

# Per Capita Income Growth and Disparity in the United States, 1929–2003

by Paul Gomme and Peter Rupert

Economic growth has led to ever higher standards of living over the past 75 years. Average real per capita income in the United States has grown by more than a factor of five since 1929. Every state has seen a rise in its real per capita income. Over this same time span, the disparity in income across the states has also declined, and appears to continue to do so.

Standard models of economic growth conclude that for regions that are “similar” (imagine they are exactly the same except in their initial level of income or capital), economic forces will tend to drive the regions to become more equal in terms of income per capita, that is, they will tend to converge. Of course, there may be different political systems, differences in property rights, tax structures, and so on, across regions that can impede the economic forces leading to equality. Such differences make it difficult to draw conclusions regarding what has become known as economic “convergence.”

Identifying and characterizing convergence is much easier to do within a country. One would not expect the states of the United States to be very dissimilar in terms of the underlying environment. That is, each state is protected by the same constitutional laws on property, human rights, freedoms, and so forth. There are no tariffs or labor laws preventing the movement of goods, capital, or labor to and from states. There has been no civil war for more than 130 years. Looking across the states, it is evident that income disparity has declined; however, there still remains a fairly wide gap between the richest and poorest states. This persistent gap shows

that even within the same country, convergence tends to take a very long time.

The idea of convergence relies on the fact that resources will flow to their highest valued use. If, for example, some states have more and better capital, labor should flow to them to take advantage of the higher wages that would result. This movement of labor works to reduce the disparity in wages across the two regions. As more workers flow into a region, wages there will start to fall. The wages in the regions that are losing labor will rise as workers become more scarce. Similarly, if some states have lower taxes on income, one would expect that labor and capital might move to such states. Market forces would again work to equalize rates of return to labor and capital. Of course, no one in the United States worries that if a manufacturing facility is erected in some state that state or local authorities will confiscate the capital. That is, there is no risk premium for locating in some states rather than others. This is not true for some countries around the world.

This *Economic Commentary* documents how the United States has changed over the last three-quarters of a century in terms of income per capita. An analysis shows that real income per capita is growing over time and is converging across states.

## Income Per Capita

To be sure, real income per capita in the United States has grown substantially over the past three-quarters of a century. In 1929 the average income per capita was nearly \$6,000. In 2003 average income per capita was roughly \$30,000. (To make the income numbers compara-

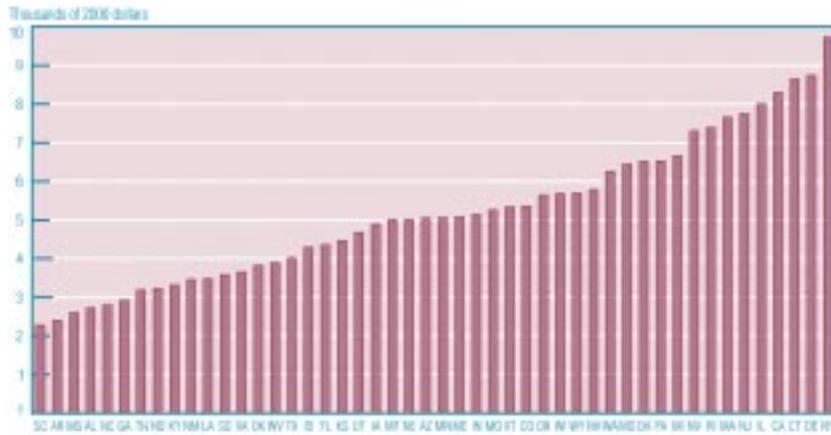
Economic theory says the average income of different regions should grow closer over time. Within the United States and across some of the richer countries, evidence suggests this is true.

ble between 1929 and 2003, they have been converted to year-2000 dollars.)

In 1929, the richest state in the union was New York (with per capita income of \$9,717). Figure 1 shows how the other states compared to New York in that year. The poorest state at the time was South Carolina, where per capita income was \$2,282. So the richest state was more than four times richer than the poorest state. Moreover, 20 of the 48 states had incomes that were less than 50 percent of the richest state.

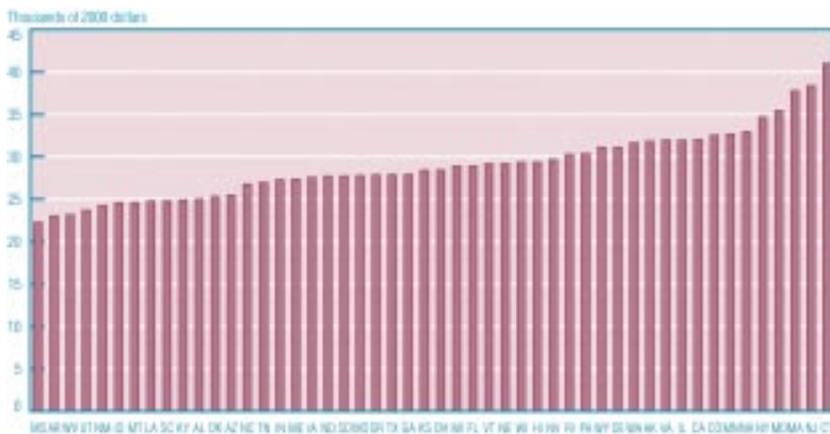
Turn the clock forward to the year 2003. Certainly a lot has changed. So, too, has the distribution of income across the states. Figure 2 shows that the gap between the richest state (Connecticut, \$40,990) and the poorest state (Mississippi, \$22,262) has declined—the ratio in 2003 was 1.84. Moreover, many fewer states make less than 50 percent of the richest state. So, while the rich have gotten richer—real per capita income for New York (the richest state in 1929) rose by a factor of 3.5—the poor have gotten richer at a faster rate—real per capita income in South Carolina (the poorest state in 1929) increased by a factor of 10! Of course, this is exactly what convergence means: The poorer states must have grown faster than the richer states.

**FIGURE 1 STATE PER CAPITA INCOME, 1929**



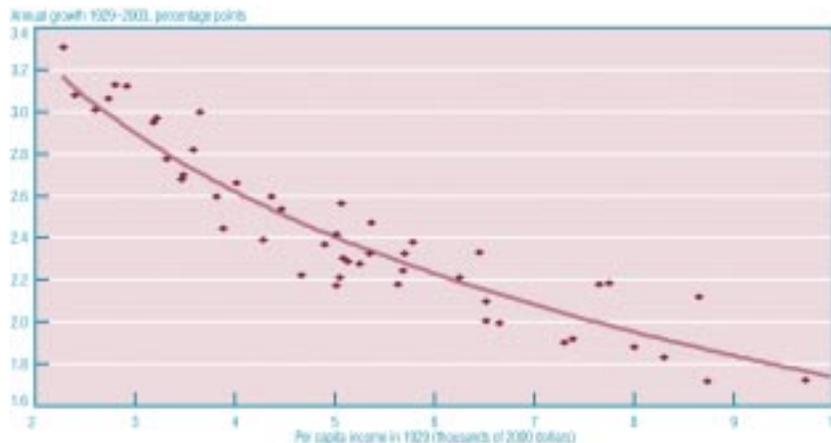
SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

**FIGURE 2 STATE PER CAPITA INCOME, 2003**



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

**FIGURE 3 1929 PER CAPITA INCOME VS. GROWTH FROM 1929 TO 2003**



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

It is easy to see that convergence has taken place by looking at figure 3. Here, the level of income is plotted on the horizontal axis and the growth rate on the vertical axis. As mentioned previously, the states starting at a lower level of income should grow faster, all else the same, than the states with a higher level. The downward-sloping curve implies convergence: States with a lower level of income in 1929 are associated with higher growth rates.

■ **Disposable Income Per Capita**

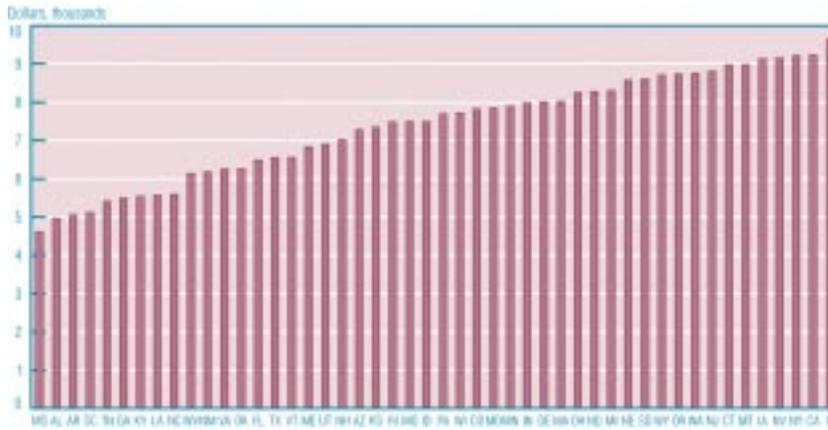
While economic forces can generate convergence across regions, political forces can also generate more equality of income. Governments operate a variety of programs that tend to transfer income from the rich to the poor. The income tax system is progressive in the sense that those earning higher incomes face higher marginal tax rates. Welfare is another program that transfers income to the poor. Evidently, the objective of such government programs is to make consumption more equal across individuals. Given that consumption data are not easy to come by, disposable income per capita can be used instead to determine the degree to which differences in consumption have been leveled. The difference between income and disposable income is simply taxes and transfer payments. Because of data limitations on disposable income per capita, however, the period we can look at, 1948–2003, is shorter than for per capita income.

Figures 4 and 5 show real disposable income per capita in 1948 and 2003. A comparison of the figures shows that this measure suggests closer income equality than does income per capita. In 1948, the ratio of real disposable income per capita between the states with the highest and lowest levels is roughly 2.09, smaller than the analogous ratio for per capita income that year, 2.23. By 2003, the ratio of real per capita disposable income between the states with the highest and lowest levels had narrowed to 1.69, compared with 1.84 for real per capita income that year.

■ **Income Mobility**

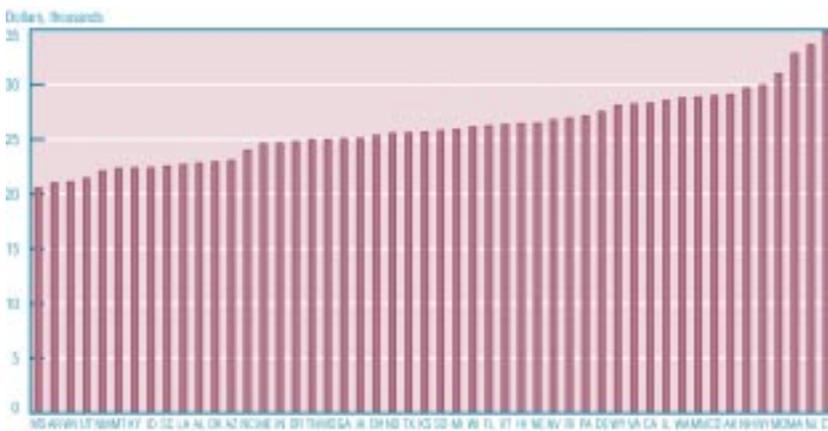
A fact that may have passed unnoticed is that the names of the richest and poorest states changed between 1929 and 2003. In 1929, South Carolina was the poorest state, while in 2003 it was Mississippi. The richest state in 1929 was New York; now it is Connecticut. Other states have

**FIGURE 4 STATE DISPOSABLE PER CAPITA INCOME, 1948**



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

**FIGURE 5 STATE DISPOSABLE PER CAPITA INCOME, 2003**



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

also changed their relative position in the distribution. This is not dissimilar from what may happen in your neighborhood. At one point in time your income may be below that of your two neighbors. One neighbor may hit it rich while the other may fall victim to downsizing and become unemployed. While you were originally the poorest in the neighborhood, your newly unemployed neighbor is now the poorest.

So which states were the biggest gainers in terms of relative rankings? Virginia moved up in the rankings more than any other state. Between 1929 and 2003 Virginia climbed ahead of 25 other states. That is, in 1929 it was the thirteenth poorest state. By 2003 it had climbed to thirty-eighth from the bottom. The next two big movers-up were Georgia (18 positions) and Minnesota (17 positions).

Utah was the state that fell most in the rankings, losing 16 positions. Montana was next, falling 15 places. Of the states in the Federal Reserve's Fourth District, Kentucky was the only state to move up in the relative rankings, and only by one position. West Virginia fell the farthest of the Fourth District states, down 12 spots, while Ohio fell 11, and Pennsylvania four.

While economic growth has made all states richer and incomes have converged across the United States, some states have fared relatively better than others. The causes of such changes are not fully understood, but this is an active and fruitful area of research.

■ **A Global View**

The individual states of the United States allow for a nice evaluation of the

economic proposition of convergence: the states are fairly homogeneous with respect to their laws, tax codes, work ethic, and so forth. Apart from where each state started, they all more or less look “the same.” Economic theory tells us that, over time, the per capita income of different regions should grow more alike—and that is exactly what we see. The difference between the richest and poorest states fell from over four times in 1929 to less than two times by 2003.

Some states have managed to do relatively better than their peers. South Carolina was the poorest state in 1929; by 2003 it had leap-frogged over eight other states. That said, even the poorest state in 2003 is much better off than the richest state in 1929.

Here is some final food for thought: Across the globe there is not much evidence of convergence! It is startling to learn that the richest countries in the world are roughly 70 times richer than the poorest. By way of example, in 2000 real per capita income in the United States was \$35,619 and only \$490 in Tanzania. (Source: Penn World Tables). While this huge disparity might be cause for concern, it may be somewhat comforting if evidence suggested that poor countries are “catching up” to rich ones. However, there is no evidence such convergence is occurring across all countries, although it does appear that there is convergence within the set of richer countries.

While it is easy to explain an individual country's economic performance—it may stand where it is because of war, drought, or other misfortunes—it is more difficult to explain why incomes do not seem to be converging when we look at all countries as a whole. One potential explanation is that the states in the United States, as well as most of the richer countries, operate under a set of clearly defined property rights and rules to enforce them. And remember, convergence, if it occurs at all, may take a very long time.

■ **Recommended Reading**

A good reference for the topic of convergence is *Economic Growth* by Robert J. Barro and Xavier Sala-i-Martin, MIT Press, 2003.

Paul Gomme and Peter Rupert are economic advisors at the Federal Reserve Bank of Cleveland. The authors thank Janet Miller for excellent research assistance.

The views expressed here are those of the authors and not necessarily those of the Federal Reserve Bank of Cleveland, the Board of Governors of the Federal Reserve System, or its staff.

Economic Commentary is published by the Research Department of the Federal Reserve Bank of Cleveland. To receive copies or to be placed on the mailing list, e-mail your request to [4d.subscriptions@clev.frb.org](mailto:4d.subscriptions@clev.frb.org) or fax it to 216-579-3050. Economic Commentary is also available at the Cleveland Fed's site on the World Wide Web: [www.clevelandfed.org/research](http://www.clevelandfed.org/research).

We invite comments, questions, and suggestions. E-mail us at [editor@clev.frb.org](mailto:editor@clev.frb.org).

**Federal Reserve Bank of Cleveland  
Research Department  
P.O. Box 6387  
Cleveland, OH 44101**

**Return Service Requested:**  
Please send corrected mailing label to the above address.

Material may be reprinted if the source is credited. Please send copies of reprinted material to the editor.

**PRSR STD  
U.S. Postage Paid  
Cleveland, OH  
Permit No. 385**