

## Driving That Train

### *Can Closing the Gap Facilitate Sustained Growth?*

One of the first concepts taught in undergraduate economics is that there is a trade-off between equity and efficiency, between fairness and economic growth. Much of that argument is rooted in the stylized experience of long-term economic development, including Kaldor's (1977) argument that high levels of savings among the rich—in order to invest in industries with large sunk costs—was a prerequisite for rapid growth, as well as the infamous “Kuznets curve,” which suggests that inequality will rise in the early phases of economic growth (Kuznets 1955). In either case, the message is that interfering too early to promote a less skewed distribution of income could kill the engine of economic vitality.

This has certainly been the underlying philosophy behind the celebration of tax-cutting that has dominated US economic policymaking. In this view, aggregate demand—a factor that can be positively impacted by redistribution—may play a role in closing temporary employment gaps, but it cannot really impact long-term growth. The drivers of that growth are savings and investment—and surely placing more in the hands of the high-earning and high-saving classes through tax cuts can only be good for economic performance. In short, income distribution may be a moral concern, but the route to prosperity in the long term runs through income polarization in the short term. Luckily, growth will create the resources needed to address any lingering sense of injustice—and, as Kuznets noted (1955), development itself should eventually improve income distribution.

However, a funny thing happened on the way to this supply-side nirvana: the evidence for this position has become increasingly scant. A Congressional Research Service study found no correlation between tax cuts and economic growth over the last sixty years; it was withdrawn after pressure from Senate Republicans, erasing the evidence but not the facts (Weisman 2012). But perhaps the most spectacular refutation in recent years is the long-term data collected and presented by Emmanuel Saez, Thomas Piketty, and others (Atkinson, Piketty, and Saez 2011; Piketty 2014). It essentially suggests that the amelioration in income disparities noted by Kuznets in the middle of the twentieth century was an anomaly, not the rule.

And it's not just that the automatic improvements once predicted by mainstream economics have failed to show up. Well before the recent attention to the rise in the incomes of the richest in various societies, study after study bubbling up from the developing world seemed to suggest that those countries that took off from more equitable initial distributions, in fact, seemed to grow faster—and more stably—over time. Research in the metropolitan context in the United States also seemed to tip in the direction of equity's having a positive, not a negative, impact on growth. And it is noteworthy that the year before the sharp economic and financial crisis of 2008–2010 was also a postwar peak for the share of national income accruing to the top 1 percent of the country's households—a record just short of that set in 1928, the year before the Great Depression.

What does this potential relationship between equity and growth have to do with our central topic, the development of diverse and dynamic epistemic communities at the metropolitan level? Consider that traditional economic theory essentially argues that atomistic individuals maximizing their own utility in the context of markets are likely to land on a sustained “Pareto-optimal” equilibrium in which no one can be made better off without making someone else worse off. Social equity in this case is a question of winners and losers—and if pursuing redistribution has the negative impacts on incentives and savings that some economists believe, then everyone will actually lose from slower growth (although some will lose more than others). Better to go at each other's throats in the competitive race and trust that the invisible hand of the market will eventually steer us (perhaps staring warily and bitterly across the chasms that will result) to a promised land.

But what if that very process of fragmented competition undermines cooperation and solidarity and leads to both collective underinvestment

and unproductive (and ultimately destructive) squabbling over the spoils by those who feel consistently left out? What if the creation of a sense of belonging and common purpose could instead improve our output and enhance our future? What if paying attention to equity—building it in to economic strategies from the get-go—could actually help prosperity be more sustainable as well as more widespread?

In this chapter, we look directly at the relationship between equity, social fragmentation, and the length of growth spells. While the evidence we present does not directly establish a role for diverse epistemic communities in achieving just growth—and even the case studies merely establish some sense of plausibility for the linkage—it is consistent with the idea that social norms of collaboration, cooperation, and fair play can improve regional economic results. As such, it provides at least one (even if slightly indirect) large-*N* platform for the chapters that follow.

We start below by reviewing some of the previous research on equity and growth, focusing first on the developing-country context before turning our attention to more recent work on America's metropolitan regions. We stress the newest research in this arena, which is focused not so much on the rate of growth as on its persistence over time; in particular, we highlight recent cross-country work by researchers at the International Monetary Fund (IMF) and then demonstrate how their approach could be transferred, as with the earlier work, to examine growth patterns in the United States.

To do that, we look at changes in employment for the 184 largest regions in the United States in 1990–2011. Interestingly, the variable with the most significant negative impact in the US context on the length of a regional growth spell is the initial level of inequality, a result much in line with the findings of IMF researchers in their cross-country comparisons. Equally important for this volume are the significant other factors impacting sustained growth we examined, including various measures of social and jurisdictional fragmentation, as well as a novel set of political homogeneity and spatial-sorting measures we introduce in a sort of coda to the main findings.

The overall message of this empirical exercise is straightforward. Socio-spatial fragmentation within a region can work against economic performance as well as social cohesion. Of course, this is exploratory research and it leaves many questions unanswered about why and how equity and cohesion matter (or are created). Untangling exactly how an epistemic community comes about and how it can lead economic and social agents to see more clearly how their interests are

intertwined and act accordingly cannot be easily discerned from a regression analysis. That is the task of case-study research, and reporting on that research takes up the bulk of the rest of this book. But, for now, it's regression time. So brush up on your estimating techniques and interpretive skills as we review data sets, methodological challenges, and statistical results.

## CAN EQUITY FACILITATE GROWTH?

### *Distribution and Prosperity: An International View*

One of the most deeply held beliefs in economics is the notion that raising the minimum wage has important negative impacts on employment. After all, this is what the demand curve taught in intro courses clearly suggests, and in a 1979 survey of economists, despite profuse disagreements on a wide range of other issues, 90 percent of the profession concurred with this model of the labor market driven into their very fiber by both early training and groupthink (Kearl et al. 1979). The only problem was, as David Card and Alan Krueger insisted in their book, *Myth and Measurement* (1997), the evidence for a disemployment impact of the minimum wage just wasn't there. In fact, Card and Krueger argued that the negative employment effects found in time series research actually became weaker as sample size increased, quite the opposite of what one might expect if the underlying hypothesis were true; this suggested that these studies obtained their results through specification searches that sought to find the expected effects rather than let the data tell its own story. Once the data was allowed to drive the narrative—in their case, by comparing in real time what happened when one state raised its minimum wage while a neighboring state did not—there were not negative employment impacts.

This work has had an impact, dulling the opposition to minimum-wage increases, but it raises a question: Why do such beliefs exist and persist in the face of evidence to the contrary? In essence, prior assumptions are hard to shake when they are deeply held and deeply embedded in the shared lore of a knowledge community. Indeed, one of the reasons we have characterized productive epistemic communities as “diverse and dynamic” is that we think diversity can work against the characteristics of clubbishness and insularity that can lead to analytical and other mistakes. In this regard, it is important to realize that economists have their own circles and their own priors. They may see themselves as being as rational as the economic agents they purport

to model, but going against the grain can have its consequences—for careers as well as for self-conception and group acceptance (Fourcade, Ollion, and Algan 2014).

Consider, for example, the generally held belief that financial markets are well-functioning and excel at anticipating the future (“rational expectations”). It’s a fundamental precept to which economists have clung despite massive over-lending to the developing world, a savings and loan crisis that shook American finance, and a binge of subprime mortgages packaged into collateralized debt obligations that ripped open the world economy in 2007–2008. In an essay aptly entitled “Never Saw It Coming,” former Federal Reserve chair Alan Greenspan (2013) notes that “For decades, most economists, including me, had concluded that irrational factors could not fit into any reliable method of forecasting.” Greenspan now admits that we need to change our models of human behavior, but that seems a bit like arguing for the purchase of fire insurance after watching arsonists burn the house down once again.

Another belief firmly held in economics is that redistribution could slow economic growth, particularly in the early stages of economic development. Yet this long-held view about the growth–equity trade-off was challenged by a wave of multivariate and multi-country studies conducted in the 1990s and early 2000s (see Aghion, Caroli, and García-Peñalosa 1999 for a review). Alesina and Perotti (1996), for example, argued that inequality leads to social tension and political instability, thus lowering certainty, investment, and economic growth. Meanwhile, Rodrik (1999) noted that the ability of countries to handle external shocks depends in large part on the strength of conflict-management institutions such as government, the rule of law, and social safety nets, which themselves reflect and produce certain distributions. The latter argument certainly resonates with our notion that closing social distance can help ameliorate social conflict that can get in the way of growth.

But it’s not only that a more equitable distribution of income can ameliorate social conflict and forestall crisis. Both Alesina and Rodrik (1994) and Persson and Tabellini (1994) suggested that the more equitable a society’s access to productive resources, the less likely that society is to seek redistributive policies that can reduce growth by introducing economic distortions, partly because the median voter may see more interest in protecting property rights. This is a sort of ironic argument, in which equity protects innovation and competition: in a society

where rewards are more widely spread, the connection between higher incomes and perceived productivity is clearer, and modest disparities do not yield politics that will upset investors.

Dymski and Pastor (1991) also provided an early insight into this effect in their study of the relationship between bank lending and debt crises in Latin American countries. They found that those countries that were more unequal in their distribution of income tended to be favored by private lenders (accounting for other factors such as GDP growth and trade openness), but that those countries also tended to wind up with payments crises later on. Since all the other factors that had a positive effect on lending also had a negative effect on crises, they labeled the inequality measure a “misleading signal” and argued that strong priors about the trade-offs between equity and growth on the part of bankers (and economists) were possibly one reason why the equity–stability relationship was not recognized. We return to this point in the conclusion.

Other researchers have argued that directly targeting poverty and inequality in the developing world may actually be essential to growth, especially through policies that increase the productivity of the poor, such as spending on education and democratization of access to finance (Birdsall, Ross, and Sabot 1995; Deninger and Squire 1996). Lopez and Serven (2009) also argue that poverty more generally deters investment, which in turn lowers growth. In any case, the picture the reader should take away is simple. There’s been a revolution in thinking in the development context that stresses not just the fairness aspects of inclusion but also its potential impact (albeit often through less than perfectly clear causal chains) on broader economic outcomes.

### *Equity and Economic Growth in America’s Metropolitan Areas*

While this notion of the complementarity of equity and growth has had some impact on the thinking and policies of multilateral institutions, it is only recently that the notion of a positive relationship between equity and long-term growth—beyond the usual Keynesian notions that placing money in the hands of less well-off consumers will yield a bigger economic bang for any stimulus dollar—has made its way into the discussion of the overall US economy (Boushey and Hersh 2012; Stiglitz 2012).<sup>1</sup> To be sure, ground has been gained for this perspective, with authors like Nobel Prize winner Joseph Stiglitz arguing that highly unequal incomes can lead to excessive financialization of the economy and

rent-seeking (that is, favor-seeking) by the wealthy in their dealings with government.

But long before the potential impacts of inequality on the economy surfaced so strongly on the national level, many had been making this argument at the level of US metropolitan regions. The rationale for moving to the metropolitan level in both theorizing and practical economic planning was, as suggested in chapter 1, a growing recognition that this was an important new operative level of the world economy—a geographic unit big enough to achieve some economies of scale, while also small enough to sustain the sort of face-to-face interactions that facilitate the creation of industrial clusters, nontradable interdependencies, and the development of tacit knowledge (Storper 1997). Interestingly, this geographic and analytical shift essentially opened up the space to consider equity more deeply: if face-to-face relations really did matter, then perhaps looking across the table at a group that was frustrated and angry about being left out was more likely to lead to civil unrest (à la Los Angeles in 1992) than to a public-private partnership for central-city revitalization.

With the analytical opening available, several researchers focused on the relation between city-suburb disparities and economic outcomes. The conclusion, perhaps surprising to some, was that such geographic and social separation *within* a region actually limited growth possibilities (Barnes and Ledebur 1998; Savitch et al. 1993). In a review of the earliest studies in this vein, many of which seemed to parallel the findings in the international development field, Gottlieb (2000) rightly argued that researchers were paying insufficient attention to multivariate controls and issues of simultaneity. However, Voith (1998) and Pastor et al. (2000) attempted to address these issues by incorporating other explanatory factors *and* considering the feedback effects of growth on poverty and income distribution, and the findings remained supportive. Even in a simultaneous setting, Voith found a positive association of suburban growth with city growth, while Pastor et al. found that various measures of inequality had a negative impact on per capita income growth over the 1980s in seventy-four regions.

Examining 341 regions in the United States and controlling for other variables that should promote growth, Pastor (2006) later found that real per capita income growth was negatively affected by such distributional measures as the ratio of city to suburban poverty, the percentage of poor residents in high-poverty neighborhoods, the ratio of income at the 60th percentile to household income at the 20th percentile, and

a measure of residential segregation at the metro level. Again, the results held up to challenges of simultaneity, suggesting a causal direction from equity to growth (as well as its converse). In subsequent work, Pastor and Benner (2008) found that this dragging effect of inequality on growth held even in what might be termed “weak market” metros—places where some would say that anemic growth is an excuse for effectively treating equity as an afterthought.

Federal Reserve economists conducted a similar analysis for nearly 120 metropolitan areas throughout the United States (Eberts, Erickcek, and Kleinhenz 2006). Using factor analysis, the researchers analyzed eight key variables that influence economic growth on the regional level, whether positively or negatively, including a region’s skilled workforce; active small businesses; ethnic diversity and minority business ownership; level of racial inclusion; costs associated with a declining industrial base; income inequality (measured by income disparity and number of children living in poverty); quality-of-life variables (including universities, recreation, and transportation); and concentrated poverty in core cities. The results: a skilled workforce, high levels of racial inclusion, and progress on income equality correlate strongly and positively with economic growth.

### *It’s a Matter of Time: Equity, Social Connection, and Growth Spells*

While this research on US metros has looked at economic growth rates, the international literature that helped inspire the work has moved on to look at how to *sustain* economic growth. One of the striking characteristics of growth in developing countries over the last fifty years has been its lack of persistence, with frequent fits and starts that better match the trajectory of a roller coaster than the smoother path forward many countries would prefer. Thus, a growing body of literature has been looking at turning points in countries’ growth patterns, trying to explain both what helps countries shift from economic decline toward economic growth and what causes an end to a growth period (Aguiar and Gopinath 2007; Hausmann, Pritchett, and Rodrik 2005; Hausmann, Rodríguez, and Wagner 2006; Jerzmanowski 2005; Jones and Olken 2008; Pattillo and Gupta 2006; Rodrik 1999).

One particularly relevant strand of work was conducted by IMF researchers looking at what explained a country’s ability to sustain economic growth and forestall a downturn (Berg, Ostry, and Zettelmeyer 2012).



These authors argue that forestalling the end of growth spells is especially critical for the poor countries of the world, in which economic volatility and vulnerability to economic setbacks can be as much a problem as slow or negative overall growth. Countries with more sustained growth spells, for example, may also create an environment where investors feel more secure about the future, facilitating a virtuous cycle (Berg and Ostry 2011).

To get at the determinants of sustained growth, Berg, Ostry, and Zettelmeyer (2012) first identify a total of 104 distinct growth spells of at least five years in a total of 140 countries (both industrial and developing) since the 1950s. They then examine a series of factors that might help explain the likelihood that a country would fall out of a growth spell, including: external shocks; political and economic institutions; inequality and fractionalization; social and physical indicators; levels of financial development; levels and types of globalization; patterns of current account, competitiveness and export structure; and patterns of macroeconomic stability.

Some of their findings reinforce previous research. For example, external shocks and macroeconomic volatility are negatively associated with the length of growth spells, while “good” political institutions are associated with longer growth spells. The authors also use a variety of indicators—including competitive exchange rates, external capital structures weighted toward foreign direct investment, and export product sophistication—that reinforce arguments about the value of export orientation and trade liberalization, especially the ability to produce more sophisticated products.

However, what is particularly interesting, and relevant to our work—and what the researchers themselves describe as a “striking” result—is that the length of growth spells is strongly related to income distribution, with more equal societies tending to be able to sustain growth over a longer period. Across their sample, a 1-percentage-point increase in the Gini coefficient of income inequality is associated with an 11-to-15-percent reduction in the expected duration of a growth spell. In a summary model that combines a range of indicators, several factors remain significant in predicting the length of growth spells, but “income inequality is among the most robust predictors of duration” (Berg, Ostry, and Zettelmeyer 2012, 160).

There may be important reasons to look at growth spells in the United States as well. After all, spells of unemployment can have lasting effects on people’s lifetime earnings long after they are once again able to

secure employment, as well as causing psychological distress (Daly and Delaney 2013; Mroz and Savage 2006). There is also evidence that new graduates entering the labor market during a recession experience lower earnings over the long term, compared with those entering the labor market during growth periods (Kahn 2010; Oreopoulos, von Wachter, and Heisz 2012). Moreover, to the extent that we think variables like social equity, social norms, and social connection may have an impact on growth, we would expect this effect to be longer-term rather than shorter-term—to be more associated with decades of forward progress than with a single year's surge or dive.

So in this chapter we test the relations between measures of inequality and social disconnection and the length of growth spells, essentially offering a parallel to the work of the IMF researchers but in a domestic metropolitan context. The focus on the length of growth spells, rather than simply the pace of economic growth, is admittedly novel in the US context. We have seen no studies of America's metro regions which take up this longer-term perspective other than Hill et al. (2012), although the focus there is more on testing a variety of different notions of economic resilience. Of course, just because little has been done does not mean that we or others should shy away; indeed, we hope that the quite exploratory research in this chapter will induce a new wave of work. But first things first: What do we find when we look at the relations between various measures of income inequality, social disconnection, and the duration of economic growth?

## EXPLAINING SUSTAINED METROPOLITAN GROWTH IN THE UNITED STATES

### *Defining Growth Spells and Their Long-Term Impacts*

One of the first steps in this analysis is simply to define what we mean by sustained growth. In their work, Berg, Ostry, and Zettelmeyer (2012) consider five years of annual growth the minimum threshold for a growth spell (they also consider an eight-year threshold, but most of the analysis they present winds up focusing on the five-year threshold). In our examination below, the universe consists of the largest 184 metropolitan regions in the United States (that is, all the core based statistical areas, or CBSAs, that had a population of 250,000 or more as of the 2010 census). For our measure of economic growth, we used data from the Quarterly Census of Employment and Wages, which has a consistent measure of monthly employment starting in 1990.

We look at quarterly average employment, rather than the reported month-to-month employment, mostly because of the volatility in the underlying monthly employment figures. We also calculate whether a region is growing by comparing total average employment in a particular quarter to employment in the same quarter of the previous year; the year-over-year measure was used as a way of adjusting for seasonal variations in employment. We then set a threshold such that we consider a region as experiencing a growth spell if it experienced at least twelve quarters of uninterrupted growth in this measure of quarter-to-quarter employment—and obviously, we then considered how long this growth exceeded the three-year-minimum threshold.

At the time of our analysis, we had the full set of employment data from 1990 to 2011, for a theoretical possible maximum growth spell (all job growth, all the time) of 84 quarters. While no one hit that stellar threshold, the resulting database included 324 growth spells in 181 of the 184 regions. There were three regions with no growth spell of at least 12 quarters in this time period, and while it might seem a bit cruel to call them out, here goes: Buffalo–Niagara Falls, NY; Merced, CA; and Sarasota–Bradenton–Venice, FL.<sup>2</sup>

Do growth spells really matter? Although we earlier highlighted some potential impacts of sustained growth (for example, the impact on the earnings trajectory of new entrants to the labor market), one might argue that the length of the period of growth is of little consequence for overall prosperity—perhaps a boom-and-bust economy is volatile, but it will deliver high employment and rebalance labor’s bargaining power in a way that facilitates more rapid wage growth and hence redistribution over time. This may be why most previous research has been on overall growth rates. Another possible reason for focusing on rates is that, as we found out, assembling a database on the duration of growth is no easy matter. Our own view is that more robust or sustained growth might have a stronger and long-lasting impact on bargaining power (and we’re also data masochists, so going where no researcher had gone before sounded kind of fun).

So what does the data say? As it turns out, this is a debate that may be a bit moot: the length of growth spells and the overall growth rate are actually fairly well correlated. Table 2.1 takes the 181 regions which had growth spells and breaks them into categories based on the number of quarters in the overall period that a region was in a growth spell. The categories are chosen to create bands that are non-arbitrary but somewhat similar in terms of the number of regions that falls in each band

TABLE 2.1 GROWTH SPELLS AND REGIONAL OUTCOMES

Number of quarters in growth spells	Number of regions in category	Employment growth over whole period	Growth in real weekly earnings over whole period
12–20	18	6.0%	6.5%
21–30	17	10.7%	15.1%
31–40	25	17.3%	14.0%
41–50	31	19.8%	20.2%
51–55	23	22.9%	19.1%
56–60	31	43.3%	20.6%
61–70	36	61.2%	22.1%

(the basic results are not sensitive to our particular choice of breaks for the bands). Note that the minimum is 12 quarters—one needs that to have experienced a growth spell at all—and the maximum that any region spent in growth spells over the whole period is 70 quarters. We then calculate the growth in employment and real weekly earnings (also from the Quarterly Census of Employment and Wages data) over the whole period. The data suggests that more time in growth spells generates more overall employment growth and generally higher earnings (although the earnings effect seems to taper off in the higher bands).<sup>3</sup>

What about the impacts on employment and earnings of the spells themselves (rather than the length of time any particular region spends in a spell)? Table 2.2 shows those results. Note that the longest single growth spell was 69 quarters (go, Ogden, Utah!) and that, as we mentioned above, there are a total of 324 growth spells which range from 12 to 69 quarters. One feature of table 2.2 is that we are also able to offer a view of performance for periods which fall out of growth before our 12-quarter threshold. There are 332 growth periods where growth occurred for less than a year. These were indeed booms, with high employment growth on an annualized basis, but since they are associated with declining earnings and immediately fell into recession (and since growth spells are associated, as seen in table 2.1, with better growth for a region over the long haul), it’s hard to see why this is a desirable outcome.

On the other hand, starting from growth periods that run from 5 to 11 quarters, we see that annualized employment growth generally rises with the length of the growth spell; the increase in real earnings also improves in longer growth spells (starting from 12 quarters on), but the effect is seemingly less strong. The big takeaway from these tables is that growth spells matter, since longer spells are associated with faster

TABLE 2.2 GROWTH SPELL OUTCOMES

Lengths of growth period (in quarters)	Number of growth periods in category	Annualized employment growth	Annualized growth in real weekly earnings
1–4	332	2.7%	–0.8%
5–11	167	1.9%	1.0%
12–16	70	2.2%	0.7%
17–20	69	2.2%	0.8%
21–28	73	2.6%	0.9%
29–38	67	2.9%	1.3%
39–69	45	4.2%	1.3%
Overall		1.0%	0.7%

growth and higher employment outcomes over time, with earnings showing a similar but weaker relationship to the length of growth spells.

### *Methodological Approach*

So, what determines the length of a growth spell? In their country-level analysis, Berg, Ostry, and Zettelmeyer (2012) look at a range of indicators, some of which—like inequality and social conditions—have direct parallels to regional economies. Others, such as those related to macroeconomic stability or level of development in financial institutions, are essentially uniform across the entire United States and thus are not appropriate for an analysis of regional growth spells. Rather than following in complete lockstep the categories, some less relevant than others, employed by Berg, Ostry, and Zettelmeyer, we categorize our variables into the following domains: external shocks and vulnerability; jurisdictional fragmentation; inequality and separation; background social indicators; and economic structure and institutions. We subsequently consider some explicitly political measures of polarization, but as we note there, inclusion of these factors seriously reduces sample size, so we add those as a bit of an exploratory postscript.

Within our domains, we include some factors, such as the education profile of the population, the legacy structure of industry, and the relative openness to exports, that are more or less structural. Of course, change in those factors can occur if there is dedicated leadership, but one of the things we are suggesting in this volume is that such leadership is harder to achieve in the context of inequality and social alienation. Thus, we pay special attention to the more social

variables—and it is interesting that these are the ones that actually dominate the regression landscape in terms of consistent and statistically significant impact.

Aside from considering somewhat similar domains, another way in which our approach parallels that of Berg, Ostry, and Zettelmeyer is that this is a highly exploratory exercise. Those authors state: “We sequentially test the relevance of particular regressors of interest, while including some minimal controls. . . . At the end, we summarize by showing the results of a few parsimonious regressions that control for all or most of the variables that were found to matter during the sequential testing process” (152). We follow suit, first looking at individual regressors and then combining them and offering one more parsimonious specification at the end.

While, like that of Berg, Ostry, and Zettelmeyer, this approach is somewhat unorthodox (there is no strong model specification prior to exploration), we do offer heuristic rationales for our variables; and we view this initial work as setting the stage for future quantitative and qualitative work. Partly because of this, we report not just on the usual significance levels (.01, .05, and .10) but also note when variables achieve a significance around .20. The idea is to point to relationships for which further research will be needed.

One final wrinkle. Because we are interested in the impact of polarization on the ability to forge an epistemic community, we also consider a range of political variables, with a conclusion that is quite intriguing. It turns out that the more uniform an area is politically overall, the more likely it is to sustain growth, while the more ideologically fragmented it is by geography, the less likely it is to sustain growth. This is exactly the stuff of epistemic communities—but it turns out that the sample sizes fall considerably in this analysis (mostly because we need multiple counties to chart the political polarization *within* regions), so we offer it below as a suggestive rather than conclusive finding.

### *Testing Techniques and Data Sources*

The testing technique specifically used in this exercise is a Cox regression, a particular type of survival analysis regression method. In our case, we are trying to see which factors are associated with an early exit from sustained growth. The reported coefficients are so-called hazard ratios that are always positive; when a coefficient is greater than 1, that means the variable being tested is associated with falling out of a

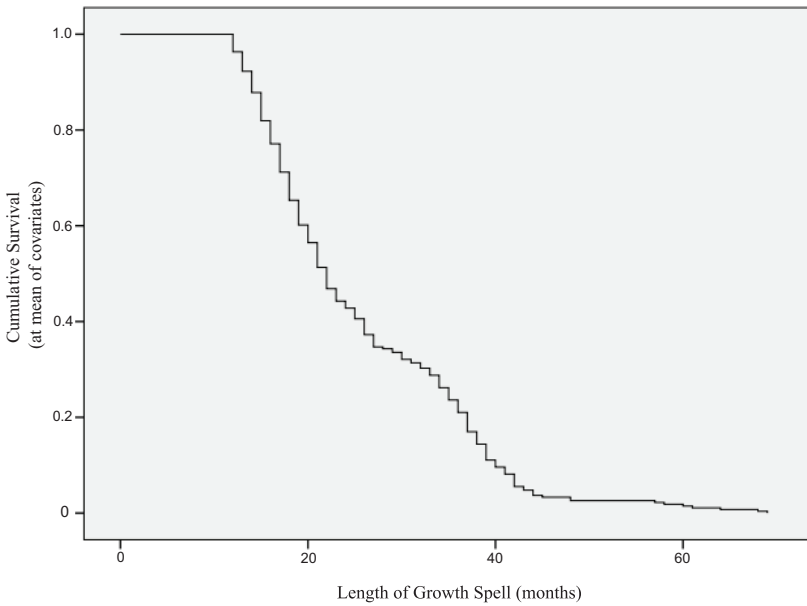


FIGURE 2.1. Survival Function for Growth Spells.

growth spell; when the coefficient is less than 1, the variable being tested is associated with staying longer in a growth spell.<sup>4</sup>

What do the spells look like? Figure 2.1 presents the unconditional hazard for spells of a minimum of 12 quarters, essentially showing the cumulative survival function of our growth spells. Note that no country falls out in the first 12 quarters because, by definition, one needs to have a three-year growth spell to make it into the sample. As can be discerned from the cumulative-survival dimension, there is a fairly steady fall-off of cases as we move past the 12-quarter threshold. Then the line becomes quite flat at around 45 quarters, indicating that there are much fewer cases above that level. This pattern is of course also reflected in table 2.2, although this gives a better sense of the spread as we cross the 39-quarter threshold used in that table.

We are essentially estimating the probability of falling out of that cumulative survival threshold, and one key issue in such hazard analysis is right-censoring—which occurs when an observation is terminated before the expected event occurs. All survival-analysis software is designed to handle this kind of right-censoring, and in our case only one growth

spell was continuing at the end of our period of analysis. (Conveniently for the econometrics but inconveniently for the residents, nearly every region eventually got knocked off its growth path by the Great Recession. Some did recover more quickly than others, but in very few cases was there enough time in our sample to complete a whole new growth spell by crossing the 12-quarter threshold).

However, we also face another issue. The data for our analysis starts in 1990, and thus the first complete quarter of year-over-year growth is in 1991, and 29 out of our 324 growth spells date their first quarter then. We thus know a *minimum* length of these 29 growth spells, but not the actual full length. This differs from left-censoring, in which an event is known to have happened before some particular time, so a *maximum* value is known, or internal censoring, in which an event is known to happen between two points in time, but the exact time is unknown (Allison 2012; Finkelstein 1986; Klein and Moeschberger 2003).

Because of the uncertainty of length for that particular set of growth spells and a lack of clear guidance in the literature on how best to handle such cases, we ran two different sets of regressions: one in which we simply excluded those twenty-nine cases with incomplete growth lengths, and one in which we included them and treated them as regular growth spells, assuming that their growth spell did actually begin at the beginning of our time-period (which may not be problematic since the United States was coming out of a national recession in that period, so many growth spells *were* just beginning). There were only minor differences in the regression results, so we present the findings below for the entire sample.

Finally, right-hand-side variables, unless indicated, came from a database assembled for the Building Resilient Regions Network (supported by the MacArthur Foundation and organized by Margaret Weir of the University of California, Berkeley; <http://brr.berkeley.edu/>) that contains economic, civic, social, housing, geographic, and demographic measures for several decades for all 934 CBSAs in the United States. One special feature of the data is that CBSA boundaries have been made consistent to compare measures across the 1970, 1980, 1990, and 2000 censuses and recent versions of the American Community Survey. (Here, we just use the 1990 and 2000 data to construct the independent variables given the time period we are examining.)

## REGRESSION ANALYSIS

In all of our regressions, we include dummy variables for census region (as did Hill et al. 2012), as well as regional per capita income



and a measure of metro size as controls. Regional per capita income is included partly because a parallel starting income measure is used in Berg, Ostry, and Zettelmeyer; moreover, the regional economic convergence literature generally controls for initial regional income to account for convergence to the mean (see the discussion and parallel construction for growth equations in Pastor, Lester, and Scoggins 2009). The coefficients on initial income, which we do not report to conserve space, always pointed in the appropriate direction (higher per capita income is associated with shorter growth spells) and remain significant in our full specification (similar to the results in Berg, Ostry, and Zettelmeyer 2012). We included metro size, a familiar control, on the grounds that larger metros might be more resilient to shocks—and that is indeed the case in our regressions. Our measure for size, the log of the metro population normed relative to the sample, is similar to the metro-size variable used in a recent effort by Li, Campbell, and Fernandez (2013).

Note that these base variables, as well as the other variables we look at, are not allowed to vary during the time of the growth spells; indeed, what we are testing is how the initial conditions at the beginning of a spell affect the length of a spell. However, growth spells get started at different times—some in the 1990s and some in the 2000s—and we cannot assume that initial conditions are the same for those starting a decade or so apart. We therefore select the year of these variables that is the closest available data prior to the beginning of the growth spells (e.g. 1990 census data for growth spells beginning in the 1990s and 2000 census data for growth spells beginning in the 2000s). One could also simply look at the whole period and focus on 1990 starting points for every spell; that approach is more convenient in terms of computation and has its own analytical rationale. As it turns out, using only the 1990s starting points yields similar results, often with more significance for some variables; however, we believe that adjusting decadal starting points is methodologically superior, and since it works against finding significance, this is the sort of bias (if any is introduced) one wants to result from researcher choices about methods.

### *Building the Regression in Parts*

#### External Shocks and Vulnerability

An external shock, such as a national recession, is one of the factors most likely to end a growth spell. But in terms of considering the durability of a growth spell, the question is whether the region's growth

TABLE 2.3 EXTERNAL SHOCKS AND VULNERABILITY

	Hazard ratio	Sig.
Percentage of growth spell in national recession	<b>1.018</b>	<b>.09</b>
Exports as percentage of gross metropolitan product	<b>1.011</b>	<b>.03</b>

NOTE: The variables are presented in a single table for convenience, but each was entered separately.

trajectory can withstand such shocks—and so we consider here the percentage of total quarters within the growth spell in which the national economy was in recession. Our notion is that the longer the spell has been impacted by the recession, the more likely it is to end—and the results for that hypothesis, reported in table 2.3, are significant at the .10 level, with the expected sign (in the tables that follow, any result that is significant at least at the .20 level is bolded). Again, recall how one should read these coefficients. The 1.018 coefficient indicates that, holding all other covariates constant, an increase of one unit (in this case a percentage-point increase in the share of the region’s growth spell that the nation is in an overall recession) is associated with a nearly 2-percent *increase* in hazard (or likelihood) of growth ending (with a coefficient less than 1 indicating a similarly figured percentage *decrease* in the likelihood of growth ending).<sup>5</sup>

Another way to get at external shocks and regional vulnerability is to consider the potential impacts of truly external factors, such as exports. To get at this, we calculated the proportion of gross regional product accounted for by international exports with data taken from the Department of Commerce. The first year for which we had the export data was 2005, and we averaged the years 2005 to 2010 to smooth out yearly variations and instead catch the overall structure. The basic notion is that a higher level of exposure to international trade could lead to less sustained growth. While the usual economic supposition is that more trade would be good for a nation as a whole, more susceptibility of one region’s industrial clusters to the rhythms of the international economy could bring risks as well as rewards. In any case, what we have is a highly imperfect measure of this trade openness, partly because it is taken from the end of the period rather than before, a failing to which we simply plead that we had no other such variable available to us for the earlier periods.<sup>6</sup> The direction is as expected—a higher share of exports is associated with a greater hazard of falling out of a growth spell—and it is significant at the .03 level.

### Jurisdictional Fragmentation

The variables discussed above are essentially structural controls. We begin now with the first of the variables that might be consistent with notions of an epistemic community: the degree of metropolitan political fragmentation. Consistent with our focus on epistemic communities, there is now a voluminous literature suggesting that regional collaboration may be important for promoting economic competitiveness (Cooke and Morgan 1998; Martin, Kitson, and Tyler 2012; Scott 1998; Storper 1997). Even advocates for regional equity, who are generally more focused on the unfavorable terrain for the less advantaged posed by separate and unlinked jurisdictions, have suggested that the fragmentation of local government within metropolitan regions can lead to inefficient public investments—and presumably less robust growth (Rusk 2003).

Of course, not everyone is a regionalist. Some recent research has suggested that Tieboutian competition, in which governments compete to offer amenities, and residents and businesses sort across the landscape to maximize consumer well-being and firm-level profits, can be consistent with more rapid growth (Grassmueck and Shields 2010). This is the *laissez-faire* perspective, to be sure, that is, that a flowering of jurisdictional divisions will yield more growth, not less. In any case, both perspectives suggest that the fragmentation of metropolitan governance is implicated in growth outcomes.

Our own perspective is that fragmentation is likely to make the formation of diverse epistemic communities more difficult—and that that could have impacts on both growth and equity. But regardless of one's views, a key issue is how to measure jurisdictional separation. To do this, some researchers simply count the number of governments in a metro region, either in absolute terms or on some per capita basis (Dolan 1990; Goodman 1980; Grassmueck and Shields 2010; Ostrom, Parks, and Whitaker 1974). A second approach, most prominently represented in the Hirshmann-Herfindal Index, considers the concentration of expenditures of all governmental units in a region, and is measured as the sum of the squared percentage of each player's share of the total market (Grassmueck and Shields 2010; Scherer and Ross 2009).

A third and newer approach, developed by David Miller of the University of Pittsburgh, builds on this Hirshmann-Herfindal Index approach but also incorporates the number of jurisdictions in the region (Hamilton, Miller, and Paytas 2004; Miller and Lee 2009).<sup>7</sup> The resulting Metropolitan Power Diffusion Index (MPDI) is derived by using

TABLE 2.4 REGIONAL GOVERNANCE

	Hazard ratio	Sig.
Metropolitan Power Diffusion Index	1.056	.15

the square root of the percentage contribution to total regional expenditures, rather than the square, a process that gives greater mathematical value to the smaller units—and it is conveniently available for all metropolitan areas in 1987, 1997, and 2007.

When measured alone (along with the regional, per capita income, and metro-size controls), it turns out that the MPDI is associated with the shortening of growth spells—more diffuse regions are more likely to fall out of a growth spell—albeit at the .15 significance level (see table 2.4). As we will see later, the statistical significance improves slightly when the MPDI is included in regressions with a range of other indicators, suggesting that political fragmentation might be a drag on sustained growth.

Inequality and Social Separation

What about more core measures of social distance? Following Berg, Ostry, and Zettelmeyer (2012), we looked at the role of inequality in shaping growth spells, using a Gini coefficient measure derived from metropolitan household-income data from the decennial census.<sup>8</sup> We also looked at the size of the “minority middle class,” that is, the proportion of African American and Latino households that are in the middle-income bracket for the region (first separately, then combined, although we present the results only for the combined measure to save space).<sup>9</sup> We also wanted to look at other issues of social separation, so we considered a standard measure of residential segregation called the dissimilarity index, in this case calculated in terms of non-Hispanic whites versus everyone else, as well as the ratio of city to suburban poverty rates.<sup>10</sup>

As shown in table 2.5, the Gini coefficient turns out to be extremely significant and powerful. A 1-percentage-point increase in the Gini is associated with a 21-percent increase in the likelihood that a region will fall out of the growth spell. Our various minority-middle-class variables were significant; to conserve space, we show only the combined measures, which suggest that regions with a higher percentage of minorities in middle-class income brackets are more likely to have

TABLE 2.5 INEQUALITY AND SOCIAL SEPARATION

	Hazard ratio	Sig.
Gini coefficient (initial level)	<b>1.213</b>	.00
Percentage minority residents in middle income brackets	<b>0.911</b>	.00
Dissimilarity index, non-Hispanic whites	<b>1.010</b>	.12
Ratio, principal city to suburban poverty rates	1.098	.23

NOTE: The variables are presented in a single table for convenience, but each was entered separately.

longer growth spells. The dissimilarity index results suggest that more segregated regions have shorter growth spells; a higher city–suburb poverty differential is also associated with shorter growth, but this result is significant only at the .23 level. This is certainly not completely convincing, but it is suggestive of a positive economic role for activities that can shrink social distance—say, by creating a metropolitan epitemic community.

### Background Social Indicators

In addition to inequality and social separation, we sought to look at background social indicators such as educational attainment and levels of immigration. Our idea, reasonably enough, is that a more educated populace would yield more sustained growth. Our hypothesized effect about immigration was less clear (since a rising immigrant presence is generally thought to add energy to the economy but could also trigger growth-damaging conflict through the impacts of shifts in demographic composition on local politics; Pastor and Mollenkopf 2012). As for operationalizing these measures: for education, we looked at two variables, the proportion of the population twenty-five and older with a bachelor's degree or higher and the proportion with at least a high school diploma but less than a bachelor's degree. For immigration, we looked at the percentage of the foreign-born (immigrant) population in each region prior to the growth spell being tested.

The results are shown in table 2.6. Of our two education measures, the proportion of the population with at least a high school diploma but less than a bachelor's degree is statistically significant (at the .03 level), with regions with a larger proportion of these middle-education populations being less likely to fall out of a growth spell; recall that each of these is being entered separately, so the default category in each case is everyone else. The proportion of immigrants in the region also

TABLE 2.6 SOCIAL INDICATORS

	Hazard ratio	Sig.
Adult population with BA degree or higher	1.010	.44
Adult population with HS to AA degree	0.975	.03
Percentage of population foreign-born	1.029	.00

NOTE: The variables are presented in a single table for convenience, but each was entered separately.

has a significant (negative) relationship to the length of growth spell, perhaps reflecting the sort of “immigrant shock” to the metropolitan political and social systems discussed by Pastor and Mollenkopf (2012).

It is worth noting that some interesting differences in the roles of these background social indicators emerged when we excluded those twenty-nine growth spells of uncertain length that possibly started prior to 1990. We have not mentioned the impact of excluding these spells before since there was not much difference when they were excluded. However, when we drop the twenty-nine spells of uncertain length, our various indicators are all statistically significant, and the percentage of adult population with a bachelor’s degree or higher becomes significant at a .04 level and has a hazard ratio of 1.03. This higher education variable seems to suggest that regions with a high proportion of highly educated population are more likely to fall out of a growth spell. It may be that those regions are likely to have more employment in technology and information-driven industries, which substantial research has demonstrated are significantly more volatile in their employment patterns (Brynjolfsson and Saunders 2010; Shapiro and Varian 1998). That this effect rises when we exclude growth spells that may have been started before 1991 squares with this; the high-tech effect should be stronger later in the period in question. However, our attempt to control for high-tech and high finance employment more directly through the inclusion of these labor-market shares in the regression (however imperfectly measured) does not transform higher education into having a positive impact on sustainable growth. This remains a topic for further research.

### Employment Structure and Institutions

We also looked at three broad measures of industrial structure in the region, namely the percentages of the workforce employed in construction, in manufacturing, and in public administration, as well as one set

TABLE 2.7 ECONOMIC STRUCTURE AND INSTITUTIONS

	Hazard ratio	Sig.
Percentage employment in public administration	0.954	.02
Percentage employment in manufacturing	1.004	.66
Percentage employment in construction	0.971	.46
Percentage of workforce covered by a union contract	1.003	.73

NOTE: The variables are presented in a single table for convenience, but each was entered separately.

of economic institutions: the percentage of the workforce covered by unions.<sup>11</sup> As shown in table 2.7, the percentage of employment in public administration is associated with longer growth spells; manufacturing and construction, each entered alone, do not have a significant impact on the length of growth spells. The unionization variable seems associated with shorter growth spells (perhaps squaring with the perspective that unions introduce labor market rigidity—but it is also important to remember that unionization and manufacturing tend to be correlated in these time periods), but the result is not statistically significant.

### Integrated Model

In the previous sections, we looked at each of the indicators separately, partly because of the exploratory nature of our work. Here, we enter (nearly) all our various regressors into a single regression, with the exercise offering a look into the relative power of the independent variables as well as their interaction. As with the individual regressions, we include controls for census region, per capita income, and metro size. There are several caveats to mention before looking at the results of this combined regression work.

First, we included only one educational-attainment indicator, due to obvious high levels of collinearity; we chose the one that was significant in the stand-alone regression, that is, the share of the working-age population with at least a high school diploma and no more than an AA degree. Second, in our initial integrated regression, we found that that variable, which essentially captures the share of the broadly educated middle, was actually associated with shorter growth spells, the opposite of its impact in a univariate context. Since this shift was unusual, we conducted a series of exploratory regressions in which we dropped the inequality measure. We found that with the economic-structure variables and our educational indicator alone, a broadly educated middle

was associated with longer growth spells (as it was when it was entered alone), albeit only at the .20 level. The sign on education flipped when we introduced the Gini coefficient—and this is actually sensible, given that inequality is likely to be larger if there is a lower percentage of this mid-level-educated population.

To deal with this issue, we ran a simple linear regression in which the dependent variable was the original Gini coefficient and the independent variable was the share of the population with at least a high school diploma and no more than either some years of college (but not a BA) or an AA degree, that is, our main education variable with the high correlation. With the regression weighted by metro population to give a better sense of the overall relationship, we took the residuals of the regression as a sort of detrended Gini coefficient—that part of inequality not directly explained by the single educational variable we are using in this exercise (and actually probably better capturing the political economy drivers of inequality).<sup>12</sup>

The Cox regression results with that modified Gini coefficient are shown in table 2.8. The first set of columns include all the variables tested above, while the second set of columns drops the three least significant measures. Note first that once we have accounted for all these structural variables, the percentage of the growth spell during which the nation has been in recession is no longer significant. The export variable is also insignificant, but, as we have suggested, this measure is imperfect anyway, given its timing. However, both the Metropolitan Power Diffusion Index (a measure of jurisdictional fragmentation) and higher levels of inequality are associated with shorter growth spells—and the effects are very significant.<sup>13</sup>

The percentage of minorities in the middle class is not significant at all. While this may be because of competition with the two residential-segregation measures, the dissimilarity index and the city-suburb poverty ratio, it is also the case that such a measure is not really about the sort of social distance that is our main focus in this exercise but is a sort of political-coalition variable, developed and tested in previous work more specifically on growth *and* equity (Benner and Pastor 2012). Also associated with shorter growth spells were percentage foreign-born, share of the workforce in manufacturing, and with lesser significance, share of the workforce in construction; positively associated with the length of growth spells was the percentage of the population with what we have termed a middle level of education.

Although the percentage in public administration was associated with longer growth spells when entered on its own, it is now associated



TABLE 2.8 INTEGRATED MODEL WITH GINI RESIDUAL

	Full model		Parsimonious model	
	Hazard ratio	Sig.	Hazard ratio	Sig.
Percentage of growth spell in national recession	1.001	.964		
Exports as percentage of gross metropolitan product	0.996	.675		
Metropolitan Power Diffusion Index	1.096	.046	1.091	.044
Gini coefficient (residual)	1.306	.000	1.300	.000
Percentage minority middle class	1.000	.997		
Dissimilarity index, non-Hispanic white	1.012	.185	1.011	.150
Ratio, principal city to suburban poverty rates	1.166	.111	1.160	.119
Adult population with HS to AA degree	0.972	.124	0.973	.116
Percentage of population foreign-born	1.048	.004	1.046	.002
Percentage employment in public administration	1.033	.255	1.031	.269
Percentage employment in manufacturing	1.060	.001	1.057	.001
Percentage employment in construction	1.090	.128	1.085	.141
Percentage of workforce covered by a union contract	1.010	.402	1.011	.340

NOTE: Variables entered in multivariate fashion.

with shorter growth spells (although at relatively low significance). It may be that while public-sector employment can strengthen the middle class and dampen inequality and extend growth spells for that reason, when entered into a regression where inequality is a direct measure and other dynamic aspects of the economy are accounted for, a larger public sector signals a more rigid economy. A similar argument could be made for the shortening impact—albeit insignificant—of unionization (although this might also be simply because of the association of more unionization with an older industrial structure).

Of course, the big news is that the Gini coefficient remains highly significant—and, interestingly, the coefficient is essentially the same as before we did the detrending. (Every other non-education coefficient is stable as well, which makes sense since the “detrending” exercise was only done to separate out the education and Gini factors.) This suggests that inequality does indeed have a damping effect on growth spells. Moreover, one remarkable coincidence is that the time-ratio impact of the Gini measure on growth spells in the United States is almost the same as that found in the Berg, Ostry, and Zettelmeyer study on the Gini coefficient and cross-country performance.<sup>14</sup>

In any case, it is striking that the measures of inequality and social and political distance—metropolitan fragmentation, racial segregation, and the city–suburb poverty differential—remain significant in the multivariate specification. While one does not want to stretch too far beyond what are surely preliminary results, the findings do suggest support for the idea that building bridges between constituencies might actually be productive for sustaining economic vitality. Surely, this is the stuff of epistemic communities—and it is to more direct measures of political polarization that we now turn.

### *What about Politics?*

As noted, one of the main findings here is essentially that social polarization—as measured by inequality, racial segregation, municipal fragmentation, and city–suburb poverty differentials—does indeed undermine sustained growth. Therefore, much of the rest of this volume is concerned with whether creating a sense of shared identity that shapes social norms, closes social distance, and helps regions overcome the tendency to atomistic, self-interested behavior can actually help inoculate a region against erratic growth.

Is there a more direct way to get at the impact of community-building and shared identity on growth trajectories? One potential way would seem to be the civic-engagement variables available in two supplements to the Current Population Survey: the volunteer supplement, which is conducted in September, and the civic-engagement supplement, which is conducted in November. These surveys have been conducted since 2002 and 2008, respectively. The volunteer supplement includes measures of amount and type of volunteer activity, along with questions about involvement in community affairs and working with other people to address neighborhood issues. The civic-engagement supplement measures participation in organizations, interaction with friends and neighbors, number of close friends, and knowledge of and participation in civic events. But there are limitations to the Current Population Survey data. It does not measure what people do when they volunteer, nor their values and motivations; nor does it measure social networks that bridge across diversity. In short, the measures tend to reflect “bonding” social capital rather than “bridging” social capital.

One, perhaps more direct, way to test the role of shared identity is to look at a measure of political polarization, particularly the degree to which voters’ ideological leanings are divided by geographic lines. Our

notion is that such political polarization—possibly reflecting an epistemological polarization—could pose challenges for intraregional collaboration and perhaps say something about the challenges of forming an epistemic community around common destinies in any particular region.

To better get at this notion, we used voting data from Dave Leip's *Atlas of U.S. Presidential Elections* ([www.uselectionatlas.org](http://www.uselectionatlas.org)), a proprietary dataset that is assembled from mostly primary sources (e.g. official election agencies within each state) and includes county-level vote counts for each candidate in presidential elections. We specifically used data for election years 1988 and 2000, to be more or less consistent with the 1990 and 2000 decennial censuses from which many of our other initial growth-spell covariates are taken. While we could have used data from the 1992 election in place of 1988, we thought 1988 might be more representative of enduring political undercurrents since both 1988 and 2000 were years in which no incumbent was running.

To derive a measure of regional political homogeneity at the metro level, we began by summarizing votes for the Democratic and Republican candidates by CBSA. This was easy enough given that the data was at the county level and each CBSA is either equivalent to a single county or can be perfectly constructed by grouping two or more counties. In this case, a bigger regional gap in voter preferences—either really “red” or really “blue”—signals a higher level of ideological affinity. However, because the sort of voter cohesion we were interested in capturing had more to do with differences within a region, we also summarized the data separately for the core county and the outlying counties in each CBSA; we term this variable *political spatial sorting within region*.

To derive this spatial-sorting variable, we define the “core” county as simply the county in the CBSA with the greatest population in 2010; the “outlying” counties are simply all the others in the CBSA. In this case, we calculated the absolute value of the difference between the percentage of the total vote that went to the Democratic candidate in the core county and the percentage that went to the Democratic candidate in outlying counties. The hypothesis is that a larger gap signals more political spatial sorting—that is, geographic polarization—and thus might be associated with less cohesion and perhaps a shorter growth spell.

The fact that the voting data is not available at beneath the county level of geography is not ideal. First, it means that our measure of political spatial sorting is not perfectly consistent with other geographic measures we have used, such as the ratio of city to suburban poverty rates (which compares the experience of principal cities to all other

TABLE 2.9 POLITICAL VARIABLES

	Sample 1: All CBSAs		Sample 2: Multi-county CBSAs	
	Hazard ratio	Sig.	Hazard ratio	Sig.
Regional political homogeneity	0.988	.02	0.998	.80
Political spatial sorting within region	1.023	.03	1.034	.00

locations in a metro) or the residential dissimilarity index (which offers a region-wide measure but is generated by looking at tract-level ethnic composition). Second, and perhaps more important, some of the regions included in our analysis are made up of only one county, so we cannot derive this measure of regional voter cohesion for them; indeed, among the 184 CBSAs that we consider, 52 of them cover just one county, and they account for 88 of the 324 growth spells considered above.

Because of this issue, we present results for two different samples, one that includes all CBSAs and one that includes only multi-county CBSAs. For the sample with all CBSAs, we set the spatial sorting variable to 0 for single-county CBSAs. In one set of runs, we also included a dummy variable for all single-county CBSAs to insure that that approach was not simply picking up fixed effects associated with some other characteristic of single-county metros; but since that was insignificant in all specifications, we dropped it. We should note that the single-county metros tend to be among the smallest in terms of population. Excluding these cases for sample 2 causes a loss of only about 11 percent of the total metro population in the sample.

What do we find? Table 2.9 shows the results for the two samples for a Cox regression that also includes the regional dummies as our standard size and per capita income controls. Unlike in the earlier section, we enter both variables in the same regression, mostly to save reporting space and time; the results are quite similar if we consider the results for the regional political homogeneity and political spatial sorting variables entered separately. The results are intriguing. To the extent that there is overall political homogeneity, growth spells are lengthened (although insignificantly so when we consider only the multi-county CBSAs, where we can also fully exploit the spatial sorting variable); while to the extent that there is political spatial sorting within regions, growth spells are shortened.

TABLE 2.10 INTEGRATED (PARSIMONIOUS) MODEL

	Sample 1: All CBSAs		Sample 2: Multi-county CBSAs	
	Hazard ratio	Sig.	Hazard ratio	Sig.
Metropolitan Power Diffusion Index	1.096	.036	1.041	.445
Gini coefficient (residual)	1.276	.000	1.384	.000
Dissimilarity index, non-Hispanic white	1.014	.078	1.016	.117
Ratio, principal city to suburban poverty rates	1.060	.570	0.961	.755
Adult population with HS to AA degree	0.977	.178	0.987	.639
Percentage of population foreign-born	1.056	.000	1.025	.199
Percentage employment in public administration	1.017	.557	1.049	.213
Percentage employment in manufacturing	1.057	.001	1.080	.000
Percentage employment in construction	1.120	.047	1.255	.002
Percentage of workforce covered by a union contract	1.009	.468	1.011	.492
Regional political homogeneity	0.990	.102	0.999	.873
Political spatial sorting within region	1.032	.014	1.037	.013

This is a mix of results that squares well with our notions of epistemic communities. The positive effect of political homogeneity might explain, for example, why we find in our case studies that places that are overwhelmingly Republican (Salt Lake City) or Democratic (San Antonio) can both find their way to higher levels of collaboration and steadier growth—it's not the policies of each ideological position per se as much as it is the likely consensus on analysis of problems. But there is one important nuance. As noted, those results for overall homogeneity are not statistically significant when we focus just on the multi-county CBSAs, while the political sorting is significant in both samples. In short, metropolitan fragmentation can work against collaboration and sustained growth.

What happens when we test these variables in the context of a fuller regression? We did this first with the full integrated model above and then with the parsimonious model (since the same variables—percentage of time in recession, export vulnerability, and minority middle class—were insignificant). In table 2.10, we present only the results of the parsimonious regressions, to conserve space.

There are some interaction effects with the pre-existing variables which are perhaps best seen in the regression with all CBSAs. These

generally involve slight shifts in coefficient values and significance levels, but the biggest shift is the city–suburb poverty ratio, which is after all likely to be correlated with political spatial sorting.<sup>15</sup> We also see that as we move to the multi-county setting, several variables lose significance—not surprisingly, given the reduction in sample size. Here, the Metropolitan Power Diffusion Index has the most interesting change, losing significance in the multi-county sample. This makes intuitive sense given that it can capture fragmentation in the single-county cases included in the all-CBSA sample where the political spatial sorting variable has been set to 0, while the municipal fragmentation measure probably competes with the spatial sorting variable in the multi-county sample.

In any case, the big story is that even with controls, regional political homogeneity and spatial sorting matter. But, as with the individual regressions reported earlier, the truly critical finding is that where it really can do its job (in the more populous multi-county CBSAs), the sorting variable dominates in terms of significance. Its coefficient size and significance level are quite consistent when compared to the all-CBSA sample. Spatial and social separation matter for the length of growth spells.

We do not seek to make too much of these particular regressions. While the earlier set clearly involved exploratory work, they were a bit more solid than what we present here. After all, the political variables—degree of homogeneity and degree of sorting—are imperfect and create challenges for the sample at hand. A finer set of geographic definitions, one which allows for sorting below the county level, would be preferable. Still, the results do point in the direction that having a more like-minded regional polity—and one where that like-mindedness at a metropolitan level does not mask deep geographic divides within the metro—may be more consistent with sustained growth. We turn to the dynamic of bridging divides through epistemic communities in the case studies below.

## EQUITY MATTERS

This chapter has tried to provide a platform for much of the rest of the book by considering whether social and political fragmentation matter for sustained growth. To do this, we borrowed from strategies initially developed by IMF researchers to look at GDP growth spells at the country level. In our case, we derived a measure of sustained employment growth at the metropolitan level, and then tried to see which factors are most likely to knock a region off its growth path.

In a clear parallel to the international work, we find that one of the most important factors that can shorten a growth spell is a region's initial level of inequality. We also find that measures of social cohesion, including residential segregation, fragmented metropolitan governance, and sharp difference in city-suburb poverty levels, all play a role (along with more expected covariates such as education and economic structure). Intriguingly, we also find in a supplemental set of regressions that places that have a more unified political viewpoint might be better able to sustain growth but that the more consistent and significant impact is a dragging effect on growth when political viewpoints are highly variable across geographic space.

All of this helps set the stage for case selection, a task we discuss in the next chapter. But before we turn to that, another caveat should be mentioned. Readers should remember that because of data limitations, the empirical exercise above covers only the 1990s and 2000s in metropolitan America. This is particularly important for interpreting the findings on inequality. It may well be that inequality can contribute to growth in some circumstances and retard it in others—that is, that there is a U-shaped relationship in which “perfect” equality destroys incentives and hurts economic expansion while more extreme levels of inequality manage to do the same for reasons discussed in the first few sections of this chapter.

Indeed, we think that this is likely—and we would warn progressives not to assume that we think that (or that the world works such that) any pro-equity intervention will yield improved and sustained growth. In short, the findings above may simply indicate that we have gone beyond a sort of “optimal” level of inequality in contemporary America and that we need to rebalance priorities and strategies to secure more inclusive *and* more robust growth. The first step to doing that may involve restoring a sense of common destiny—in which first metros and then the nation become more connected across income, race, and place—and it is to the exploration of that process at the metropolitan level that we turn for the remainder of the book.