

Improving Equality of Opportunity in America

New Evidence and Policy Lessons

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Photo Credit: Florida Atlantic University



Is America the “Land of Opportunity”?

- U.S. is traditionally hailed as the “land of opportunity”
 - Does it live up to this reputation?
 - How can we improve disadvantaged children’s chances of success?



New Evidence from Big Data

- Our research group is using “big data” to develop new answers to these questions
- Analyze anonymous records on the earnings of 40 million children and their parents
 - Study kids’ chances of moving up in the income distribution



Is America the Land of Opportunity?

- The answer depends on where you live
 - Some cities in America are lands of opportunity; others are lands of persistent inequality
- To start, lets compare two cities with vibrant economies

Salt Lake City, UT

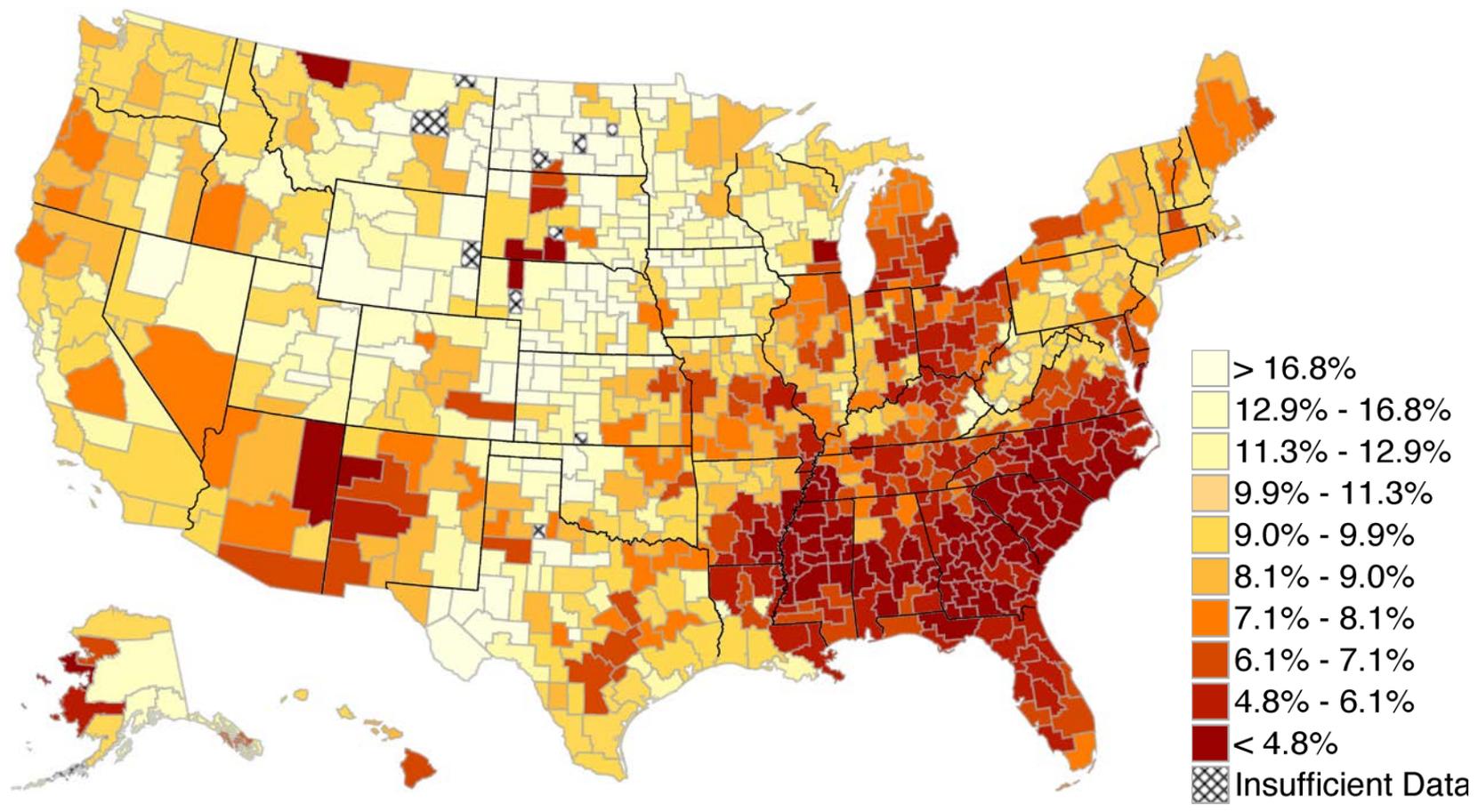


Charlotte, NC



The Geography of Upward Mobility in the United States

Probability of Reaching the Top Fifth Starting from the Bottom Fifth



Note: Lighter Color = More Upward Mobility

Highest Upward Mobility in the 50 Largest Cities

Rank	Metro Area	Odds of Reaching Top Fifth Starting from Bottom Fifth
1	San Jose, CA	12.9%
2	San Francisco, CA	12.2%
3	Washington DC	11.0%
4	Seattle, WA	10.9%
5	Salt Lake City, UT	10.8%
6	New York, NY	10.5%
7	Boston, MA	10.5%
8	San Diego, CA	10.4%
9	Newark, NJ	10.2%
10	Manchester, NH	10.0%

Lowest Upward Mobility in the 50 Largest Cities

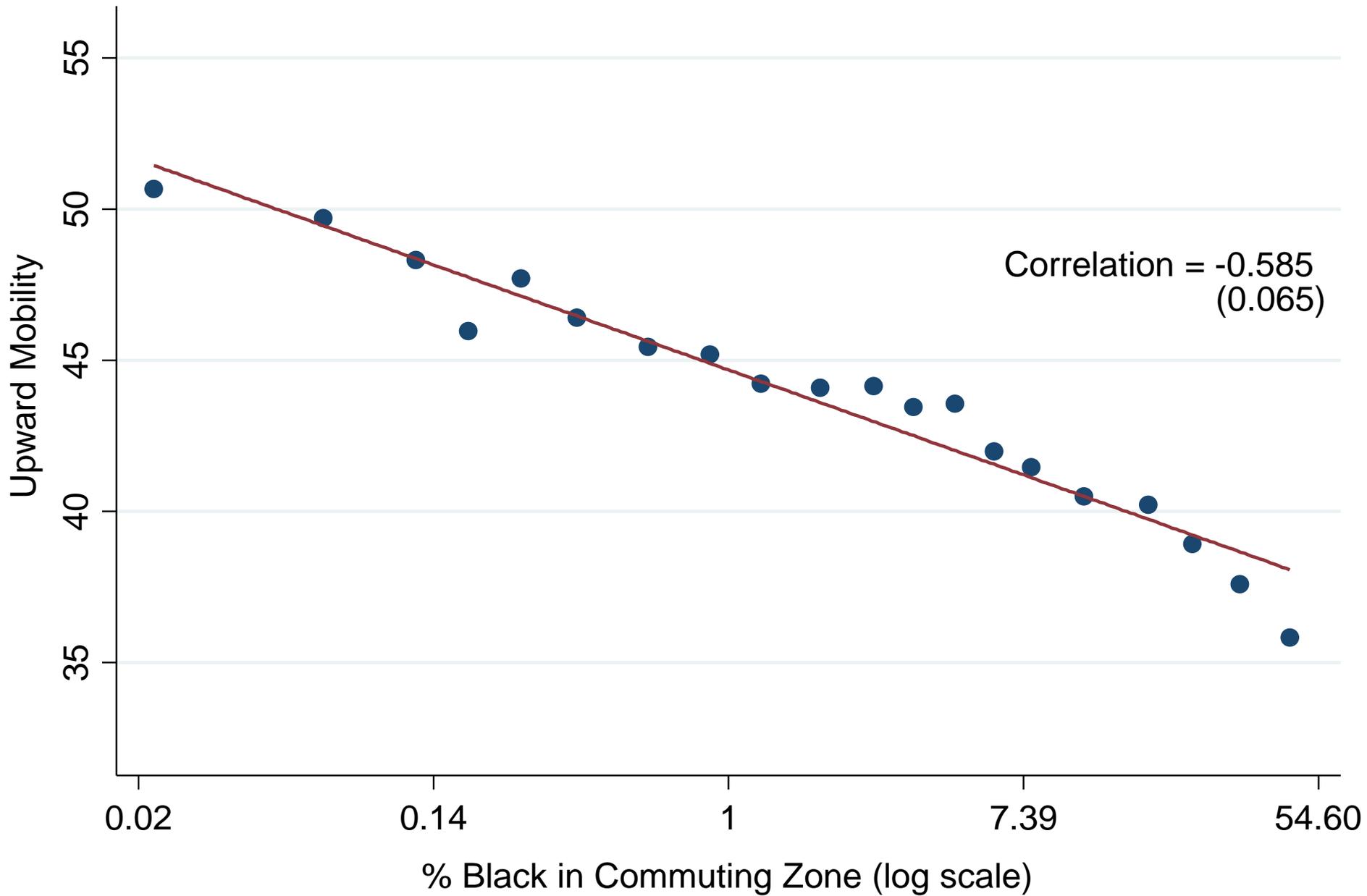
Rank	Metro Area	Odds of Reaching Top Fifth Starting from Bottom Fifth
41	Cleveland, OH	5.1%
42	St. Louis, MO	5.1%
43	Raleigh, NC	5.0%
44	Jacksonville, FL	4.9%
45	Columbus, OH	4.9%
46	Indianapolis, IN	4.9%
47	Dayton, OH	4.9%
48	Atlanta, GA	4.5%
49	Milwaukee, WI	4.5%
50	Charlotte, NC	4.4%

What Drives the Differences in Upward Mobility Across Areas?

- Start by exploring racial differences
- Most obvious pattern from map: areas with a large African-American population have less upward mobility



Upward Mobility vs. Fraction Black in Area



Race and Upward Income Mobility

- But *white* Americans also have lower rates of upward mobility in areas with a large African-American share
- Stronger correlate is racial and income **segregation**
 - Segregation affects both low-income blacks and whites



Photo Credit: University of Michigan

Racial Segregation in Atlanta

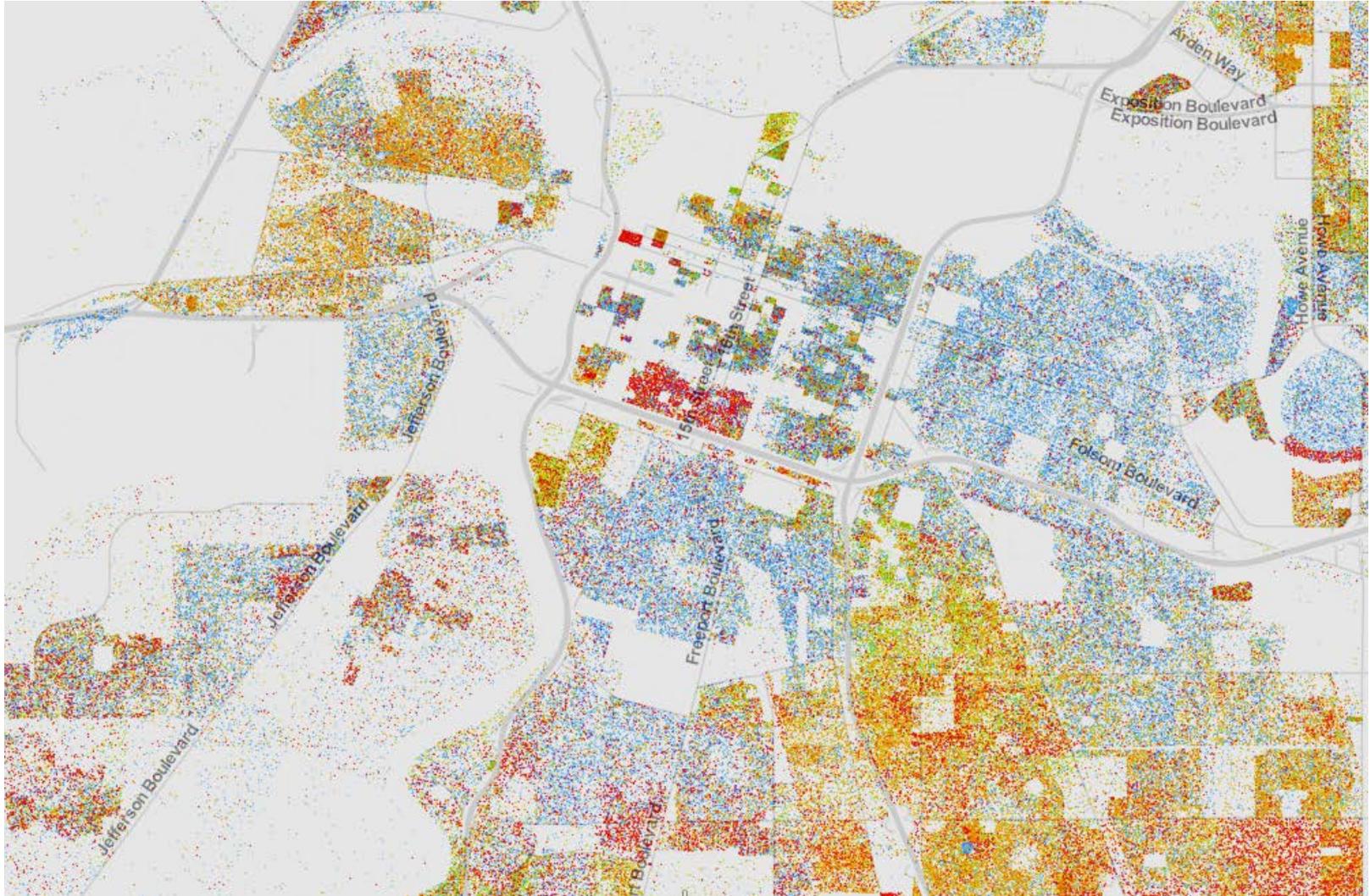
Whites (blue), Blacks (green), Asians (red), Hispanics (orange)



Source: Cable (2013) based on Census 2010 data

Racial Segregation in Sacramento

Whites (blue), Blacks (green), Asians (red), Hispanics (orange)



Source: Cable (2013) based on Census 2010 data

Five Strongest Correlates of Upward Mobility

1. Segregation
2. Income Inequality (size of middle class)
3. School Quality
4. Social Capital
5. Family Structure



Policies to Improve Upward Mobility

- Five factors give us hints about where to look to improve social mobility
 - But they do not identify causal mechanisms or policy tools
- What specific policies can improve mobility?
- For illustration, focus on education policies and in particular on impacts of *teachers*



Using “Big Data” to Study Teachers’ Impacts

School district records
2.5 million children
18 million test scores



Tax records
Earnings, College
Attendance, Teen Birth



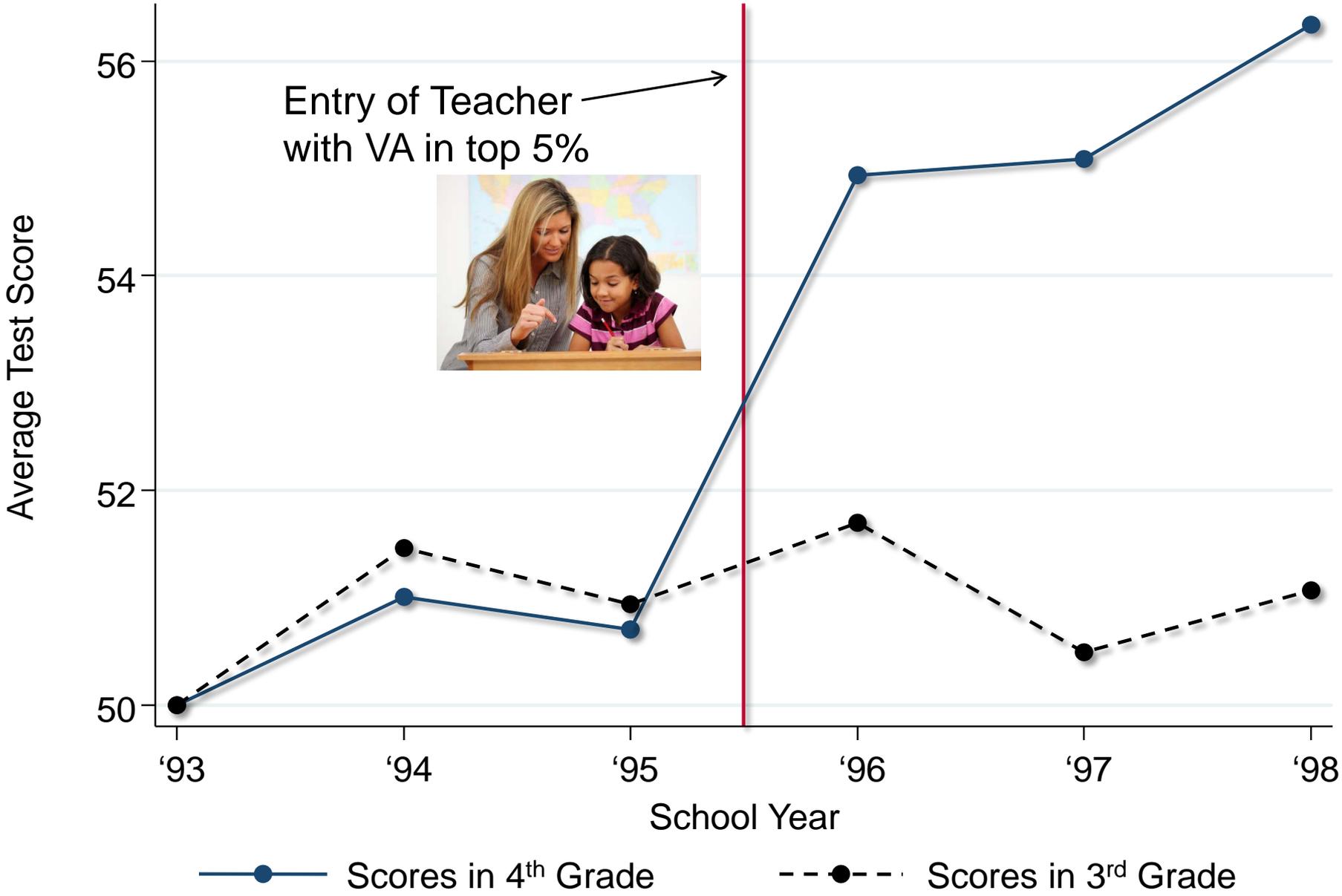
Measuring Teacher Quality

One prominent measure of teacher quality: teacher *value-added*

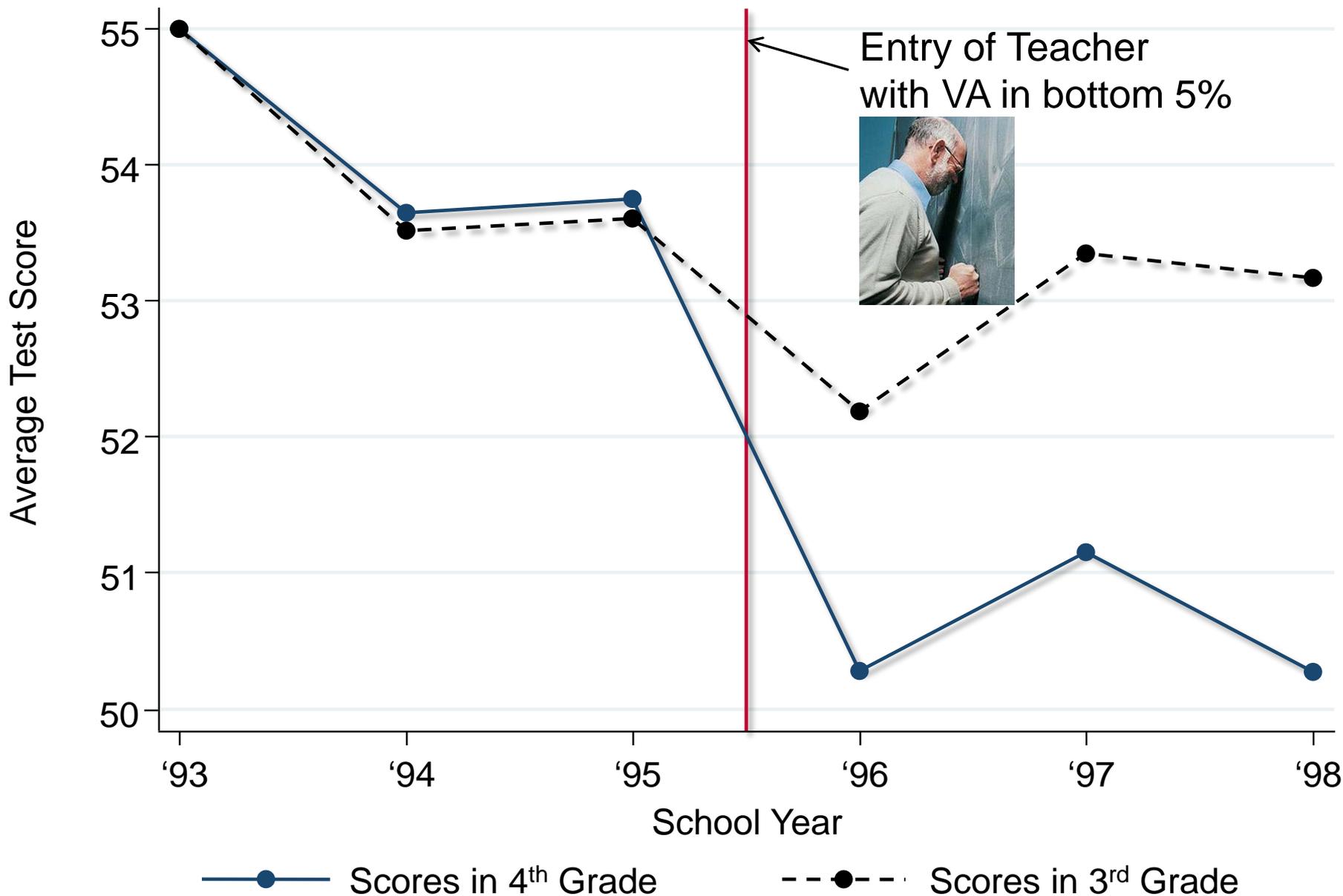
How much does a teacher raise her/his students' test scores on average?



A Quasi-Experiment: Entry of High Value-Added Teacher



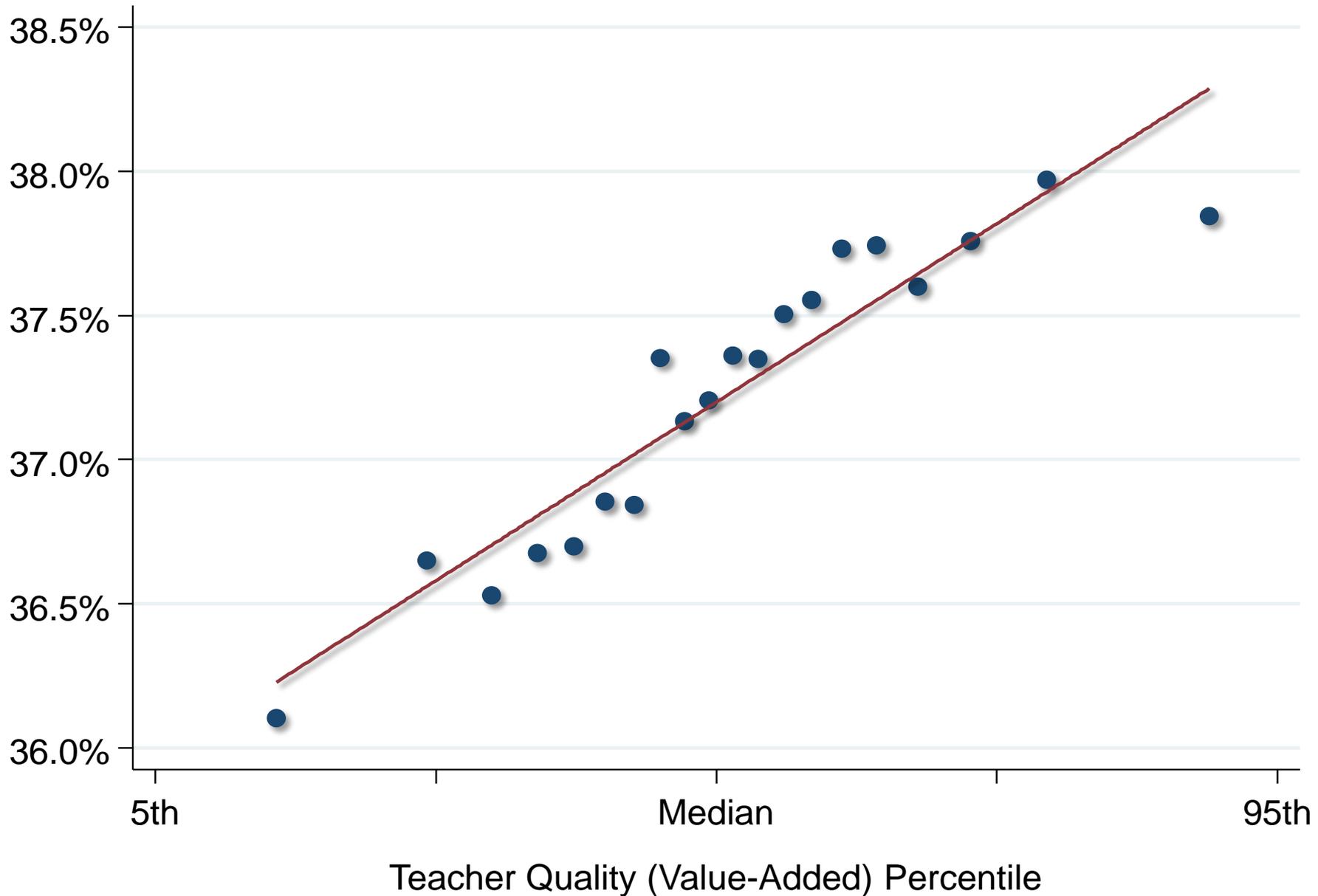
A Quasi-Experiment: Entry of Low Value-Added Teacher



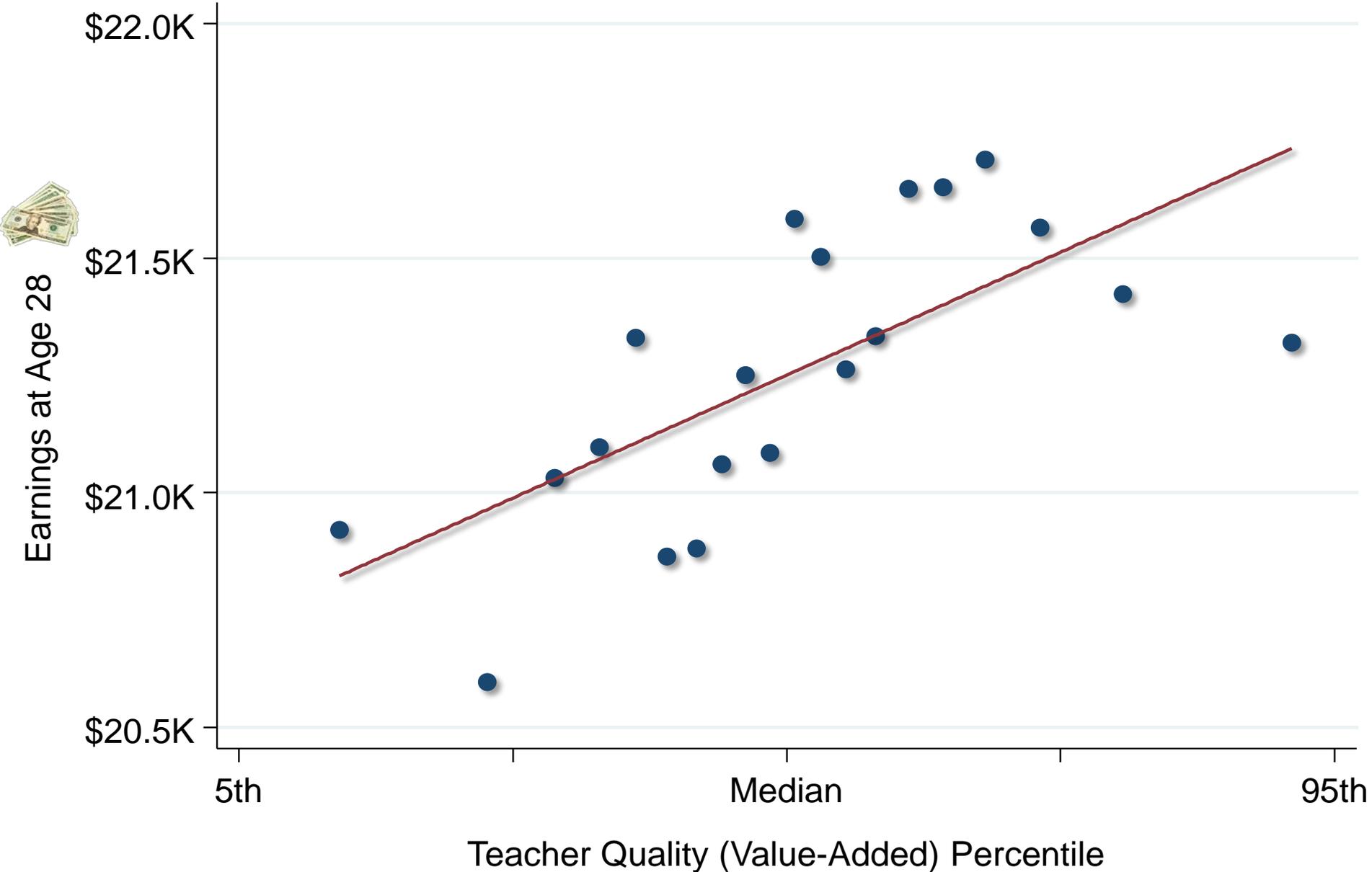
Effect of Teacher Quality on College Attendance Rates



Attending College at Age 20



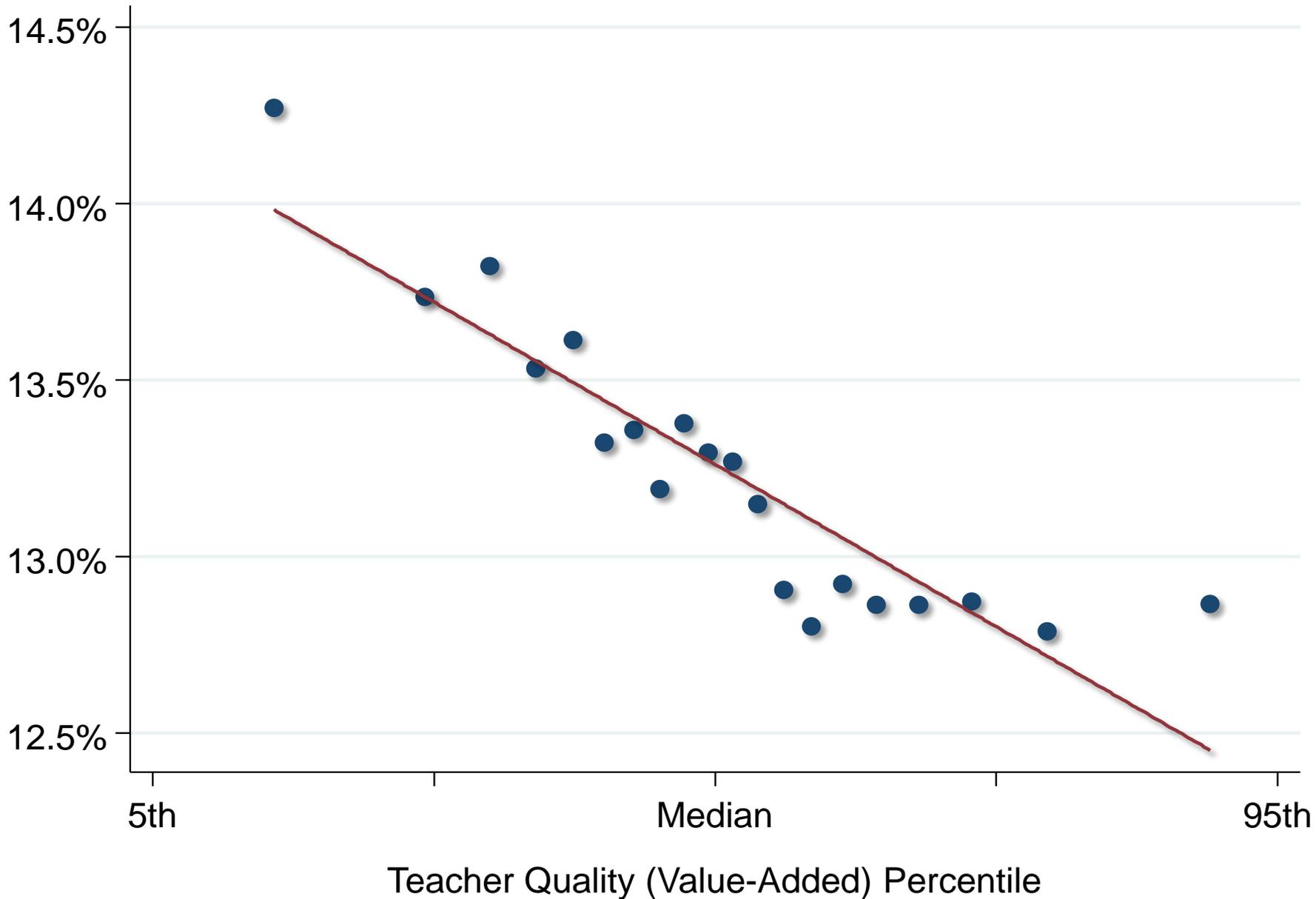
Effect of Teacher Quality on Earnings



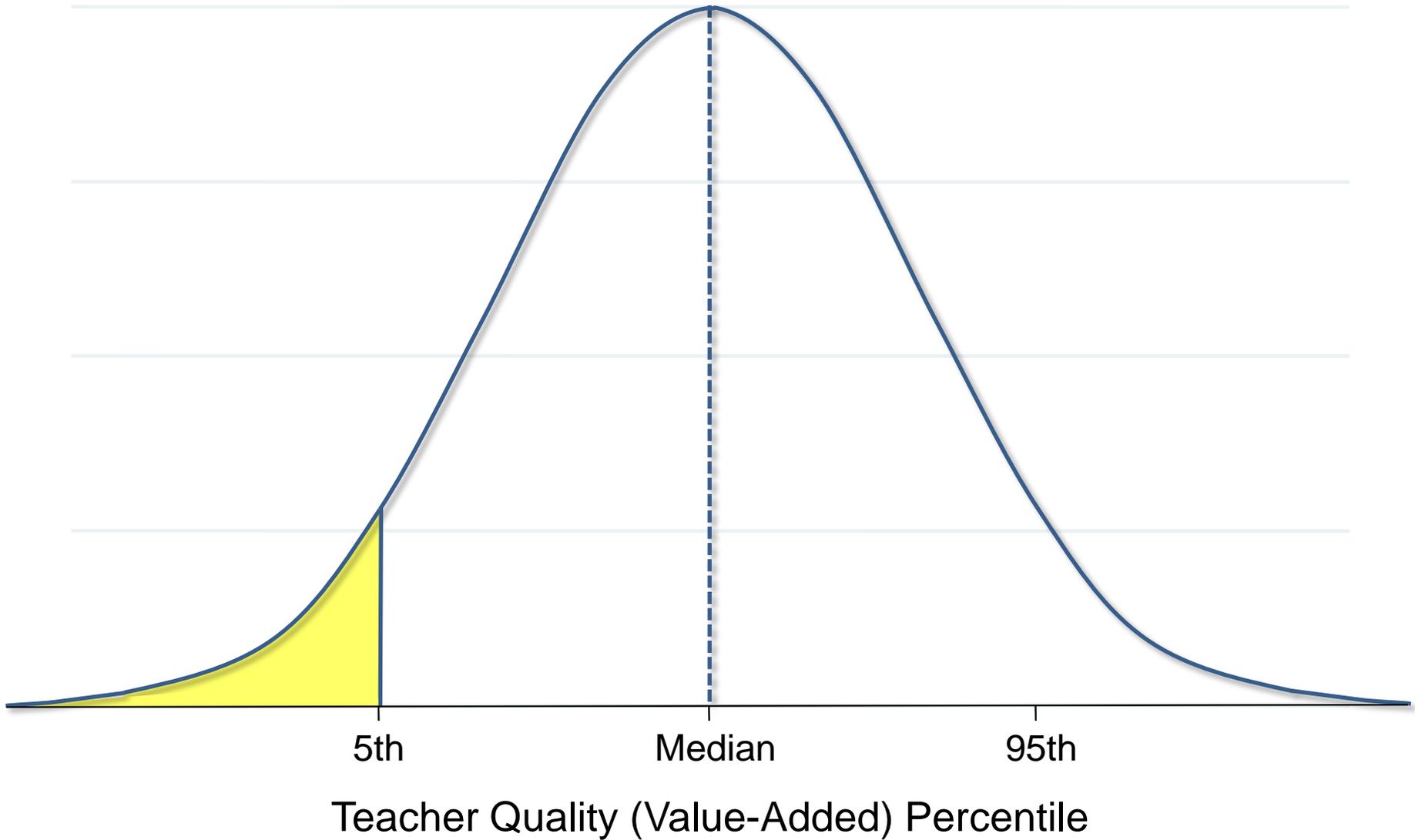
Effect on Teacher Quality on Teenage Birth Rates



Women with Teenage Births



The Value of Improving Teacher Quality



The Value of Improving Teacher Quality

+\$50,000 lifetime earnings per child
= \$1.4 million per classroom of 28 students
= \$250,000 in present value at 5% int. rate

5th

Median

95th

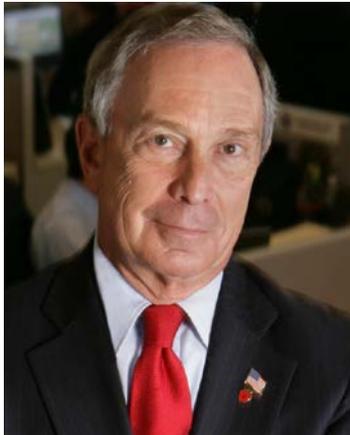
Teacher Quality (Value-Added) Percentile

Policy Impacts



“We know a good teacher can increase the lifetime income of a classroom by over \$250,000.... Every person in this chamber can point to a teacher who changed the trajectory of their lives”

- Barack Obama, *State of the Union*, 2012



“A recent study by Harvard and Columbia economists found that students with effective teachers are less likely to become pregnant, more likely to go to college and more likely to get higher-paying jobs....Ineffective teachers are hurting our students’ futures – we can’t allow that.”

- Michael Bloomberg, *State of the City*, 2012

Lessons for Education Policy

1. Teacher quality matters: attract top talent to teaching (e.g., Finland)
2. Standardized testing can provide valuable input into identifying good teachers and schools
3. Teacher quality matters in all grades, not just early ages
4. Teacher quality may be more important than class size

Broader Lessons for Economic and Social Policy

1. Place-based policies are valuable

- Focus on improving Charlotte, Indianapolis, and Atlanta; not just national interventions

Broader Lessons for Economic and Social Policy

1. Place-based policies are valuable
2. Harnessing big data can provide a scientific evidence base for designing many policies
 - Social safety nets
3. Simply collecting and disseminating performance data can spark social change
 - Pension policies
 - Tax policies

An Opportunity and a Challenge

Commuting Zone	Odds of Rising from Bottom to Top Fifth
Dubuque, IA	17.9%
San Jose, CA	12.9%
Washington DC	10.5%
Chicago, IL	6.5%
Indianapolis, IN	4.8%
Memphis, TN	2.6%



Trends in Intergenerational Mobility in the U.S.: 1971-1993 Birth Cohorts

