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Introduction

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Urban and regional policy debates are often long on rhetoric but short on evidence about policy impacts. To redress that imbalance, the Brookings Institution, the George Washington University Institute of Public Policy and the Trachtenberg School of Public Policy and Public Administration, and the Urban Institute held the fourth in a series of annual conferences entitled "Urban and Regional Policy and Its Effects" at the George Washington University in Washington, D.C., on May 20–21, 2010. They were joined by the Building Resilient Regions Network, an interdisciplinary research network sponsored by the John D. and Catherine T. MacArthur Foundation and housed at the University of California–Berkeley. The conference, whose participants included members of the network as well as practitioners from the federal government and nonprofit organizations concerned with urban policy, examined the question of how to build resilient regions. The conference sought to engage authors and discussants in a cross-disciplinary dialogue focused on the central theme of regional resilience. The chapters in this volume are revised versions of those commissioned papers.

Our examination of regional resilience includes one conceptual chapter devoted to defining resilience and five chapters that address resilience with respect to a particular policy challenge that many metropolitan areas and local communities face. Each chapter, however, uses a different definition of resilience. The chapters cover the following challenges:

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—*Defining regional resilience,* addressed by "In Search of Regional Resilience," by Kathryn Foster.

—*Home mortgage foreclosures*, addressed by "Resilience in the Face of Foreclosures: How National Actors Shape Local Responses," by Todd Swanstrom.

—*Immigration*, addressed by "Struggling over Strangers or Receiving Them with Resilience: The Metropolitics of Immigrant Integration," by Manuel Pastor and John Mollenkopf.

—*Public transportation*, addressed by "Bringing Equity to Transit-Oriented Development: Stations, Systems, and Regional Resilience," by Rolf Pendall, Juliet Gainsborough, Kate Lowe, and Mai Nguyen.

—*Regional economic development*, addressed by "Economic Shocks and Regional Economic Resilience," by Edward Hill, Travis St. Clair, Howard Wial, Harold Wolman, Patricia Atkins, Pamela Blumenthal, Sarah Ficenec, and Alec Friedhoff.

—*Poverty*, addressed by "Building a Resilient Social Safety Net," by Sarah Reckhow and Margaret Weir.

The goals of this volume are to introduce scholars, policymakers, and practitioners to the concept of regional resilience and to inform them about the state of knowledge on the effectiveness of regional characteristics and public policies in promoting or impeding the resilience of metropolitan areas. Authors were asked to explain the challenge that their chosen policy area poses for regions, define regional resilience with respect to that challenge, present the findings of their own research (qualitative and/or quantitative) on the nature of the challenge for metropolitan areas, and draw policy implications from their research.

Summary of Chapters

Kathryn Foster's chapter, "In Search of Regional Resilience," serves as a useful introduction and background for the other chapters in this volume. Foster begins by noting the range of definitions of resilience that have been used by different disciplines and observes that there is a basic conceptual divide between resilience as an *outcome* (is there a recovery from some stress?) and resilience as a *capacity* (does a person or place have the conditions and attributes that make it more likely to recover from stress?). In setting forth her definition of regional resilience, she incorporates both concepts, defining regional resilience as "the ability of a region to anticipate, prepare for, respond to, and recover from a disturbance." Elaborating, she notes that a region has a pre-stress capacity for resilience and that when it is confronted by a stress, it responds with a "resilience performance." The actual relationship between pre-stress capacity and resilience performance is an empirical question: does pre-stress capacity contribute to resilience performance?

Foster then turns to a conceptual elaboration of each of the three critical terms of the relationship. Capacity relates to a range of resources, characteristics, and attributes that regions possess and are at least hypothetically related to their ability to respond to stress. Stress consists of a negative disturbance and can be either acute or chronic. Stresses may vary in terms of both their duration and magnitude. Regional resilience refers to the actual performance of the region in response to stress: to what extent does the region recover from stress? Resilience can be either absolute (does the region regain its prior state?) or relative to that of other regions. Measuring resilience performance requires specifying exactly what to measure and over what time period, methodological challenges that, Foster notes, hamper comparative resilience assessment.

Foster's primary concern is to develop a "regional resilience index" that can reveal and compare regional resilience capacity and performance for U.S. metropolitan areas. For the regional capacity component, she identifies three subdimensions of the index: regional economic capacity, sociodemographic capacity, and community connection capacity. Regional economic capacity is measured by three variables: regional economic diversity, income, and income distribution. Sociodemographic capacity is measured by education, percentage of population of working age, percentage of population with disabilities, and poverty rate. Community connection capacity is measured by familiarity (percentage of population born in the state), linguistic connection (percentage not linguistically isolated), and age of housing in the region. Foster standardizes these ten variables and uses them to create a regional capacity index for each of the 360 U.S. metropolitan areas.

For the regional performance component, which proves more problematic, Foster examines the responses of gross metropolitan product and regional employment to the economic downturn at the beginning of the twenty-first century. For each of the two measures she develops a measure of stress (for example, increase in unemployment rate during the period) and a measure of recovery (for example, proportion of increase in unemployment rate that was recovered by the end of the period). She calculates a regional performance score for each of the two variables by dividing the measure of recovery by the measure of stress. Finally, she standardizes each of the two measures to create a regional performance index that incorporates both gross metropolitan product and regional employment. The resulting regional capacity and performance indexes enable researchers to relate capacity to performance and can help policymakers better understand their region's capacity for resilience, both in absolute terms and relative to other regions.

As the conference was being held, the nation was in the midst of a weak recovery from its longest recession since World War II. However, mortgage foreclosures, the ongoing result of the collapse of a housing bubble that helped precipitate that recession, continued at record-high levels. In "Resilience in the Face of Foreclosures: How National Actors Shape Local Responses," Todd Swanstrom examines the factors that shape the ability of local and regional actors to prevent foreclosures and mitigate their harmful effects on families, neighborhoods, and local governments.[1] Swanstrom examines the constraints that local housing market conditions, federal and state policies, (un)availability of needed information, and lender incentives place on local and regional responses to the foreclosure crisis. His work is based on institutional analysis and interviews conducted in the St. Louis, Cleveland, Chicago, Atlanta, Riverside, and San Francisco metropolitan areas.

Swanstrom explains the spillover costs that foreclosures create for people other than the foreclosed homeowner. Property values decline and crime increases in the neighborhood where the foreclosure occurs. Declining property values place fiscal stress on local governments, which often curtail public services in response to the decline in their tax base. Involuntary displacement from their home harms children and other family members. These costs are especially severe in weak-market metropolitan areas. Because mortgage lenders do not take these costs into account when making foreclosure decisions, they carry out an excessive number of foreclosures.

In addition to noting general reasons for foreclosures, Swanstrom highlights the role that predatory lending (the making of overly risky loans) played in creating the foreclosure crisis that helped precipitate the Great Recession. He argues that predatory lending, rather than the collapse of the housing bubble, generally weak economic conditions, or federal policies to promote homeownership, was the root cause of the crisis. Federal policies since 1980, including those abolishing state usury laws and allowing lenders to opt for federal rather than more stringent state regulation, helped spur the growth of predatory lending, as did the absence of effective federal regulation of the mortgage market. Federal regulators preempted state attempts to restrict predatory lending and prevent foreclosures. State governments likewise preempted local attempts to do so.

The ideal market response to the problem of too many foreclosures is for lenders to modify mortgages to reduce the amount of principal that defaulting borrowers owe. Swanstrom explains the features of the contemporary mortgage

1. Swanstrom's chapter complements Thomas Kingsley's chapter in *Urban and Regional Policy and Its Effects,* vol. 3, which examines local and regional public policies that have been implemented to respond to the foreclosure crisis. Swanstrom focuses instead on the broader economic and political contexts within which those responses have occurred. See Kingsley (2009).

market that give mortgage lenders and servicers an incentive to foreclose rather than to modify loans, even when modification would seem to be in the lender's interest. Chief among them are the pooling and securitization of mortgages, which increase the number of effective "creditors" for each loan and remove local lenders (who presumably understand local market conditions and are in a position to internalize some of the spillover costs of foreclosure) from the foreclosure decision.

On the borrower side of the market, foreclosure counseling can help borrowers avoid foreclosure, find new housing and needed social services, and facilitate short sales as an alternative to foreclosure. However, counseling prevents very few foreclosures, largely because lenders and loan servicers are reluctant to modify mortgages. Likewise, the federal Home Affordable Modification Program, begun in 2009, has helped avert very few foreclosures because it offers relatively small payments to lenders to induce them to modify mortgages and because lender participation in the program is voluntary.

Swanstrom then turns from the prevention of individual foreclosures to the stabilization of neighborhoods in the wake of foreclosures. The goal of neighborhood stabilization policies is to reduce the supply of and/or increase the demand for housing in neighborhoods where housing is underpriced as a result of a large number of foreclosures. Swanstrom notes that the need for such policies varies by metropolitan area and neighborhood. In weak-market metropolitan areas and especially in their typically depressed central city neighborhoods, the negative spillovers and consequent need for neighborhood stabilization policies are especially great. Even in strong-market metropolitan areas, similarly large neighborhood spillovers and needs for stabilization exist in overbuilt outer suburban neighborhoods. In strong-market neighborhoods within strong-market metropolitan areas, however, there is less need for neighborhood stabilization because spillover effects are smaller. Therefore, stabilization policies should be tailored to the market conditions of metropolitan areas and neighborhoods.

Stabilization policies, as well as policies to prevent foreclosures or mitigate their other spillover costs, must be carefully targeted to the right locations at the right times. Swanstrom argues that accurate, real-time, publicly available data on all stages of the lending process prior to, including, and following foreclosure are needed if these policies are to be properly targeted. However, such data are rarely available; instead, available data often are in the hands of private firms, not sensitive to variation in market conditions among neighborhoods, or outdated. In addition to appropriate data, local and regional organizations with the capacity to work together to analyze and act on the data are needed to help stabilize neighborhoods. Such organizations, which include local governments, community development corporations, and real estate brokerages, often lack the needed analytical capacity and rarely collaborate to help stabilize neighborhoods. Swanstrom concludes by recommending that the federal government mandate public disclosure of the necessary data, provide more funding for regional data gathering and analysis, and step up its efforts to promote collaboration among local and regional organizations.

Adding to the challenge of understanding and measuring resilience are changes that may be positive or negative, depending on a region's prior circumstances and response. In "Struggling over Strangers or Receiving Them with Resilience: The Metropolitics of Immigrant Integration," Manuel Pastor and John Mollenkopf conceive of immigration as a "shock" to urban and metropolitan areas that, while providing some immediate and obvious benefits, also may cause significant stress. The stresses may be immediate in terms of public service needs and intergroup tensions caused by competition in labor and housing markets with native-born minority groups. They may also be longer term with respect to the imperative of promoting intergenerational mobility in labor and housing markets.

The authors ask how regions respond to immigration-related shocks. Do regional leaders attempt to generate political support for policies that mitigate the shocks and attempt to incorporate immigrants into the area's social and political systems? Or do they rally public opposition to immigration and focus on enforcement-related measures? The chapter is concerned with factors that lead to positive (resilient) responses to immigration as opposed to negative (rigid) responses.

Pastor and Mollenkopf begin by reviewing national trends and legislation related to immigration. They observe that changes in federal legislation have resulted in a decline in immigration from Europe and an increase in immigration from Latin America and Asia. As a result, the ethnic character of immigrants in the United States has changed from nearly three-quarters non-Hispanic white in 1970 to 80 percent non-white in 2007. The location of new immigrants has also changed to include destinations in states such as Georgia, North Carolina, Arizona, and Nevada along with more traditional destinations in California, Texas, and Illinois. In addition, intra-metropolitan area destinations also have shifted, with immigrants increasingly settling in suburbs rather than in central cities.

The authors conduct case studies to examine the experience of six metropolitan areas: Los Angeles, Chicago, New York, San Jose, Phoenix, and Charlotte. They conclude that some of these areas have exhibited a resilient response while others have not. However, they also note that in nearly all cases the responses varied within the region. Central cities in general provided a more welcoming response than nearby suburbs, partly because cities have more established social service infrastructure, are generally more diverse, and have a larger first- and second-generation immigrant voting base, which can change the calculus for political candidates.

Pastor and Mollenkopf conclude from their case studies that a region's history matters: regions with a long history of immigration (for example, New York and Chicago) exhibit more resilient responses, while resilience is less frequently observed when the shock is newer and larger (Phoenix). They also observe that resilient responses are more likely when immigration is from diverse ethnic groups (as in New York and Los Angeles) or in regions where there are large numbers of "non-racialized" immigrants (Eastern Europeans in Chicago) or higher-skilled immigrants (Asians in San Jose). More rigid responses occur when immigration is "racialized" and seen to be from a single ethnic group (as with Phoenix and migrants from Mexico). Indeed, they observe that race matters in other ways as well. Chicago has traditionally incorporated immigrant groups into the political and social system through its machine politics, and Mexican immigrants have followed in that tradition. Charlotte's regional business elite's desire to present the region as the racially tolerant center of the "new South" has conditioned its response to recent Hispanic immigration. The authors also note that resilient responses are more difficult when political candidates find it advantageous to exploit resentments about the fiscal and social costs associated with immigration. That approach differed across regions but could be seen in at least some jurisdictions in each of the case study regions.

The authors conclude with several observations about possible policy responses to encourage resilience. Since rapid increases in immigration in areas that have not previously experienced substantial immigration flows seem to trigger more rigid responses, they suggest that national immigration policy reform should include special resources and training for such areas. They also argue that the opportunities available to political candidates to engage in anti-immigrant responses can be blunted by encouraging civic engagement and political participation among immigrant groups as well as leadership development and greater naturalization of immigrants, thereby shifting candidates' political cost-benefit calculus. Finally, they note that regional leaders, including those in the business community, can encourage resilient regional responses to immigration. While they already do so in some regions (for example, Charlotte), leaders in other regions should be educated on why doing so is in their interest.

Few policy decisions carry more enduring significance for regions than those related to transportation. Transportation choices establish the region's footprint and shape the lines of its future development. In "Bringing Equity to Transit-Oriented Development: Stations, Systems, and Regional Resilience," Rolf Pendall, Juliet Gainsborough, Kate Lowe, and Mai Nguyen examine the intersection of transportation and land use decisions, focusing on transit-oriented development (TOD).

In resilient regions, they argue, transportation policymakers must anticipate future needs when making decisions about building new transit systems, locating transit lines, and siting stations. The authors begin with the proposition that the transportation system and regional form of the last century—based on automobile-centric development—is not well-suited to the challenges of the next half-century, which are being driven by growing demographic diversity and climate change. Transportation infrastructure for the future, in their view, must promote environmental sustainability, broad social inclusiveness, and economic prosperity. Transit-oriented development may work to achieve those goals by locating mixed-use, higher-density neighborhoods with affordable housing near fixed-route mass transportation. Yet the effort to bring equity considerations into transportation decisions may confront significant obstacles.

Three questions guide the chapter. First, what is known from past experience about the challenges involved in creating transit routes and stations that serve low-income communities? Second, what obstacles does transit-oriented development confront and how have local governments sought to ensure that development around stations can take place? Third, is there evidence that a long-term commitment to affordable housing has been incorporated into development surrounding stations? Drawing on interviews, mapping, and census data analysis, they examine these questions in case studies of Denver, Charlotte, Miami, and Boston. Denver and Charlotte have reputations as successful examples of rail development and TOD over the past thirty years while Miami's experience has been more disappointing. In Boston, the authors examine efforts to create a new transit line with TOD around the stations.

The chapter's findings suggest reasons for both caution and optimism about incorporating equity considerations into transit alignments and TOD. On the positive side, the authors find that it is possible to bring equity considerations to light-rail planning in both centralized regions and regions that have many local jurisdictions. Transit development in Charlotte faced the fewest obstacles because it occurred within a single jurisdiction that had well-established relationships among public and private groups. Although Denver had to secure consensus from multiple jurisdictions, a history of building regional ties in the Metro Mayors Caucus facilitated consensus. Furthermore, because many suburban Denver jurisdictions are home to low-income residents, suburban governments were attentive to equity considerations. In Miami, on the other hand, the need to secure agreement from many different jurisdictions with little history of cooperation led to the creation of an ambitious but underfunded plan that ultimately failed by promising too much to everyone.

The authors do not find insurmountable barriers to attracting private developers to TOD sites. Miami and Boston faced the most severe obstacles, but in Boston community-based actors enjoyed public and private support for their development activities. In the Charlotte case, the authors suggest that the participatory processes associated with TOD may actually have built support for denser mixed-income development even outside TOD locations, thereby expanding the vision of possible lifestyles beyond the traditional auto-centered suburban housing development.

The chapter shows that support for mixed-income TOD occurs only when there is a broader commitment to affordable or mixed-income housing in the region. Denver, Boston, and Charlotte, all cities that incorporated affordable housing into TOD, already had significant commitments to housing affordability from regional leaders. The preexisting commitments meant that mixed-income TOD won acceptance as a way to achieve already agreed-on goals. Miami, by contrast, faced two barriers to mixed-income TOD: little history of support for affordable housing among regional leaders and state laws that mandate affordable housing on the basis of historic shares. As a result, the TOD in Miami featured 100 percent–affordable projects in distressed areas.

Pendall and his coauthors conclude by considering several shifts in federal policy that would make it easier to develop transportation systems that serve low-income communities, bring private developers to TOD, and include mixed-income housing. Because equity concerns can be overlooked when it is important to secure suburban support, they suggest that the federal government include additional equity criteria in its assessment of mass transit capital proposals. To ensure that projects with TOD are not disadvantaged by higher upfront land acquisition costs, they recommend changes to the cost-effectiveness criteria in the Federal Transit Administration's New Starts program. Finally, because private developers are unlikely to make housing affordability a priority without incentives to do so, they propose several measures that would greatly strengthen the incentives for affordability.

In the wake of the September 11, 2001, terrorist attacks, Hurricane Katrina, and the precipitous loss of manufacturing jobs in the Midwest after 2000, the resilience of regional economies to economic and non-economic shocks has become an important public policy issue. In "Economic Shocks and Regional Economic Resilience," Edward Hill and his coauthors present a comprehensive consideration of economic resilience—how it is defined and measured as well as the factors that contribute to resilience. Their main concern is why some regional economies that are adversely affected by shocks are able to recover in a relatively short period of time while others are not. They use quantitative analysis at the regional level and case studies of six metropolitan areas to address that question.

The authors define economic resilience as the ability of a regional economy to maintain or return to its previous growth rate after experiencing some type of externally generated shock. Shocks can be of three kinds: shocks caused by downturns in the national economy; shocks caused by downturns in particular industries that constitute an important component of the region's export base; and other external shocks (a natural disaster, closure of a military base, movement of an important firm out of the area, and so forth).

The analysis begins with descriptive statistics on economic shocks; their effects on regional economies; the extent to which regions are resistant to various types of shock; and, if they are not shock resistant, whether they are resilient or nonresilient after suffering the adverse effects of a shock. Regions suffering an employment downturn as a result of a shock were resilient 65 percent of the time. The average length of time from the onset of the downturn to recovery for a region was 2.9 years.

Following the descriptive analysis, the authors specify and estimate four economic models to address the following four questions: What are the characteristics of areas that experience regional economic downturns compared to those of areas that do not? Why are some regions adversely affected when an economic shock occurs while others are not? Why are some areas resilient when experiencing an economic downturn while others are not? What accounts for the length of time that it takes a region that is experiencing an economic downturn to recover?

The quantitative analysis indicates that regional economic structure matters to resilience but that there are no "magic bullets." It appears that some characteristics that make regions less susceptible to downturns also make it more difficult for them to recover. For example, a high percentage of employment in durable manufacturing and a poorly educated population make a region more likely to suffer from an employment downturn but make it easier for the region to recover from the downturn. A high percentage of employment in health care and social assistance has the opposite effects. Labor market flexibility is related to resilience, at least to the extent that right-to-work laws are an indicator of flexibility. Regions with greater income disparities are more likely to experience an employment downturn and take longer to return to their prior growth rate after the downturn. However, income disparities were positively related to resilience in the face of downturns in regional economic output and to the speed with which resilience occurred.

To provide a richer understanding of economic shock and resilience, the authors conducted case studies in six regions: Charlotte, Cleveland, Detroit, Grand Forks, Hartford, and Seattle. Based on their case studies, the authors characterize Detroit and Cleveland as regions that, until the turn of the twenty-first century, simply rode out downturns without changing their economic structure. During the same period, Charlotte was resilient as the result of an economic transformation in which finance and insurance replaced textiles as the primary economic drivers of the regional economy. Seattle's regional economy was successfully transformed twice, first from wood products manufacturing to aircraft manufacturing and then to software. Hartford and Grand Forks, which suffered industry shocks to which they have not been resilient, seem to have established new, lower, long-term rates of employment growth, but Hartford had rapid output growth despite its slow employment growth.

The authors conclude that in virtually all cases, the strategic decisions of individual firms and their leaders as well as decisions by area entrepreneurs were the key actions within a region that affected the region's economy and determined whether it proved resilient. Organizational creation and restructuring were frequent responses to shock. So, in some cases, were increased efforts at collaboration. However, there was no evidence that those activities played a major role in determining whether the region was shock resistant or resilient to downturns caused by shock.

The case studies find little evidence of advance precautionary planning to improve shock resistance or resilience. Rather than criticizing a lack of planning, the authors provide a dose of reality. For example, as some interviewees in Detroit observed, dependence on the auto industry had brought the region prosperity for nearly a century; although it may be paying for that now, a century is a pretty good run for a regional economy. Similarly, Grand Forks offers an example of the contrast between the numbers and local perceptions. Interviewees in Grand Forks stressed how resilient the area was and how successful its recovery was from the industry shock and flood of 1996–97. Yet the data show that the region was nonresilient to that shock and, indeed, seems to have established a new long-term employment growth rate that is considerably lower than the previous one. Regional economic resilience inevitably has a subjective component, and the authors recognize that the definition incorporated in their model cannot reflect the perceptions of leaders in every region.

The chapter concludes with some lessons for policymakers. It is essential to understand the ways in which a particular regional economy is vulnerable to downturns. Changing the regional characteristics that affect shock resistance and resilience is a long-term process that cannot yield immediate results. Although long-term precautionary planning to improve shock resistance or resilience is desirable, it is important to recognize that some of the regions that would most benefit from it are ones in which the economic, demographic, or social structure of the region makes it unlikely that regional leaders will be able to plan effectively. In the absence of such planning, policymakers' efforts to improve existing industries and develop new ones may at least cushion the blow of an economic shock and lay the foundation for the eventual resumption of more rapid economic growth.

During the 1960s, poverty was a major subject of national policy concern. However, the infrastructure for carrying out federally funded antipoverty efforts was largely local, consisting of networks of nonprofit social service providers in the nation's major metropolitan areas. The providers and their clients were located primarily in central cities, where the vast majority of poor people lived at that time. During the last fifteen years, the geography of poverty has become more diverse, with poverty rates growing more rapidly in suburbs than in central cities. Although poverty rates remain higher in central cities, by 2008 most poor people in large metropolitan areas lived in suburbs.[2]

In "Building a Resilient Social Safety Net," Sarah Reckhow and Margaret Weir examine whether antipoverty resources (nonprofit social service organizations and funding to support them) have kept up with the increasing suburbanization of the poor. Reckhow and Weir conceive of this as an issue of regional resilience because they define resilience, in the context of services to the poor, as the ability of a region's institutions to respond to increasing and geographically shifting demands for social services.

The authors base their analysis on case studies of the Atlanta, Chicago, Denver, and Detroit metropolitan areas. Two of the regions, Chicago and Denver, have a history of regional collaboration and institution building, which might be thought to result in more resources for the suburban poor, while the other two regions do not. Likewise, Chicago and Detroit have a longer history of poor suburban jurisdictions, which might also result in more resources for the suburban poor, while in Atlanta and Denver suburban poverty is relatively recent.

In each region, the authors study the distribution of resources by the largest philanthropic organizations and the number and types of nonprofit social service organizations that they fund. Local foundations, they posit, are well situated to address the changing geography of poverty because they know the region well and because their grants can be used for a variety of antipoverty activities in addition to direct service provision (for example, providing information about

2. Kneebone and Garr (2010).

poverty in the region, supporting new organizations and helping existing ones expand, and creating links among organizations). In contrast, government grants are more likely to be restricted to direct service provision.

Reckhow and Weir find that foundation support for social services for the poor generally remains greater in the central cities than in the suburbs of their case study regions. Except in Detroit, foundations provide more funding for worker training, housing, and human service organizations located in central cities than for those located in suburbs. Despite the recent growth of suburban poverty, human service grant funding is concentrated in the central cities of Chicago, Denver, and Atlanta. In all four case study regions, the suburbs with the highest poverty rates have fewer organizations receiving foundation grants than do central cities and richer suburbs. Foundation grants devoted to what the authors call "system change"—grants supporting organizations engaged in networking or capacity building, supporting or convening other organizations, gathering data, or doing research—are much greater and support many more organizations in Chicago than in the other metropolitan areas.

Overall, foundation grants mainly support and connect existing nonprofit organizations, which are located primarily in central cities. Creating new nonprofit organizations and funding suburban organizations are more difficult for foundations. (Notably, however, foundations played an important role in creating a new regional planning organization in the Chicago area.) Foundations have had little success in creating new community foundations in suburbs and have found it difficult to build new organizations and networks in suburbs, especially poorer suburbs. Despite their high level of need for social services, poor suburbs have relatively few nonprofit social service providers because of their political fragmentation (important because local governments have often helped fund social service nonprofits), weak civic sectors, and lack of financial resources. Richer suburbs, with their greater financial resources, have more poverty-oriented nonprofits, although NIMBY ("not in my backyard") politics can block the creation of needed services.

Reckhow and Weir conclude with three policy recommendations designed to spread antipoverty resources to suburbs so that they better reflect the geographic distribution of poor people within metropolitan areas. They call for governments and foundations to strengthen organizations that serve as regional social service intermediaries and coalition builders. They propose that the federal government provide incentives for human services planning to be included within federally supported regional planning efforts. Finally, they recommend that state departments of human services help create regional networks among the social service organizations that they fund.

Building Resilient Regions

Resilience has long figured as a central category of analysis in psychology, engineering, and natural systems; more recently, it has emerged as a way to study social systems.[3] Studies of resilience pose two core questions: do individuals or systems bounce back after experiencing a stress and what determines whether they do or do not? As Swanstrom notes, resilience is not a single theory but an analytic framework for understanding change. In contrast to single measures of "success," the resilience framework directs attention to multiple outcomes and the specific contexts from which they emerge.[4] The large and diverse literature on resilience uses the concept in at least three different ways: the first views resilience as an outcome; the second, as a set of capacities; the third, as part of an adaptive cycle—a developmental process. Aspects of each approach are represented in the chapters of this volume.

As an outcome, resilience assesses whether individuals or systems return to their initial condition after experiencing a serious disturbance. Disaster studies often take this approach: does a city recover its previous level of vitality or resume its earlier growth path after an earthquake or a hurricane?[5] In this volume, Hill and coauthors define resilience as an outcome, asking whether regions return to their earlier growth trajectories after an economic shock. Outcome measures rely on decisions about what aspects of the initial conditions are most salient for resilience. Hill and coauthors, for example, use growth rate rather than level of employment and gross metropolitan product. Outcomes also require decisions about the appropriate time frame for assessing recovery. Shocks that threaten the very basis of an economy may require a much longer recovery period than do shifts that affect only a segment of the local economy.

A second approach sees resilience as a set of capacities that help a system weather shocks. Resilience in this case is a "measure of robustness and buffering capacity of the system to changing conditions."[6] Hill and coauthors' discussion of regional "shock resistance" captures a similar idea: some regions are more robust in mitigating shocks than others. Kathryn Foster's chapter offers an inventory of capacities that have been associated with resilience in the literature on metropolitan areas. Her three categories of capacities—economic, sociodemographic, and community connectivity—reflect the diverse capacities that can serve as buffering mechanisms and highlight the complexity of regional systems. Critical as buffering capacities are, Foster's analysis shows that simply pos-

3. See the review of the literature in Pendall, Foster, and Cowell (2010).
4. Swanstrom (2008).
5. See Vale and Campanella (2005).
6. Berkes and Folke, cited in Pendall, Foster and Cowell (2010).

sessing buffering capacities does not ensure resilient outcomes. Capacities associated with resilience must be activated if they are to provide buffers and contribute to recovery.

The third approach sees resilience as part of an "adaptive cycle" in which a system is constantly adjusting to change. As the chapters by Swanstrom and by Reckhow and Weir argue, the most resilient systems display flexibility when confronted with stresses. Flexibility contributes to shock resistance and increases the likelihood of crafting positive adaptations to stress. This approach pays particular attention to the interaction among different levels of a system, positing that resilience at one level is greatly influenced by the levels above and below it;[7] for example, developments in the national economy influence local economies and vice versa. This complexity means that feedback across levels is a critical component of resilience. For example, feedback from stressed elements of a system prompts buffering changes elsewhere in the system. Even so, as systems grow more mature, they are likely to exhibit rigidities that make them less adaptable—and thus more vulnerable—to shocks. Periods of low resilience are critical phases of the adaptive cycle marked by structural vulnerability and destabilization; following some precipitating event, from a match lit in a dry forest to the election of a new leader, the system experiences rapid release and upheaval. In the wake of that release, experimentation flourishes and creates the basis for greater resilience under more uncertain and opportunity-filled conditions.

Institutional Challenges to Adaptation

The notion of resilience as an outcome, a set of capacities, and adaptive cycles provides useful starting points for considering resilience as a trait that regions can actively cultivate. Yet building resilience in metropolitan areas—whether resilience is conceived of as specific capacities, such as a more highly educated population, or as a process, such as experimentation—requires working through existing institutions, altering them, or creating new ones. Not only do individual institutions need to be flexible, but the connections among them may also need rewiring to respond effectively to stress. As Foster notes in her chapter, "Rather than single-capacity variables driving resilience . . . it may be that the interplay and networking of these capacities and their accumulative impact are most salient."

Institutions can, of course, resist changes that would promote resilience. Powerful groups that benefit from the institutional status quo may block reforms that would enhance resilience. Alternatively, entrenched customs and expectations can make it difficult for institutional leaders to envision alternatives

7. Walker and others (2004).

to existing practices.[8] Barriers that prevent cross-organizational connections can further weaken resilience. Within regions, local political boundaries can serve to buffer parts of the region, leaving other parts with fewer resources for robust adaption to stress. The challenges involved in making regional institutions flexible are compounded by the way in which regions fit into the federal system. In resilience theory, cross-scale relations (called "panarchy") constitute an essential component of resilience: actors operating at one scale can support or undermine resilience at a different scale.[9] The chapters by Swanstrom and Pastor and Mollenkopf underscore the important influence that decisions made by states or the federal government have on regional resilience. These chapters demonstrate that federal and state policies can both create the stressors that confront regions and, at the same time, shape the set of responses that regional leaders can muster. For metropolitan regions to cultivate resilience, then, both the horizontal and the vertical connections among institutions must be geared to buffer against stress.

Consideration of how institutions and the connections among them can influence resilience suggests four types of institutional rigidities that may undermine resilience. The first is the inability to register a shock or to understand the nature of the shock. Natural disasters, such as earthquakes or floods, swiftly command attention and the mobilization of resources to meet the challenge. Other shocks may be much less obvious. Pendall, Foster, and Cowell distinguish between acute and chronic, "slow burn," shocks.[10] In the case of slow burns, such as deindustrialization or climate change, regional actors may take a long time to recognize the challenge that they face because such shocks are spread across multiple administrations in time and place, making it difficult to develop a coordinated understanding of and response to the issue. Even when actors discern the shock, they may mistake its magnitude or nature. For example, Hill and coauthors suggest that in regions that are centers of durable manufacturing, "residents and businesses may come to believe that their regional economies will always bounce back from shocks even when those shocks are due more to fundamental, long-term changes in the regional economy (such as the decline of the auto industry) than to the ordinary ups and downs of the business cycle."

A second type of rigidity occurs when feedback mechanisms fail to buffer against a shock and instead transmit the impact of a stressor throughout the sys-

8. For different approaches to understanding institutions, see Hall and Taylor (1996). See Lang (2011) for a consideration of resilience and new institutionalism.

9. According to Folke and others, "The ability for reorganization and renewal of a desired ecosystem state after disturbance and change will strongly depend on the influences from states and dynamics at scales above and below. . . . Such cross-scale aspects of resilience are captured in the notion of a panarchy, a set of dynamic systems nested across scales." Folke and others (2010, p. 558).

10. Pendall, Foster, and Cowell (2010).

tem. Feedback mechanisms are a critical component of resilience in interconnected systems. They send information about a shock throughout the system so that protective adaptations can occur. Feedback processes can also have the opposite effect when unbuffered stresses cascade throughout the system. For metropolitan regions, scale is central in assessing whether feedback processes are buffering shocks or transmitting stressors. Higher levels of government may enact laws that make regions more or less vulnerable to a stress. They may also enact laws that limit or empower local actors to take creative actions to cope with stresses.

In the case of foreclosures, Swanstrom shows that higher levels of government undermined the resilience of local areas in multiple ways. The federal government's decision to relax mortgage underwriting standards exposed localities to new stressors. By sanctioning predatory lending, the federal government made it more likely that the number of foreclosures would increase. Federal regulators undermined local resilience even further by using their power of preemption to prevent localities from banning predatory lending once localities began to register the shock of foreclosures. In the language of adaptive cycles, the federal government's failure to register the harms that foreclosures were causing represented a failure in system feedback. In a more resilient system, feedback from localities to higher levels of government would prompt new restrictions on predatory lending.

The failure of adaptation in this case highlights some of the differences between natural systems and social worlds. In the U.S. federal system, there is no guarantee that information about a local stressor will prompt action at higher levels of government. The interests of different groups and their relative power in different parts of the system will deeply influence buffering capabilities. Powerful groups will deliberately target their efforts where they are more likely to be effective. Swanstrom highlights the ability of the mortgage lending industry to "venue shop," ensuring that it could block responses by higher levels of government to the stresses that foreclosures were causing at the local level. The consequence has been a negative spiral in which spillovers from foreclosures—declining property values, social disorder and crime, and fiscal stress—create multiple new stressors for localities.

A third type of institutional rigidity restricts experimentation and innovation, both of which are essential for resilience. In resilience theory, experimentation, especially at smaller scales, allows systems to try out different ways to respond to challenges. When they can be connected to cross-scale learning, small-scale experiments can renew an entire system.[11] This process of experimental learning

11. Folke and others (2010). See also Ansell (2011).

allows systems to shake off the institutional rigidities that inevitably build up over time.

One aspect of experimentation is the "repurposing" and "recombining" of institutions to attack problems in novel ways. Swanstrom shows that nonprofit housing organizations engaged in that kind of experimentation when they switched from focusing on housing rehabilitation to foreclosure counseling. Studies of innovation highlight the significance of leaders who move from one organization to another, bringing with them new ideas about how to use organizational resources and new approaches to the organization's mission. For example, Walter W. Powell's work examining why the biotechnology industry flourished in Cambridge (Massachusetts), San Diego, and San Francisco but not in other cities that possessed many similar strengths shows how the fluid movement of people across organizations and the diversity of organizational ties supported innovation.[12]

Although the capacity for innovation and experimentation remains one of the celebrated virtues of the U.S. federal system, higher levels of government routinely block regional and local innovation.[13] As noted above in the discussion of foreclosures, the federal government and states regularly use their powers of preemption to restrict the scope for innovation at lower levels of government. Another barrier to experimentation is institutional "lock-in," a process that occurs over time as institutions become sclerotic and resistant to change. Among regional economic geographers, the idea of "lock-in" has been used to explain the failure of older economies to respond effectively to competitive challenges. External shocks such as new competition or new technologies fail to spark experimentation and instead set off "a spiral of negative 'lock-in' effects whereby the region's firms react in terms of defensive cost-cutting and quality reduction rather than by innovative investment or moving into new productive fields."[14]

Similarly, entrenched interests may stymie changes that threaten their hold over existing institutional arrangements. Over time, groups that win significant benefits from institutions can coalesce to defend their stake in the status quo. As Pastor and Mollenkopf show, opposition to immigrants is often animated by fear that resources will be diverted from the native-born residents to immigrants. Alternatively, groups that have been harmed by public initiatives in the past may use what little power they have to block new initiatives that they perceive as threatening. Pendall and coauthors show that fear of displacement, based on

12. Powell, Packalen, and Whittington (2010).
13. Frug and Barron (2008).
14. Martin and Sunley (2006, p. 417).

decades of hard experience, made the African American residents of Miami's Overtown district wary of new proposals for transit-oriented development.

Reckhow and Weir's chapter highlights another type of institutional rigidity that limits experimentation. Their analysis shows that poverty-oriented nonprofit organizations, which got their start decades ago in cities, have found it difficult to respond to growing levels of suburban poverty, in part because of "sunk costs." These organizations have long-established connections to resources and information in their current urban setting, and most do not have the knowledge or resources to expand their activities to new contexts in which they have few ties. Powell's work on biotechnology highlights the important role of "anchor tenants," organizations that launch innovative cycles and stay involved in diverse roles. Such organizations are important because they serve as "organizations that create organizations."[15] Reckhow and Weir's chapter shows that although some local philanthropic organizations have sought to fill this role, they have far to go before they can be considered "anchor tenants."

The final type of institutional rigidity that can undermine resilience stems from the jurisdictional boundaries that divide metropolitan America into a patchwork of political jurisdictions. Despite nearly a century of efforts to promote metropolitan consolidation, local boundaries, once in place, have been notoriously resistant to change.[16] The difficulty of altering local boundaries has not put an end to experiments in regional governance, but it has significantly restricted their scope. For example, experiments that entail redistribution, such as tax-base sharing and "fair share housing" (which distributes affordable housing throughout the region), are especially difficult to launch. Moreover, jurisdictional boundaries facilitate the strategy of "selective buffering," in which parts of the region shield themselves from shocks, effectively leaving other parts to bear the brunt of a challenge with reduced resources. In their chapter, Pastor and Mollenkopf note that many suburbs with significant immigrant populations do not provide services themselves, relying instead on cities to provide services to immigrants living in suburbs as well as in cities.

Developing Flexible Institutions and Adaptive Governance

Although institutions can undermine regional resilience, deliberate efforts to establish early warning signals for stressors, open feedback channels, promote

15. Powell, Packalen, and Whittington define "anchor tenants" as organizations that "occupy positions that provide them with access to diverse participants and the legitimacy to engage with and catalyze others in ways that facilitate the extension of collective resources." Powell, Packalen, and Whittington (2010, p. 13).

16 . Weir (2000); Foster (1997); Orfield (2002).

experimentation, and build new regional connections can work against institutional rigidities. The literature on regional innovation and the chapters in this volume suggest three approaches to fostering the flexibility that is the hallmark of adaptive governance.

The first is to ensure that influential groups in the region adopt a forward-looking perspective and that timely information about shocks is available. Inadequate information may make it impossible to detect shocks or to launch efforts to buffer against them. Swanstrom argues that detailed, timely information about foreclosures would allow local actors to take more effective steps to stem their spillover effects. As he notes, "Without sophisticated data systems, local actors often grope forward based on inconsistent and out-of-date data."

Networks and cross-organizational collaboration offer a second strategy for promoting regional resilience. The call for collaboration is hardly a novel idea. Disillusion with government has made collaboration a panacea for all sorts of challenges. However, we need a better understanding of how to build collaborations and more data about the conditions under which collaborations are effective. Studies of regional innovation suggest that some types of networks may be more effective than others. For example, Powell's analysis of the emergence of the biotechnology industry shows that regions with strong horizontal ties among diverse organizations within a region succeeded far more than did regions where local organizations built fewer ties inside the region and more ties to external organizations. This finding resonates with those of AnnaLee Saxenian, who argues that Silicon Valley's success can be traced to strong horizontal connections among firms. By contrast, the initial development of Route 128, Boston's high-technology corridor, was hindered by the predominance of vertical ties that discouraged cross-fertilization among firms.[17] Sean Safford's analysis of the divergent fates of Youngstown, Ohio, and Allentown, Pennsylvania, in the face of deindustrialization also emphasizes the importance of specific types of network ties. Safford argues that the single, tightly knit civic and business network that connected Youngstown's elites made the region unreceptive to new ideas and shrank the space for innovation. Allentown's distinctive but overlapping civic and business networks, by contrast, created a conduit for novel ideas and promoted experimentation that made the region more resilient.[18]

Much of the literature on networks and collaboration emphasizes the roles of business and civic elites. Yet effective collaborations that include organizations representing low-income communities are likely to require a different approach.[19] Many of these organizations operate close to the margin and lack

17. Powell, Packalen, and Whittington (2010); Saxenian (1996).

18. Safford (2009).

19. Pastor, Benner, and Matsuoka (2009).

the time and money to initiate collaborations. Moreover, because many of them work at the neighborhood level, they may lack the knowledge needed to initiate broader collaborations. As a result, collaborations that address the concerns of low-income residents require more external assistance to gain momentum. They are also likely to need ongoing financial support in order to stay active. In Reckhow and Weir's chapter, foundations provided ongoing support for collaboration among Chicago's poor southern suburbs when they applied for federal stimulus grants. Swanstrom's chapter also highlights the important role that philanthropic organizations are playing in building collaborative efforts among housing nonprofits, although assistance from philanthropic organizations alone may not be sufficient to sustain collaboration. As Reckhow and Weir argue, nonprofit organizations that serve the poor may also require active assistance from state governments in order to build regional networks.

A final strategy for promoting institutional flexibility relies on initiatives from higher levels of government. As the chapters of this book make clear, the options for regional action are strongly shaped by higher levels of government. In many cases, state and federal regulations restrict the scope for local experimentation. Removing restrictions is often the most effective strategy for promoting regional resilience. But states and the federal government can also use their power to help disrupt mounting institutional rigidities in regions. Higher levels of government possess a wide variety of tools to alter the operation of local institutions and the terms of interaction among them. Federal requirements for community participation or multi-jurisdictional joint funding applications are no magic wand, but they can enlarge the cast of stakeholders and, over time, expand agendas. The chapter by Pendall and coauthors shows how broad participation on transit in Charlotte not only built support for the light-rail line but also helped to disseminate a new vision of more compact, walkable neighborhoods for suburbs as well as cities. The federal government can also create new decisionmaking venues, as it did when it assigned new responsibilities for transportation planning to metropolitan planning organizations. As studies of regional transportation policies show, even though these organizations have fallen far short of transforming transportation, they have allowed for more experimentation with a wider range of transportation alternatives than in the past.[20]

Although higher levels of government possess the tools to encourage regional experimentation, they often fail to use them because entrenched interests in Washington or in the states block initiatives that threaten them. In some cases, nonprofit policy groups, such as the Center for Transit-Oriented Development discussed in the chapter by Pendall and coauthors, can help fill the gap. Groups

20. Weir, Rongerude, and Ansell (2009); Swanstrom (2007).

that wish to expand the scope of regional action may need to weigh in at the national level in order to open up the federal policy agenda. Depending on the support that they can muster, such groups may pursue modest initiatives, such as inserting provisions in federal laws that allow for more local experimentation, or they may seek more sweeping changes. The Transportation Equity Network, for example, has won provisions to encourage more local hiring from minority communities on federal transportation projects, and it continues to mobilize for changes in federal law that would enable greater local experimentation.[21]

Strains and stresses, whether from economic, demographic, or natural sources, will inevitably pose challenges to regions. Responses to those challenges come not from a single entity called “the region” but from the myriad institutions that populate the region—firms, school systems, and transportation agencies, to name just a few. Regions will be only as resilient as those institutions are flexible and innovative. Strategies for enhancing resilience ultimately alter perceptions and carve out new pathways for action. Interactions among diverse institutions—across sectors and across levels of government—are the critical backdrop for the feedback and experimentation that supports adaptive governance. The many walls that now segment metropolitan regions—across political jurisdictions and across institutions—must come down and the gaps that separate federal laws from regional realities must be bridged if regions are to cultivate resilience.

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21. Swanstrom and Banks (2009).

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