archetypes, and coordinated market economies (CMEs), with Germany as archetype (Hall and Soskice 2001a: 8). They do so, Hall and Soskice argue, because firms have strong incentives to "gravitate toward the mode of coordination for which there is institutional support."

By implication, firm strategy and organization should vary systematically by country (Hall and Soskice 2001a: 9). In LMEs, "firms coordinate their activities primarily via hierarchies and competitive market arrangements" and "invest more extensively in *switchable asset*s" (Hall and Soskice 2001a: 8, 17). LMEs provide institutional support largely for market and hierarchical coordination. CMEs, however, also require institutions that (1) allow for credible commitments and the exchange of information; (2) facilitate the monitoring of behavior and the sanctioning of defection; and (3) "provide actors potentially able to cooperate with one another with a capacity for deliberation" (Hall and Soskice 2001a: 11). Examples include business associations, strong trade unions, cross-shareholding networks, and legal/regulatory systems that facilitate information sharing. That is, Hall and Soskice argue that the CME is distinguished from the LME precisely by its ability to support the sorts of process-focused institutions that we have pointed to as exemplary of state response to network failures.

Why does this matter? Because it has implications for industrial policy in the United States and beyond. We can divide attitudes toward industrial policy in the United States along two axes that loosely parallel the Johnson-Henderson and Applebaum framework referenced in Table 13.2: the institutional and the normative (see Table 13.3). The former is about the degree to which American political institutions allow policymakers to pursue an activist industrial policy. The latter asks about the nature of those policies: should a country with the American institutional endowment actively pursue industrial policies of the sort that Rodrik and Block outline?

Table 13.3. Attitudes Toward Industrial Policy in the United States

		Institutional: Can industrial policy be pursued in the United States?	
Normative: Should the American state do more than make markets?	No	*No*	*Yes*
		Market rational: believes that industrial policy is incentive incompatible with U.S. institutions (e.g., Hall and Soskice).	Market fundamentalist: believes that industrial policy is possible (and perhaps even under way) but ill-advised in the U.S. (e.g., Milton Friedman, Cato Institute).
	Yes	Plan (or policy) irrational: commitment to industrial policy trumps recognition that it is ill suited to U.S. institutional context (e.g., Magaziner and Reich; Bluestone and Harrison).	Plan (or policy) rational: recognizes that industrial policy is not only desirable but is increasingly compatible with U.S. institutional structure given the decentralization of production.

Hall and Soskice would answer both questions in the negative. They don't think it is *good* that the United States is a liberal market economy. They simply argue that it is *true* the United State is a liberal market economy. There is a role for the state, but it differs from what one might see in a CME framework where governments can work together with business associations to police defection and credibly administer policies that favor implicit contracts and other forms of collaborative nonmarket coordination. Indeed, their theory predicts that such "network making" policies will fail in an LME. Soskice (1999:128) argues that "effective business coordinating capacity cannot generally be built 'spontaneously' to service an institutional framework" because this would require that companies already "be engaged in long-term relational contracts" that can sustain "common shared understandings" and the "creation of expert communities across associations, research institutions, and companies." And this, Soskice argues, "can only take place over long periods." In LMEs, the argument goes, policymakers should instead recognize and embrace their own comparative institutional advantage in industries favored by freer market coordination, as these are more amenable to such "blunt" policy instruments as deregulation and market incentive policies that "do not put extensive demands on firms to form relational contracts with others." Such policies, which amount to market making in that they allow actors more easily to coordinate their activities with prices, are the only ones that are "*incentive compatible* [in an LME], namely, complementary to the incentive structures and coordinating capacities embedded in the existing political economy" (Hall and Soskice 2001a: 46).

The upshot is that the market rational position—exemplified here by Hall and Soskice—holds that there is not a lot an LME state (like the United States) can do to foment reciprocity. It simply does not have the assemblage of associations and networks needed to police the many prisoner's dilemmas that occur when you ask people to share potentially valuable information without financial compensation and only the hope of learning something valuable down the road.

The market rational position differs from the market fundamentalist view in that its opposition to industrial policy in the United States derives not from doubts about human nature

but from doubts about the nature of North American institutions. Market rationalists do not presume that markets simply happen, nor do they expect them to function effectively absent significant and active institutional intervention. But whatever the basis for their opposition, the fact remains that advocates of the market rational approach are unlikely to favor industrial policies that go beyond market making and market smoothing in LMEs. They thus present a particularly strong challenge to traditional liberal advocates of industrial policy in the United States like Magaziner, Reich, Bluestone, and Harrison. While liberals worry that the industrial policies impeded by American institutions are essential, and therefore defend government intervention despite recognizing its incentive incompatibility with U.S. institutions, Hall and Soskice (2001b) believe that well-governed markets can lead to efficient and (with the appropriate safety net) socially just outcomes. They make clear, for example, that while each of the two types of capitalisms "has its partisans," they believe that each seems "capable of providing satisfactory levels of long-run economic performance." The differences lie in the sectoral specializations of different countries, and in the underlying economic policies that should be followed in order to ensure that countries maintain their "comparative institutional advantage."

There is a fourth perspective that shares the liberal commitment to industrial policy but questions its concerns about U.S. institutions. After all, U.S. institutions may well have been incompatible with an industrial policy designed to save a particular vertically integrated and geographically concentrated sector (e.g., steel, autos) from low-cost foreign competition. But these sectors are no longer the heart and soul of the industrial policy debate—and even where they are, they are no longer organized in such a concentrated fashion. The core of the productive economy today relies on decentralized production networks described by Powell, and these activities and governance mechanisms may well *benefit* from a decentralized polity that can ensure flexibility, experimentation, and local knowledge (Whitford 2005).

This undermines a key tenet of the varieties of capitalism position. Hall and Soskice (2001a: 16) argue that the national-specific character of "so many of the institutional factors conditioning the behavior of firms" means that variation at the regional level is largely insignificant. We argue, by contrast, that it is a grave mistake to ignore the implications of federalism, the separation of powers and other decentralized elements in the American polity. To do so too quickly dismisses viable options hidden in interstices and inconsistencies in an American national institutional framework that is not nearly so coherent as theory would have it be.

Indeed, if we look at Block's (2008) description of the hidden developmental state and at the chapters in this volume, we find examples of an industrial policy that (1) focuses as much on the construction and repair of network failures as it does on remedies for market failure; (2) is able to do so in no small part by capitalizing on decentralized elements in the American policy apparatus. Block makes quite clear, after all, that the ARPA model is not simply seed money to offset the many externalities that are known to bedevil private investment in basic research. The agency's offices are "proactive rather than reactive and work to set an agenda for researchers in the field." More importantly, the agency recognizes as part of its task the responsibility to "use its oversight role to make constructive linkages of ideas, resources, and people across different research and development sites" (Block 2008: 176). As regards the salience of political decentralization, Block (2008: 181) notes that while the initiatives he describes "began at the

Federal level, many of them were designed to coordinate with state and local initiatives" able to provide technical assistance and to "educate the firms about different types of assistance available."

Moreover, if we look at the programs analyzed by Block, Keller, Schrank, and the many others in this volume who have documented the seeds of a new industrial policy in American technology policy, we find that those seeds are located across a wide range of agencies, often with relatively little central oversight and thus with ample space for "institutional entrepreneurship." The Department of Energy, for example, recognized that the protection of its budget "required establishing the commercial value of the federal laboratories" and thus "embraced the ARPA model of industrial policy" in order to "accelerate the discovery of commercially viable products" (Block 2008: 182). Other labs pursue distinct missions in conjunction with different local partners using different policy tools—and it's not clear to us that a uniform approach would be superior. Indeed, in a world increasingly dominated by a new logic of organizing, in which the vagaries of technology and the uncertainties of ever shorter product cycles favor production networks as much as they do the stimulation of new markets, decentralization seems more virtue than necessity because it allows industrial policymakers who are close to the source to exploit local knowledge, experiment, and build redundancy into the system. In so doing, they not only raise the competitiveness of the American economy but lay the ideological as well as material groundwork for efforts to forge "wholly new pathways within the womb of the old order" (Schneiberg 2007: 70).

Frank Dobbin (1993: 49) has argued that "policy revolutions that are generated by crises—as policy revolutions tend to be—may be unlikely to persist due to the conditions of their origins," and by that logic the hidden industrial policy described by Block may turn out to be a fleeting experiment—or a footnote to U.S. economic history. But Dobbin (1997: 92, 57) has elsewhere noted that state governments pursued mercantilist policies with abandon in the United States until "market rational" federal intervention put a stop to their "rivalistic activism" in the nineteenth century.

The question before us is therefore whether market rationality is America's natural state, in which case today's decentralized industrial policies will in all likelihood wither once the crisis is over, or whether market rationality was itself a policy revolution that has now advanced through a reign of neoliberal terror into a Thermidorian Reaction that could well give way to the construction of a sustainable pathway out of the womb of the old order. There is certainly no guarantee that such a pathway will be forged, let alone that it will lead to a more just or peaceful world. And it would be ironic indeed to find a sustainable twenty-first century economy built with the "flotsam and jetsam" of the twentieth-century military-industrial complex and early-nineteenth-century "rivalistic statism" (Dobbin 1997: 58). But swords have been turned into plowshares at the behest of industrial policymakers before (Johnson 1982). And scientists have at times agreed to "study war no more" (see e.g. Moore 2008). New pathways have been forged from old orders. And nowhere would such moves have more profound consequences—and thus be worth fighting for—than in the contemporary United States.

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[1] See Schrank and Whitford (2009b) for an extended discussion of the American polity and our initial call for a theory of network failure. And see Schrank and Whitford (2011) for an extended discussion of the theoretical gap in the governance literature.

[2] On the concept of the developmental network state, see especially Ó Riain (2004).

[3] It is perhaps worth noting that industrial policies are almost always hidden. The relevant question is, hidden from whom? As Chalmers Johnson (1999: 42-45) has argued, Japanese bureaucrats hide their industrial policies from prying Western eyes for fear of trade retaliation. U.S. officials, by way of contrast, hide their industrial policies from their own citizens.

[4] To invoke Donald Mackenzie's apt metaphor (2006), Block holds that the theory underlying market fundamentalism is "an engine, not a camera." By decrying all but the market, he argues,

they force government policy underground. But when government policy is underground, it is put at greater risk of regulatory capture. Market fundamentalism, insofar as it is the faith of the land, tends to *enact* its scope conditions (a world in which government failure is endemic).

[5] For example, "If the development bank is in good shape but tax administration is a mess, promotion may need to be done through directed credit rather than tax incentives" (Rodrik 2004, 24).

[6] Rodrik (2004: 25) argues emphatically that "an optimal strategy of discovering the productive potential of a country will necessarily" entail picking some "losers." The "objective should be not to minimize the chances that mistakes will occur, which would result in no self-discovery at all, but to minimize the costs of mistakes when they do occur." Decentralization widens the range of promoted activities, generating perhaps more successes but also more failures. Rodrik's point here is that industrial policymakers are in a situation akin to that of private loan officers who are told to thread the needle between a nonpayment (or failure) rate that is too high, in which case they are losing money to default, and a nonpayment rate that is too low, in which case they are losing money to foregone opportunities. A failure rate of zero implies an overly conservative loan officer—or industrial policymaker.

[7] Others focus on the failure of public hierarchies or states. In so doing, however, they too treat failure as a continuous variable. So-called government failures (Krueger 1990) range from misallocation to outright "state collapse" (Milliken 2002).

[8] We have written at length elsewhere on the "anatomy of network failure" (Schrank and Whitford 2011) and refer the reader there for a detailed discussion of the concept of the network failure and its broader theoretical implications. Here we reference the elements of that argument that are most relevant for the industrial policy debate. See especially Schrank (2004; 2005) and Whitford (2005) for empirical analyses of what we have since come to think of as "network failure."

[9] Others may want to add other scope conditions under the rubric of desirability. In our focus on efficiency—implied in our reference to volatile demand and other interdependencies—we have left aside distributional issues that might follow from particular patterns of governance. For example, it might be the case that network governance in the biotechnology industry is profoundly productive of innovation, but also underpins an oligopoly that ultimately generates high consumer prices. Our view is that the innovative parts of the value chain should still be governed in networks and that superprofits should simply be taxed away; but we do not dispute that one might plausibly take a different position on the grounds that superprofits seem never to be taxed away.

[10] Whitford (2005) and Schrank (2004; 2005).

[11] Some readers may feel that it is not enough to simply invoke "should" as our scope condition here (or, for that matter, our use of "desirability" in our initial definition). Space limitations prevent us from delving as deeply as we might like into the larger question of what is

and is not desirable, and we thus draw on established findings and conventions in the literature on network governance. The finding, as referenced in the previous section, is that network governance tends to lead to more product and process innovation in sectors characterized by volatile demand conditions, by complex interdependencies on the supply side, or by rapid technological changes. The conventional assumption is that increasing the likelihood of either product or process innovation is likely to lead to better outcomes. We are open to the possibility in the real world that it may not, but do not consider this a failure of network governance per se.

[12] See Schrank and Whitford (2011) for detailed examples of industrial policy to correct partial network failures, with reference to cases in the United States, Europe, and Latin America.

[13] Put another way, the United States is a variegated place. Political decentralization can allow states potentially to act on what might be thought of as otherwise "latent" partial networks that can be stimulated and strengthened through appropriate policy intervention in a move that is roughly akin to taking seriously Rodrik's (2004) claim that industrial policy ought essentially to be about creating the conditions for industrial "self-discovery" and applying it to network formation.

[14] While we present Schrank's chapter as our exemplar here (since we are obviously familiar with it), we might for example as easily have selected Fuchs's chapter on DARPA (Chapter 7). It describes the ways that agency has solved classic moral hazard problems in emerging technology fields. She describes DARPA as an organization that formally draws on interpersonal relationships between technologists in academia and industry, many of whom are otherwise disconnected, to assess the viability of an array of new technologies and then to use those assessments to seed start-up companies.