

The Rise of the Sunbelt

By **Edward L. Glaeser**, Harvard University, and **Kristina Tobio**, Kennedy School of Government

Introduction

In the 1930s, the eleven Southern states of the old Confederacy seemed trapped in the cycle of poverty and decline that had characterized the region since the Civil War. Since World War II, however, the region has become one of the great success stories in America. As shown in Figure 1, the South's share of the national population has increased from 24 percent to 30 percent since 1950. From 1950 to 2000, average income in the South increased from 76 percent of the national average to 94 percent of the national average, while housing prices rose from 83 percent to 91 percent of the national average.

The tremendous growth of the South reflects a nationwide correlation between warmth and growth throughout the postwar period. Figure 2 shows the correlation between January temperatures and population growth from 1950 to 2000. Correlations between January temperatures and income growth, as well as January temperatures and housing price growth, show a similar pattern.

While it is clear that the Sunbelt - places with warm Januarys and Julys, including but not limited to the South - has experienced a boom since 1950, it is far from obvious what has been

the driving force behind this growth. The traditional explanations for the growth are increasing productivity in the South and increasing demand for Sunbelt amenities, especially its pleasant weather. A third, less studied explanation is the Sunbelt's more flexible housing supply.

Our empirical analysis assesses the relative contributions of rising productivity, rising demand for Sunbelt amenities, and an increasing Sunbelt housing supply to Southern and Sunbelt growth. Our results suggest that rising demand for Sunbelt amenities has had little to do with the growth of the Sunbelt, while rising productivity and, surprisingly, increased housing supply have both played important roles in the growth of the South and the Sunbelt.

Background: Theories of Southern and Sunbelt Growth

Increasing Productivity: The first hypothesis suggests that Southern growth is due to increases in Southern productivity. Economists have suggested several possible explanations for the increasing productivity experienced in the South during the postwar period. One theory is that increased capital accumulation, such as the construction of factories or purchase of machinery, allowed for the South's rapid convergence

Edward L. Glaeser

Edward L. Glaeser is the Fred and Eleanor Glimp Professor of Economics in Harvard's Faculty of Arts and Sciences and is Director of the Kennedy School of Government's Taubman Center for State and Local Government.

Kristina Tobio

Kristina Tobio is a Senior Research Assistant at the Taubman Center for State and Local Government.

A. Alfred Taubman Center for State and Local Government

The Taubman Center and its affiliated institutes and programs are the Kennedy School of Government's focal point for activities that address urban policy, state and local governance and intergovernmental relations.

Taubman Center Policy Briefs are short overviews of new and notable research on these issues by scholars affiliated with the Center.

© 2007 by the President and Fellows of Harvard College. The contents reflect the views of the authors (who are responsible for the facts and accuracy of the material herein) and do not represent the official views or policies of the Taubman Center for State and Local Government.

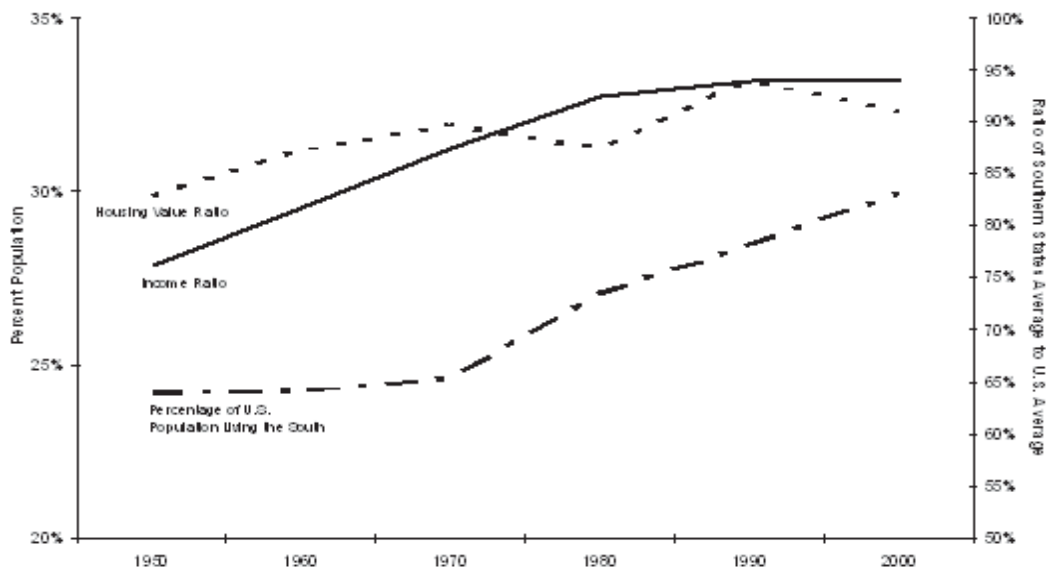
A. Alfred Taubman Center for State and Local Government
John F. Kennedy School of Government,
79 JFK St., Cambridge, MA 02138

Telephone: (617) 495-2199

Email: taubman@ksg.harvard.edu

www.ksg.harvard.edu/taubmancenter

Figure 1: Population, Income, and Housing Values in the South Versus the Entire United States, 1950-2000



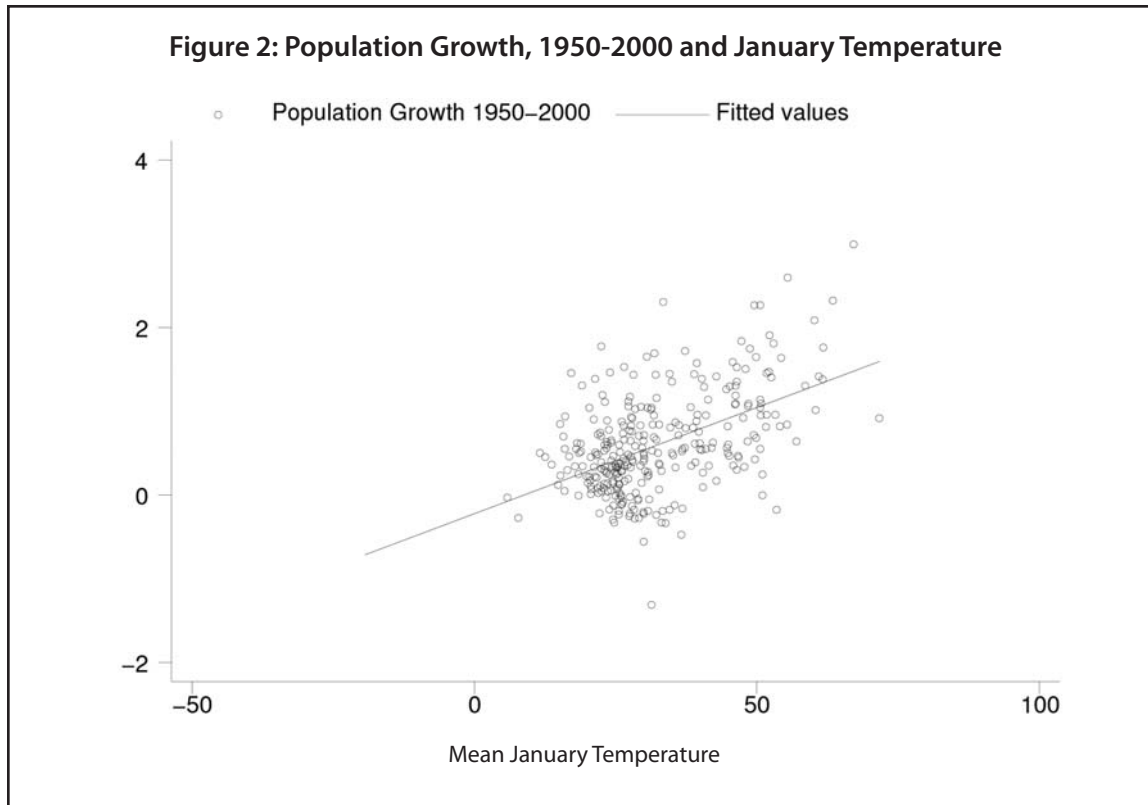
Notes: Population data from the Census at <http://www.census.gov/population/censusdata/urbanpop0090.txt> and factfinder.census.gov. Housing value and income ratios from historical U.S. Census County Data Books, found in Haines, Michael R.; Inter-university Consortium for Political and Social Research, 2005-02-25, "Historical, Demographic, Economic, and Social Data: The United States, 1790-2000," hdl:1902.2/02896 <http://id.theodata.org/hdl%3A1902.2%2F02896> Inter-university Consortium for Political and Social Research [distributor9DDI]].

with more developed regions in the North. Another possible explanation is the South's structural transformation from agriculture to manufacturing. Additionally, decreasing transportation costs may have contributed by making the Northern advantages of superior waterways and railroads irrelevant. Finally, changing political institutions, particularly the decline in Jim Crow politics, may also have helped increase productivity as politicians began to concentrate on attracting industry rather than maintaining racist policies.

Increasing Demand for Amenities: The second hypothesis suggests that Southern and Sunbelt growth is due to an increasing demand for the amenities, such as mild winters, that these places provide. Southern cities were relatively unpleasant places to live in the early 1900s. Summer heat was oppressive and contributed significantly to the spread of infectious disease. The problem was

exacerbated by the South lagging behind the North in its access to clean water. However, by 1950, there were a number of changes that could have significantly increased the amenities of warm regions. Most significantly, improvements in public health and water purification mitigated disease, and the development of air conditioning made the heat much more tolerable. Thus, some economists argue that improvements in Southern consumer amenities made the South a more attractive place to live, thus driving the South's population growth.

Similarly, other warm places outside the South provide sun-related amenities. Using amenities to explain growth in some areas of the Sunbelt, such as California with its pleasant winters, seems intuitive. Los Angeles became a great city because of its weather. Its great industries, such as movies and aerospace, were led by early migrants, like D.W. Griffith and



Donald Douglas, who moved there because they liked its Mediterranean climate. But the growth of the Sunbelt today is no longer led by the temperate areas on the California coast. Since the 1970s, growth has been increasingly centered in the cities of Texas and the Southwestern desert. With their oppressive summers, these areas have climates that are far less pleasant than the climate of California. This seems to indicate that perhaps growth in the South and the Sunbelt is driven by something other than their sun-related amenities.

Housing Supply: The final hypothesis is that a greater Southern and Sunbelt tolerance for new residential construction has driven growth. According to this hypothesis, more homes were built in these areas and thus more people came to live in the South and the Sunbelt. Demand for housing increased across the United States in the postwar period, but it is possible that the housing supply was more easily increased in the South and the Sunbelt, either due to more

permissive permitting or greater availability of land. There is evidence for abundant permitting in some Southern metropolitan areas. For instance, in 2005, three of the top five permitting metropolitan areas were Atlanta, Dallas, and Houston. The fact that the South and the Sunbelt are less densely populated than other areas of the United States, and thus simply have more space to construct new homes, could have also contributed to the increase in housing supply in these areas.

Empirical Analysis

Our empirical analysis uses data on income, housing prices, and population growth in Sunbelt and non-Sunbelt areas to determine the relative contribution of increased productivity, sun-related amenities, and increased housing supply to Southern and Sunbelt growth. Three proxies for “Sunbelt status” - mean January temperature, mean July temperature, and a dummy variable indicating if the state is in the South - were also used in the regressions to

analyze the effects being in the Sunbelt had on income growth, population growth, and housing price growth.

Contrary to expectations, we find very little evidence to support the hypothesis that growth in the South and the Sunbelt was driven by increased demand for sun-related amenities.

Contribution of Productivity to Growth: In line with the traditional view that in the South after World War II increases in productivity and economic convergence were important contributors to growth, our analysis finds that from 1950 to 1980, and even in the 1990s, productivity grew more rapidly in the South than in the rest of the United States. Our analysis also suggests that population growth in the Sunbelt prior to the 1970s was driven largely by increases in economic productivity.

Contribution of Amenities to Growth: Contrary to expectations, we find very little evidence to support the hypothesis that growth in the South and the Sunbelt was driven by increased demand for sun-related amenities. Higher amenity levels should be accompanied by lower real wages, and we do find that in the 1960s and 1970s real incomes fell in places with high January temperatures. This result implies that in the 1960s and 1970s people were more willing to accept lower wages in return for enjoying warm winters. However, this is the only evidence we find of rising amenity flows in the Sunbelt. Though California, for example, has shown evidence of robust amenity flow increases with its falling real incomes, most of the Sunbelt is not in California.

We find that over time, real incomes uniformly rose in both the South and places with high

July temperatures. This suggests that people demanded higher incomes to compensate them for living in the South and in other places in the Sunbelt with high July temperatures. Thus, we find declining amenity flows in the South and places with high July temperatures. These results should not be interpreted as suggesting that amenity improvements such as air conditioning or clean water were irrelevant, only that without these improvements people would likely have demanded even higher incomes for living in the South or in places with high July temperatures.

Contribution of Housing Supply to Growth: Surprisingly, in addition to productivity growth, we find that since 1970 the expansion of Southern housing supply has been a very important contributor to growth. Our analysis shows that housing supply in the South was increasing by 20 percent more than the rest of the country during the 1970s and 1980s. Also, a 10 degree increase in July temperatures was associated with 20 percent more housing growth, indicating that housing supply was growing throughout the Sunbelt. We find that since the 1970s, increases in housing supply has been as important as increases in productivity in driving the increases in Sunbelt population.

How do we know that this increased housing supply is not due to more people moving to the Sunbelt and the South and demanding more housing? The most basic principles of economics tell us that if growth is driven by demand, then we should expect to see high prices. If growth is driven by supply, then we should expect to see low prices. Therefore, if the demand for living in warm places is high, housing prices in the South and the Sunbelt should be high. However, we find that housing prices in the Sunbelt are growing at a slower pace than the rest of the country and at a slower pace relative to income growth in these areas, which implies that there is a growth of housing supply, rather than housing demand, in the

Sunbelt. This also confirms our finding that, overall, there is no increased willingness to pay for Southern and Sunbelt amenities.

For example, according to the National Association of Realtors, the median sales price for a home was \$150,000 in Houston, \$170,000 in Atlanta, and \$400,000 in Boston. If Americans were flocking to Houston because

We find that since the 1970s, increases in housing supply have been as important as increases in productivity in driving the increases in Sunbelt population.

of its great climate then it would not be so cheap. Houston's climate is not great, and neither is the climate in Atlanta, Dallas, or even Phoenix. Their relatively low prices, especially relative to coastal California, reflect their terrible summers and their greater supply.

Explaining Sunbelt Housing Supply

Though much has been written about the rising productivity in the South, very little has been written about why housing supply has been increasing so quickly in that region. Using county-level data, we attempt some simple analysis to try to determine the reasons for increased permitting in the South and Sunbelt. Though we find that counties in the South are about 20 percent more likely to permit new construction than those outside the South, and that an increase of ten degrees in January temperature is associated with approximately 25 percent more permitting of new construction, the supply and demand proxies we use in the regression are unable to explain exactly why these permitting increases occur.

Conclusion

The traditional view of the post-war South emphasizes the economic convergence of the region as it become more productive. Our results taken as a whole suggest that productivity growth alone drove growth in the South and the Sunbelt up until 1970, while housing supply growth has been an increasingly important co-factor since then. A surprising finding from our analysis is that rising demand for warm-region amenities does not appear to have played an important role in the growth of the Sunbelt at any time in the postwar period. Though little attention has been paid thus far to the rapid growth of new housing supply in the Sunbelt, it is clear that it has been an important contributor to the growth of the South and the Sunbelt, and thus the potential causes of this growth deserve further study.

RELATED PUBLICATIONS

“The Rise of the Sunbelt,”

by Edward L. Glaeser and Kristina Tobio, Taubman Center Working Paper WP-2007-04, April 2007.

TAUBMAN CENTER POLICY BRIEFS**PB-2007-5 “The Rise of the Sunbelt,”**

by Edward L. Glaeser (Harvard University) and Kristina Tobio (Kennedy School of Government)

PB-2007-4 “Productivity Spillovers in Health Care,”

by Amitabh Chandra (Kennedy School of Government) and Douglas O. Staiger (Dartmouth College)

PB-2007-3 “High Performance in Emergency Preparedness and Response: Disaster Type Differences”

by Herman B. “Dutch” Leonard and Arnold M. Howitt (Kennedy School of Government)

PB-2007-2 “Racial Statistics and Race-Conscious Public Policy,”

by Kim M. Williams (Kennedy School of Government)

PB-2007-1 “Transparency Policies: Two Possible Futures”

by Archon Fung, Mary Graham, David Weil, and Elena Fagotto (Kennedy School of Government)

PB-2006-2 “Beyond Katrina: Improving Disaster Response Capabilities”

by Arnold M. Howitt and Herman “Dutch” Leonard (Kennedy School of Government)

PB-2006-1 “Why are Smart Cities Getting Smarter?”

by Edward L. Glaeser (Harvard University) and Christopher Berry (University of Chicago)

PB-2005-4 “The ‘Third Way’ of Education Reform?”

by Brian Jacob (Kennedy School of Government)

PB-2005-3 “From Food to Finance: What Makes Disclosure Policies Work?”

by Archon Fung, Mary Graham, David Weil, and Elena Fagotto (Kennedy School of Government)

PB-2005-2 The Fiscal Crisis of the States: Recession, Structural Spending Gap, or Political “Disconnect”?

by Robert Behn and Elizabeth Keating (Kennedy School of Government)

PB-2005-1 “Smart Growth: Education, Skilled Workers and the Future of Cold-Weather Cities,”

by Edward L. Glaeser (Harvard University)