More on Intergenerational Income Mobility ...  

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FEW NOTIONS ARE AS INGRAINED in the national psyche as the American dream—the idea that kids will be better off than their parents and that anybody can make it to the top in this country with a little grit, determination and hard work, no matter their starting place on the ladder.

But there is national hand-wringing over the state of the dream—a victim of income inequality, a sluggish economy coming off a horrendous recession or sundry other factors. A Wall Street Journal/NBC poll in early August found that “Americans are registering record levels of anxiety about the opportunities available to younger generations.” A CBS poll in early summer reported that almost three in five believed that “the American dream has become impossible for most people to achieve.”

Bruce Vold has a multigenerational perspective on the matter. The pastor at Trinity Lutheran Church in Carrington, N.D., he’s a third-generation churchman who has lived the American dream even if that was never the goal. Vold’s pastor grandfather was paid “in chicken” in the 1930s—rather than receiving a salary, parishioners would give him chickens or “a cow for milk for a family of seven. They had nothing,” Vold said.

But each successive generation has attained a higher standard of living.
Income mobility from page 1

The Quick Take

Upward income mobility—children faring better financially than their parents—is widely believed to be stagnant, even decreasing in the United States. New research by a team of academics has found that, in fact, the American dream is still alive, but achieving it depends heavily on where you grow up.

In large swaths of the country, upward income movement across generations is low. But if you live in the Ninth District, statistically speaking, you’re more upwardly mobile than people living elsewhere in the country. The reasons for this are hard to pinpoint, but appear to stem, at least in part, from comparatively better education outcomes, greater family stability, strong local economies that foster a larger middle class and access to good-paying jobs, whether in oilfields or in larger cities where wages are higher. In rural areas, the strength of the farm economy—as well as its cyclicality—also appears to play a role in improving the fortunes of children compared with their parents.

Vold and his wife, Anne, have three children: two out of college and one still attending. “Certainly, we wanted them to have professional success,” said Vold. “But I didn’t care what they did. … I’m looking more for how they are contributing to society.”

Nonetheless, the young Vold clan appears poised to continue the story of the Bakken oil boom and a red-hot North Dakota performance. And for absolute upward mobility, the district is home to many of the nation’s fast-growing metropolitan areas, including the ones in the Ninth District (see Chart 2 on page 4).

The research base

Recently, a group of academic researchers led by Raj Chetty of Harvard University released a comprehensive study on the intergenerational income mobility of poor families nationwide. (See Chetty, Hendren, Kline, and Saez 2014, NBER Working Paper 19845.) All of the data in this study were made public, serving as the foundation for this fedgazette analysis.

The research—which has evolved into an ongoing study called the Equality of Opportunity Project—looked at the incomes of children from the poorest families to see how these children later fared as 30- to 32-year-olds. Subjects in the study, who were identified anonymously through federal tax records, were then grouped into commuting zones, or clusters of counties with strong commuting ties that serve as a rough proxy for regional economies nationwide. (For more on the study’s methodology, see “And now, a word from our sponsor” on page 7.)

The study found that upward income mobility, while generally lower in the United States than in many developed countries, hasn’t changed much. But the researchers found major differences in income mobility depending on where children grew up. In Atlanta, for example, only 4.5 percent of children from households in the lowest 20 percent of income can expect to be in the top 20 percent as adults. In Rochester, Minn., and Fargo, N.D., it’s 14 percent, which compares favorably with high-mobility countries around the world.

“We actually came in just asking a simple question of whether the American dream is still alive and whether the U.S. is a land of opportunity, and what we found is that that question really doesn’t have a straightforward answer because the answer seems to depend very much on geography. That is, it depends on where you grow up,” said Chetty earlier this year in St. Cloud, Minn., where he was giving a speech at St. Cloud State University. “In some parts of the U.S., kids who grow up at the bottom of the income distribution, in disadvantaged families, end up having very high chances of moving up … and in other places the American dream doesn’t seem to be nearly as alive.”

Enter the Ninth District, where adult children in the study scored much higher on two fundamental measures of income mobility analyzed by the fedgazette: absolute upward mobility and bottom-to-top mobility (see maps with related methodology definitions on page 3). This performance was not a methodological quirk—something driven by, say, the Bakken oil boom and a red-hot North Dakota economy. Each district state outperformed the nation as a whole in both measures, often by considerable margins.

For absolute upward mobility, the distribution of the district’s 87 commuting zones shifts far to the right, or up the income mobility ladder, compared with 622 other commuting zones across the country (see Chart 1 on page 4; due to small samples, a number of commuting zones in the country and district had no rank and are not included here). At the same time, the chances of going from rags to riches—from the bottom quintile of income to the top—were also higher in the district (see Chart 2 on page 4).

We’re #1 (through #6)

The district is home to many of the nation’s highest income mobility commut-
Absolute upward mobility

Expected percentile rank of adult children (30 to 32 years old in 2011-12) whose parents were in the 25th percentile of income distribution, roughly $30,000 (2012 dollars) or less, in 1996 to 2000. A percentile rank of 50 for a commuting zone means that adult children in this zone rank at the midpoint of national income for this age cohort.

Bottom-to-top mobility

Probability that a child of a parent ranked in the bottom quintile of national parent income in the late 1990s is in the top quintile of national income for his or her age cohort as an adult (30 to 32 years old in 2011-12).
hours from Fargo, Bismarck and Minot. That seeming isolation has its advantages. Two decades ago, the city beat out almost 30 other communities competing for the Dakota Growers plant, which employs about 200. The community’s central location and its good highway and rail access were factors in the firm’s decision to build in Carrington.

Today, Agro-Culture Liquid Fertilizer is building a new plant in Carrington “because they can distribute to a four-state area from here and save themselves a lot of money,” said James Linderman, Carrington economic development director. “So that’s been a really big help for us—our geographical location within the state and around us.”

Don’t forget the big cities
Larger cities in the Ninth District also fared well among their peers. St. Cloud scored highest among 381 metropolitan statistical areas nationwide in absolute upward mobility; several others were in the top 25, and all 15 MSAs in the district ranked in the top quartile (see table at left).

These results were something of a revelation to some observers, such as King Banaian, a St. Cloud resident and state representative in the Minnesota House. “It did surprise me to some extent,” he said. Nonetheless, Banaian had no problem offering possible explanations for the ranking, in part because he’s an economist and interim dean at the School of Public Affairs Research Institute at St. Cloud State University (SCSU) and co-author of the St. Cloud Quarterly Business Report.

St. Cloud might not have the upper income potential of the Twin Cities, he said, but the city has always had good places to work. The region has a higher-than-average percentage of manufacturing jobs, at 15 percent, and many are in high-value sectors like technology and precision instruments.

While the region has lost manufacturing jobs, the overall rate of job loss from 2003 to 2013 (6.3 percent) was significantly lower than the statewide average (10.8 percent) over this period. At the same time, the area has seen strong growth in other sectors like health care. The region is a medical center for much of the north-central part of the state, Banaian noted.

Banaian also believes that St. Cloud’s proximity to the Twin Cities, roughly an hour away, is a big reason for the ranking. Minneapolis-St. Paul is a big draw for St. Cloud residents. That matters because the Chetty research team assigned all income of the adult children to their home commuting zone when they were 16 years old. So in the study’s statistical framework, St. Cloud children who left home for the bright lights of Minneapolis nonetheless had their paychecks attributed back to their home commuting zone.

“We’re just a way-stop to the Twin Cities,” Banaian said. “Our number one export is smart kids.” The department recently found that of roughly 700 alumni, 400 lived in the Twin Cities. “Most probably went down there to earn more money than they could get here.”

Many sources in other communities similarly acknowledged that their sons and daughters had gone elsewhere to make their living, very often to larger cities that historically have paid higher wages, thus offering a better opportunity to surpass mom and dad’s income.

Vold is not even the sole pastor at Lutheran Trinity whose children went away for college and later found good jobs in bigger cities. His colleague, Russ Christiansen, grew up 35 miles away in the little town of McHenry. He and his wife of 38 years have two kids; a daughter lives in South St. Paul, Minn., and does administrative work out of her home for a hospital based in Duluth. Their son works in Fargo for Microsoft and “earns more than my wife and I together,” said Christiansen.

Of course, no community keeps all of its own, and young adults from every community move away to find their fortune. But higher upward mobility in the district might also be related to comparatively high college attainment in district states; North Dakota and Minnesota rank among the top seven states for percentage of adults ages 25 to 64 with an associate’s degree or higher, and South Dakota and Wisconsin are above the national average, according to Census

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**Ninth District metro cities rank high in absolute upward mobility**

<table>
<thead>
<tr>
<th>MSA</th>
<th>National Rank</th>
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<tbody>
<tr>
<td>St. Cloud, Minn.</td>
<td>1</td>
</tr>
<tr>
<td>Bismarck, N.D.</td>
<td>4</td>
</tr>
<tr>
<td>Grand Forks, N.D.</td>
<td>7</td>
</tr>
<tr>
<td>Rochester, Minn.</td>
<td>9</td>
</tr>
<tr>
<td>Mankato, Minn.</td>
<td>11</td>
</tr>
<tr>
<td>Sioux Falls, S.D.</td>
<td>14</td>
</tr>
<tr>
<td>Fargo, N.D.</td>
<td>15</td>
</tr>
<tr>
<td>Eau Claire, Wis.</td>
<td>24</td>
</tr>
<tr>
<td>Billings, Mont.</td>
<td>25</td>
</tr>
<tr>
<td>La Crosse, Wis.</td>
<td>26</td>
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<tr>
<td>Great Falls, Mont.</td>
<td>42</td>
</tr>
<tr>
<td>Duluth, Minn.</td>
<td>58</td>
</tr>
<tr>
<td>Minneapolis-St. Paul, Minn.</td>
<td>67</td>
</tr>
<tr>
<td>Rapid City, S.D.</td>
<td>76</td>
</tr>
<tr>
<td>Missoula, Mont.</td>
<td>89</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Bank of Minneapolis calculations, based on Chetty et al. (2014)
Such attainment makes it more probable that hometown kids will land higher-paying jobs in professional fields, whether at home or elsewhere.

In Carrington, “I see the expectation of the student [to achieve] from the parents, from the community, from the school,” said Brian Duchscherer, superintendent of Carrington Public Schools. He said that 86 percent of the high school class of 2013 had plans to pursue two-year or four-year degrees. “Combine that with the economic climate in North Dakota right now … [and] I think it’s the perfect storm when those two meet.”

More on why and how

Ultimately, the factors behind intergenerational income mobility are many and vary by location. But it’s not hard to infer why some commuting zones have high income mobility.

For example, the commuting zone of Dickinson, N.D.—which includes the counties of Stark (home to Dickinson), Billings and Dunn—has the highest absolute upward mobility ranking in the country. While there is no irrefutable proof, its location in the Bakken oilfields likely plays a considerable role in its high rank.

In 2013, for example, 47 percent of the 22,000 jobs in Stark and Dunn counties, and 67 percent of income earned, were related to the oil and gas industry, according to a report by Job Service North Dakota. (Figures for much smaller Billings County were unavailable.)

In the Chetty study, average annual income for adult children in the Dickinson commuting zone was almost $76,000 in 2011-12 (current dollars); that compares with about $65,000 for parents in this zone (1996-2000 average, adjusted for inflation to 2012 dollars).

But in other places, as well as more broadly across states, teasing out the reasons for high or low upward mobility is a very complex task because a multitude of economic and social factors influence income over generations. Rank could even be influenced by methodology.

Robert Johnson, professor and chair of the Ethnic Studies and Pre-College departments at SCSU, suggested to Chetty after his speech in St. Cloud that the city’s top ranking in absolute upward mobility is a very complex task because a multitude of economic and social factors influence income over generations. Rank could even be influenced by methodology.

While the Chetty research team did not specifically factor for demographic changes in local population samples, it did investigate a number of variables looking for correlations to mobility—not causal proof, but evidence that the presence (or absence) of a particular factor was common to those with high (or low) upward mobility. Among almost three dozen variables studied, five

Compared with the nation, Ninth District commuting zones have higher absolute upward mobility and …

Source: Federal Reserve Bank of Minneapolis calculations, based on Chetty et al. (2014)
stood out for having a significant correlation with income mobility: residential segregation, size of the middle class, K-12 test scores, social capital and single parenthood.

As one might expect given their high mobility rankings, Ninth District commuting zones generally outperformed the nation on these measures. Residential segregation, which includes income and racial segregation, is lower in many district communities. This might be partly due to the fact that many district commuting zones are smaller in population (which tends to limit the upper end of the income distribution) and largely white (reducing racial segregation by default).

Other correlations also offer a notable contrast compared with the rest the country. For example, the middle class—defined as the percent of parents with incomes between the 25th and 75th percentile of the national income distribution—is larger in Ninth District commuting zones, while the fraction of children living with single mothers is smaller. As for school performance, income-adjusted school test scores in English and math for children in third through eighth grades tend to be uniformly higher (see Chart 3 on page 5).

Ninth District commuting zones also tend to have higher social capital, which the Chetty team gauged through voter turnout, percentage who return Census forms and participation in community organizations. Upwardly mobile St. Cloud offers a good example. “There is tremendous social capital here. … People are willing to invest their time, talent and treasure into the community. And you can see it,” said Banaian. He pointed to the renovation of Lake George and Eastman Park near downtown, which had fallen into disrepair. In 2007, the St. Cloud Rotary Club raised over $1.5 million from local businesses and members, which helped leverage a total investment of $7 million to transform the lake and park into a community destination with walking and biking trails, sitting areas, fishing piers, a splash park and meeting facilities.

In 2011, the club started hosting “Summertime by George,” a weekly festival at the park featuring live music, a farmers market, food vendors and family activities. Attendance reached 86,000 people in the summer of 2013, and Rotary members logged 1,500 volunteer hours. “It’s the biggest thing in town. This is like a party on steroids,” said Banaian. “If you’re looking for anywhere on Wednesday night, they are down there.”

**Back home on the farm**

The Chetty research team looked at only a few isolated factors directly related to local economies, including the share of manufacturing jobs and workforce participation rates, and found no strong correlations. An exhaustive review of other local-economy factors—like employment growth and industry mix—is outside the scope of the project. But there does appear to be one factor—identified by multiple sources and supported by data—that seems likely to have influenced upward mobility rankings, particularly for lightly populated rural areas: agriculture.

In this case, the time frame for measuring the income of parents (1996 to 2008) came when the farm economy in many ag-dependent counties was poor to modest, but was followed by one of the strongest farm economies of recent memory. The ag surge appears to have had significant spillover effects.

For example, the commuting zone of Linton, N.D., includes the counties of Emmons, Logan and McIntosh, with a combined population of just 8,200. The zone ranks second in the country in absolute upward mobility, but that’s not necessarily obvious in the zone’s biggest city—Linton, population 1,100. Broadway Street downtown is active, but also has a few vacant storefronts and has lost some business anchors over the years, according to local sources. The town of tidy neighborhoods and unassuming, well-maintained houses appears content with what it has, rather than dreaming about what it might become.

Without a vibrant farm economy, it’s difficult to see how this commuting zone could be ranked so high, and the study’s timing likely plays a role as well. In the late 1990s, farming in the region was struggling, responsible for just 13 percent of the three-county economy, according to the Bureau of Economic Analysis. In 1997, annual net farm income in this region averaged less than $25,000 per farm (unadjusted for inflation), including fairly generous government subsidies, according to the USDA’s Census of Agriculture.

Things didn’t improve quickly, but a confluence of factors over the next decade and a half—rising commodity prices, higher yields from better farm practices and movement to more profitable commodities like corn and soybeans—eventually led to record farm income in the region (and across North Dakota). By 2012, annual average net farm income had risen to almost $120,000 per farm in these three counties, and agriculture’s share of total personal income in this commuting zone leapt to 42 percent (see Chart 4).

Spencer Larson is a recently retired senior farm loan officer for the USDA’s Farm Service Agency in Linton. He came to Linton in 1972 to work for the Farmers Home Administration (renamed the Farm Service Agency in the 1990s). Over a 42-year career, Larson has ridden the agricultural roller coaster with local farmers, including the brutal 1980s, when many farmers went bankrupt.

Things started turning around in the 1990s, Larson said, thanks to more consistent precipitation, better farming techniques and technology. Eventually, farmers started making real money, and some weren’t quite sure what to do, Larson said. “The dads that have turned over [operations] to their sons and daughters have said, ‘My kids have never experienced a bad year. I’m worried what’s going to happen when that happens.’ We’ve had no crisis, no severe weather issues, no overall big disasters,” but he added that current low crop prices would be a big test for young farmers.

While farm consolidation continues, new opportunities have opened up in the farm economy, according to Larson and multiple other sources. For example, agronomy—the science and technology of food production and farm management—has brought new companies and jobs to town, helping farmers with soil science, irrigation, weed and pest control, crop rotation and more. Many agronomy jobs involve considerable schooling, bringing jobs for college graduates to many rural communities. “So that’s been a job opportunity that was nonexistent 20 years ago,” said Larson.

Thriving agriculture also offers a chance for sons and daughters to come...
And now, a word from our sponsor

The genesis of this fedgazette project on intergenerational income mobility, and the raw data that underlie it, comes from research by a group of academics that gathered unprecedented (and anonymous) income records from the Internal Revenue Service on 40 million individuals. The principal researchers—Raj Chetty and Nathaniel Hendren from Harvard University, and Patrick Kline and Emmanuel Saez from the University of California, Berkeley—started by looking at 1996 tax records of 30 million people, who were identified only by a Social Security number. Dependents also were listed by Social Security number on tax returns, allowing the team to identify 10 million children born between 1980 and 1982.

In February, Chetty discussed this undertaking, dubbed the Equality of Opportunity Project, in a radio interview with St. Cloud State University economist King Banaian, who is also a state legislator and radio host on the Wall Street Business Network.

“We’re trying to understand the determinants of intergenerational mobility. A simple way to think about it is ‘your odds of moving up in the income distribution,’ [which is] kind of the core ideal of the American dream. We want to investigate what factors seem to increase kids’ chances of moving up in the income distribution and what we can do to promote the outcomes of disadvantaged youth,” Chetty said.

“The way I think about the work that we’re doing is using big data to improve public policy in much the same way that private sector companies like Amazon or Google are trying to use big data to improve the products that they deliver.”

The team calculated parents’ income by averaging family income from 1996 to 2000. It then calculated the income of the (now adult) children in 2011 and 2012, when they would be between the ages of 30 and 32 years old. Then the researchers added a geographic component by assigning the income of both parents and their children to their place of residence when the children were 16 years old, regardless of where the income was earned when children were 30-somethings.

To better generalize the geographic data, the research team grouped income records by commuting zones, which are clusters of counties that are characterized by strong internal commuting ties (as defined, in this case, by the 1990 census). Because employers and workers in a local market tend to be located within commuting distance, commuting zones serve as rough proxies of local economies. Because these zones don’t rely on the presence of a major city (as with metropolitan statistical areas) they cover the entire United States, including rural areas.

In all, the team collected data on 741 commuting zones across the country—including 101 in the Ninth District. Some zones were eliminated because sample sizes were too small to include, bringing the final tally of commuting zones in the study to 709 nationwide and 87 in the Ninth District. The team also made its data publicly available, which the fedgazette used as the foundation of its investigation.

Mobility rankings by the Chetty research team don’t solely depend on the net change or difference in the income of children versus that of parents. In many commuting zones, the income of the children (as 30- to 32-year-olds) does not exceed that of their parents, in part because the children’s income is measured comparatively early in their careers.

Instead, the Chetty team used a so-called rank-rank analysis, whereby parent household income is ranked against the income of other parents with children in the same birth cohort, and adult children are ranked based on their household incomes relative to other adult children in the same birth cohort. The Chetty team then ranks upward mobility based on a linear regression of child rank against parent rank.

The research findings run counter to much of the conventional wisdom on intergenerational income mobility, Chetty said in the local radio interview.

“Many people have the perception that the U.S. once was a land of opportunity, and maybe upward mobility has been declining over time. What we find actually, in contrast, is looking over the past 30, 40 years or so, mobility seems relatively stable at the national level. There haven’t been significant changes. So the much bigger story here, in our view, is not so much that mobility is declining over time, but rather that there are some places in the U.S. that have persistently low levels of upward mobility relative to others.”

Chetty said that the odds of a child moving from the bottom fifth to the top fifth of the income distribution “are three times as large in places like Salt Lake City or parts of Minnesota relative to other areas such as Charlotte or Indianapolis or Atlanta.” So the best income mobility places in the United States—many of which are in the Ninth District—“look somewhat like Denmark or Sweden or Norway, on average.” But he added that the United States looks “significantly worse” overall because it has “many places with much, much lower levels of upward mobility.”

“Why are we seeing these really large differences in kids’ outcomes across these areas? A very likely reason is local policy or other differences in local economic conditions.”

—Ronald A. Wirtz