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# Sticky Places in Slippery Space: A Typology of Industrial Districts\*

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**Abstract:** As advances in transportation and information obliterate distance, cities and regions face a tougher time anchoring income-generating activities. In probing the conditions under which some manage to remain “sticky” places in “slippery” space, this paper rejects the “new industrial district,” in either its Marshallian or more recent Italianate form, as the dominant paradigmatic solution. I identify three additional types of industrial districts, with quite disparate firm configurations, internal versus external orientations, and governance structures: a hub-and-spoke industrial district, revolving around one or more dominant, externally oriented firms; a satellite platform, an assemblage of unconnected branch plants embedded in external organization links; and the state-anchored district, focused on one or more public-sector institutions. The strengths and weaknesses of each are reviewed. The hub-and-spoke and satellite platform variants are argued to be more prominent in the United States than the other two. The findings suggest that the study of industrial districts requires a broader institutional approach and must encompass embeddedness across district boundaries. The research results suggest that a purely locally targeted development strategy will fail to achieve its goals.

**Key words:** industrial districts, regional growth.

## The Puzzle of Stickiness in an Increasingly Slippery World

In a world of dramatically improved communications systems and corporations that are increasingly mobile internationally, it is puzzling why certain places are able to sustain their attractiveness to both

capital and labor. Movement is, of course, costly and disruptive to both. David Harvey's (1982) work on capital's need for “spatial fix” and Storper and Walker's (1989) work on labor and reproduction suggest generic reasons why hypermobility cannot completely obliterate production ensembles in space. But neither account explains why certain places manage to anchor productive activity while others do not.

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The problem is most acute in advanced capitalist countries, where wage levels and standards of living are substantially higher than in newly incorporated labor-rich and increasingly technically competent countries (Howes and Markusen 1993). Production space in these countries has become increasingly “slippery,” as the ease to capital of moving plants grows and as new competing lines are set up in lower-cost regions elsewhere. Often the only alternative for the region of exit or any other aspirant appears to be matching local production conditions to those in the

competitor place, lowering wages and reproduction costs to the lower common denominator. Much of the stress on improving local "business climates" in a country like the United States in the past two decades is driven by the belief that localities have no other options.

Alarmed by the welfare implications of such a strategy, economists, geographers, and economic development planners have sought for more than a decade for alternative models of development in which existing activities are sustained or transformed in ways that maintain relatively high wage levels, social wages, and quality of life. They have done so largely with inductive methods, searching for the exceptions to the rule and examining the structure and operation of such "sticky places." One extensively researched formulation is that of the "flexibly specialized" or "new industrial district" (NID), based on the phenomenon of successful expansion of mature industries in the Emilio-Romagna region of Italy (Best 1990; Goodman and Bamford 1989; Piore and Sabel 1984; Scott 1988a, 1988b; Storper 1989). NIDs owe their stickiness to the role of small, innovative firms, embedded within a regionally cooperative system of industrial governance which enables them to adapt and flourish despite globalizing tendencies.

In this paper, I argue that there are at least three other types of industrial districts, or "sticky places," that have demonstrated resiliency in the postwar period in advanced industrialized countries. Stickiness connotes both ability to attract as well as to keep, like fly tape, and thus it applies to both new and established regions. Based on an inductive analysis of the more successful metropolitan regions in the United States, I show that structures and dynamic paths quite different from those captured in the NID formulation have enabled both relatively mature and up-and-coming regions to weather heightened capital mobility. Contrary to the emphasis on small firms in the NID formulation, these alternative models demonstrate the continued power of

the state and/or multinational corporations under certain circumstances to shape and anchor industrial districts, providing the glue that makes it difficult for smaller firms to leave, encouraging them to stay and expand, and attracting newcomers into the region. These models exhibit greater propensities for networking across district lines, rather than within, and a much greater tendency to be exogenously driven and thus focused on external policy issues than do NIDs. From a welfare point of view, the four types perform quite differently with regard to income distribution, permissiveness toward labor organization, short-to-medium-term cyclicity, and longer-term vulnerability to secular change.

### Identifying and Analyzing Sticky Places

The three alternative models of sticky places developed in this paper were constructed through a process of inductive inquiry similar to that used in researching NIDs. In the NID literature, intensive research on particular cases, sometimes comparing across several, has been used to identify causal forces and structural configurations. Piore and Sabel (1984, 1989) studied the Third Italy intensively in developing their notions of flexible specialization and industrial districts. In the United States, Christopherson and Storper's work on the film industry in Los Angeles (1986), Scott (1986) and Scott and Paul's work on Orange County (1990), and Saxenian's work on Silicon Valley (1990, 1991a, 1991b, 1994) enabled these authors to derive propositions about how secular changes in technology and markets enable and reward new forms of regional industrial organization. Vigorous debate on the accuracy and applicability of the NID formulation ensued, enlivening the economic geography literature for the better part of a decade (e.g., Amin and Robins 1990; Amin and Thrift 1992; Ettliger 1992; Florida and Kenney 1990; Gertler

1988; Glasmeier 1988; Harrison 1992; Lovering 1990, 1991; Malecki 1987; Markusen 1991; Pollert 1988; Schoenberger 1988).

The research summarized here had its origins in a larger research project to determine the extent to which the NID model could explain the durability and flourishing of regional economies in the United States, Japan, Korea, and Brazil as adequately as it appeared to do so in the Third Italy. Empirical testing of the NID model has been surprisingly thin. Few attempts have been made to determine whether existing agglomerations are “flexibly specialized”—an exception is Feldman’s (1993) remarkable study of U.S. industrial agglomeration—or to determine whether major industries are well characterized by this post-Fordist formulation (see Luria (1990) for an excellent investigation of the auto industry in this regard). No author has rigorously set out the features of new industrial districts in ways that permit easy assessment of their incidence and growth across space and time. The limits of the flexibly specialized new industrial district as an emergent paradigmatic form (a claim made by Scott (1988a, 1988b)) are best established by demonstrating that other industrial district profiles are both theoretically plausible and empirically demonstrable.

In each country studied in our larger project, it was clear that certain mature as well as newer agglomerations exhibited an ability to weather the leveling effect of accelerated world market integration and the global search for profitability, attributes that make space “slippery.” But most of these enclaves did not match the features of the flexibly specialized industrial district of the NID literature. Just as deindustrializing regions are quite remarkably distinguishable from each other, as Massey and Meegan have deftly shown (Massey and Meegan 1982; Massey 1984), regions hosting rapid growth and/or escaping industrial decline exhibit distinctly different structures. Through inductive research, we were able to identify three alternative patterns.

Our method involved a two-stage process. First, we surveyed metropolitan growth since 1970 for each of the four countries, identifying the universe of those who posted growth rates significantly higher than the national average (tables showing each of these regional sets may be found in Markusen (1995)). We then chose a subset of each of these for further case study research, relying on both disaggregated data on industrial structure and expert opinion on industrial organization. For each country, we selected at least one case with apparent conformity to the NID formulation and three to five others whose industrial structure and organization appeared to be quite different. We used techniques pioneered in social science case study research (Yin 1984) and leaned heavily on interviews with business firms, trade associations, trade unions, and regional economy watchers, incorporating and adding to the literature on enterprise studies and corporate interviews as a method for studying regions (McNee 1960; Krumme 1969; Schoenberger 1985, 1991; Healey and Rawlinson 1993; Markusen 1994).

Conceptually, we inquired into the presence or absence of features specified in the NID formulation: firm size distribution, up- and downstream industrial linkages, degree of vertical disintegration, networks among district firms, districtwide governance structures, innovative capabilities, the organization of production. In addition, we explored a number of features not generally incorporated into NID studies (Park and Markusen 1994). First, we examined the role of the state at both the national and regional/local level as rule maker, as producer and consumer of goods and services, and as underwriter of innovation, with consequences for the distribution and anchoring of employment within and across regions (Christopherson 1993, 1994; Linge and Rich 1991; Markusen et al. 1991; Markusen and Park 1993; Saxenian 1995). Second, we scrutinized the role of large firms, especially those with internal and external market power, in industrial agglomerations (Amin and Robins 1990; Dicken 1992; Gereffi and Korze-

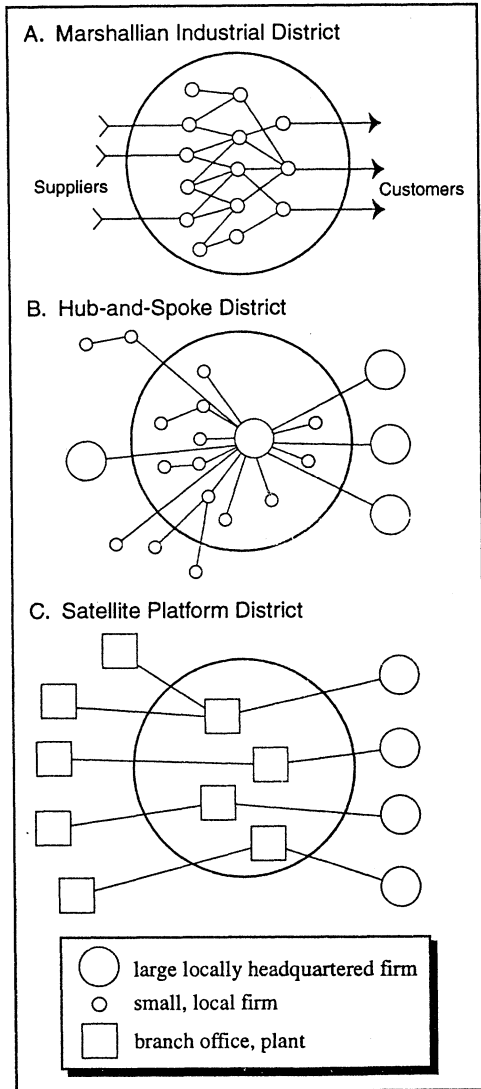
niewicz 1994; Harrison 1994; Sayer 1989). Third, we examined the embeddedness of firms both within their districts and in non-local networks extending across national and international space (Granovetter 1985; Storper and Harrison 1991; Linge 1991; Markusen 1994). Fourth, since sources of profitability vary over the course of an industry's maturation and are linked to changing forms of competition, organizational structures, occupational characteristics, and locational tendencies (Markusen 1985), we investigated the longer-term developmental dynamic of major industries and their constituents present in the district, to determine their resiliency and/or vulnerability to longer-term atrophy. Fifth, we assessed the long-term dynamic potential of each region, including the likely trajectory and future competitiveness of its existing industrial ensemble and the ability of the latter to release locally anchored resources, human and physical, into new, unrelated specialized sectors. Finally, we searched for connections between district structure and operation and a number of social welfare metrics, including employment growth rates over time, cyclical stability, associated income and wealth distribution, trade union presence, and political diversity.

A bit more may be said about this final component of the research. Evaluation of the welfare implications of each type of sticky place is a complex task and rarely undertaken. Scholars of NID literature have generally written in a normatively favorable if implicit way about the virtues of NIDs as providers of good jobs and long-term stability and dynamism; this is especially palpable in the treatments of Piore and Sabel (1984), Best (1990), and Saxenian (1994). A sticky place is "better," in our normative view, if it (1) ensures average or better-than-average growth for a region as a whole over time; (2) insulates a region from the job loss and firm failures of short-to-intermediate-term business or political spending cycles; (3) provides relatively good jobs, ameliorates tendencies toward income duality, and prevents undue concentration of wealth and ownership; (4) fosters worker representa-

tion and participation in firm decision making; and (5) encourages participation and tolerates contestation in regional politics.

Our research findings enabled us to develop several schematic alternatives to NIDs. Like Storper and Harrison (1991), we opt for an expansive connotation of industrial district, which does not confine it to the most common usage, called here the Marshallian (or Italianate variant) district. Elsewhere, we offer the following definition: an industrial district is a sizable and spatially delimited area of trade-oriented economic activity which has a distinctive economic specialization, be it resource-related, manufacturing, or services (Park and Markusen 1994).

In what follows, I present four distinctive industrial spatial types: (1) the Marshallian NID, with its recent Italianate variety; (2) the hub-and-spoke district, where regional structure revolves around one or several major corporations in one or a few industries; (3) the satellite industrial platform, comprised chiefly of branch plants of absent multinational corporations—this type of district may either be comprised of high-tech branch plants or consist chiefly of low-wage, low-tax, publicly subsidized establishments; and (4) the state-centered district, a more eclectic category, where a major government tenant anchors the regional economy (a capital city, key military or research facility, public corporation). The hypothesized features of each are summarized in Table 1. Schematic visual models of each of the first three, showing relative firm size and interfirm connections, both inside and outside the district, are offered in Figure 1. Here, firm relationships within the region are depicted inside the circle versus those outside of it—suppliers to the left, customers to the right. A real-world district may be an amalgam of one or more types, and over time districts may mutate from one type to another. This conceptualization complements the geographic industrialization schema of Storper and Walker (1989, Fig. 3.1). While theirs is process-centered, the one offered here is region-centered, with a



**Figure 1.** Firm size, connections, and local versus nonlocal embeddedness.

focus on firm size, interconnections, and internal versus external orientations.

Each spatial type is presented with a set of hypothesized traits, and the resilience and/or vulnerability of each to events in the changing global economy are noted. Districts which are sticky in one era may fail to cohere in the longer run—the glue may dry up, become brittle and lose its adhesive quality. Central to

the differences among sticky places and their ability to persist are presence (or absence) of distinctive and lopsided power relationships, sometimes within the district and sometimes between district entities and those residing elsewhere. Examples of each type can only be mentioned in passing here, but are the subject of complementary papers (e.g., Gray, Golob, and Markusen 1996; Golob et al. 1995; Markusen and Park 1993; Markusen and Sasaki 1994; Markusen 1994; Park and Markusen 1994).

The focus on rapidly growing industrial spaces helps us to develop an impressionistic sense of the relative contribution of each type to overall regional restructuring. In the United States, for instance, the fastest-growing industrial cities (as opposed to residential cities, where retirement communities account for the bulk of growth) include the 15 listed in Table 2, all of which added manufacturing employment at rates of 50 percent or more over the period 1970 to 1990, compared with a zero rate of growth nationally. These may be contrasted with the performance of the four major older industrial centers of New York, Boston, Chicago, and Los Angeles, at the bottom of the table. Very few of these fast-growing regions, I shall argue, can be characterized as NIDs, but many of them reproduce the conditions present in the other three models of “sticky places.”

### Marshallian and Italianate Industrial Districts

An extensive and recent literature on industrial districts focuses on the Marshallian industrial district and its more cooperative, embedded Italianate progeny. Since the characteristics hypothesized for these districts are relatively well known, I summarize them briefly here, with particular emphasis on those which may be contrasted to the district types presented below.

In his original formulation of the industrial district, Marshall envisioned a region where the business structure is comprised of small, locally owned firms

**Table 1**  
**Hypothesized Features of New Industrial District Types**

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**Marshallian industrial districts**

- Business structure dominated by small, locally owned firms
- Scale economies relatively low
- Substantial intradistrict trade among buyers and suppliers
- Key investment decisions made locally
- Long-term contracts and commitments between local buyers and suppliers
- Low degrees of cooperation or linkage with firms external to the district
- Labor market internal to the district, highly flexible
- Workers committed to district, rather than to firms
- High rates of labor in-migration, lower levels of out-migration
- Evolution of unique local cultural identity, bonds
- Specialized sources of finance, technical expertise, business services available in district outside of firms
- Existence of “patient capital” within district
- Turmoil, but good long-term prospects for growth and employment

**Italianate variant (in addition to the above)**

- High incidence of exchanges of personnel between customers and suppliers
- High degree of cooperation among competitor firms to share risk, stabilize market, share innovation
- Disproportionate shares of workers engaged in design, innovation
- Strong trade associations that provide shared infrastructure—management, training, marketing, technical or financial help, i.e., mechanisms for risk sharing and stabilization
- Strong local government role in regulating and promoting core industries

**Hub-and-spoke districts**

- Business structure dominated by one or several large, vertically integrated firms surrounded by suppliers
- Core firms embedded nonlocally, with substantial links to suppliers and competitors outside of the district
- Scale economies relatively high
- Low rates of turnover of local business except in third tier
- Substantial intradistrict trade among dominant firms and suppliers
- Key investment decisions made locally, but spread out globally
- Long-term contracts and commitments between dominant firms and suppliers
- High degrees of cooperation, linkages with external firms both locally and externally
- Moderate incidence of exchanges of personnel between customers and suppliers
- Low degree of cooperation among large competitor firms to share risk, stabilize market, share innovation
- Labor market internal to the district, less flexible
- Disproportionate shares of blue-collar workers
- Workers committed to large firms first, then to district, then to small firms
- High rates of labor in-migration, but less out-migration
- Evolution of unique local cultural identity, bonds
- Specialized sources of finance, technical expertise, business services dominated by large firms
- Little “patient capital” within district outside of large firms
- Absence of trade associations that provide shared infrastructure—management, training, marketing, technical or financial help, i.e., mechanisms for risk sharing and stabilization
- Strong local government role in regulating and promoting core industries in local and provincial and national government
- High degree of public involvement in providing infrastructure
- Long-term prospects for growth dependent upon prospects for the industry and strategies of dominant firms

**Satellite industrial platforms**

- Business structure dominated by large, externally owned and headquartered firms
- Scale economies moderate to high
- Low to moderate rates of turnover of platform tenants
- Minimal intradistrict trade among buyers and suppliers
- Key investment decisions made externally
- Absence of long-term commitments to suppliers locally
- High degrees of cooperation, linkages with external firms, especially with parent company
- High incidence of exchanges of personnel between customers and suppliers externally but not locally
- Low degree of cooperation among competitor firms to share risk, stabilize market, share innovation
- Labor market external to the district, internal to vertically integrated firm
- Workers committed to firm rather than district

*(continued)*

**Table 1**  
(*continued*)

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<ul style="list-style-type: none"> <li>• High rates of labor in-migration and out-migration at managerial, professional, technical levels; little at blue- and pink-collar levels</li> <li>• Little evolution of unique local cultural identity, bonds</li> <li>• Main sources of finance, technical expertise, business services provided externally, through firm or external purchase</li> <li>• No “patient capital” within district</li> <li>• No trade associations that provide shared infrastructure—management, training, marketing, technical, or financial help, i.e., mechanisms for risk sharing and stabilization</li> <li>• Strong local government role in providing infrastructure, tax breaks, and other generic business inducements</li> <li>• Growth jeopardized by intermediate-term portability of plants and activities elsewhere to similarly constructed platforms</li> </ul> <p><b>State-anchored industrial districts</b></p> <ul style="list-style-type: none"> <li>• Business structure dominated by one or several large, government institutions such as military bases, state or national capitals, large public universities, surrounded by suppliers and customers (including those regulated)</li> <li>• Scale economies relatively high in public-sector activities</li> <li>• Low rates of turnover of local business</li> <li>• Substantial intradistrict trade among dominant institutions and suppliers, but not among others</li> <li>• Key investment decisions made at various levels of government, some internal, some external</li> <li>• Short-term contracts and commitments between dominant institutions and suppliers, customers</li> <li>• High degrees of cooperation, linkages with external firms for externally headquartered supplier organizations</li> <li>• Moderate incidence of exchanges of personnel between customers and suppliers</li> <li>• Low degree of cooperation among local private-sector firms to share risk, stabilize market, share innovation</li> <li>• Labor market internal if state capital, national if university or military facility or other federal offices for professional/technical and managerial workers</li> <li>• Disproportionate shares of clerical and professional workers</li> <li>• Workers committed to large institutions first, then to district, then to small firms</li> <li>• High rates of labor in-migration, but less out-migration unless government is withdrawing or closing down</li> <li>• Evolution of unique local cultural identity, bonds</li> <li>• No specialized sources of finance, technical expertise, business services</li> <li>• No “patient capital” within district</li> <li>• Weak trade associations to share information about public-sector client</li> <li>• Weak local government role in regulating and promoting core activities</li> <li>• High degree of public involvement in providing infrastructure</li> <li>• Long-term prospects for growth dependent on prospects for government facilities at core</li> </ul>
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that make investment and production decisions locally. Scale economies are relatively low, forestalling the rise of large firms. Within the district, substantial trade is transacted between buyers and sellers, often entailing long-term contracts or commitments. Although Marshall did not explicitly say so, linkages and/or cooperation with firms outside the district are assumed to be minimal. The Marshallian industrial district is depicted in the top portion of Figure 1, with many small firms buying and selling from each other for eventual export from the region. The arrows show necessary purchases of raw materials and business services from outside the region on the left and sales to

external markets on the right, in the form of exchange rather than cooperative relationships external to the region.

What makes the industrial district so special and vibrant, in Marshall’s account, is the nature and quality of the local labor market, which is internal to the district and highly flexible. Individuals move from firm to firm, and owners as well as workers live in the same community, where they benefit from the fact that “the secrets of industry are in the air.” Workers are committed to the district rather than to the firm. Labor out-migration is minimal, while in-migration occurs as growth permits. The district is seen as a relatively stable community,



**Table 2**  
Selected U.S. Metropolitan Employment Growth Rates, 1970–1990

	Employment 1990 (in thousands)	Employment Change (%), 1970–90	Manufacturing Employment, 1990 (in thousands)	Manufacturing Change (%), 1970–90	Service Employment, 1990 (in thousands)	Service Change (%), 1970–90
Colorado Springs, Colo.	228	104	24	261	60	214
Austin, Tex.	471	178	50	249	131	253
Reno, Nev.	145	155	9	202	70	184
Tucson, Ariz.	316	123	28	199	101	219
Huntsville, Ala.	163	76	34	177	42	82
Orlando, Fla.	569	246	56	162	236	465
Albuquerque, N. Mex.	305	125	22	131	98	184
Melbourne/Titusville, Fla.	202	112	31	122	66	119
San Jose, Calif.	1,015	128	273	119	301	199
San Diego, Calif.	1,397	120	141	109	390	254
Anaheim-Santa Ana, Calif.	1,552	192	261	111	464	352
Raleigh-Durham, N.C.	513	123	66	94	145	175
Seattle, Wash.	1,339	114	227	73	362	206
Madison, Wis.	262	73	26	53	62	147
Elkhart-Goshan, Ind.	116	64	52	50	20	123
Los Angeles-Long Beach, Calif.	5,200	56	893	9	1,707	129
Boston-Lawrence-Salem, Mass.	1,672	30	340	-12	894	108
Chicago, Ill.	3,673	23	569	-33	1,128	101
New York, N.Y.	4,765	2	428	-51	1,704	50
United States	110,321	56	19,742	0	37,573	126

*Source:* U.S. Department of Commerce, Bureau of Economic Analysis (1970, 1990). Estimates of suppressed data were computed by Andrew Isserman and Oleg Smirnov, Regional Research Institute, West Virginia University, and compiled by Ann Markusen and Mia Gray.

which enables the evolution of strong local cultural identity and shared industrial expertise.

The Marshallian district also encompasses a relatively specialized set of services tailored to the unique products/industries of the district. These services include technical expertise in certain product lines, machinery and marketing, and maintenance and repair services. They include local financial institutions offering so-called “patient capital,” willing to take longer-term risks because they have both inside information and trust in the entrepreneurs of local firms.

All of these features are subsumable under the notion of agglomeration, which suggests that the stickiness of a place resides not in the individual locational calculus of firms or workers, but in the external economies available to each firm from its spatial conjunction with other firms and suppliers of services. In Marshall’s formulation, it was not necessary

that any of these actors should be consciously cooperating with each other in order for the district to exist and operate as such. But in a more recent formulation, emerging from research on Italian industrial districts and extended to other venues in Europe and the United States, researchers have argued that concerted efforts to cooperate among district members and to build governance structures to improve districtwide competitiveness can improve prospects—that is, increase the stickiness of the district.

Features characterizing Italianate districts are articulated in intensive case studies on the Italian case (Piore and Sabel 1984; Bellandi 1989; Bull, Pitt, and Szarka 1991; Goodman 1989; Sforzi 1989). These have been reworked and adapted to American cases—Orange County (Scott 1986; Scott and Paul 1990) and Silicon Valley (Saxenian 1994)—though not without debate (Malecki 1987; Florida and Kenney 1990; Saxenian 1991a). The unify-

ing notion is that firms (often with the help of regional governments and trade associations) consciously “network” to solve problems of cycles and overcapacity and to respond to new demands for flexibility (Amin and Thrift 1992). In the American version, rigidities in older industrial cities tend to encourage these agglomerations to root anew in relatively virgin locations (Markusen 1991; Scott 1988b; Storper and Walker 1989). Few cases have been identified outside of Europe or the United States, but good candidates for study are subdistricts such as the southern sector of Tokyo and Kangwan, a south side district in Seoul.

Unlike the passivity of Marshall’s firms, Italianate districts exhibit frequent and intensive exchanges of personnel between customers and suppliers and cooperation among competitor firms to share risk, stabilize markets, and share innovation. Disproportionate shares of workers are engaged in design and innovative activities. Activist trade associations provide shared infrastructure—management, training, marketing, technical, or financial help—as well as providing forums to hammer out collective strategy. Local and regional governments may be central in regulating and promoting core industries. Trust among district members is central to their ability to cooperate and act collectively (Harrison 1992; Saxenian 1994), although critics argue that the power of large corporations to shape Italian industrial districts has been understated (see the discussion in Harrison 1994, Chap. 4).

In assessing the growth, stability, equity, and politics of Italianate industrial districts, the Italian variety must be distinguished from the Silicon Valley and Orange County cases, and each from their Marshallian predecessors. In terms of growth and stability, as long as agglomeration economies remain and are not replicated in other locales, both Marshallian and Italianate industrial districts retain good long-term prospects for growth and development. Although more standardized functions may be hived off and driven elsewhere by inflated regional

costs, innovation (so the theory goes) will ensure the revitalization of these “seedbeds of innovation.” But other hypotheses have been advanced. Agglomerative specialization and success in one industry, especially when associated with some degree of market power and/or dominance over regional factor markets, can actually impede the development of other sectors, whose presence might diversify the economy and counteract maturation or instability in the original sector. Pittsburgh in the late nineteenth century and Detroit in the early decades of the twentieth century resembled Italianate districts and Silicon Valley, but the evolution of oligopoly and the crowding out of other sectors left both quite vulnerable to the inevitable maturation and decentralization of those industries (Chinitz 1960; Markusen 1985).

On the equity front, the high-tech Silicon Valleys and Orange Counties depart strikingly from the Italian industrial districts. Italian industrial districts are often the creatures of resilient cultures, organized politically on the basis of long-standing communities, unions, and the Italian communist party. Fundamental to their governance structures are strong leadership roles for unions and guarantees that most enterprises will be stabilized and nurtured, even during downturns. This has helped to stabilize incomes and assure relatively good income distributions within the districts. In the California cases, in contrast, district cooperation, where it exists, is purely between entrepreneurs and firms, who operate in a non-union environment and where there is little preexisting community to ameliorate vicious competition and failure in periods of instability. Income distribution tends to be highly dualized in such regions (Saxenian 1983; Harrison 1994). Furthermore, politics within such districts tends toward the conservative, laissez-faire end of the spectrum—Orange County is famous as the home of the John Birch society and Silicon Valley as a hotbed of free trade and anti-union business activism.

Despite the often extravagant claims of some of its protagonists, the "new industrial district" approach has much to offer and has deservedly captured the imagination of scholars and local economic development activists alike. But many of the faster-growing regions of the world turn out not to be primarily characterized by these same features. Furthermore, other structural forms may be associated with superior welfare and political cultures. It is to these other types of sticky places we now turn.

### Hub-and-Spoke Industrial Districts

Another quite different type of industrial district is present in regions where a number of key firms and/or facilities act as anchors or hubs to the regional economy, with suppliers and related activities spread out around them like spokes of a wheel. Examples are Seattle and central New Jersey, United States; Toyota City, Japan; Ulsan and Pohang, South Korea; San Jose dos Campos in Brazil. A simple version of this form is depicted in the middle frame of Figure 1, where a single large firm (e.g., Boeing in Seattle or Toyota in Toyota City) buys from both local and external suppliers and sells chiefly to external customers, who may be large (e.g., the airlines, the military in the case of Boeing) or masses of individual consumers (Toyota). Intensive case studies of hub-and-spoke districts include Seattle (Gray, Golob, and Markusen 1996), central New Jersey (Fineberg et al. 1993), San Jose dos Campos and Campinas, Brazil (Diniz and Razavi 1994).

The dynamism in hub-and-spoke economies is associated with the position of these anchor organizations in their national and international markets. Other local firms tend to have subordinate relationships to them. If over time the anchors evoke a critical mass of agglomerated skilled labor and business services around them, they may set off a more

diversified developmental process where new firms form few connections to hub firms other than benefiting from the urbanization and agglomeration economies they have created.

Hub-and-spoke districts are thus dominated by one or several large, vertically integrated firms, in one or more sectors, surrounded by smaller and less powerful suppliers. Hub-and-spoke districts may exhibit either a strongly linked form, where smaller firms are quite dependent upon the large anchor firm or institution for either markets or supplies, or a weaker, more nucleated form, in which small firms enjoy the agglomerative externalities of the larger organization's presence without necessarily buying or selling to them. In some versions, the large player(s) may be oligopolists in a single industry, as with the Big Three auto corporations in Detroit or Toyota in Toyota City. Unrelated or loosely linked hubs in several industries may also coexist in a region. In Seattle, for instance, the economy is organized around Weyerhaeuser as the dominant resource-sector company, Boeing as the dominant industrial employer (commercial aircraft and military/spacecraft), Microsoft as the leading services firm, the Hutchinson Cancer Center as the progenitor of a series of biotechnology firms, and the Port of Seattle as the transportation hub. Core firms or institutions are embedded nonlocally, with substantial links to suppliers, competitors, and customers outside the district. Internal scale and scope economies are relatively high, and turnover of firms and personnel is relatively low except in third-tier suppliers or in major downturns in hub industries. Key investment decisions are made locally, but their consequences are spread out globally.

Hub-and-spoke districts may exhibit intradistrict cooperation, but it will generally be on the terms of the hub firm. Substantial intradistrict trade will take place among suppliers and hub firms, often embodied in long-term contracts and commitments. Cooperation may entail efforts to upgrade supplier quality,

timeliness, and inventory control, and it may extend outside district boundaries to suppliers farther afield. Exchanges of personnel may take place, though not to the extent found in Italianate industrial districts. Markedly lacking is the cooperation among competitor firms to share risk, stabilize the market, and share innovation. Strategic alliances on the part of the larger firms are more apt to be forged with partners outside the region.

The labor market in hub-and-spoke districts is internal to both large hub firms and to the district, though it is less flexible than in the Italianate model. Workers' loyalties are to core firms first, then to the district, and only after that to small firms. If jobs open up in hub firms, workers will often abandon smaller employers to get onto the hub firms' payroll. This factor makes it tougher for smaller firms in some segments of the industry to survive. Hub firms attract new labor into the conurbation, however, which helps to counterbalance the power imbalance in the labor market.

Hub-and-spoke districts do evolve unique local cultures related to hub activities. Detroit is known as Motor City, and sports teams of many cities have been named after dominant sectors—the Oilers, the Steelers, the Brewers, the Pistons, the Millers (the old Minneapolis team). They develop considerable expertise in the labor pool in specialized industrial capabilities, and they engender specialized business service sectors tailored to their needs. Although these business services are focused on the large hub firms, some can become less dependent by extending their markets to other competitor firms in far-flung locales. An extensive discussion of how a small firm experiences its position in a hub-and-spoke economy is included in Markusen (1994).

Districts of this sort lack some of the more celebrated governance structures of the Italianate industrial districts. They often lack "patient capital," local venture capital specially tailored to start-ups in their industry. The largest returns to

trade tend to be tied up as retained earnings in the major hub firms, who are happy to redeploy it wherever across the globe their strategic plans call for. The few trade associations that exist are relatively weak, often because top hub managers absent themselves from their deliberations and activities. Hub firms will concern themselves with state and local governmental activities that impinge upon their land use, tax, and regulatory situations and will try politically to ensure that area politicians represent the interests of their firm and industries at the national and international levels. They may also be actively involved in issues that affect their work force and ability to do business—especially in improving area educational institutions and the provision of infrastructure.

In the long run, hub-and-spoke districts are quite dependent on their major industries and firms within them for their stickiness. Growth and stability can be jeopardized by intermediate-term portability of plants and activities away from the region, or by the long-term decline of the industry, or by poor management of the principal firms. But stickiness also depends on the degree to which mature sectors can release local resources into new, unrelated sectors. A sobering historical example of the vulnerability of hub-and-spoke districts is Detroit, where a turn-of-the-century Marshallian district (perhaps with some Italianate features) transformed itself into a hub-and-spoke district around the auto oligopoly by the 1930s. Here, to vastly oversimplify, Detroit's vitality was severely taxed by the oligopolistic rigidity of the locally headquartered auto industry, combined with concerted investment on the part of the Japanese state and auto corporation in building a rival agglomeration around Toyota near Nagoya, Japan. Furthermore, tight oligoponistic control over the Detroit area's resources prevented the diversification of its economy (Chinitz 1960). A counter example is Seattle, where several unique features of Boeing as the undisputed anchor to the regional economy

(and the undisputed lead firm in the world aerospace industry) have contributed to (or at least not prevented) the region's diversification into other sectors—port-related activities, software, biotechnology—positioning it well to withstand retrenchment and global decentralization in the aircraft industry (Gray, Golob, and Markusen 1996).

Hub-and-spoke industrial districts may be characterized by relatively good income distributions. If so, this is due to both structural and institutional causes. Market power, often present in hub-and-spoke cases, results in relatively high returns to capital, a necessary though not sufficient condition for sharing of such returns with the work force in the form of higher wages. The presence of large anchor firms, nonprofit and public institutions may also reflect natural economies of scale, which are associated with large capital outlays and therefore high levels of labor productivity, available for distribution in wages. Securing this labor share is most often dependent on the presence of unions or the threat of their emergence. More vigorous political competition between probusiness and prolabor constituencies is apt to hold sway in such districts.

### Satellite Platforms

Yet a third variant of rapidly growing industrial districts may be termed the satellite platform—a congregation of branch facilities of externally based multiplant firms. Often these are assembled at a distance from major conurbations by national governments or entrepreneurial provincial governments as a way of stimulating regional development in outlying areas and simultaneously lowering the cost of business for competitively squeezed firms bristling under relatively high urban wages, rents, and taxation. Tenants of satellite platforms may range from routine assembly functions to relatively sophisticated research, but they must be able to more or less “stand alone,” detachable spatially from either up- or downstream operations within the same firm or from agglomerations of

competitors and external suppliers or customers (Glasmeyer 1988).

Satellite platforms may be found in almost all countries, regardless of development. An outstanding high-end example in the United States is the internationally much-admired Research Triangle Park, a collection of unrelated research centers of major multinational corporations (Luger and Goldstein 1990), while a comparable low-end U.S. case is Elkhart, Indiana, where a number of auto-related branch plants have been attracted by relatively low-wage labor. In South Korea, Kumi constitutes a low-end textile and electronics platform, while Ansan operates as an odd collection of disparate industrial polluters grouped together (Park and Markusen 1994). In Japan, some of the better-performing technopoles, such as Oita and Kumamoto, fall into this category (Markusen and Sasaki 1994). In Brazil, a remarkable case is the state-sponsored expansion of Manaus as an import/export zone (Diniz and Borges Santos 1995).

In satellite platforms, business structure is dominated by large, externally situated firms that make key investment decisions. Scale economies within each facility are moderate to high, and rates of turnover of platform tenants are low to moderate. Minimal intradistrict trade or even conversation takes place among platform tenants. Orders and commitments to local suppliers are conspicuously absent. Since platforms generally host heterogeneous firms in terms of product if not industry and are remotely controlled, they do not operate as cooperative ventures among resident plants to share risk, stabilize the market, or engage in innovative partnerships. In this they differ from hub-and-spoke district, where the large multilocal firm or institution is locally based. This type of sticky place is presented in the lower portion of Figure 1; its most conspicuous feature is the absence of any connections or networks within the region and the predominance of links to the parent corporation and other branch plants elsewhere.

It is not as if branch operations, however, are not embedded in relationships external to the facility. They cooperate and communicate daily with the parent company. Personnel exchanges are common between branch operations and the headquarters firm, but not locally with other branch facilities. To buttress this nonplace embeddedness, the labor market within which each facility operates, at least in the high-end version and for management and some technical talent in the low-end version, cuts across district boundaries; it is internal to the vertically integrated firm, rather than to the district. This means that there will be high rates of labor migration in and out of the district at the managerial, professional, and technical levels. Often skilled professionals who originated from the region will be disproportionately represented. Only blue- and pink-collar labor will be hired locally, which may, however, not be inconsequential.

Over time, districts built around platforms may begin to host growth of suppliers, oriented toward platform tenants, and they may enjoy some increase in local entrepreneurship because the platform enhances the pool of skilled personnel resident in the region. But in cases studied to date, the incidence of such activity is small, and the aggregate growth of the region is still very much tied to the number of tenants that can be attracted and to the ability to retain them (Howes 1993).

A number of features of the satellite platform constrain its development into a better-articulated regional economy. First of all, the main sources of finance, technical expertise, and business services are external to the region, furnished through corporate headquarters. Satellite districts have little "patient capital" to draw upon, and because substantive activities are diverse, they lack industry-specific trade associations that would provide shared infrastructure and help with management, training, and marketing problems. These will only be partially compensated for by strong national or

local government efforts and services offered by Chambers of Commerce and other associations of local fixed capital.

Satellite platforms' future growth is jeopardized by the intermediate-term portability of plants and activities elsewhere to similarly constructed platforms. Those concentrating on higher-end activities, where stability and amenities in the residential sphere are essential to drawing and keeping skilled personnel, will be less vulnerable in this regard, while purely low-cost districts will be more so, especially if fixed capital investment is low. Since individual plants and facilities are disparate and outward looking, satellite platforms do not engender the development of unique local cultural bonds or new identities, even though they may destroy preexisting ones. Thus they may be less sticky, especially if less skilled, than other types of district. Hosting communities face the challenge of trying to parlay resources assembled by such facilities into other diversifying and home-grown sectors. They do remain sticky, however, to the extent that large capital investments are made in the process of occupying them.

The record on income distribution in satellite platforms is mixed. In all countries studied, the entry of such platforms into previously depressed regions does contribute to higher overall per capita incomes (and perhaps a depression of those in regions of exit). Within the region, income distributional consequences depend on the nature of the industry and activity. Good blue-collar jobs in a depressed agricultural region will improve the income distribution. In technical branch platforms, the creation of a significant number of clerical and technician jobs may help to ameliorate the skewness introduced by operations that are top-heavy with managers and professionals. This seems to have occurred in the case of Research Triangle Park (Luger and Goldstein 1990). However, satellite platforms by their very nature artificially cordon off employment in some operations of a corporation from those in other regions, spreading income inequality out spa-

tially. Somewhat better jobs for rural Japan or small-town Alabama placed on a satellite platform obscure the concentration of top-paid corporate jobs elsewhere and the deterioration in the income distribution in a Detroit or inner-city Tokyo, especially for blue-collar workers.

The implications for the complexion of politics in satellite platform regions are also mixed. In some cases—Japan, for instance—the creation of such platforms under the technopolis strategy has co-opted militant, often antibusiness prefectural movements for environmental cleanup and an improved quality of life, redirecting their energies and local resources into speculative economic development activities. In other cases, new satellite platforms have helped break the stranglehold of traditionally dominant “good old boy” parties by introducing educated people and new immigrants into the region and contributing to more contested local politics.

### State-anchored Districts

A fourth form of sticky place is what we call the state-anchored industrial district, where a public or nonprofit entity, be it a military base, a defense plant, a weapons lab, a university, a prison complex, or a concentration of government offices, is a key anchor tenant in the district. Here, the local business structure is dominated by the presence of such facilities, whose locational calculus and economic relationships are determined in the political realm, rather than by private-sector firms. This type of district is much more difficult to theorize, because contingencies particular to the type of activity involved color its operation and characteristics. It is apt to look much like the hub-and-spoke district in Figure 1, although a facility can operate with few connections to the regional economy, resembling the satellite platform case. Nevertheless, some commonalities may be noted.

Before doing so, however, I shall simply cite examples of such districts. Many of the fastest growing industrial districts in the United States and elsewhere owe their

performance to the presence, new location, or expansion of state facilities. Military bases, military academies, and weapons labs, for instance, explain the phenomenal postwar growth of U.S. cities like Santa Fe, Albuquerque, San Diego, and Colorado Springs, while defense plants contributed dramatically to the growth of Los Angeles, Silicon Valley, and Seattle (Markusen et al. 1991). State universities and/or state capitals explain the prominence of cities like Madison, Ann Arbor, Sacramento, Austin, and Boulder among fastest growing U.S. cities. Denver owes much of its postwar growth to its hosting of the second largest concentration of federal government offices in the nation. In Japan and South Korea, the government research complexes at Tsukuba and Taejon, respectively, have fueled growth in their environs. In Brazil, Campinas owes much to its top-ranked university, while San Jose dos Campos's growth is based on the government-owned, military-oriented aerospace complex (Diniz and Razavi 1994).

In general, scale economies are relatively high in such complexes. Because state-owned or state-dependent facilities are so large, supplier sectors do grow up around them, dependent on the level of public expenditure. Short-term contracts and commitments do exist between state “customers” and their suppliers, subject to political change. In the case of state capitals and universities, high degrees of cooperation may exist between the customer and suppliers, and activity will be relatively immune from the threat of exodus. This is less true for national facilities, especially in times of fiscal stringency or redundancy of function (e.g., the current closing of military bases in the United States). In nationally funded facilities, decisions are made external to the district and may be more indifferent to regional development impacts.

When government contracting is involved, especially in areas like defense, the arcane and elaborate nature of the contracting process may encourage the development of long-term supply relationships, based on a fairly strong degree

of trust and cooperation. However, these ties need not be localized; they may span thousands of miles between Los Angeles or Silicon Valley and Washington, D.C., for instance, or most of the length of a country like Korea, as between Changwon and Seoul (Golob et al. 1995; Markusen and Park 1993).

Labor markets will be tailored to the particular state activity hosted. For state capitals, the labor market will tend to be relatively local or regional. Personnel may cycle between state customers and local suppliers. For universities and national facilities, labor markets will operate externally for the higher-skilled occupations. In the case of military bases, blue-collar and unskilled positions will also be filled from a labor market national in scope. Workers' loyalties will be devoted to large state institutions and/or state-dependent facilities first, then to the district, then to firms.

Indigenous firms will play less of a role in these districts than in Marshallian or hub-and-spoke districts. Some may emerge out of specialized technology transfer (universities) or business service functions (lobbying). Firms will not tend to cooperate to stabilize markets or hedge against risk since they are not preoccupied with stabilizing demand in the same way that Marshallian districts with mature industries might. In general, trade associations will be relatively weak, and local government's role in regulating and promoting district activities will be minimal (consider, for instance, the District of Columbia's almost complete absence of power). Local fixed capital and government may adopt a sycophantic form of boosterism, designed to enhance the ability of the anchor facility to maintain or increase levels of external funding or protect it against closure.

In state-anchored industrial districts, long-term growth prospects depend on two factors: the prospects for the facility at the core of the region, and the extent to which the facility encourages growth within the region by spawning local suppliers, spinning off new businesses, or supplying labor or other factors of produc-

tion to the local economy. Often, the mammoth size of the facility—New Mexico's Los Alamos Laboratories, for instance, with an annual budget of \$1.4 billion, mostly for personnel, or New London, Connecticut's Electric Boat submarine manufacturing facility, with its 20,000 workers—overwhelms any contribution, real or potential, that may be made through second effects. This means that local business and political energies tend to be focused on solidifying the facility's commitment and its level of funding. This must be pursued through politics at the relevant level and thus requires a relatively unique governance structure.

Politics in state-anchored industrial districts tend to be complex and tailored to the particularities of the form of government involvement. Military-industrial districts range from the remarkably conservative (Colorado Springs) to the remarkably liberal (New England). University towns and state capitals tend to be more liberal than other cities of similar size, even within their own states, while towns hosting military bases and prisons tend to line up on the conservative end of the spectrum.

### Sticky Mixes

Although the presence of Marshallian industrial districts, even the Italianate version, can be confirmed in a number of American instances, the claims made for the paradigmatic ascendancy of this form of new industrial space (Scott's rubric) do not square with the experience of most rapidly growing agglomerations in industrialized and industrializing countries. In the United States, for instance, most rapidly growing industrial regions do not exhibit the characteristics of the Third Italy. Indeed, the lessons of the Italian industrial district experience are being adopted most fruitfully in the Industrial Midwest as a way of stemming deindustrializing and retaining jobs in small and medium-sized firms, not in explaining new industrial spaces. Even Silicon Val-



ley, as we show elsewhere, is more a mix of industrial district types than a pure case of Italianate industrial district (Golob et al. 1995). In Japan, South Korea, and Brazil, it is difficult to find a single instance of a flexibly specialized industrial district outside of subareas of the major metropolis. Most rapidly growing metropolitan areas owe their performance to hub firms or industries, satellite platforms, and/or state anchors, or some combination thereof.

In the United States, the fast-growing industrial cities in Table 2 may be allocated to one or more of our industrial district types. Colorado Springs, Huntsville, Melbourne/Titusville, and San Diego, all military or space-dependent cities, belong in the fourth, government facility-anchored growth areas. Madison, Austin, and Albuquerque also belong in this category, the first two because they house both the state university and state capital, and Albuquerque because it hosts the state capital, state university, and various military-related facilities, including nearby Los Alamos and Sandia laboratories. Reno and Orlando's growth is primarily entertainment-related, although in recent years Reno has benefited from warehousing and related operations fleeing California's tax structure. Seattle, Los Angeles, and the latter's Anaheim/Santa Ana neighbor are hub-and-spoke districts organized around large defense and commercial corporations, with universities playing larger or smaller roles. Raleigh-Durham is a prototypical case of a successful high-tech satellite platform, while Elkhart-Goshen has flourished from low-wage, non-union capacity additions in aging industries.

The models of sticky places presented above are suggestive rather than definitive products of an inductive research method. Further application of these to an even broader set of regional economies will be necessary to determine how well each is constructed and how common its incidence is in real space. Comprehensive comparative work across a larger applied set could tell us much about district forms

and how they vary by type of industry and degree of maturity, national and regional rules and cultures, and firm and local economic development strategy.

Many localities, especially larger metropolitan areas, exhibit elements of all four models. Silicon Valley, for instance, hosts an industrial district in electronics (Saxenian 1994) but also revolves around several important hubs (Lockheed Space and Missiles, Hewlett Packard, Stanford University), as well as hosting large "platform" type branch plants of U.S., Japanese, Korean, and European companies (e.g., IBM, Oki, NTK Ceramics, Hyundai, Samsung). Furthermore, Silicon Valley is now and has been the fourth largest recipient of military spending contracts in the nation, a fact that shapes its defense electronics and communications sector (Saxenian 1985; Markusen et al. 1991; Golob et al. 1995).

An intriguing question is whether regions can maintain their stickiness by transforming themselves from one type of district to another. Historically, as I have pointed out, Detroit made the transition from a Marshallian district to a hub-and-spoke district. Localities that host satellite platforms may be able to encourage backward and forward linkages that transform them into more Marshallian or hub-and-spoke type districts; scholars are debating whether this is occurring around large Japanese auto transplants in the United States. A state-centered district might do the same. A hub-and-spoke district which loses its anchor tenant may be able to create a Marshallian district in its wake, as some are trying to do in the Los Angeles aerospace industry. Recruitment or incubation of a new hub could transform a Marshallian or state-centered district into a hub-and-spoke variant, which is what Colorado Springs has been doing with new organizational headquarters like the U.S. Olympics and the right-wing Christian Focus on the Family. More work could be done on the conditions that impede or facilitate these mutations.

The research reported here was method-

ologically confined to places doing better than average, simply because this ensured that they met the criterion of superior growth performance. However, many localities with stable or slowly declining growth patterns are struggling to be sticky places, and many are succeeding in stanching their losses by remaking their industrial structures. New England, for instance, began as early as the 1950s to transform itself into a diversified military-industrial complex, escaping the deeper displacement that occurred post-1970 in the Industrial Midwest (Markusen et al. 1991). Although New England has not as a region posted above-average long-term growth rates, even during the Reagan military buildup, it deserves study as a sticky place. Midwestern cities like Chicago, Milwaukee, and Cleveland with little comparative advantage in military-industrial sectors are trying to make themselves more sticky by anchoring and upgrading existing expertise in industries like metals, machining, and automobiles.

Our study was conducted at the metropolitan scale, equivalent more or less to a regional labor shed. However, industrial district features may characterize smaller agglomerations within metropolitan areas. Extension of these models to the subregional scale might require relaxing one or more assumptions and altering some hypotheses.

### Research and Policy Implications

This exercise in distinguishing among types of sticky places illustrates the diversity in spatial form, industrial complexion and maturity, institutional configurations, and welfare outcomes found in contemporary regional economies. It cautions that the singular enthusiasm for flexibly specialized industrial districts, especially the high-tech American variant, is ill-founded on both growth/stability and equity grounds. In large part, the problem here lies in the limits of the research strategy used in the NID literature, which intensively studies particular localities extracted from their embeddedness in a larger global economy. It is useful to

study why certain places appear to be different and/or more successful as a means of developing hypotheses regarding features that may contribute to such success. Once identified, these then need to be tested against a larger sample, one more representative of the universe of localities.

Furthermore, the study of industrial districts and networks within them has generally been confined to smaller firms in particular industries; their links to larger firms and to other firms and institutions outside the region have been ignored. As a result, conclusions have been drawn about the endogeneity of growth in such districts that, when viewed on a larger, more comprehensive canvas, are not warranted. Nor is the zero-sum nature of much of this growth acknowledged—that certain places grow at the expense of other places, that high-wage employment in some regions is linked to low-wage employment in others, and that only a few places can possibly aspire to become Silicon Valleys of the future.

In reality, sticky places are complex products of multiple forces: corporate strategies, industrial structures, profit cycles, state priorities, local and national politics. Their success cannot be studied by focusing only on local institutions and behaviors, because their companies (through corporate relationships, trade associations, trade, government contracts), workers (via migration and international unions), and other institutions (universities, government installations) are embedded in external relationships—both cooperative and competitive—that condition their commitment to the locality and their success there.

These reflections on research approach are applicable to economic development policy at both regional and national levels as well. At the regional level, economic developers would be well advised to assess their existing district structures accurately and design a strategy around them, rather than committing to a fashionable strategy of small-firm networking

within the region. Improving cooperative relationships and building networks that reach outside of the region may prove more productive for some localities than concentrating on indigenous firms. Furthermore, our work on hub-and-spoke and satellite platform structures suggests that large firms can be significant contributors to regional development, albeit posing problems of dominance and vulnerability, and that recruitment of an external firm or plant may be a good strategy for a region at a particular developmental moment. Regions might also be well advised to target national-level policies shaping the competitive status of their industries and allocating public infrastructure and procurement contracts.

At the national level, a strategy to ameliorate regional competition and differential growth rates would (1) attempt to determine how many districts of each type the national economy might be expected to sustain, (2) develop a strategy for stabilizing existing districts and channeling new ones to deficit areas, (3) ban the use of public funds to subsidize competition among regions, and (4) monitor and if necessary alter national policies with substantial regional implications, such as devolution of powers and responsibility to subnational levels, new trade regimes (e.g., North American Free Trade Agreement, General Agreement on Tariffs and Trade), macroeconomic policy initiatives (e.g., deficit reduction and fiscal austerity versus stimulus), financial market structures, Third World development, international labor and human rights, international environmental standards, immigration restrictions, social safety nets, and infrastructure provisions. In the United States at present, only the third of these has any near-term possibility of being undertaken and then only as a result of considerable bipartisan clamor in Congress.

The prominence of hub-and-spoke and satellite platforms among U.S. sticky places suggests that economic development strategies built on cross-regional

alliances might be as important to localities as purely local networking approaches. Cross-regional networks might be forged to shore up progressive institutions under attack (labor, environmental and community development gains) and create better ones at national and international levels to curb the worst products of capitalist development—poverty, insecurity, income inequality, environmental degradation. While NID district builders struggle to create governance structures at the local level, multinational finance and industrial leaders have crafted a World Trade Organization that would be highly undemocratic and preempt many of the existing rights and safeguards that workers and communities have fought for and won. More sophisticated and pluralistic profiles of industrial districts and how they operate, both internally and externally, must be joined with more intensive study of multinational corporations and state institutions if a more powerful geographic contribution to progressive strategy is to emerge.

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