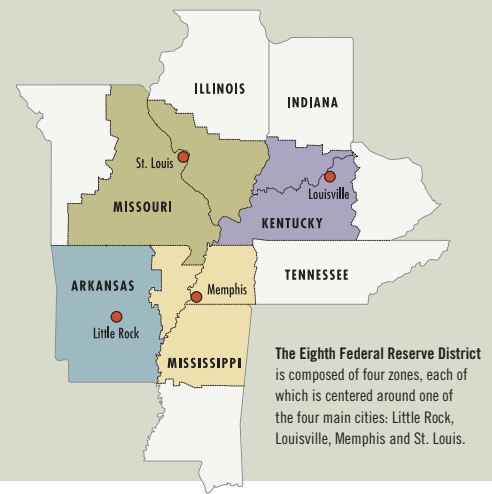# Measured Economic Mobility in the District Is Below the U.S. Average

By Alejandro Badel and Julia Maues

The Eighth Federal Reserve District is composed of four zones, each of which is centered around one of the four main cities: Little Rock, Louisville, Memphis and St. Louis.

Is intergenerational economic mobility high or low in the Eighth District? Are there areas with extremely high or extremely low mobility? In this District Overview, we provide answers to these questions, using results from a 2014 study by economists Raj Chetty, Nathaniel Hendren, Patrick Kline and Emmanuel Saez (CHKS hereafter).

The CHKS study has attracted a great deal of interest, in large part because it measures mobility using a comprehensive data set that contains the incomes of more than 40 million people and their parents between 1996 and 2012. The data set is constructed from anonymized federal tax returns.

The measures of intergenerational economic mobility in CHKS are computed by taking the group of people who were born in 1980-82 and comparing the income of their parents in 1996-2000 (when they were between 14 and 20 years old) with their own family income in 2011-12 (when they were between 29 and 32 years old).

Each of the mobility measures in CHKS is calculated for each group of people growing up in the same "town" (regardless of whether they moved afterward). CHKS used the Census Bureau's commuting zones as the geographical definition of a "town." Each commuting zone consists of several adjacent counties that are chosen according to observed commuting patterns. A person is assigned to a particular commuting zone if his or her family was living there in 1980-82.

While the CHKS study presents several indicators of intergenerational economic mobility, we focus on a particular one: the probability of moving up in one generation. CHKS obtains this indicator by considering, for each commuting zone, the group of 14- to 20-year-olds whose family income was in the bottom 20 percent of the national income distribution in 1996-2000. The indicator is the fraction of that group that, as grown-ups (i.e., by ages 29-32), had a family income in the top 20 percent of the national income distribution.

Let's now look at economic mobility in the Eighth District. To do so, we look at the mobility indicator in all of the commuting zones that contain at least one county belonging to the Eighth District.

Best and Worst in the District

The Eighth District is composed of 339 counties in all or parts of seven states: Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri and Tennessee. These counties are covered by 81 commuting zones.

Averaging the mobility indicator across these counties, we calculate that the probability of moving from the bottom 20 percent of the income distribution to the top 20 percent of the income distribution in one generation was 6.4 percent in the Eighth District.[1]

This probability is comparable to that faced by those growing up in Tampa, Fla. (6 percent), Baltimore (6.4 percent), and Chicago (6.49 percent). However, it is much lower than the probability of moving up for those growing up in Salt Lake City (10.8 percent), and San Jose, Calif. (12.9 percent). The probability of moving up for those growing up in the Eighth District was also 1.7 percentage points lower than the national average (8.1 percent).[2]

Panel A in the table presents the probability of moving up for people growing up in the 10 largest commuting zones (as measured by population in 2000) that contain at least one county of the Eighth District. Those growing up in Memphis had the lowest probability of moving up (2.8 percent), followed by St. Louis and Cincinnati (both at 5.1 percent). The highest probability was measured for Fayetteville, Ark. (9.2 percent), followed by Edwardsville, Ill. (8.7 percent). The differences in chances of moving up are striking: The probability of moving up was 1.8 times larger for those who grew up in St. Louis than for those who grew up in Memphis, while it was 1.8 times larger for those who grew up in Fayetteville than for those who grew up in St. Louis.

The second column of Panel A presents the ranking of each commuting zone (in terms of probability of moving up) among all the commuting zones in the nation. This column shows that for the 10 largest commuting zones that contain at least one county of the Eighth District, the probability of moving up is pretty much in the bottom half of the national distribution.

Panel B displays the four commuting zones in the District where people had the greatest chances to jump up the income ladder, as well as the four zones where people had the worst chances of making this leap. The probability of moving up in one generation ranges from 2.2 percent for those growing up in Greenville, Miss., to 11.7 percent for those growing up in Olney, Ill. The bottom four commuting zones all rank in the bottom 1 percent of the national distribution. At the other extreme, there are no areas of the District with mobility in the top 1 percent of the national distribution. The highest-ranked commuting zone in the District ranks at the 73rd percentile of the national distribution.

Probability of Moving Up in One Generation, by Commuting Zone

A. 10 Largest Commuting Zones in the Eighth District

	Probability of moving up (%)	Percentile in national ranking (with 0 being lowest)
Fayetteville, Ark.	9.2	52.1
Edwardsville, Ill.	8.7	47.9
Evansville, Ind.	7.9	38.4
Springfield, Mo.	7.1	31.3
Lexington-Fayette, Ky.	5.4	15.2
Little Rock, Ark.	5.4	15.0
Louisville, Ky.	5.2	13.6
Cincinnati	5.1	12.3
St. Louis	5.1	11.9
Memphis, Tenn.	2.8	1.0

B. Top and Bottom Four in the Eighth District

	Probability of moving up (%)	Percentile in national ranking (with 0 being lowest)
Top 4		
Olney, Ill.	11.7	73.7
Kirksville, Mo.	11.3	70.9
Harrisburg, Ill.	11.2	69.7
Vincennes, Ind.	11.0	68.0
Bottom 4		
Memphis, Tenn.	2.8	1.0
Clarksdale, Miss.	2.7	0.7
Yazoo City, Miss.	2.5	0.5
Greenville, Miss.	2.2	0.1

C. Top and Bottom Four in the Nation

	Probability of moving up (%)	Percentile in national ranking (with 0 being lowest)
Top 4		
Bowman, N.D.	47.0	100.0
Lemmon, N.D.	35.7	99.9
Williston, N.D.	33.8	99.7
Carrington, N.D.	33.3	99.6
Bottom 4		
Yazoo City, Miss.	2.5	0.5
Mission, S.D.	2.4	0.4
Eufaula, Ga.	2.3	0.3
Greenville, Miss.	2.2	0.1

SOURCE: See www.equality-of-opportunity.org/.

NOTE: Some of the cities that are listed as being in the District (such as Cincinnati) are not actually within the borders of the District; however, at least one county in their commuting zone (as defined by the Census Bureau) is part of the District.

Commuting zones carry the name of the main town covered by the commuting zone. Since some commuting zones may cross state borders, the state assigned to the commuting zone may not correspond to the state where the main town is located.

Panel C displays the probability of moving up and the percentile in the national distribution for the top four and bottom four commuting zones in the nation. Two commuting zones in the Eighth District rank in the nation's bottom four: Yazoo City, Miss., and Greenville, Miss. Not shown in this panel is the Memphis commuting zone, which ranks 722 among 729 commuting zones in the CHKS report.

Comparing the top four commuting zones in Panel B with those in Panel C shows that the District does not have areas with extremely high income mobility. Such mobility in the nation's top commuting zone is more than four times higher than in the District's top commuting zone. On the other hand, the District contains areas with extremely low income mobility. Why? In the next District Overview, in the July issue of *The Regional Economist*, we will provide a quick introduction to the factors that may be part of an explanation for these differences in income mobility. However, we leave a more complete investigation of the forces behind these patterns to future research on the economy of the Eighth District.

In summary, the probability of moving up for people born in the Eighth District taken as a whole is only somewhat lower than the national average. However, the District contains pockets where the probability of moving up is extremely low, and it contains no areas with remarkably high income mobility. Ω

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ENDNOTES

[1] This figure is obtained by assigning to each county the probability of moving up in its commuting zone and then taking a weighted average (with the weights being equal to the counties' population in 2012) across counties. This allows an exact estimate of the probability of moving up in the Eighth District.

[2] This figure is obtained as a weighted average across all commuting zones with weights equal to the population of each commuting zone in 2000. An identical result would be obtained using a county-by-county weighting strategy as we did for the Eighth District, but is not necessary here.

REFERENCE

Chetty, Raj; Hendren, Nathaniel; Kline, Patrick; and Saez, Emmanuel. "Where Is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States." National Bureau of Economic Research, January 2014, Working Paper 19843.