WORKING PAPERS

RESEARCH DEPARTMENT

WORKING PAPER NO. 08-22

CITY BEAUTIFUL

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September 2008

RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA

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The views expressed here are those of the authors and do not necessarily represent those of the Federal Reserve Bank of Philadelphia, the Federal Reserve System, or the University of Pennsylvania. Eugene Bruszilosvky and Jake Carr provided excellent research assistance. We thank participants at the International Workshop in Economic Geography, Barcelona, Spain, and the Wharton Applied Economics Workshop. Saiz acknowledges financial assistance from the Research Sponsors Fund of Wharton's Zell-Lurie Real Estate Center. This paper is available free of charge at www.philadelphiafed.org/research-and-data/publications/working-papers/.

Abstract

The City Beautiful movement, which in the early 20th century advocated city beautification as a way to improve the living conditions and civic virtues of the urban dweller, had languished by the Great Depression. Today, new urban economic theorists and policymakers are coming to see the provision of consumer leisure amenities as a way to attract population, especially the highly skilled and their employers. However, past studies have provided only indirect evidence of the importance of leisure amenities for urban development. In this paper we propose and validate the number of leisure trips to metropolitan statistical areas (MSAs) as a measure of consumers' revealed preferences for local leisure-oriented amenities. Population and employment growth in the 1990s was about 2 percent higher in an MSA with twice as many leisure visits: the third most important predictor of recent population growth in standardized terms. Moreover, this variable does a good job of forecasting out-of-sample growth for the period 2000-2006. “Beautiful cities” disproportionally attracted highly educated individuals and experienced faster housing price appreciation, especially in supply-inelastic markets. Investment by local government in new public recreational areas within an MSA was positively associated with higher subsequent city attractiveness. In contrast to the generally declining trends in the American central city, neighborhoods that were close to “central recreational districts” have experienced economic growth, albeit at the cost of minority displacement.

1. Introduction

In the early 20th century, scores of progressive American architects, urban planners, and policymakers coalesced around the City Beautiful movement. Proponents of the movement advocated for sizable public investments in monumental public spaces, street beautification, and classical architecture, with an emphasis on aesthetic and recreational values. City beautification as local public policy was certainly not a new idea, as the streets of Istanbul, Paris, Rome, or Vienna attest today. But the local economic development theories behind this new movement were. The City Beautiful philosophy emphasized the importance of improving the living conditions of the urban populace as a means of social engineering. High aesthetics were believed to imbue city dwellers with moral and civic virtue. Those theories, relating environmental and architectural urban attributes to behavior, were never directly tested as such.

Recently, a growing number of urban economists have been shifting their attention to the role of cities as centers of leisure and consumption. Theoretical models have emphasized the importance of consumption variety to explain why cities exist,[1] and other work points toward the role of amenities in explaining cross-city differences in, for example, suburbanization and housing prices.[2]

Glaeser, Kolko, and Saiz (2001), hereafter GSK, argue that innovations in transportation, production, and communication technologies have ambiguous impacts on agglomeration economies on the production side. Nevertheless, if consumers prefer a large variety of goods and services, and there are substantial economies of scale in providing them, economic welfare will still depend on the size of the local market. For

[1] Ogawa (1998), Fujita (1988), Tabuchi (1988), Abdel-Rahman (1988).
[2] Tabuchi and Yoshida (2000), Glaeser, Kolko, and Saiz (2001), Gyourko, Mayer, and Sinai (2006).

example, a number of studies by Waldfogel and his co-authors have shown that larger cities have more and better newspapers and more and better radio and television stations.[3]

A greater variety of consumption amenities is especially attractive to households as their wealth increases.[4] In the 46 years between 1959 and 2005, real per capita income more than doubled in the United States. The rise in real income has led to an increased demand for luxury goods, such as meals in gourmet restaurants and live theater, which are more plentiful in large cities (GSK, Rappaport, 2007). The demand for variety may increase more than proportionately with income and as high-skill individuals account for a larger share of the work force in large cities (Lee, 2004). The difficulty lies in trying to distinguish the extent to which high-wage (high-skill) workers locate in cities because large cities make them more productive or because large cities offer greater variety in consumption and leisure.[5]

Indeed, past studies have provided only indirect evidence for the importance of consumer amenities. Typically, studies have relied on implicit valuations of urban amenities estimated using a Rosen-Roback reduced-form approach.[6] A number of other studies have calculated residuals in a rent-wage regression and related them to city size or growth (Tabuchi and Yoshida, 2000, GKS, Asashi, Hikino and Kanemoto, 2008). On balance, these studies suggest that, while productivity is higher in larger cities, peoples'

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[3] See Waldfogel (2003), Waldfogel and George (2003), and Waldfogel and Siegelman (2001). Carlino and Coulson (2004) argue that sports franchises appear to be a public good by adding to the quality of life in MSAs. They find that rents are roughly 4 percent higher in MSAs with an NFL team.

[4] See, for example, the articles by Brueckner, Thisse, and Zenou (1999); GKS; and Adamson, Clark, and Partridge (2004).

[5] Gyourko, Mayer, and Sinai (2006) also argue that it's the composition of the work force and not necessarily greater productivity or amenities that explain higher housing prices in some locations, referred to as superstar cities.

[6] Rosen (1974), Roback (1982), Bloomquist, Berger, and Hoehn (1988), and Gyourko and Tracy (1991), Gabriel and Rosenthal (2004), Albouy (2008).

taste for urban amenities and variety is an important factor accounting for the concentration of population in cities.

Nevertheless, there is a great deal of variation in consumer-based amenities, conditional on city size. Regardless of their initial population, some cities have a comparative advantage in the production of consumer-oriented public goods, due to historic character, architectural variety, pleasant public spaces, or natural scenic beauty. Local public policy may also play a role. Policymakers and private investors are paying increasing attention to the provision of public goods that are oriented toward leisure (Florida, 2002): museums, waterfront parks, open-air shopping centers, and other public spaces that are enjoyed by families and individuals to enjoy. Cities around the world (such as Barcelona and Bilbao in Spain; Glasgow in Scotland; and in the U.S., Oklahoma City, OK; Camden, NJ; and San Antonio, TX), have attempted to leverage public investments in leisure spaces and beautification to spur demographic change and economic development. Do these natural or man-made differences in leisure activities really matter for urban economic development? In this paper we present evidence that supports an affirmative answer to this question. In this context, the distinctive contributions of the paper are as follows.

First, we provide a measure of the demand for urban amenities that stems from consumer revealed preferences: based on the number of leisure tourist visits by MSA. Leisure visitors are attracted by an area's special traits, such as proximity to the ocean, scenic views, historic districts, architectural beauty, and cultural and recreational opportunities. But these are some of the very characteristics that attract households to cities when they choose these places as their permanent homes.

Low taxes, better schools, shorter commutes, better working conditions, and the like are, of course, also important for household location choices. We choose to focus, however, on a combination of public and private goods and consumption externalities (e.g., aesthetic charm) that are more than strictly local and difficult to reproduce. One can move to a metropolitan area with poor-quality education and yet sort into a high-quality school district. But the package of environmental, aesthetic, and recreational amenities within driving distance is fairly homogeneous at the metro area level.

It is virtually impossible to include in any study the vast and differing variety of private and public leisure-oriented goods that draw people to cities. Typically, researchers have chosen the types of amenities to include in their study. In addition to being subjective, the set of amenities chosen will not be comprehensive. Our measure can therefore be seen as a more objective, revealed-preference metric to quantify the importance and *quality* of leisure amenities in a metro area.

Second, we explore how leisure consumption opportunities affected MSA population and employment *growth* during the 1990s. Our findings suggest that, all else equal, population and employment growth was about 2.0 percent higher in an MSA with twice as many leisure visits as another MSA. In standardized terms, our leisure measure was the third most important predictor of growth in the 1990s.

It is noteworthy to point out that static quality of life (QOL) estimates are less helpful for forecasting urban growth, insofar as they are implicitly assuming, rather than demonstrating, a relationship between amenities and demand for a city. Moreover, one should not use amenity estimates based on housing price residuals to predict future demographic change in the city, because housing prices embed current economic trends and future growth expectations. Finally, QOL estimates are based on strong equilibrium assumptions (Gyourko, Kahn, and Tracy, 1999). Shocks to a system-of-cities equilibrium, and the resulting long-run adjustments to restore equilibrium as posited by the existence of differential urban population growth rates, are less suitable for QOL's empirical framework.

Third, we use the leisure trip measure to predict out-of-sample (2000-2006) growth. The literature has so far posited a large number of variables that, taken in isolation, correlate ex-post with urban growth in specific periods. As noted in the economic growth literature, the importance of these variables may be sensitive to model specification (Levine and Renelt, 1992). We show that our measure is robust to out-of-sample forecasting and to the use of alternative data sources, suggesting that the relationships we find are not coincidental to model specification.

Fourth, we use several approaches to dispel concerns about the endogeneity of our leisure trip measure to previous and future growth. Controlling for a large number of covariates, including lagged growth rates (lagged dependent variables), and using instruments for leisure visits based on historical and geographical variables do not seem to weaken the relationship between leisure visits and subsequent growth. While addressing endogeneity issues, we demonstrate that a number of amenity measures that have been previously used to proxy for the amenities of an area may suffer from reverse causation problems.

Fifth, the recent literature (Saks, 2008) has emphasized the importance of housing supply elasticities in mediating the impact of city demand shocks on population growth.

Given this literature, we integrate estimates of housing supply found in Saiz (2007) to demonstrate the simultaneous impact of leisure amenities on housing prices and growth.

Finally, we examine the relative attractiveness of neighborhoods *within* an MSA. The monocentric city model has largely focused on a neighborhood's distance from its central business district (CBD) as the main determinant of its density and rents. In this paper, we present new measures of centrality, based on a census tract's distance to leisure areas within the city. We alternatively define the central recreational district (CRD) either based on a tract's distance to tourism information centers or access to historic and recreational sites within the city. We show that the evolution of CRD areas was very different from the rest of the central city neighborhoods that surrounded them in the 1990s. Despite worse initial economic conditions, CRDs managed to grow faster than other comparable neighborhoods. Rents, incomes, and education increased relatively faster in such "beautiful neighborhoods," at the cost of minority displacement. Distance to CBD was mostly irrelevant to the economic and demographic evolution of urban neighborhoods in the US, once we control for access to leisure opportunities. While the American central city generally did not "come back" in the 1990s, the "beautiful city" within flourished.

The rest of the paper is organized as follow. Section 2 briefly describes the conceptual underpinnings of the paper and the main data sources, demonstrates that leisure visits are correlated with other measures of amenities, and explores the determinants of leisure trips in the US. In section 3 we present the main growth regressions and robustness tests. Section 4 is devoted to defining and describing the evolution of the CRD. Section 5 concludes the paper.

2. Background and Data

2.1. Conceptual Underpinnings

Why should leisure-related amenity *levels* be associated with demographic *growth*? The simplest way to posit a theoretical relationship is by using the Rosen-Roback framework (we use the exposition in Abouy, 2008). Let $\mathrm{e}\left(p^i, w^i, A^i, U^i\right)$ represent the after-tax expenditure function, necessary to obtain a given level of utility, U^i, in city *i*, where p^i represents the price of housing, w^i is the after-tax total wage receipts, and A^i indexes the consumption amenities offered in city *i*. In equilibrium, no individual requires additional compensation to remain in the city he or she currently inhabits, given the individual's income and utility levels across cities are equalized to $\overline{U}$:

$$e\left(p^k, w^k, A^k, \overline{U}\right) = 0$$

We now can express the relationship between wages, prices, and amenities in terms of relative willingness to pay. To do so, assuming $\frac{\partial e}{\partial w^i} = 1$, totally differentiate the equilibrium condition to obtain:

(1) $$-\frac{\partial e}{\partial p^i} \cdot dp^i - dw^i = \frac{\partial e}{\partial A^i} dA^i .$$

Note that the Sheppard lemma implies that $\frac{\partial e}{\partial p^i} = -H^i$, where H^i is the initial optimal quantity of housing consumed:

(1a) $$H^i \cdot dp^i - dw^i = \frac{\partial e}{\partial A^i} dA^i .$$

As in the QOL literature, cross-sectional differences in amenity levels (dA^i) have to be compensated by higher housing prices or lower wages. However, from a dynamic perspective, positive changes in the valuation of existing amenities ($\frac{\partial e}{\partial A^i}$) should also produce divergent demographic growth across cities. Specifically, cities with initially higher amenities should grow faster in order for compensating differentials for amenities to arise: housing prices should grow and, with slow capital adjustment, wages should fall (moving along the marginal productivity of labor schedule). As income grows and the valuation of leisure amenities increases, we expect "beautiful cities" to experience greater demographic change and faster employment growth, together with more rapid housing price appreciation.

2.2. Data

Our proprietary data on leisure trips are provided by D.K. Shifflet and Associates, a firm specializing in consulting and market research to the travel industry.[7] The Shifflet data provide the destinations for individuals who traveled for leisure purposes. Shifflet defines "travel" as any overnight trip or any day trip greater than 50 miles one way. Annually, questionnaires were mailed to 180,000 households in 1992 and 540,000 households in 2002. Shifflet reports 49,000 traveling households in its 1992 sample and 80,000 traveling households in the 2002 sample (with about two-thirds of the traveling households making leisure trips in either year). Returned samples are demographically rebalanced on five key measures (origin state, age, gender, household size, and household income) to ensure that they are representative of the US population.

Shifflet provided leisure travel data for the top 200 leisure-trip destinations for 1992 and 2002. Thirty of these observations were dropped from our sample because the areas are not metropolitan in nature. In addition, 32 MSAs were combined into 15 metro

[7] D.K. Shifflet & Associates Ltd., 7115 Leesburg Pike, Suite 300, Falls Church, Virginia 22043.

areas based on geographic proximity.[8] In keeping with Shifflet, we use the 1999 MSA definitions to construct all of the variables used in the study. After dropping three observations with missing values for some of the explanatory variables, we are left with a sample of 150 MSAs.

Table 1 shows MSAs ranked by the main variable of interest, leisure visits in 1992, for metro areas with populations above 500,000 in the 1990 census. Leisure visits in these major cities ranged from a high of a little more than 22 million leisure visits in Orlando, Florida, to a low of 660,000 visits in Newark, New Jersey.

Because Shifflet provided leisure travel data only for the top 200 leisure destinations, the data are left-censored. We know, however, that censored observations have lower levels of tourism than do the MSAs in the Shifflet data. We define a new variable called *the number of leisure trips with left-censored observations* by assigning the log of the minimum observed value for tourist visits for an MSA (-0.4155) to all left-censored observations. Wherever we use this variable on the right-hand side, we add a dummy variable that takes a value of one if the observation is left censored, and zero otherwise.

Formally, letting f denote the lower bound in the Shifflet sample, we observe the following random variable:

$$x^* = \begin{Bmatrix} x \text{ if } x \geq f \\ f \text{ if x} < f \end{Bmatrix}$$

[8] We combined the following 32 cities into 15 MSAs: Atlantic City-Cape May; Greensboro-Winston-Salem, NC; Harrisburg-Hershey, PA; Jacksonville-St. Augustine, FL; Kansas City, MO-Kansas City KS; Knoxville-Gatlinburg, TN; Las Vegas-Boulder City, NV; Los Angeles-Long Beach, CA; Minneapolis-St. Paul, MN; Norfolk-Virginia Beach-Williamsburg, VA; Orlando-Kissimmee, FL; Sacramento-Lake Tahoe, CA; Tampa-Clearwater-St. Petersburg, FL; Washington, DC-Fredericksburg, VA; and Raleigh-Durham, NC.

Another way to deal with left-censoring of the data uses information on an employment-based tourism variable together with other covariates to impute leisure visits for the left-censored observations. Following the convention of past studies, we measure employment in the travel and tourism industry as the sum of employment in hotels, air travel, and amusement/recreation as reported in *County Business Patterns*.[9] The correlation between the survey-based data (Shifflet data) and employment-based measures for the observations for which both series are available is quite strong (0.6) as illustrated in Figure 1. Since employment in an MSA's travel and tourists industries is correlated with leisure visits, this employment measure is a useful variable when imputing values for the left-censored observations. We refer to the imputed series as *the number of tourist visits with imputations* (see the Appendix for details on the imputation).

In addition to these various measures of leisure trips, our data set also includes a host of other economic, demographic, and geographic variables that we created or obtained. Table 2 reports summary statistics for the variables used in this study. The table shows, for example, that the average MSA in our data set experienced population growth of about 12 percent during the 1990s, while employment increased 20 percent during the decade.

[9] See Wilkerson (2003) for a discussion of the issues regarding measurement of local employment for the travel and tourist industries. We developed estimates of employment in the "travel and tourism industry" for two periods, 1990 and 2000, using two- and three-digit industry detail found in the SIC breakdown for 1990 and the NAICS breakdown for 2000. Specifically, our measure of employment in the travel and tourist industry is the sum of employment in the following industries: SIC 451 (Air Transportation) and SIC 458 (Airport Terminal Services), SIC 70 (Lodging) and SIC 84 (Museums, Botanical, Zoological Gardens), and SIC 79 (Amusement and Recreational Services) for 1990, and we built up the corresponding SIC codes for 2000 using the bridge between the 1987 SIC breakdown and 2000 NAICS breakdown.

2.3 Correlates of Leisure Visits

What drives perceived city attractiveness, as measured by revealed preferences for leisure visits? Since we deal with left-censored data, we use the Tobin regression model to address this question:

(2) $$L_i^* = X_i \beta_j + \nu_i$$

where the dependent variable is defined as:

L_i^* = log of leisure visits in 1992 if available

= f otherwise

In this specification, we included MSA-level controls for: population; the number of colleges; the poverty rate; January temperature; annual precipitation; the share of people over 25 with a college degree; the share of employment in manufacturing and FIRE. All variables are measured in 1990. We also use data from Carlino and Saiz (2008) to measure the average distance of all census blocks within a given MSA to parks, recreational centers (zoos, museums, amusement parks, etc.) in the MSA. We also include a number of other variables that capture city amenities: the log of the number of sites in the National Registry of Historic Places per capita; the coastal share within a 10 km radius of the centroid of the MSA's central city; and the mountain land share within a 10 km radius of an MSA's boundary.

The estimates shown in column 1 of Table 3 suggest that bigger, sunnier metro areas with more colleges, lower poverty rates, lower manufacturing employment, greater average distances to hazardous sites, close accessibility to parks and golf courses, more historic buildings, and with a higher coastal share within 10 kilometers of the central city tended to be perceived as better places for leisure activities.

Were local government expenditures on parks and other recreational facilities associated with subsequent leisure trips? To address this issue, we use data from the Census of Governments in 1977, 1982, and 1987 to obtain the average capital expenditure on parks and recreation construction, land, and equipment by MSA. This corresponded to an average estimate of new capital investment in recreational spaces and facilities in the late 1970s and early to mid 1980s. Table 4 presents residuals of a regression with the log of capital recreational expenditures on the left-hand side, and all other controls in Table 3, column 1, on the right-hand side. We focus on the 85 largest MSAs. Miami, Toledo, Memphis, San Jose, Denver, Charlotte, San Antonio, Minneapolis, and Austin are among the MSAs that were highly active in the construction of new recreational spaces in the period 1977-87, conditional on their intrinsic characteristics. Conversely, Indianapolis, Boston, Hartford, Atlanta, Providence, D.C., New Haven, Las Vegas, and Los Angeles were among the largest metropolitan areas that spent less on new recreational capital than expected.

In column 2 of Table 3, we find that a 10 percent increase in investment in recreational spaces was associated with a 2.3 percent increase in leisure visits. In standardized terms, a 1 standard deviation increase in recreational capital expenditures was associated with a 0.3 higher standard deviations in subsequent leisure visits subsequently.

Is this relationship driven by reverse causality? Perhaps locations with more leisure visitors required more spending. To see if that is the case, we controlled for expenditures in park and recreation *operations* (column 3 of Table 3). Once we control for the main determinants of leisure, there is not a statistically significant relationship between leisure visits in 1992 and pre-existing current expenditures on parks and recreation.[10] This finding is very difficult to reconcile with a reverse causation story from leisure trips to expenditures. Similarly, we cannot find a relationship between tax revenues and leisure visits either (column 4 of Table 3).

Another concern is that forward-looking cities that invest in public capital may tend to receive more leisure visitors, perhaps caused by past or expected city growth. In column 5, of Table 3, we present the results of a regression using a placebo variable: average capital expenditures in new public buildings. As expected, only capital expenditures on recreational projects are related to subsequent leisure visits.

The models in columns 1 through 5 include 23 explanatory variables typically selected by researchers based on a priori expectations. In column 6, we dispel any potential concerns that the previous results may be coincidental to model specification. Specifically, we use a different left-hand-side variable: the number of employees working in the travel and tourist related industry in an MSA. Notably, most of the significant variables in the previous specifications are also important determinants of employment in the travel and tourist-industry. Recall that the two dependent variables are obtained from completely different data sources: one based on consumer surveys about places visited versus one based on counts of employees by the Bureau of Labor Statistics (BLS). The high comparability across specifications makes it highly unlikely that our findings are coincidental to the data and specification used in columns 1 through 5, but rather seem to reflect fundamental correlations between the phenomena under study.

[10] Excluding capital expenditures does not change that result.

2.3 Leisure Visits Versus Quality-of-Life Estimates

While the leisure visits measure is specific and distinctive from other estimates of local amenities, in this section we show strong correlations between them. Albouy (2008) has recently taken into consideration federal taxes, non-housing costs, and non-labor income in order to produce recent state-of-the-art estimates of QOL by MSA. Albouy's estimates are loosely based on calculating the unexplained residuals in a regression of rents on after-tax income. Figure 2 displays Albouy's (2008) QOL estimates on the vertical axis, and our "leisure visits" measure on the horizontal axis. Both estimates partial-out the log of population in order to avoid scale effects that may drive the correlations (their uncontrolled relationship is actually larger). It is apparent that these two variables are correlated. MSAs with a large number of leisure trips tend to have high QOL rankings as well. Conversely, except for Oakland (CA), MSAs with few leisure trips tend to have low estimates of QOL. The relationship around the trend line is noisy, however, with a correlation coefficient of 0.22, which is statistically significant. Note that QOL estimates are based on housing price residuals and are bound to retain all measurement error and transitory shocks in home values, productivity effects that do not translate into higher *average* income, and compensating differentials in wages due to unobserved worker ability.

The fact that these two measures, based on totally different data sources and approaches, are correlated does provide some validation for both data sources. However, in this paper we deploy the revealed-preference variable because of its focus on leisure and consumption-related amenities, and because QOL housing price residuals cannot be treated as high-signal-to-noise and reliable exogenous predictors of future growth.[11]

3. City Attractiveness and Growth

3.1. Main Results and Robustness Checks

The basic growth regression that we estimate in this section is:

$$\ln\left(\frac{y_{i,T}}{y_{i,0}}\right) = \alpha + \beta_j \sum_j x_{i,0} + \varepsilon_i \quad (3)$$

Where: $y_{i,t}$ represents either population or employment in year *t*; *T* represents the terminal period (2000), and zero indicates the initial period (1990); *i* indicates MSAs; *j* indexes the number of parameters to be estimated; and ε_i is the *iid* error term.

In addition to the leisure variable, the specifications include three demographic lagged variables: log population (employment)[12] of the share with a bachelor's degree, the share foreign born, and the murder rate, all measured in the initial year (1990). We will also control for immigration during the decade 1990-2000, scaled by initial population (immigration impact), since we regard international migration as an additional *independent* driver of population growth in US cities (Altonji and Card, 1991, Card 2001,

[11] We generated rent-wage residuals in 1990 that forecast growth in period 1990-2000, as in GSK (unreported). However, once we control for growth during the period 1980-1990, the relationship disappears. Rent residuals seem to be exclusively capturing previous growth trends that persist, as opposed to future increases in the valuation of existing amenities.

[12] The coefficient of the lagged population variable can be interpreted as a convergence coefficient akin to the income beta-convergence parameter in the economic growth literature. There is a long literature relating initial population size and subsequent growth. The ultimate goal of this literature is to explain the ergodic distribution of city sizes given different assumptions about the dynamics of local productivity shocks. See Eeckhout (2004), for a discussion of this literature and an explanation of the size distribution of cities. In this analysis, we do not focus on the cross-sectional distribution of population but on changes in the valuation of measureable amenities, conditional on all other factors. We use lagged population as a scaling control, albeit the main results do not change if we excluded this variable.

Saiz, 2003, 2007).[13] Five economic variables are also included in the regressions: the log income per capita; the unemployment rate; the share of workers in manufacturing; the log of patents per capita (all measured in 1990); and the log of average taxes by MSA in 1977, 1982, and 1987 (Census of Governments). Three geographic variables are controlled for: the log of average January temperature; the log of the mean relative humidity; and a costal dummy variable equal to unity if an ocean or Great Lake is within 50 km radius of a MSA's boundary. Finally, regional dummies are included in all specifications (the Midwest region represents the base case). The variables that we include cover most of the main explanatory factors of city growth that have been proposed in the previous literature.

Table 5 presents the results for regressions where the dependent variable uses the observations for the MSA for which we have leisure trips data provided by Shifflet, plus imputations for the other MSA, as described above.[14] Column 1 of the table presents the results from a regression that contains only the log of the number of leisure visits in 1992, plus the regional fixed effects as explanatory variables. The coefficient on the leisure visits variable is positive and highly significant. Column 2 introduces the control

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[13] Immigrants are largely inframarginal to the initial spatial equilibria in the system of cities: they derive positive rents of moving to the US. There is a very elastic supply of immigrants into the US that is effectively curtailed by restrictive immigration policies and the costs imposed by legal barriers and border enforcement, as demonstrated by the currently binding visa limits. Moreover, a long-standing literature demonstrates that their location determinants are mostly related to the existence of ethnic networks, and largely insensitive to the economic evolution of US cities (Altonji and Card, 1991, Card, 2001).As a robustness check, instrumenting for immigration in the 1990s with immigration in the 1970s yielded identical results to the ones presented here, because immigration inflows are extraordinarily correlated across decades. Omitting concurrent immigration flows does not change the main results in the paper either, because immigration inflows are largely uncorrelated to our measure of city attractiveness, conditional on population size.

[14] We also performed regressions were the dependent variable was limited to the 150 survey-based observations on tourists visits, as well as when the number of tourist visits is left-censored. In the Appendix we present results of four alternative procedures to deal with data censoring (see Table 2A and the discussion of the table). All approaches yield very similar results. The relationship between the various measures of leisure visits and growth appears to be extraordinarily robust.

variables. Note that the coefficient on the log of the number of leisure visits is mostly unchanged after adding these controls to the regression, suggesting that other drivers of urban growth in the US are largely orthogonal to our leisure measure. Quantitatively, the results indicate that doubling leisure visits is associated with an increase in average city growth of around two percentage points (average population growth was 12 percent in the sample). Column 3 in Table 5 reports the results of a regression that drops the Orlando and the Las Vegas MSAs, two very idiosyncratic tourist cities, from the sample. Dropping these two MSAs, as we do in all specifications hereafter, does not have much impact on the estimated values of the coefficients.

An important question is whether the results are driven by the multiplier effect of employment growth in the tourism sector. Many local governments promote the travel and tourism industry as a source of local economic development *per se*, but we are more interested in the leisure variable as a proxy for leisure-related consumer private services, public goods, and externalities that residents can take advantage of. Therefore, in column 4 of Table 5 we give the results of a regression that controls for the growth in the employment in the local travel and tourist industry. The results on the leisure variable do not change much. This is perhaps not surprising since employment in the travel and tourist industry accounts for a very small share of total employment for the typical MSA in our sample (3.3 percent in 1990). Moreover, the growth in tourist employment displayed substantial mean-reversion during the period, and attractive cities actually experienced relatively less employment growth in the sector.

One, perhaps implausible, explanation of the results is that the leisure variable may be capturing future changes in urban productivity, even after controlling for the other factors. In column 5 of Table 5, we present the result of a regression that controls for contemporaneous growth in income. Note that income growth is negatively associated with population growth, while leaving the leisure variable mostly unchanged — evidence not consistent with a productivity explanation.

Reverse causality is a more serious challenge to the interpretation of the results in our discussion of equation (3). Past growth or future growth expectations (perhaps, as family members tend to visit recently settled arrivals in their destination city, or because hotels are built in growing areas) may influence the number of leisure visits. In fact, the correlation of growth rates by metro area between the 1980s and 1990s was a high (0.75), as depicted graphically in Figure 3. The regression reported in column 6 of Table 5 controls for the population growth rate between 1980 and 1990, and therefore for permanent latent factors that could be expected to keep driving growth in the 1990s. Interestingly, the coefficient on the leisure variable is unchanged, which is consistent with an interpretation where consumer amenities have experienced *growing* valuations in more recent times.

Finally, the regressions reported in columns 7 and 8 of Table 5 reproduce the specifications reported in columns 3 and 4 of the table, but use total MSA employment growth as the dependent variable. The "null hypothesis" that the results obtained for the population growth regressions are identical to those obtained for the employment growth versions cannot be rejected.

It is important to remark on the strong quantitative importance of the leisure variable in explaining recent growth in American cities. After standardizing the variables of column 3 of Table 5, the top five predictors of growth in the 1990s are (associated betas in parentheses): immigration impact (0.7), log of tax revenues (-0.66), leisure visits (0.31), log of July humidity (-0.25), and the log of patents in 1990 (0.15). Our measure of leisure attractiveness was therefore the third most important predictor of population growth in the 10 years spanning the period 1990-2000.

A shortcoming in the current urban growth literature is, arguably, the profusion of estimates using different predictors (possibly not randomly chosen) of population growth. Many of the explanatory variables used to-date are often highly correlated or may display poor out-of-sample predictive power. The problem has been documented in the economic growth literature (Levine and Renelt, 1992, Sala-i-Martin, 2001). We show that our leisure measure is robust to out-of-sample predictions. To accomplish this, we obtained recent county population estimates from the Census Bureau.

The Census Bureau uses mortality and birth records to accurately register vegetative change by county by year and estimates international migration rates using estimates from the American Community Survey and initial 2000 census data. Internal migration flows are calculated by using IRS records on the addresses of taxfilers. Changes in the residence of taxpayers are used to estimate inflows and outflows of individuals each year.

In panel A of Table 6, we present the results of using the leisure measure, as of 2002, to forecast out-of-sample growth estimates for the period 2000-2006. The average estimated growth rate across metropolitan areas for the period 2000-2006 is 5.6 percent, much lower than actual average growth in the 1990s (12.1 percent). In order to make the results more comparable with those in Table 5, panel A in Table 6 also provides a transformation of the relevant parameter where we scale to decadal growth in the 1990s (the estimated parameter multiplied by a factor of 12.1/5.6). The uncontrolled results (column 1) show an estimated coefficient for leisure visits in 2002 that's very close to estimates for this variable given in Table 5. Controlling only for regional fixed affects (see column 2 of panel A in Table 6), the results are almost identical to those reported in column 1 of Table 5. Finally, introducing the other controls, this time taking on their updated 2000 initial values, produces results that are similar to those in the 1990s. The leisure variable robustly forecast out-of-sample growth.

To emphasize the appeal of the leisure measure for urban researchers we also compare its robustness vis-à-vis ad hoc measures of city amenities used in previous research. Specifically, we use the numbers of restaurants, movie theaters, museums, and membership organizations, all measured in logs in the initial year (1990).[15] Panel B of Table 6 shows the results of a regression incorporating these variables, together with the other controls (shown in column 3 of Table 5), to predict population growth in the 1990s. Restaurants and membership organizations appear correlated with future growth in this specification. Column 2 of panel B in Table 6 shows the results when we control for leisure visits, which largely eliminates or mutes the statistical significance of the "organizations" and "restaurants" ad hoc variables. Museums now appear to be negatively related to population growth. More importantly, in column 3 we show the results of a regression that controls for lagged metropolitan growth in the 1980s. While the leisure visits measure retains its strong predictive power, the other ad hoc variables do not. This clearly suggests that those variables are endogenous to past growth: restaurants, theaters, membership organizations are in previously growing metro areas. Leisure visits

[15] As in GSK. We have information for 272 MSAs, because in some of the smaller counties employment information at such a fine level remains confidential.

to MSAs, which are based on revealed preferences by consumers, appear to be a more robust variable than the various amenities variables chosen by the researchers' conjectures.

3.2. Instrumental Variable Estimates

There are three reasons why $E(x_{i,o} \varepsilon_i) \neq 0$ as assumed in the previous specifications: measurement error, reverse causality, and omitted variables.

We suspect omitted variables are not a large concern in this application because we demonstrated the coefficient of interest to be relatively unchanged by the inclusion or omission of some 15 variables that were deemed important by the previous urban growth literature. A potential omitted variable that could have spuriously generated the results reported in Table 5 should be largely orthogonal to (not proxied by) these large and diverse set of growth predictors. As demonstrated earlier, reverse causality does not appear to be a serious concern. However, we deal with measurement error and any remaining simultaneity concerns by using an instrumental variable (IV/2SLS) estimation procedure.

Our instruments include the number of designated historic places per capita within an MSA (historic places) and the coastal share within a 10 km radius of an MSA's boundary. These variables are clearly not caused by urban growth in the period 1990-2000. Historic districts within cities tend to be welcoming to leisure travelers with a blend of attractions and amenities that are readily accessible. All else being equal, close proximity to waterfront areas tends to draw more leisure visits.

Table 7 presents the results of the 2SLS estimation. Column 2 displays the parameters in the first stage regression. The instruments are statistically strong predictors of leisure visits (as in Table 3). The first-stage *F*-statistic of 11.41 for the excluded instruments exceeds the critical value of 8.68 (nominal 5 percent Wald test that the maximum size is no more than 10 percent) found in Table 4 of Stock and Yogo (2004).[16] The Sargan test rejects endogeneity of the instruments.

Column 1 of Table 7 reports the results of the IV regression under a robust LIML estimation.[17] Note that we include a coastal fixed effects dummy variable (taking on a value of one if any part of the MSA is within 50 miles of the coast, and zero otherwise) in the second stage of the IV regression, in order to control for a coastal productivity effect. Effectively, our costal share instrumental variable exploits the variance in access to beaches and coastline from the central city's center *within coastal areas* (e.g., Providence, RI, versus New Haven, CT). The estimated coefficient on the log of the number of leisure visits increases to 0.04 in the 2SLS regression, but standard errors are now larger too, which does not allow us to rule out the hypothesis that the OLS and IV estimates are realizations of the same parameter distribution. Furthermore, the Hausman and the Hausman-Wu tests do not identify systematic differences between the OLS and IV coefficients in these regressions. Therefore, we will revert to OLS regressions in what follows.[18, 19]

[16] Stock and Yogo (2004) suggest a "size" test for weak instruments based on the performance of the Wald test for the coefficient of the endogenous regressors. If the instruments are weak, the Wald test tends to reject the weak instruments null hypothesis too often. Stock-Yogo propose a test based on a rejection rate the researcher is willing to tolerate (10 percent, 20 percent, etc.) when the true rejection rate is the standard 5 percent rate.

[17] The results of conventional IV estimation are identical, but we preferred LIML a priori for its small sample robustness.

[18] An MSA that is geographically close to other populations centers may disproportionately draw leisure visitors relative to the amenities they offer. For example, Philadelphia may draw relatively more leisure visitors because the city is somewhat close to New York City and to Washington, D.C. A Gravity model is used to derive market (population) potential for MSA *i*,. MP_i . The market potential variable is based on

3.3. What Type of Growth? Education, Wages, and Housing Supply Elasticity

Earlier we suggested that the impact of our city attractiveness variable is unlikely to be driven by job growth in low-skilled travel-related industries. In Table 8, we examine how growth happens in "beautiful cities." The positive and negative coefficient on the leisure visits variable given in column 1 of Table 8 shows that it's highly skilled workers who are disproportionally moving to attractive cities. Moving from bottom to top within the interquartile range of leisure visits yielded a share in highly educated population that was 1.4 percentage points larger. These results are consistent with the idea that leisure amenities could be successful in attracting high-skilled individuals to a city.

The results summarized in column 2 of Table 8 show that the effect of leisure visits on average income growth is positive but not significant. Average wages did grow faster in attractive cities (column 3 Table 8), but this is consistent with the composition effect associated with high-skilled workers. Indeed, controlling for the concurrent change in skill composition of the city (the share with bachelor's degree), average wages do not display significant evidence of differential productivity growth in "beautiful cities," conditional on the other variables (column 4 Table 8).

1990 MSA population, with $MP_i = \sum_l \frac{P_l}{D_{il}^2}$ where P_l is population in MSA *l*, and D_{il} the distance between i and l for $i \neq l$. We found little affect on our leisure visits variable when controlling for the population potential of MSAs.

[19] We tested the population growth regression (column 2 in Table 5) and the employment growth regression (column 7 in Table 5) for the presence of spatial dependence (for both a spatial error and a spatial lag). We found weak evidence of spatial dependence for both the population growth regression and the employment growth regression. Nonetheless, we re-estimated the population growth regression and the employment growth regression to alternatively account for spatial error dependence or a spatial lag. The results after correcting for either type of spatial dependence in both regressions were virtually identical to the results obtained for the OLS versions of the these growth regressions. See the Appendix for tests for spatial dependence (Table 4A) and the regressions that correct for spatial dependence (Table 5A).

The findings reported in columns 5 and 6 of Table 8 show that the number of leisure visits predicts rent growth and the growth of housing values, respectively. All else being equal, the growth rate of rents was about 1.0 percent higher, and the growth rate of housing values was about 3 percent higher in an MSA with twice as many leisure visits as another MSA. Over medium- to long-run periods, such as the 10-year horizon we are considering, there is strong mean reversion in housing values, which is consistent with a model with productivity convergence (Glaeser and Gyourko, 2006). We therefore include the initial, or 1990 housing values, as an additional control. The results shown in column 7 are evidence consistent with strong mean-reversion. The coefficient of city attractiveness is somewhat reduced, but we cannot reject that the impact is similar to those reported in previous regressions.

Of course, the impact of increasing valuation of city "beauty" on, respectively, population and housing values should be mediated by the local elasticity of housing supply (Glaeser, Gyourko, and Saks, 2006, Saks, 2008). If inherent attractiveness, as perceived by leisure travelers, attracts individuals to a city and the housing supply is inelastic we would expect capitalization in housing rents and housing prices. In fact, with totally inelastic housing supply, we could see full capitalization of the increased valuation for such amenities, without much change in population levels.

Consider the following system of metropolitan housing supply and demand equations:

(4) $$\overset{\circ}{P}_i = \beta_i \overset{\circ}{Q}_i + \sum_{\forall k} \phi_k^S R_k + \varepsilon_i$$

(5) $$\overset{\circ}{Q}_i = \varphi \overset{\circ}{P}_i + X_i \Gamma + \sum_{\forall k} \phi_k^D R_k + u_i$$

Equation (4) is a supply equation with regional fixed effects. In the system, P and Q, representing housing prices and the stock of houses, respectively, are in logs and the dots denote changes over a 10-year period. The subscripts *i* and *k* identify metropolitan areas and census regions respectively. The *R's* stand for region dummies, and *X* represents a vector of explanatory variables. In the equation, prices depend on quantity shocks and on inflation shocks that are region-specific.

Equation (5) is the demand equation. Changes in demand depend on price changes and the impact of other variables, such as the increased valuation of amenities and productivity shocks. The equilibrium changes in log prices and quantities imply:

(6) $$\overset{\circ}{P}_i = \left[\frac{\beta_i}{1-\beta_i\varphi}\right] X_i\Gamma + \left[\frac{1}{1-\beta_i\varphi}\right]\sum_{\forall k}\left(\phi_k^S + \beta_i\phi_k^D\right)R_k + \left[\frac{\beta_i u_i + \varepsilon_i}{1-\beta_i\varphi}\right]$$

(7) $$\overset{\circ}{Q}_i = \left[\frac{1}{1-\beta_i\varphi}\right] X_i\Gamma + \left[\frac{1}{1-\beta_i\varphi}\right]\sum_{\forall k}\left(\phi_k^D + \varphi\phi_k^S\right)R_k + \left[\frac{u_i + \varphi\varepsilon_i}{1-\beta_i\varphi}\right]$$

In order to make our results comparable to those presented earlier in the paper and, in general, the existing growth literature, our measure of $\overset{\circ}{Q}_i$ is the change in the log of population. This is a good operational choice, because previous research has shown that the growth of the housing stock is almost one-to-one coincident with the growth of population (Glaser and Gyourko, 2006).

Since we have individual estimates of inverse elasticities β_i and an estimate of the demand elasticity ($\varphi = -1$) from Saiz (2007) we can identify the relevant demand shock parameters Γ by estimating (6) and (7). We have to impose the constraint that the parameters are the same across equations. Given the theoretical correlation between the errors of the two reduced form equation, the system is estimated using seemingly unrelated regression equations (SURE).

The results of the SURE are presented in Table 9, and suggest that city attractiveness has a simultaneous impact on prices and growth as mediated by supply elasticity. The coefficient is strongly significant, and suggests that if (for instance) supply elasticity is 1, then the demand impact of amenities will be evenly divided into population and housing price growth: 2 percent respectively.

4. Central Recreational Districts (CRD)

We now shift our attention to the relationship between leisure amenities and economic development within metropolitan areas. Despite the popular discussion about the comeback or revival of the central cities, the evidence generally points to a continuation of the relative decline of central cities in terms of population and economic outcomes in the decade 1990-2000.

Most conceptual and empirical research in urban economics has taken accessibility to the CBD as the main geographic characteristic of urban locations (e.g., McMillen, 2003). Instead, we propose that access to a central recreational district (CRD) is an important determinant of demographic change and economic evolution of city neighborhoods. Conceptually, the CRD will be defined as the locations of within a metropolitan area that are close to recreational and leisure-oriented amenities. Operationally, we use two geographic accessibility measures to define neighborhoods in the CRD.

Our first measure of access to recreational leisure opportunities and aesthetic consumption externalities is based on the distance of each census tract in an MSA to the central city's tourism information offices. Since the measure is only relevant in cities where leisure visits are substantial, we focus on the top 100 destinations, 88 of which are metropolitan in nature. This covers a substantial proportion of the most populated areas: 70 percent of all metropolitan census tracts are included in calculating the measure. To do so, we obtained and geocoded addresses of all tourism offices in the central city of reference (i.e., obtained latitude and longitude). We then calculated the distance of each census tract within a metro area to the relevant tourist office. "Beautiful areas" within the city are then defined in terms of distance to the city's tourism center. Specifically, we create three dummies for census tracts within 0-1 km, 1-2 km, and 2-3 km rings of any of the city's tourist center.

Our second measure is based on accessibility to historic sites and recreation centers. We obtain the geographic coordinates of all historically designated sites from the National Register of Historic Places and calculate their distance to all census tracts. We then generate a gravity measure at the census tract that is based on average accessibility to historic places. Concretely, we first calculate $G_m^H = \sum_{\forall m} \frac{1}{d_{mn}^2}$, which is the "historic gravity" of a census tract *m,* defined by the sum of the number of historic places in the MSA weighted by the inverse of the square distance between the tract and each of the historic places (*n*). We then classify the tracts in the top 5 percentiles of this measure across metropolitan tracts as "beautiful census tracts."

The exact same procedure is undertaken for proximity to other recreational areas. We use proprietary GIS data identifying "recreational places" contained in the ESRI Data and Maps DVD. The data identify the location of museums, local attractions, zoological and botanical gardens, golf clubs, major theatrical and opera venues, parks, and other major centers of leisure as classified and itemized by TeleAtlas, the original data provider.

Two dummy variables therefore characterize the top historic and recreational areas in the full set of tracts for all metropolitan areas. Out of 51,466 metropolitan census tracts, 5 percent correspond to 2,573 tracts that are deemed "historic," and the same number classified as "recreational." Of these, 1,201 were classified as both: there is a very strong correlation between historic and recreational "gravity." It is important to note that 85 percent and 89 percent of tracts deemed as highly historical or recreational, respectively, are located in central cities.

There are 388 census tracts within the one kilometer ring of a tourism information center (380 of them in central cities). The 1-2 km ring consists of 904 tracts (871 in central cities) and the 2-3 km ring of 1,094 tracts (1,013 in central cities).

It is encouraging that our two alternative sets of measures, which we constructed independently, are strongly coincident. A simple linear regression where top historic and recreational status are the dependent variables and the three proximity-to-tourism-center rings appear on the right-hand side displays strong and monotonic relationships between the two sets of variables (see Table 3A in the Appendix).

In Table 10 we follow the economic and demographic evolution of "beautiful neighborhoods" in the 1990s (1990-2000). The regression described in panel A uses the "distance to information center" measure for the top leisure-trip cities (70 percent of all metropolitan tracts), while the regression in panel B uses the "top historic and recreation gravity" dummies for the whole metropolitan sample. All regressions include control for MSA fixed effects (all the variance will be within metro areas), and for a central city dummy. In column 1, we can see that population did not increase in “beautiful” neighborhoods, and in fact may have decreased. Since these are areas in which new real estate development is difficult, and these area are located within depopulating central cities with declining occupational density by dwelling, this is perhaps not surprising. We will revisit this issue later.

Both panels for column 2 in Table 10 show that the share of highly educated individuals in the CRD increased. The pattern with respect to distance to tourist centers is decreasingly monotonic, a pattern that holds for all findings henceforth. Similarly, column 3 shows that average income increased in the CRD. This evidence contrasts with the general evolution of the central city: “beautiful areas” bucked the trend of worsening educational attainment and incomes of American central cities in the 1990s. While central cities in general became more dense with minorities, the CRD, on the contrary, became more non-Hispanic white (column 4).

Finally, we measure the changes in the marginal willingness to pay (MWTP) for beautiful areas by examining the evolution of rental prices (column 5). Again, changes in rental prices in these neighborhoods deviated upward substantially from the central city trend. Neighborhoods in the CRD have been increasingly considered by the market as more attractive places to live.

It is important to contrast these findings with the evolution of neighborhoods that are close to the central business district (we similarly generated three one-kilometer rings around the CBD, details in Data Appendix). We focus on changes in the log of rents between 1990 and 2000 as a summary of the perceived residential valuation of the neighborhoods. The patterns are very clear: accessibility to the CRD was more important quantitatively than distance to the CBD in explaining the evolution of rental prices in the 1990s. In fact, unreported regressions where we combined both sets of CRD measures rendered distance to CBD dummies statistically insignificant. While areas proximate to the CBD fell with the rest of the central city, the CRD truly represented the "coming-back" of the central city in popular and policymaker discussions.

The relationship between access to leisure and recreational opportunities and changes in neighborhood valuation happens to be much stronger in cities that were generally perceived as attractive. To see this, we divided the sample into the top 1/6 of cities in terms of leisure trips, with more than 4 million visits per year (this corresponds to 55 cities, which tend to be larger and represent about half of the metropolitan census tracts) versus cities with less than 4 million leisure visitors. In attractive cities the coefficients for the top historic and recreational neighborhood dummies (not shown) in a regression summarized in column 6, panel B in Table 10 take values of 0.043 (t-stat=7.82) and 0.066 (t-stat=11.87) respectively. In less attractive cities these coefficients are 0.006 (t-stat=1) and 0.014 (t-stat=2.01). Thus, recreational areas were becoming more valuable everywhere, but this effect was much stronger in cities that were perceived as more attractive.

In columns 7 and 8 of Table 10, we revisit population and rent growth, this time conditioning on initial characteristics of each census tract. Specifically, we control for the log of income, unemployment rate, share of residents in families with kids, shares older than 65, high-school dropout share, share non-Hispanic white, and share of foreign-born residents, all measured at their initial values in 1990. The results reinforce our previous conclusions. Given their initial characteristics, neighborhoods in the CRD very strongly surmounted the negative trends of similar areas within the city. The CRD neighborhoods had lower initial average incomes, higher unemployment, a lower share of people living in families with kids, higher elderly shares, higher dropout rates, higher minority shares, and higher foreign-born shares than other neighborhoods in the central city in 1990 (the differences are statistically significant). All these characteristics would have predicted a very strongly negative evolution of population and rents that did not happen in the CRD.

Access to leisure amenities and consumption externalities seem to define the areas within a central city that are coming back in the contemporaneous American urban milieu. The classical discussion in urban economics about the importance of distance to CBD seems to have become less relevant.

5. Conclusions

The City Beautiful movement advocated city beautification as a way to improve the living conditions and civic virtues of the urban dweller in the beginning of the 20th century. Parks, museums, recreational spaces, and architecturally appealing public buildings (such as train stations, courts, and town halls) are some of the legacies of that movement, which had petered out by the Great Depression.

Today, urban scholars and policymakers are coalescing into a new "City Beautiful" perspective. Cities around the world (such as Barcelona and Bilbao in Spain; Glasgow in Scotland; and in the US, Oklahoma City, OK; Camden, NJ; and San Antonio, TX) have attempted to leverage public investments in leisure spaces and beautification to spur demographic change and economic development. Urban economists have hypothesized that consumption amenities, especially geared toward the enjoyment of leisure, are becoming more important in explaining urbanization and the location of individuals. In this new “City Beautiful” view, people locate in attractive cities, and jobs follow. The evidence for this view, however, has so far been tenuous: past studies have provided only very indirect evidence of the importance of leisure amenities for urban development. Did cities perceived as attractive places for leisure activities grow at a relatively faster pace in recent periods?

In this paper we provide a measure of the demand for urban amenities stemming from revealed preferences by consumers of these activities: the number of incoming leisure trips by MSA. Leisure visitors are attracted by an area’s special traits, such as proximity to the ocean, scenic views, historic districts, architectural beauty, and cultural and recreational opportunities. But these are some of the very characteristics that attract households to cities when they choose where they will make their permanent homes.

Using the number of leisure visits, we directly explore how leisure consumption opportunities affected MSA population and employment *growth* during the 1990s. Our findings suggest that, all else equal, population and employment growth was about 2.0 percent higher in an MSA with twice as many leisure visits as in another MSA. This result was not driven by employment growth in the tourist sector. In standardized terms, our leisure measure was the third most important predictor of population growth in the 1990s.

Our tourist-based measure is robust to out-of-sample (the period 2000-2006) population estimates and to the use of alternative data sources, suggesting that the relationships we find are not coincidental to model specification.

To dispel concerns about the endogeneity of the measure, we include lagged growth rates in our specifications and use instruments for leisure visits that are based on history and geography. While addressing endogeneity issues, we demonstrate that a number of amenity measures that have been previously used do suffer from reverse causation problems.

"Beautiful cities" disproportionally attracted highly educated individuals and experienced faster housing price appreciation, especially in supply-inelastic housing markets. Local government investments in new public recreational areas is an effective way to increase a city's attractiveness

Finally, within metropolitan areas, we define CRD in terms of access to recreational sites and aesthetic externalities. Despite worse initial economic conditions, CRDs managed to grow faster than other comparable areas. Rents, incomes, and educational attainment increased faster in such "beautiful neighborhoods," but at the cost of minority displacement. Distance to CBD was mostly irrelevant to the recent economic and demographic changes of urban neighborhoods in the US once we controlled for access to leisure opportunities. While the American central city generally did not "come back" in the 1990s, the "beautiful city" within flourished.

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APPENDIX

Imputing Values for Left-Censored Observations. We use employment in the travel and tourist industries to help in imputing values for the left-censored observations. In addition, our independent variables include the economic variables, the demographic variables, and the geographic variables discussed above, as well as regional fixed effects. The results of Tobit regressions are shown in column 1 of Table 1A. Following estimation, the fitted values of Tobit model (based on the regression summarized in column 1 of Table 1A) are used to predict tourist visits for the MSAs with left-censored observations. Thus, the imputed series for leisure visits consists of the 150 uncensored observations plus 155 imputed values of the left-censored observations. This variable is referred to as *the number of tourist visits with imputations*.

Are leisure visits a good proxy for consumption opportunities? In this paper we use leisure tourist visits as a proxy variable for the consumption opportunities and amenities that people value. The question is, is this a reasonable proxy? To address this question, we separately regressed the four measures for tourist visits discussed in this article on a variety of explanatory variables that households value for their consumption opportunities.[20] Column one of Table 2A shows the results when the regression analysis is limited to the original 150 observations on tourism provided by Shifflet. Columns two and three of Table 2A summarized the results when the 155 left-censored observations are added to the regression. Column two shows the results when the minimum value of

[20] In addition to the other explanatory variables already introduced, we added a regressor that measure the distance a census block group is to parks, and a regressor measuring the distance a census block group is to recreational centers (zoos, museums, amusement parks, etc.). We also included the following as three independent variables: the log of the number of historic places (found in the National Registry of Historic Places); the coastal share within a 10 km radius of an MSA's boundary; and the mountain land share within a 10 km Radius of an MSA's boundary.

leisure tourism observed in the survey data is assigned to the left-censored observations, while column three presents the results of a regression when the 155 left-censored observations are imputed using the regression summarized in Table 1A. Finally, column 4 of the table gives the results when employment in the travel and tourist industry is used as the proxy for consumption opportunities and amenities that individual's value. The main finding of Table 2A is that results are quite similar across all four regressions. Bigger, sunnier metro areas with more colleges, lower poverty rates, lower manufacturing employment, close accessibility of parks, more historic buildings, and with a higher coastal share within a radius of 10 kilometers of its central city tended to be perceived as better places to visit. Our correlates explain more than 70 percent of the variation in population growth in the 1990s. These findings suggest that the leisure tourist variables represent reasonable proxy variables for consumption opportunities and amenity offered in MSAs and, more importantly, the findings reported in the paper are not sensitive to the choice of definitions for this variable.

Spatial Dependence. One issue that must be addressed is spatial dependence. OLS regressions assume that there is no spatial correlation in growth rates across MSAs. But, it's quite likely that a change in population (employment) growth in MSA *i* may be correlated with population (employment) growth in neighboring MSAs. The conjecture, then, is that growth in one MSA may be highly correlated with growth in nearby MSAs. The consequences of spatial autocorrelation are the same as those associated with serial correlation and heteroskedasticity: When the error terms across MSAs in our sample are correlated, OLS estimation is unbiased but inefficient. However, if the spatial correlation is due to the direct influence of neighboring MSAs, OLS estimation is biased and inefficient (Anselin, 1988).

The literature suggests two approaches to dealing with spatial dependence: an spatial autoregressive process in the error term (spatial error) and via a spatially "lagged" dependent variable (spatial lag). Following Anselin and Hudak (1992), we perform three tests for spatial autocorrelated errors: Moran's I test, the Lagrange multiplier (LM) test, and a robust Lagrange multiplier test (robust LM). We also perform two tests for the spatial lag model (LM test and a robust LM test). The Moran's I test is normally distributed, while the LM tests are distributed χ^2 with *k* and one degree of freedom, respectively.

We tested the population growth regression (column 2 in Table 5) and the employment growth regression (column 7 in Table 5) for the presence of spatial error and spatial lag. The results of the various tests for spatial dependence, summarized in Table 4A, are mixed. While the Moran I tests are included in the table for completeness, we will concentrate on the LM tests since, according to Anselin (1990), LM tests are more robust that the Moran I test under Monte Carlo simulations. Based on the LM test, the null hypothesis of zero spatial error cannot be rejected either for the population growth regression or the employment growth regression. However, based on the *robust* LM test, the null hypothesis of zero spatial error can be rejected for the employment growth regression.

Mixed findings were also evident for the spatial lag test. The null hypothesis of zero spatial lag cannot be rejected for both the population growth regression and the employment growth regression using the LM test. However, based on the robust LM test, the null hypothesis of zero spatial lag is rejected for the population growth regression but is not rejected for the employment growth regression.

Given the mixed nature of the tests for spatial dependence, we re-estimate the population growth and employment growth regression, incorporating a correction for either spatial error or spatial lag. Table 5A presents the results for the estimations.[21] The results after correcting for spatial error dependence in the population growth regression and employment growth regression were virtually identical to the results obtained for the OLS versions of the these growth regressions. As expected, the elasticity of population growth and elasticity of employment growth with respect to tourism are virtually unchanged from the elasticities obtained in the OLS regressions, and, importantly, the tourism variable remains highly significant after correcting for spatial error dependence in both versions of the model.

The results after incorporating a spatial lag in the population growth regression and employment growth regression also are mostly identical to the results obtained for the OLS version of these regressions. As can be seen from Table 5A, the spatial lag coefficient $\hat{\rho} = 0.223$ in the population growth regression and $\hat{\rho} = 0.447$ in the employment growth regression and both are highly significant. This suggests that about a 22 percent (45 percent) of an increase in average population (employment) growth of its neighboring MSAs spill over into a given MSA.

[21] These estimates were obtained using the GEODA software.

Figure 1

Leisure Trips and Employment in Tourist Industries

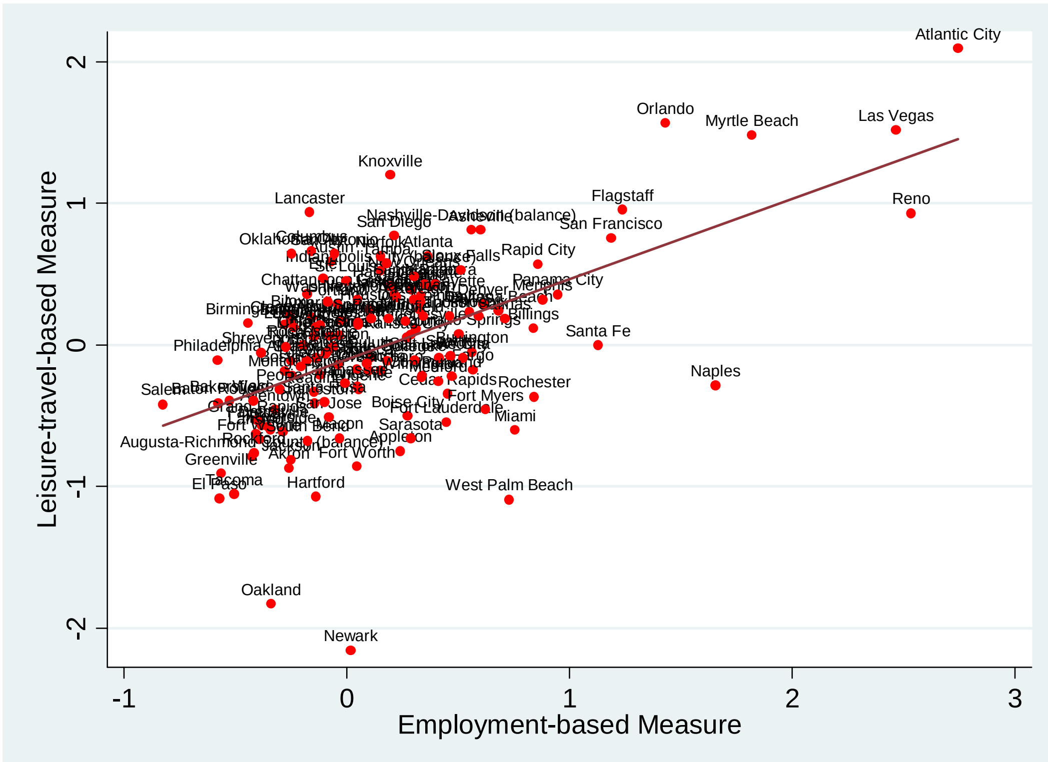

Figure 2

Leisure Visits and QOL Estimates

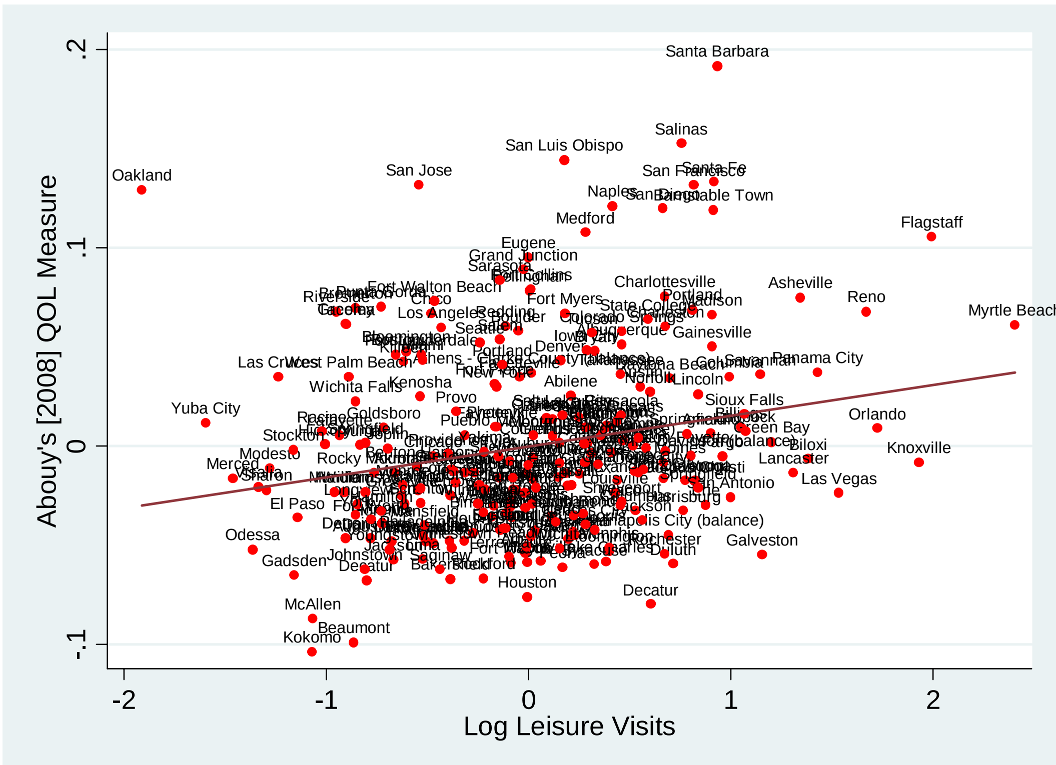

Figure 3

Population Growth: 199-2000 v. 1980-1990

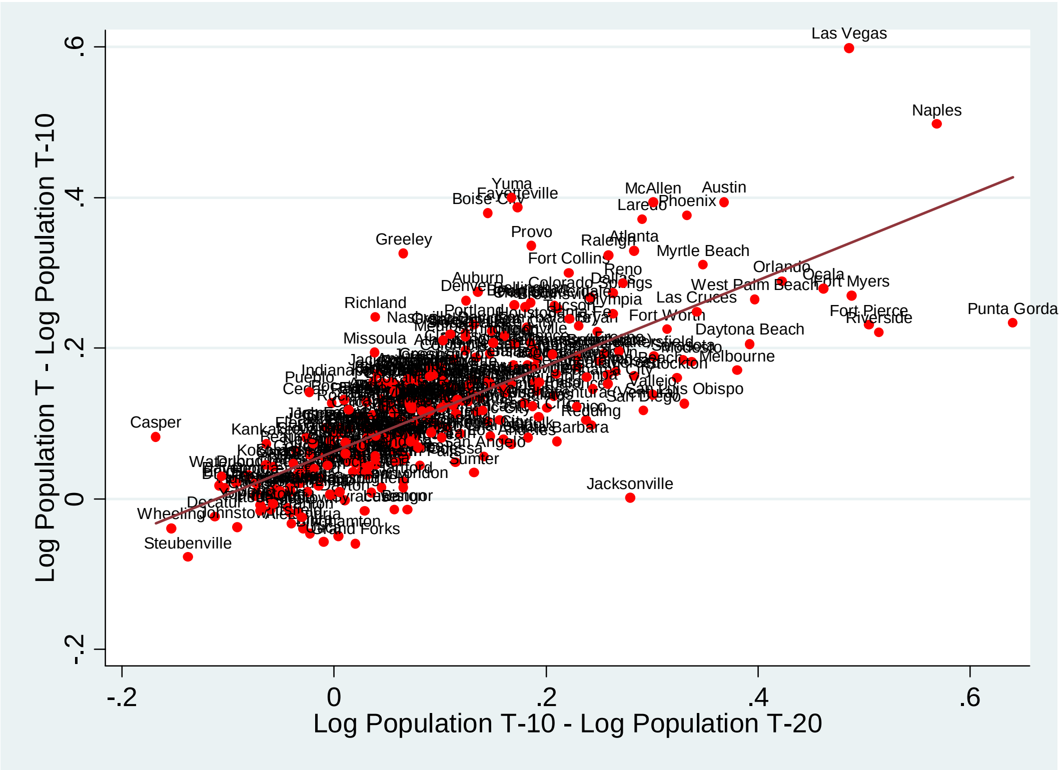

TABLE 1

Leisure Visits in US Metro Areas (Population in 1990> 500,000)

MSA Name	Number of Tourist Visits 1992 (millions)	Population (1990)	Housing Supply Elasticity (Saiz, 2008)	MSA Name	Number of Tourist Visits 1992 (millions)	Population (1990)	Housing Supply Elasticity (Saiz, 2008)
Orlando, FL	22.3	1,240,724	1.15	Milwaukee-Waukesha, WI	4.56	1,435,303	0.86
Las Vegas, NV-AZ	17.95	869,735	1.93	Birmingham, AL	4.5	841,820	1.80
New York, NY	15.99	8,561,431	0.64	Rochester, NY	4.32	1,065,156	1.21
San Diego, CA	14.05	2,512,365	0.68	Tucson, AZ	4.24	668,844	1.05
Los Angeles-Long Beach, CA	13.41	8,878,157	0.57	Salt Lake City-Ogden, UT	3.97	1,077,594	0.81
Atlanta, GA	13.22	2,981,321	1.95	Omaha, NE-IA	3.91	641,659	2.84
Chicago, IL	11.6	7,430,187	0.74	Albuquerque, NM	3.88	592,272	1.62
Washington, DC-MD-VA-WV	11.32	4,240,124	1.30	Riverside-San Bernardino, CA	3.6	2,630,471	0.93
San Francisco, CA	11.17	1,604,192	0.59	Greensboro-Winston-Salem-High Point, NC	3.59	1,055,058	2.42
Knoxville, TN	10.83	588,026	1.40	Tulsa, OK	3.52	711,089	3.03
Tampa-St. Petersburg-Clearwater, FL	10.56	2,077,857	1.04	Albany-Schenectady-Troy, NY	3.5	863,388	1.43
St. Louis, MO-IL	10.17	2,496,963	2.11	Dayton-Springfield, OH	3.32	951,931	2.91
Houston, TX	9.58	3,344,722	2.04	Syracuse, NY	3.26	743,951	1.94
Columbus, OH	9.42	1,351,279	1.88	Little Rock-North Little Rock, AR	3.24	514,495	2.73
Nashville, TN	9.42	989,789	2.02	Miami, FL	3.15	1,943,717	0.57
Norfolk-Virginia Beach-Newport News, VA-NC	9.36	1,450,909	0.78	San Jose, CA	3.05	1,498,307	0.75
San Antonio, TX	9.15	1,327,601	2.31	Charleston-North Charleston, SC	2.97	508,851	1.38
Dallas, TX	8.49	2,693,669	1.88	Toledo, OH	2.86	614,637	1.94
Indianapolis, IN	8.27	1,386,718	3.37	Fort Lauderdale, FL	2.72	1,263,301	0.71
Philadelphia, PA-NJ	8.02	4,929,536	1.11	Wilmington-Newark, DE-MD	2.43	515,650	1.48
Minneapolis-St. Paul, MN-WI	8.01	2,549,860	1.19	Grand Rapids-Muskegon-Holland, MI	2.39	942,397	1.93
Boston-Worcester-Lawrence-Lowell-Brocktn, MA-NH	7.97	5,691,924	0.65	Bakersfield, CA	2.13	549,535	1.41
Oklahoma City, OK	7.87	960,538	2.59	Allentown-Bethlehem-Easton, PA	2.08	596,817	1.54
New Orleans, LA	7.67	1,285,014	0.83	Baton Rouge, LA	2.06	529,787	1.87
Pittsburgh, PA	7.63	2,396,165	1.00	Fort Worth-Arlington, TX	2.06	1,368,701	2.28
Cincinnati, OH-KY-IN	7.59	1,529,523	2.14	Fresno, CA	2.02	761,427	1.32
Phoenix-Mesa, AZ	7.56	2,249,116	1.32	Greenville-Spartanburg-Anderson, SC	1.55	834,102	2.69
Cleveland-Lorain-Elyria, OH	7.2	2,204,280	0.90	Hartford, CT	1.52	1,125,047	1.17
Denver, CO	7.08	1,630,347	1.17	Akron, OH	1.44	658,654	1.90
Austin-San Marcos, TX	7.02	851,898	2.44	West Palm Beach-Boca Raton, FL	1.32	871,560	0.99
Portland-Vancouver, OR-WA	6.84	1,527,639	1.00	Tacoma, WA	1.14	590,519	0.95
Charlotte-Gastonia-Rock Hill, NC-SC	6.81	1,169,236	2.63	El Paso, TX	1.11	595,350	1.56
Memphis, TN-AR-MS	5.81	1,010,474	1.18	Oakland, CA	0.96	2,115,483	0.65
Jacksonville, FL	5.65	913,575	1.07	Newark, NJ	0.66	1,917,837	0.91
Baltimore, MD	5.52	2,390,543	0.86	Gary, IN	Left-censored	605,781	1.59
Kansas City, MO-KS	5.51	1,587,276	2.85	Jersey City, NJ	Left-censored	554,289	1.16
Seattle-Bellevue-Everett, WA	5.47	2,049,195	0.77	New Haven-Bridgprt-Stamfrd-Danbry-Wtrbry, CT	Left-censored	1,634,226	0.86
Raleigh-Durham-Chapel Hill, NC	5.3	865,467	1.51	Providence-Warwick-Pawtucket, RI	Left-censored	918,468	0.97
Buffalo-Niagara Falls, NY	5.27	1,190,943	1.50	Scranton-Wilkes-Barre-Hazleton, PA	Left-censored	639,405	1.32
Harrisburg-Lebanon-Carlisle, PA	4.95	589,969	1.26	Springfield, MA	Left-censored	603,765	1.14
Detroit, MI	4.72	4,268,223	1.04	Ventura, CA	Left-censored	670,117	0.73
Louisville, KY-IN	4.71	950,904	2.01	Youngstown-Warren, OH	Left-censored	601,462	2.13
Richmond-Petersburg, VA	4.6	870,317	2.20				

TABLE 2
Summary Statistics

	N	Mean	St.Dv	Min	Max
Change in Log Population (1990-2000)	305	0.12	0.10	-0.08	0.60
Log Number of Tourist Visits 1990 (millions) - No Imputations	149	1.18	0.76	-0.42	3.10
Log Number of Tourist Visits 1990 (millions) with Imputations	305	0.07	1.32	-2.74	3.10
Log number of Colleges	305	1.45	1.03	0.00	4.77
Poverty Rate	305	0.14	0.05	0.06	0.42
Log Average Annual Precipitation (1961-1990)	305	3.59	0.48	1.58	4.84
Share Workers in Finance, Insurance, and Real Estate 1990	305	0.06	0.02	0.03	0.16
Average Block-Group Distance to Park	305	6.85	7.24	0.38	54.20
Average Block-Group Distance to Recreation Sites	305	13.05	17.67	1.96	116.78
Log Historic Places per Capita	305	-8.21	0.77	-10.99	-6.40
Coastal Share within a 10 km Radius	305	0.05	0.11	0.00	0.71
Mountain Land Share within a 10 km Radius	305	0.07	0.12	0.00	0.63
Log Total Employment in Tourism-Related Activities	305	8.72	1.33	6.48	12.43
Log Population in 1990	305	12.65	1.04	10.95	16.00
Share with Bachelors Degree in 1990	305	0.20	0.06	0.09	0.44
Log January Average Temperature (Average 1941-1970)	305	3.51	0.41	1.37	4.21
Log July Mean Relative Humidity (Average 1941-1970)	305	4.01	0.33	2.94	4.38
Share Foreign Born in 1990	305	0.05	0.06	0.00	0.45
Immigration Impact (1990-2000)	305	0.03	0.04	-0.01	0.21
Share Workers in Manufacturing in 1990	305	0.17	0.07	0.04	0.46
Log Income in 1990	305	9.78	0.17	9.14	10.36
Unemployment Rate in 1990	305	0.06	0.02	0.02	0.22
Murders per 100 Inhabitants in 1990	305	0.01	0.01	0.00	0.03
1=Distance to Ocean/Great Lake 50 Km or Less	305	0.30	0.46	0.00	1.00
Log Patents Issued in 1990	305	4.09	1.64	0.00	8.64
Tourism Employment Growth	305	0.69	0.35	-1.11	2.30
ΔLog Income	305	0.40	0.06	0.17	0.75
ΔLog Population (1980-1990)	305	0.12	0.10	-0.08	0.60
ΔLog Employment (1980-1990)	305	0.20	0.10	-0.01	0.60
ΔShare BA/BS (1990-2000)	305	0.04	0.02	-0.01	0.10
ΔLog Rent (1990-2000)	305	0.31	0.08	0.11	0.56
ΔLog Housing Value (1990-2000)	305	0.42	0.18	-0.11	0.88
Northeast	305	0.14	0.35	0.00	1.00
South	305	0.41	0.49	0.00	1.00
West	305	0.20	0.40	0.00	1.00

TABLE 3
Metropolitan Correlates of Leisure Visits

	Log Number of Leisure Visits (millions)--1992†					Log Employment in Tourism-Related Activities
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Log Population	0.779	0.507	0.567	0.829	0.548	0.903
	(0.143)***	(0.174)***	(0.219)***	(0.277)***	(0.181)***	(0.072)***
Log Number of Colleges (Peterson's)	0.285	0.279	0.279	0.251	0.274	0.094
	(0.140)**	(0.137)**	(0.138)**	(0.138)*	(0.138)**	(0.054)*
Poverty Rate	-4.383	-4.091	-4.115	-4.011	-3.957	-3.211
	(1.729)**	(1.716)**	(1.716)**	(1.699)**	(1.728)**	(0.668)***
Log January Average Temperature (Average 1941-1970)	0.093	0.169	0.154	0.154	0.157	0.144
	(0.27)	(0.26)	(0.27)	(0.26)	(0.26)	(0.11)
Log Average Annual Precipitation (1961-1990)	-0.475	-0.441	-0.452	-0.457	-0.441	-0.264
	(0.193)**	(0.191)**	(0.193)**	(0.190)**	(0.191)**	(0.081)***
Share with Bachelors degree	0.379	-0.243	-0.214	-0.148	-0.217	0.77
	(1.18)	(1.19)	(1.19)	(1.19)	(1.19)	(0.49)
Share Workers in Manufacturing	-5.41	-4.92	-4.958	-4.836	-4.947	-1.823
	(1.333)***	(1.320)***	(1.322)***	(1.311)***	(1.323)***	(0.527)***
Share workers in Finance, Insurance, and Real Estate	-2.484	-2.904	-2.691	-1.613	-2.976	0.036
	(4.11)	(4.08)	(4.10)	(4.15)	(4.09)	(1.81)
Average Distance to Park	-0.037	-0.035	-0.035	-0.034	-0.034	0
	(0.013)***	(0.013)***	(0.013)***	(0.013)***	(0.013)***	(0.00)
Average Distance to Recreational Center	-0.006	-0.007	-0.007	-0.007	-0.009	-0.001
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
Average Distance to EPA-Hazardous Industries	0.353	0.351	0.352	0.343	0.345	0.173
	(0.102)***	(0.100)***	(0.100)***	(0.100)***	(0.100)***	(0.042)***
Average Distance to Golf Course	-0.008	-0.008	-0.008	-0.008	-0.008	-0.001
	(0.004)**	(0.004)**	(0.004)**	(0.004)**	(0.004)**	(0.00)
Average Distance to Airport	-0.017	-0.016	-0.016	-0.017	-0.014	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.004)*
Log Historic Places per Capita	0.246	0.296	0.296	0.305	0.309	0.089
	(0.107)**	(0.108)***	(0.108)***	(0.108)***	(0.109)***	(0.042)**
Coastal Share within a 10 km Radius of CC	1.147	1.023	1.054	1.175	1	0.854
	(0.522)**	(0.517)**	(0.521)**	(0.526)**	(0.518)*	(0.237)***
Mountain Land Share within a 10 km Radius of CC	-0.631	-0.543	-0.52	-0.466	-0.506	0.085
	(0.59)	(0.58)	(0.58)	(0.59)	(0.58)	(0.23)
Northeast	-0.377	-0.237	-0.26	-0.187	-0.237	0.017
	(0.213)*	(0.22)	(0.22)	(0.22)	(0.22)	(0.09)
South	0.348	0.324	0.315	0.198	0.322	0.036
	(0.24)	(0.24)	(0.24)	(0.25)	(0.24)	(0.10)
West	-0.652	-0.699	-0.701	-0.779	-0.683	-0.309
	(0.287)**	(0.284)**	(0.283)**	(0.289)***	(0.285)**	(0.120)**
Log Public Recreation Capital Expenditures		**0.23**	**0.259**	**0.266**	**0.241**	**0.132**
		(0.090)**	(0.109)**	(0.093)***	(0.091)***	(0.035)***
Log Public Recreation Operating Expenditures			-0.086			
			(0.187)			
Log Tax revenues				-0.314		
				(0.210)		
Log Public Building Capital Expenditures					-0.037	
					(0.042)	
Constant	-5.544	-5.343	-5.106	-3.916	-5.373	-3.883
	(1.808)***	(1.785)***	(1.859)***	(2.018)*	(1.786)***	(0.750)***
Observations	305	305	305	305	305	305

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
†Based on Shifflet data supplemented with the left-censored observatio

TABLE 4

New Public Recreational Spaces: Activism in US Metro Areas: 1977-1987 (Population in 1990> 500,000)

	MSA Name	Activism		MSA Name	Activism
1	Baton Rouge, LA (MSA)	1.51	44	Wilmington-Newark, DE-MD (PMSA)	-0.02
2	Miami, FL (PMSA)	0.97	45	Columbus, OH (MSA)	-0.04
3	Toledo, OH (MSA)	0.94	46	Jersey City, NJ (PMSA)	-0.07
4	Tulsa, OK (MSA)	0.88	47	St. Louis, MO-IL (MSA)	-0.08
5	Memphis, TN-AR-MS (MSA)	0.86	48	Detroit, MI (PMSA)	-0.10
6	San Jose, CA (PMSA)	0.82	49	Rochester, NY (MSA)	-0.11
7	Birmingham, AL (MSA)	0.78	50	Fort Lauderdale, FL (PMSA)	-0.12
8	Greensboro-Winston-Salem-High Point, NC (MSA)	0.77	51	Philadelphia, PA-NJ (PMSA)	-0.12
9	Denver, CO (PMSA)	0.75	52	El Paso, TX (MSA)	-0.15
10	Tucson, AZ (MSA)	0.72	53	Charleston-North Charleston, SC (MSA)	-0.17
11	Charlotte-Gastonia-Rock Hill, NC-SC (MSA)	0.71	54	Akron, OH (PMSA)	-0.18
12	San Antonio, TX (MSA)	0.70	55	Bakersfield, CA (MSA)	-0.20
13	Allentown-Bethlehem-Easton, PA (MSA)	0.55	56	Omaha, NE-IA (MSA)	-0.22
14	Minneapolis-St. Paul, MN-WI (MSA)	0.52	57	Raleigh-Durham-Chapel Hill, NC (MSA)	-0.22
15	Tampa-St. Petersburg-Clearwater, FL (MSA)	0.51	58	Norfolk-Virginia Beach-Newport News, VA-NC (MSA)	-0.23
16	Austin-San Marcos, TX (MSA)	0.51	59	Newark, NJ (PMSA)	-0.25
17	Jacksonville, FL (MSA)	0.51	60	New York, NY (PMSA)	-0.27
18	Oakland, CA (PMSA)	0.47	61	Albany-Schenectady-Troy, NY (MSA)	-0.28
19	Seattle-Bellevue-Everett, WA (PMSA)	0.45	62	Springfield, MA (NECMA)	-0.28
20	Syracuse, NY (MSA)	0.45	63	Knoxville, TN (MSA)	-0.28
21	Milwaukee-Waukesha, WI (PMSA)	0.44	64	San Francisco, CA (PMSA)	-0.34
22	Buffalo-Niagara Falls, NY (MSA)	0.43	65	Baltimore, MD (PMSA)	-0.35
23	West Palm Beach-Boca Raton, FL (MSA)	0.43	66	Little Rock-North Little Rock, AR (MSA)	-0.39
24	Dallas, TX (PMSA)	0.42	67	Orlando, FL (MSA)	-0.40
25	Scranton-Wilkes-Barre-Hazleton, PA (MSA)	0.39	68	Richmond-Petersburg, VA (MSA)	-0.40
26	Ventura, CA (PMSA)	0.38	69	Los Angeles-Long Beach, CA (PMSA)	-0.42
27	New Orleans, LA (MSA)	0.32	70	Riverside-San Bernardino, CA (PMSA)	-0.44
28	Salt Lake City-Ogden, UT (MSA)	0.29	71	Las Vegas, NV-AZ (MSA)	-0.45
29	Kansas City, MO-KS (MSA)	0.26	72	Gary, IN (PMSA)	-0.45
30	Cincinnati, OH-KY-IN (PMSA)	0.24	73	Harrisburg-Lebanon-Carlisle, PA (MSA)	-0.50
31	Cleveland-Lorain-Elyria, OH (PMSA)	0.24	74	New Haven-Bridgprt-Stamfrd-Danbry-Wtrbry, CT (PMSA)	-0.50
32	Oklahoma City, OK (MSA)	0.23	75	Fresno, CA (MSA)	-0.54
33	Albuquerque, NM (MSA)	0.23	76	Washington, DC-MD-VA-WV (PMSA)	-0.55
34	Houston, TX (PMSA)	0.21	77	Providence-Warwick-Pawtucket, RI (NECMA)	-0.58
35	Portland-Vancouver, OR-WA (PMSA)	0.20	78	Louisville, KY-IN (MSA)	-0.61
36	Nashville, TN (MSA)	0.16	79	Greenville-Spartanburg-Anderson, SC (MSA)	-0.68
37	Phoenix-Mesa, AZ (MSA)	0.12	80	Atlanta, GA (MSA)	-0.68
38	Tacoma, WA (PMSA)	0.10	81	Youngstown-Warren, OH (MSA)	-0.69
39	Chicago, IL (PMSA)	0.06	82	Grand Rapids-Muskegon-Holland, MI (MSA)	-0.77
40	Fort Worth-Arlington, TX (PMSA)	0.03	83	Hartford, CT (NECMA)	-0.87
41	San Diego, CA (MSA)	0.02	84	Boston-Worcester-Lawrence-Lowell-Brocktn, MA-NH (NECMA)	-0.97
42	Dayton-Springfield, OH (MSA)	0.01	85	Indianapolis, IN (MSA)	-1.12
43	Pittsburgh, PA (MSA)	-0.01			

TABLE 5

Leisure and Metropolitan Growth in the 90s

	ΔLog Population (1990-2000)						ΔLog Employment	
	(1)	(2)	(3)⊥	(4)	(5)	(6)	(7)	(8)
Log Number of Leisure Visits 1992 (millions)†	0.017	0.023	0.022	0.024	0.025	0.021	0.026	0.03
	(0.004)***	(0.004)***	(0.004)***	(0.004)***	(0.004)***	(0.004)***	(0.006)***	(0.006)***
Log Population in 1990		0.013	0.013	0.012	0.01	-0.019		
		(0.013)	(0.013)	(0.013)	(0.013)	(0.012)*		
Log Employment in 1990							-0.243	-0.265
							(0.017)	(0.016)
Share with Bachelors Degree in 1990		0.162	0.184	0.156	0.208	0.152	0.192	0.147
		(0.073)**	(0.074)**	(0.074)**	(0.078)***	(0.063)**	(0.094)**	(0.093)
Log January Average Temperature (Average 1941-1970)		0.02	0.02	0.02	0.016	-0.008	-0.003	-0.003
		(0.013)	(0.013)	(0.013)	(0.013)	(0.011)	(0.016)	(0.016)
Log July Mean Relative Humidity (Average 1941-1970)		-0.074	-0.072	-0.071	-0.069	-0.06	-0.055	-0.052
		(0.016)***	(0.016)***	(0.016)***	(0.015)***	(0.013)***	(0.020)***	(0.020)***
Immigration Impact (1990-2000)		1.821	1.768	1.773	1.771	1.258	1.38	1.393
		(0.109)***	(0.115)***	(0.114)***	(0.113)***	(0.109)***	(0.148)***	(0.144)***
Share Workers in Manufacturing in 1990		0.078	0.081	0.059	0.08	0.173	-0.052	-0.088
		(0.063)	(0.063)	(0.062)	(0.063)	(0.054)***	(0.081)	(0.080)
Log Income in 1990		-0.042	-0.042	-0.027	-0.039	-0.054	-0.19	-0.166
		(0.032)	(0.032)	(0.032)	(0.032)	(0.027)**	(0.039)***	(0.040)***
Unemployment Rate in 1990		-0.53	-0.479	-0.426	-0.493	-0.275	-0.906	-0.821
		(0.193)***	(0.197)**	(0.195)**	(0.197)**	(0.167)*	(0.254)***	(0.240)***
Murders per 100 Inhabitants in 1990		-0.472	-0.498	-0.671	-0.697	-0.124	-2.49	-2.77
		(0.810)	(0.814)	(0.805)	(0.800)	(0.688)	(1.045)**	(1.022)***
1=Distance to Ocean/Great Lake 50 Km or Less		0.01	0.01	0.009	0.008	0.007	0.0075	0.0073
		(0.006)*	(0.006)*	(0.006)*	(0.006)	(0.005)	-0.01	-0.01
Log Patents Issued in 1990		0.01	0.01	0.01	0.01	-0.004	0.016	0.015
		(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)***	(0.007)***
Log Tax Revenues (1977-1987)		-0.052	-0.051	-0.053	-0.05	-0.016	-0.02	-0.02
		(0.011)***	(0.011)***	(0.011)***	(0.011)***	(0.010)	-0.014	(0.013)**
Tourism employment Growth				0.027	0.029	0.033		0.046
				(0.009)***	(0.009)***	(0.008)***		(0.012)***
ΔLog Income					-0.118			
					(0.058)**			
ΔLog Population (1980-1990)						0.333		
						(0.032)***		
Northeast	-0.047	-0.023	-0.024	-0.022	-0.026	-0.022	-0.063	-0.06
	(0.015)***	(0.011)**	(0.011)**	(0.011)**	(0.011)**	(0.009)**	(0.014)***	(0.013)***
South	0.059	0.01	0.012	0.011	0.013	0.021	0.027	0.025
	(0.012)***	(0.013)	(0.013)	(0.013)	(0.013)	(0.011)*	(0.014)	(0.017)
West	0.111	-0.01	-0.009	-0.009	-0.008	-0.005	-0.005	-0.006
	(0.014)***	(0.015)	(0.015)	(0.014)	(0.014)	(0.012)	(0.019)	(0.018)
Constant	0.08	1.453	1.423	1.307	1.435	1.285	2.892	2.698
	(0.009)***	(0.310)***	(0.310)***	(0.309)***	(0.313)***	(0.263)***	(0.384)***	(0.378)***
Observations	305	305	303	303	303	303	303	303
R-squared	0.32	0.72	0.7	0.71	0.71	0.79	0.58	0.59

†The leisure variable uses the observations for the 150 MSA tourist visits provided by Shifflet, plus the 155 imputed observations, using the regression in Colunm 1 of Table 1A.

Robust Standard Errors. * significant at 10%; ** significant at 5%; *** significant at 1%

⊥ Excludes Las Vegas and Orlando. All regressions henceforth do.

Table 6

Robustness: Out of Sample and Alternatives

PANEL A: Forecasting Out of Sample

	ΔLog Population (2000-2006)		
	(1)	**(2)**	**(3)**
Log Number of Leisure Visits in 2002	0.009	0.009	0.007
	(0.002)***	(0.002)***	(0.003)**
Region Fixed Effects	*no*	*yes*	*yes*
Other Variables in Table 5, column 3 (Updated 2000 Initial Values)	*no*	*no*	*yes*
Observations	301	301	301
R-squared	0.05	0.23	0.5
Adjusted for Average Growth 2000-2006	***0.019***	***0.019***	***0.016***

PANEL B: Leisure Visits v. Ad Hoc Variables

	ΔLog Population (1990-2000)		
	(1)	**(2)**	**(3)**
Log Restaurants in 1990	0.031	0.026	-0.004
	(0.015)**	(0.014)*	(0.012)
Log Movie Theathers in 1990	-0.002	0.002	0.005
	(0.010)	(0.010)	(0.008)
Log Museums in 1990	-0.006	-0.012	-0.008
	(0.006)	(0.006)*	(0.005)
Log Membership Organizations in 1990	-0.026	-0.022	0.01
	(0.015)*	(0.014)	(0.013)
Log Number of Leisure Visits in 1990		0.022	0.018
		(0.005)***	(0.004)***
Controls for Growtth in the 80s	*no*	*no*	*yes*
Other Variables in Table 5, column 3	*yes*	*yes*	*yes*
Observations	272	272	272
R-squared	0.67	0.7	0.79

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 7
Leisure Visits and Metropolitan Growth in the 1990s: IV

	2nd Stage	1st Stage
	∆Log Population	Log Number of Touris Visits 1990 (millions)
Log Number of Leisure Visits 1992†	0.04	-
	(0.017)**	-
Log Population in 1990	-0.003	0.951
	(0.019)	(0.161)***
Share with Bachelors degree in 1990	0.199	-0.818
	(0.075)***	(0.952)
Log January Average Temperature (Average 1941-1970)	0.021	-0.064
	(0.013)	(0.168)
Log July Mean Relative Humidity (Average 1941-1970)	-0.075	0.076
	(0.016)***	(0.198)
Immigration Impact (1990-2000)	1.798	-0.52
	(0.118)***	(1.497)
Share Workers in Manufacturing in 1990	0.178	-5.441
	(0.108)*	(0.730)***
Log Income in 1990	-0.049	0.048
	(0.033)	(0.409)
Unemployment Rrate in 1990	-0.347	-7.239
	(0.228)	(2.455)***
Murders per 100 Inhabitants in 1990	-0.431	0.712
	(0.823)	(10.374)
1=Distance to Ocean/Great Lake 50 Km or Less	0.012	-0.275
	(0.008)	(0.120)**
Log Patents Issued in 1990	0.008	0.12
	(0.006)	(0.070)*
Log Tax Revenues (1977-1987)	-0.05	-0.058
	(0.011)***	(0.140)
Northeast	-0.019	-0.328
	(0.011)*	(0.136)**
South	0.01	0.084
	(0.013)	(0.167)
West	-0.005	-0.231
	(0.015)	(0.186)
Log Historic Places per Capita	*excluded*	0.228
		(0.066)***
Coastal Share within a 10 km Radius of CC	*excluded*	1.662
		(0.448)***
Constant	1.653	-8.402
	(0.368)***	(3.937)**
Observations	303	303
R-squared	-	0.74

Partial R-Squared of Instruments	0.074
Partial F-statistic of Instruments	11.410
Stock-Yogo (2005) 10% Maximal Critical Value	8.680
Sargan Test p-value	0.836

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
†The leisure variable uses the observations for the 150 MSA tourist visits provided by Shifflet, plus the 155 imputed observations, using the regression in Colunm 2 of Table 1A.

TABLE 8

Leisure Visits and Qualities of Growth in the 1990s

	ΔShare with BA	ΔLog Income	ΔLog Wage		ΔLog Rent	ΔLog Housing Value	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Log Number of Leisure Visits 1992	0.003	0.003	0.024	0.011	0.013	0.027	0.02
	(0.001)***	(0.005)	(0.008)***	(0.007)	(0.005)***	(0.011)**	(0.008)**
ΔShare with Bachelors Degree				4.485			
				(0.410)***			
Log Median House Value in 1990							-0.475
							(0.030)***
Other Variables in Table 5, column 3	YES	YES	YES	YES	YES	YES	YES
Observations	303	303	303	303	303	303	303
R-squared	0.51	0.31	0.56	0.69	0.43	0.51	0.74

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 9

Parameters in System of Equations (SURE)

Log Number of Leisure Visits 1992	0.040 (0.009)***
Log Population in 1990	0.052 (0.025)**
Share with Bachelors Degree in 1990	0.777 (0.144)***
Log January Average Temperature (Average 1941-1970)	-0.009 (0.026)
Log July Mean Relative Humidity (Average 1941-1970)	-0.040 (0.031)
Immigration Impact (1990-2000)	2.727 (0.209)***
Share Workers in Manufacturing in 1990	0.471 (0.124)***
Log Income in 1990	0.083 (0.070)
Unemployment Rate in 1990	-0.913 (0.371)**
Murders per 100 Inhabitants in 1990	-2.033 (1.554)
1=Distance to Ocean/Great Lake 50 Km or Less	0.041 (0.015)***
Log Patents Issued in 1990	0.009 (0.011)
Log Tax Revenues (1977-1987)	-0.097 (0.021)***
Log Median House Value in 1990	-0.282 (0.031)***
Region Fixed Effects (Equation Dependent)	*yes*

TABLE 10

Evolution of "Beautiful" Neighborhoods: 1990-2000

PANEL A	ΔLog Population	ΔShare with BA	ΔLog Income	ΔShare Non-Hispanic White	ΔLog Rent	ΔLog Rent	ΔLog Population	ΔLog Rent
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
1st Ring: <1Km. from Tourism Information Center	0.031	0.028	0.126	0.054	0.094	0.074	0.19	0.096
	-0.023	(0.004)***	(0.011)***	(0.006)***	(0.010)***	(0.012)***	(0.022)***	(0.010)***
2nd Ring: 1-2Km. from Tourism Information Center	-0.057	0.019	0.095	0.046	0.073	0.058	0.082	0.078
	(0.014)***	(0.003)***	(0.007)***	(0.004)***	(0.006)***	(0.008)***	(0.014)***	(0.006)***
3rd Ring: 2-3Km. from Tourism Information Center	-0.084	0.012	0.092	0.04	0.043	0.033	0.038	0.05
	(0.013)***	(0.002)***	(0.006)***	(0.004)***	(0.006)***	(0.007)***	(0.012)***	(0.006)***
Central City	-0.137	-0.018	-0.035	-0.028	-0.019	-0.02	-0.01	-0.004
	(0.004)***	(0.001)***	(0.002)***	(0.001)***	(0.002)***	(0.002)***	(0.005)**	(0.002)
1st Ring: <1Km. from CBD						0.028		
						(0.011)**		
2nd Ring: 1-2Km. from CBD						0.02		
						(0.008)***		
3rd Ring: 2-3Km. from CBD						0.013		
						(0.006)**		
MSA Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other 1990 Census Tract Controls	No	No	No	No	No	No	Yes	Yes
Observations (Census Tracts)	35,493	35,489	35,348	35,493	35,202	34,887	35,362	35,174
R-squared	0.14	0.08	0.12	0.11	0.2	0.2	0.25	0.21

PANEL B	ΔLog Population	ΔShare with BA	ΔLog Income	ΔShare Non-Hispanic White	ΔLog Rent	ΔLog Rent	ΔLog Population	ΔLog Rent
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
High Historic Gravity	-0.031	0.006	0.047	0.026	0.037	0.035	0.059	0.044
	(0.009)***	(0.002)***	(0.004)***	(0.002)***	(0.004)***	(0.004)***	(0.008)***	(0.004)***
High Recreational Gravity	-0.036	0.02	0.061	0.04	0.056	0.055	0.051	0.064
	(0.009)***	(0.002)***	(0.004)***	(0.002)***	(0.004)***	(0.004)***	(0.008)***	(0.004)***
Central City	-0.134	-0.019	-0.041	-0.035	-0.024	-0.025	-0.019	-0.01
	(0.003)***	(0.001)***	(0.002)***	(0.001)***	(0.002)***	(0.002)***	(0.004)***	(0.002)***
1st Ring: <1Km. from CBD						0		
						(0.007)		
2nd Ring: 1-2Km. from CBD						0.009		
						(0.004)**		
3rd Ring: 2-3Km. from CBD						0.01		
						(0.004)**		
MSA Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other 1990 Census Tract Controls	No	No	No	No	No	No	Yes	Yes
Observations (Census Tracts)	50,969	50,963	50,765	50,969	50,594	48,499	50,786	50,557
R-squared	0.15	0.1	0.12	0.14	0.21	0.21	0.26	0.23

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Controls include: log of income, unemployment rates, share of residents in families with kids, share of residents who are older than 65, share of residents over 25 who are high school dropouts, share non-Hispanic white, and share foreign-born residents, all measured at the tract level in 1990.

Appendix Table 1A

Fitting Left-Censored Data: Model

	Log Number of Tourist Visits (millions)- 1992	
	(1)	**(2)**
Log Total Employment in Tourism-Related Activities(1990)	0.938	0.972
	(0.123)***	(0.121)***
Log Population	-0.267	-0.385
	(0.182)	(0.175)**
Log Number of Colleges	0.212	0.249
	(0.126)*	(0.124)**
Poverty Rate	-0.099	-0.118
	(1.590)	(1.597)
Log January Average Temperature (Average 1941-1970)	0.014	-0.148
	(0.247)	(0.239)
Log Average Annual Precipitation (1961-1990)	-0.11	-0.017
	(0.178)	(0.172)
Share with Bachelors Degree	-0.343	0.029
	(1.070)	(1.068)
Share Workers in Manufacturing	-3.249	-3.14
	(1.220)***	(1.231)**
Share Workers in Finance, Insurance, and Real Estate	-2.296	-2.484
	(3.815)	(3.846)
Average Block-Group Distance to Park	-0.022	-0.025
	(0.011)**	(0.012)**
Average Block-Group Distance to Recreation Sites	-0.005	-0.006
	(0.004)	(0.004)
Log Historic Places per Capita	0.204	
	(0.097)**	
Coastal Share within a 10 km Radius	0.238	
	(0.491)	
Mountain Land Share within a 10 km Radius	-0.557	-0.5
	(0.544)	(0.550)
Northeast	-0.361	-0.282
	(0.195)*	(0.193)
South	0.177	0.249
	(0.220)	(0.221)
West	-0.276	-0.166
	(0.262)	(0.260)
Constant	-1.559	-1.897
	(1.584)	(1.591)
Pseudo R-Squared	0.417	0.411
Observations	305	305

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 2A

Metropolitan Growth in the 1990s: 4 Approaches to Deal with Censoring

	ΔLog Population			
	(1)	**(2)**	**(3)**	**(4)**
Log Number of Tourist Visits 1992 (millions)	**0.021**			
	(0.007)***			
Left-Censored Log Number of Tourist Visits 1990 (millions)		**0.018**		
		(0.007)**		
Dummy=1 If Observation Contains Left-Censored Tourism Data		**-0.011**		
		(0.012)		
Log Number of Tourist Visits 1990 (millions) with Imputations			**0.023**	
			(0.004)***	
Log Employment in Tourist Industries (1990)				**0.026**
				(0.007)***
Log Population in 1990	0.033	0.019	0.013	0.008
	(0.019)*	(0.013)	(0.013)	(0.015)
Share with Bachelors Degree in 1990	-0.137	0.167	0.162	0.176
	(0.109)	(0.074)**	(0.073)**	(0.075)**
Log January Average Temperature (Average 1941-1970)	0.007	0.017	0.02	0.02
	(0.018)	(0.013)	(0.013)	(0.013)
Log July Mean Relative Humidity (Average 1941-1970)	-0.073	-0.07	-0.074	-0.071
	(0.020)***	(0.016)***	(0.016)***	(0.016)***
Share Foreign Born in 1990	1.808	1.801	1.821	1.712
	(0.142)***	(0.111)***	(0.109)***	(0.115)***
Share Workers in Manufacturing in 1990	-0.043	0.018	0.078	0.022
	(0.090)	(0.061)	(0.063)	(0.063)
Log Income in 1990	-0.016	-0.04	-0.042	-0.066
	(0.048)	(0.033)	(0.032)	(0.034)*
Unemployment Rate in 1990	-0.99	-0.523	-0.53	-0.604
	(0.322)***	(0.199)***	(0.193)***	(0.198)***
Murders per 100 inhabitants in 1990	0.004	-0.881	-0.472	-0.623
	(1.056)	(0.825)	(0.810)	(0.829)
1=Distance to Ocean/Great Lake 50 Km or less	-0.006	0.01	0.01	0.011
	(0.010)	(0.008)	(0.008)	(0.006)*
Log Patents Issued in 1990	0.009	0.011	0.01	-0.052
	(0.009)	(0.006)*	(0.006)*	(0.011)***
Log Tax Revenues (1977-1987)	-0.068	-0.052	-0.052	0.007
	(0.015)***	(0.011)***	(0.011)***	(0.008)
Northeast	-0.024	-0.025	-0.023	-0.028
	(0.014)*	(0.011)**	(0.011)**	(0.011)***
South	0.009	0.013	0.01	0.012
	(0.017)	(0.013)	(0.013)	(0.013)
West	-0.025	-0.012	-0.01	-0.013
	(0.019)	(0.015)	(0.015)	(0.015)
Constant	1.397	1.353	1.453	1.539
	(0.471)***	(0.314)***	(0.310)***	(0.329)***
Observations	150	305	305	305
R-squared	0.78	0.71	0.72	0.71

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 3A

Validating Distance to Tourism Information Centers

	(1)	(2)
	1=Top 5 Percentiles in Historic Gravity	1=Top 5 Percentiles in Recreational Gravity
1st Ring: <1Km. from Tourism Information Center	0.697	0.64
	(0.011)***	(0.011)***
2nd Ring: 1-2Km. from Tourism Information Center	0.463	0.483
	(0.007)***	(0.007)***
3rd Ring: 2-3Km. from Tourism Information Center	0.265	0.266
	(0.006)***	(0.006)***
Central City	0.034	0.042
	(0.002)***	(0.002)***
Constant	0.012	0.006
	(0.001)***	(0.001)***
Observations	35,709	35,709
R-squared	0.3	0.29

Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4A: Spatial Dependence Tests[a] (P-values)				
	Base Regressions for Population and Total Employment			
Specification:	Population Growth	Employment Growth	Population Growth	Employment Growth
Test for:	Spatial Error		Spatial Lag	
Moran's I $\lambda = 0$	0	0		
LM - $\lambda = 0$	0	0		
Robust LM- $\lambda = 0$	0	0.574		
LM - $\rho = 0$			0	0
Robust LM- $\rho = 0$			0.785	0

N = 150. The Lagrange multiplier (LM) tests are distributed as χ_1^2
with critical levels of 3.84 (p = 0.05).

APPENDIX TABLE 5A

Spatial Dependence

	Population Growth		Employment Growth	
	Spatial Error	Spatial Lag	Spatial Error	Spatial Lag
Log Number of Leisure Visits 1992 (millions)†	0.022	0.022	0.03	0.027
	(0.004)***	(0.004)***	(0.008)***	(0.008)***
Log Population in 1990	0.016	0.012		
	(0.013)	(0.013)		
Log Employment in 1990			0.08	0.08
			(0.023)***	(0.022)***
Share with Bachelors Degree in 1990	0.17	0.17	0.41	0.32
	(0.069)**	(0.069)**	(0.125)***	(0.122)***
Log January Average Temperature	0.036	0.013	0.07	0.039
	(0.016)	(0.013)	(0.032)**	(0.012)***
Log July Mean Relative Humidity	-0.082	-0.068	-0.015	-0.015
	(0.015)***	(0.015)***	-0.031	-0.026
Immigration Impact (1990-2000)	1.79	1.73	1.3	1.4
	(0.107)***	(0.109)***	(0.197)***	(0.188)***
Share Workers in Manufacturing in 1990	0.098	0.1	0.02	-0.032
	(0.062)	(0.06)*	(0.114)	(0.108)
Log Income in 1990	-0.041	-0.033	-0.087	-0.017
	(0.032)	(0.031)	(0.056)	(0.052)
Unemployment Rate in 1990	-0.46	-0.49	-0.67	-0.5
	(0.181)***	(0.185)***	(0.328)**	(0.330)
Murders per 100 Inhabitants in 1990	-0.325	-0.32	-2.71	-2.37
	(0.771)	(0.770)	(1.400)	(1.370)
1=Distance to Ocean/Great Lake 50 Km or Less	0.006	0.008	0.0173	0.026
	(0.008)	(0.008)	(0.014)	(0.013)
Log Patents Issued in 1990	0.01	0.01	0.017	0.0021
	(0.005)*	(0.005)*	(0.009)*	(0.009)
Log Tax Revenues (1977-1987)	-0.052	-0.05	-0.121	-0.121
	(0.011)***	(0.011)***	(0.019)***	(0.018)***
Northeast	-0.025	-0.01	-0.03	-0.07
	(0.015)	-0.011	-0.033	(0.018)
South	-0.002	0.006	-0.051	-0.041
	(0.015)	(0.013)	(0.029)*	(0.022)*
West	-0.02	-0.02	-0.02	-0.012
	(0.019)	(0.014)	(0.042)	(0.025)
Constant	1.382	1.3	2.048	1.3
	(0.311)***	(0.299)***	(0.559)***	(0.502)**
λ	0.051		0.066	
	(0.099)***		(0.076)***	
ρ		0.223		0.447
		(0.077)***		(0.079)***
Observations	305	305	305	305
R-squared	0.75	0.73	0.59	0.59

Robust t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%