

# **Educational Disparities by Income and Race**

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May 21, 2009

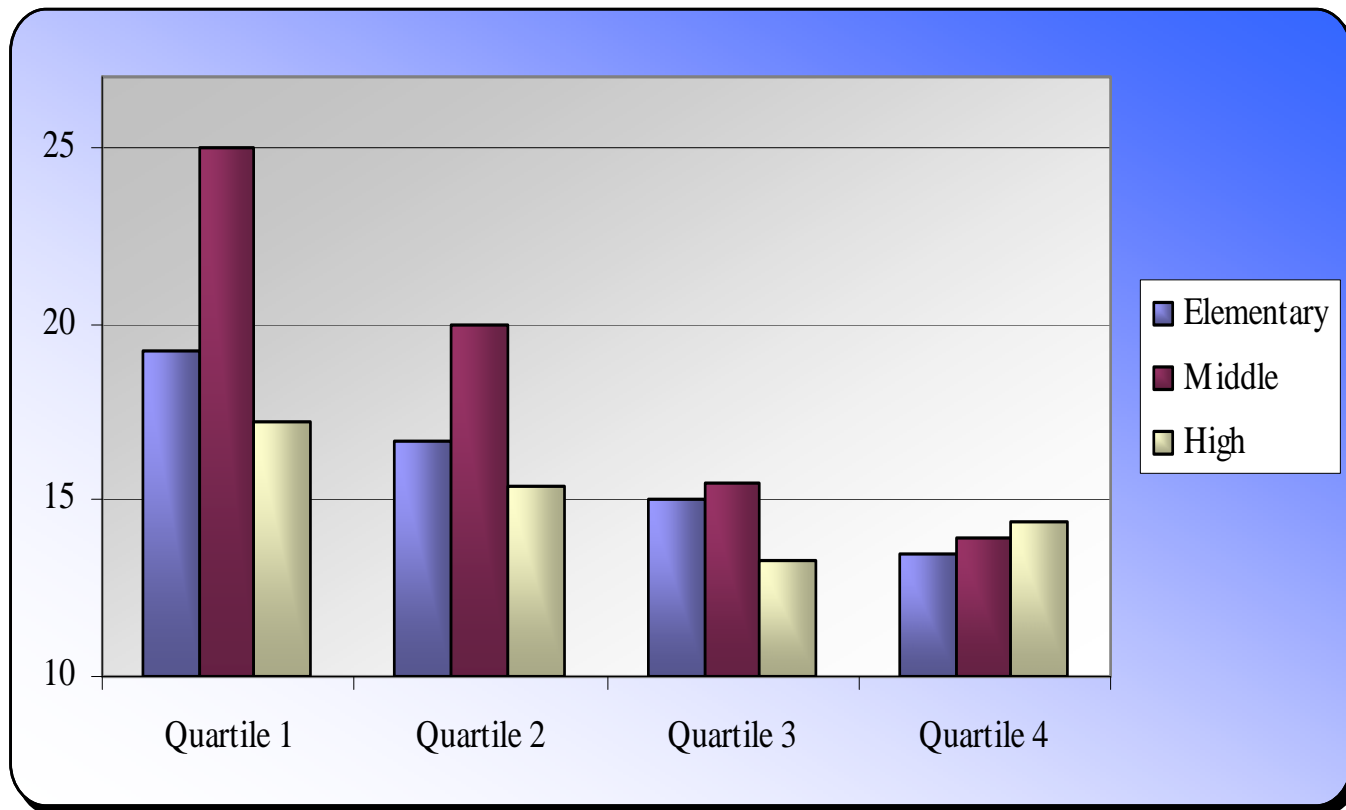
# What I will discuss

1. Evidence on disparities, largely based on data from North Carolina
2. Factors that tend to perpetuate disparities
3. Policies to reduce disparities

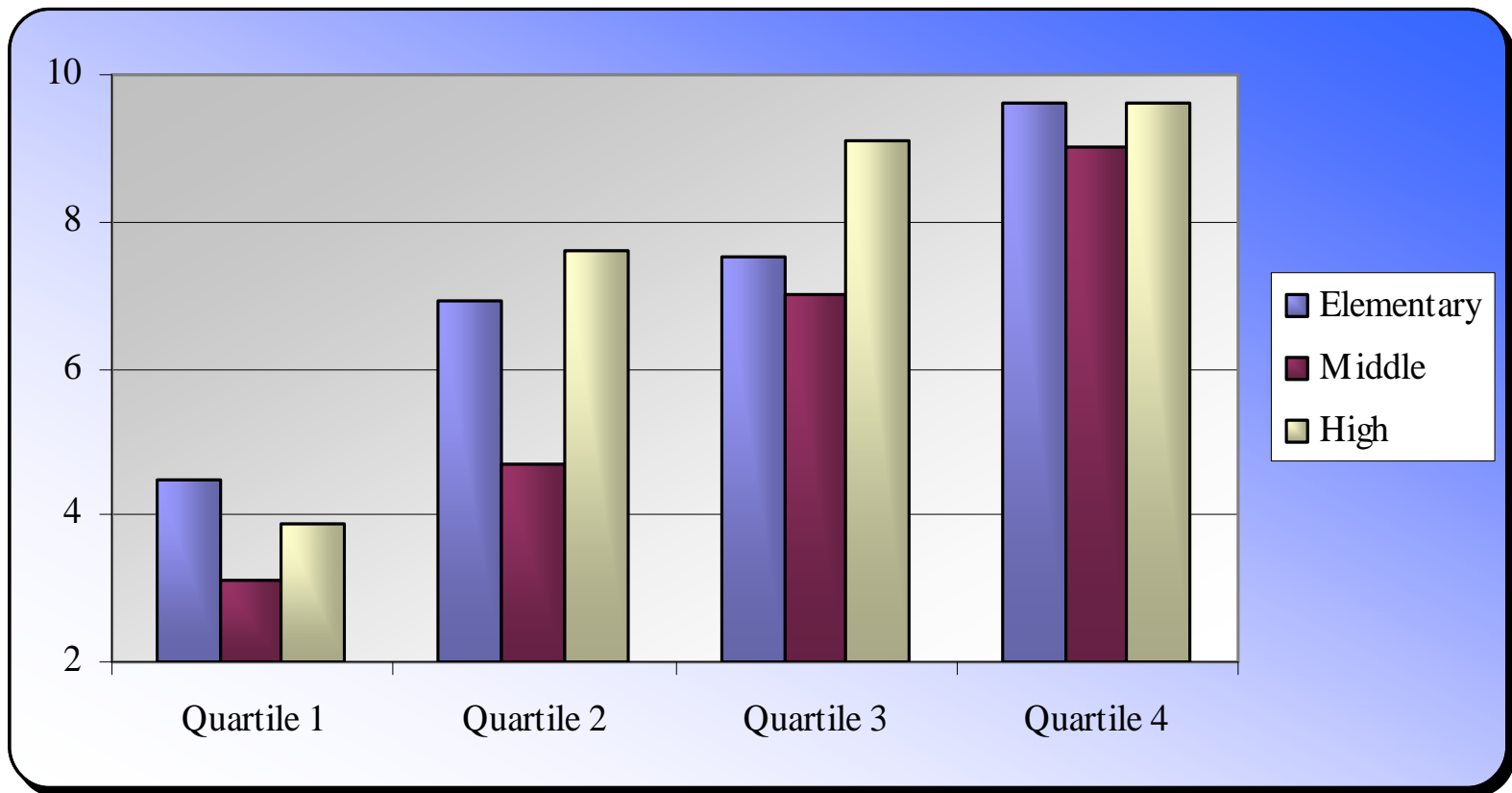
## Acknowledgement:

Much of the research I will cite is based on joint research with Helen Ladd and Jacob Vigdor, at Duke University.

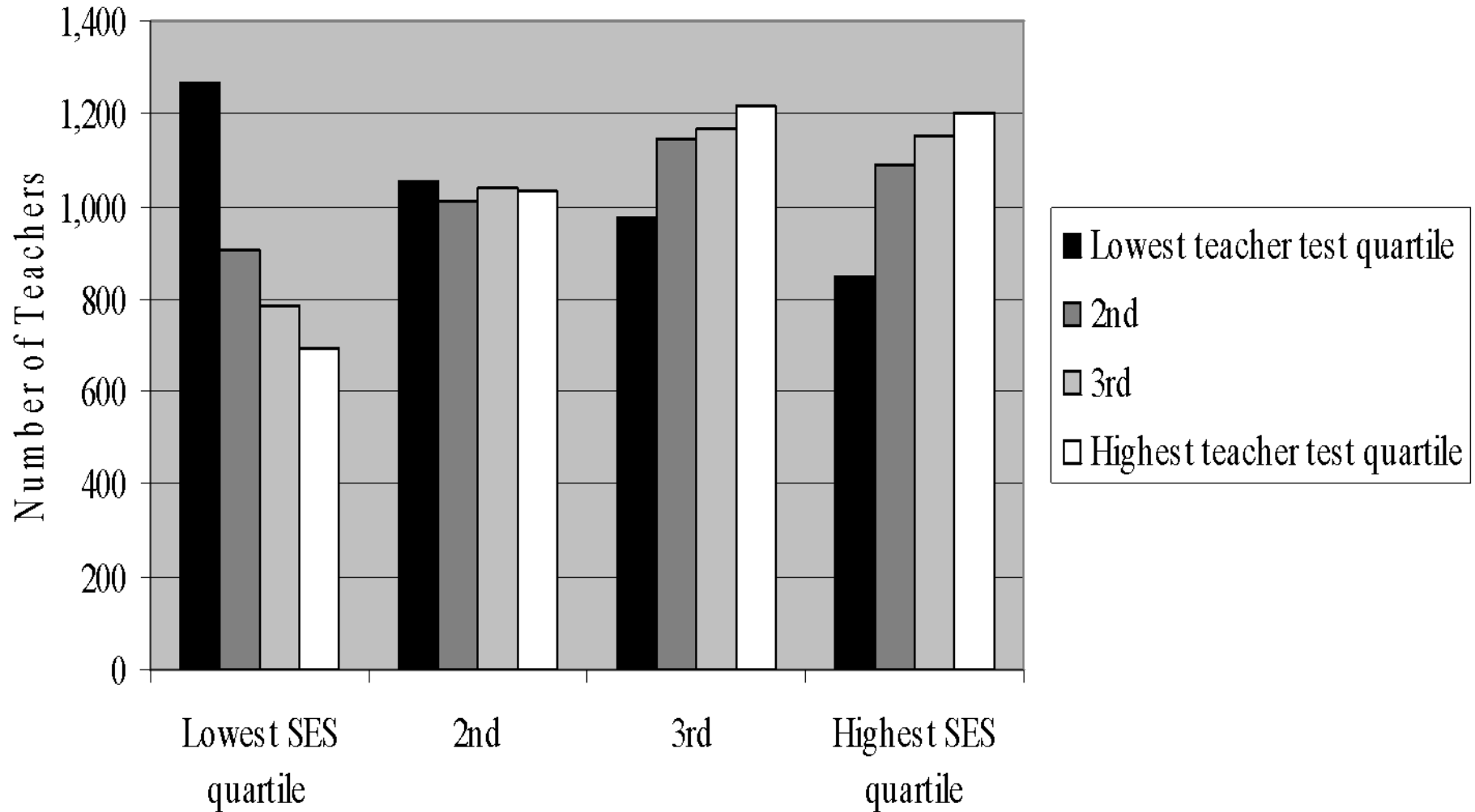
# Percentage of teachers with less than 3 years of experience, by SES quartile and school level



# Percentage of teachers who are National Board Certified by SES quartile and school level



# N.C. Teachers in 1994/95 with 0-4 Yrs. Experience, by Quartiles of Teacher Test Score and School SES



# Absences per Teacher, by School Income Quartile; NC, 2000/01

	<u>Lowest</u>	<u>2nd</u>	<u>3rd</u>	<u>Highest</u>
Elementary	23.8	23.2	23.8	23.4
Middle schools	23.0	22.1	22.3	22.3
High schools	22.9	20.4	21.6	21.3

Source: "Are Teacher Absences Worth Worrying About?" *Education, Finance and Policy* 2009

# Percentage of 7th Grade Students with a Novice Teacher, North Carolina, 2000/01

	Math	English
Black	0.128	0.106
White	0.083	0.077
<i>Difference</i>	0.045	0.029
Due to:		
District	38%	36%
School	37%	35%
Classroom	25%	29%

Source: Clotfelter, Ladd, and Vigdor, "Who Teaches Whom?" *Economics of Education Review*

Table S.1

K–6 Schools with More-Disadvantaged Students Have  
Lower Levels of Resources

Characteristic	Lowest-SES Schools	Highest-SES Schools
Average class size	23.1	23.5
Average teacher experience, years	10.8	12.9
% with 0–2 years	23.8	17.2
% with 10 or more years	43.3	53.3
% with bachelor's or less	32.6	8.8
% with master's or more	21.7	27.0
% not fully certified	21.7	2.0

Betts, Rueben, and Danenberg, *Equal Resources, Equal Outcomes?* ( Public Policy Institute of California, 2000, p.xv).

“Regardless of how teacher quality is measured, poor and minority children get fewer than their fair share of high-quality teachers.”

Peske and Haycock, *Teaching Inequality: How Poor and Minority Students are Shortchanged on Teacher Quality*, a Report of the Education Trust, June 2006.

# The Labor Market for Teachers

## Demand:

School districts seek to hire and retain them.

## Supply:

Individuals obtain education, then apply, are hired, and remain or leave their schools.

# **The supply of teachers: 3 aspects**

1. Potential teachers choose to go into teaching
2. Teachers enter the labor market, evaluate alternative positions and salary offers; schools evaluate candidates; initial hires
3. Working teachers decide to stay in their schools, switch schools or districts, or leave teaching

# Teacher mobility: one part of teacher supply

1. Potential teachers choose to go into teaching
2. Teachers enter the labor market, evaluate alternative positions and salary offers; schools evaluate candidates; initial hires
3. **Working teachers decide to stay in their schools, switch schools or districts, or leave teaching**

The greatest problems of work are found in lower-class schools and, consequently, most movement in the system is a result of dissatisfaction with the social-class composition of these school populations.

Howard Becker, "The Career of the Chicago Public School Teacher," *American Journal of Sociology* 57 (1952).

We found that the inner-city schools would churn first- and second-year teachers. They'd be in there for one or two years at the very lowest, lowest end of the pay scale, versus the suburban that would have teachers with 20, 25 years experience in the same building.

*Eric Smith, Charlotte-Mecklenburg Schools Superintendent,  
2006*

## Two processes at work:

1. Vacancies are created

as teachers quit teaching or leave the school

2. Vacancies are filled

Some schools will be more successful than others in filling these.

# What is the effect of teacher moves?

To answer this...

- Ladd, Vigdor, and I follow an 8-year cohort of continuing teachers
- Teachers with 0-4 yrs of experience in 1994/95 (16,565 in state)
- Observe again in 2002/03 (8-12 yrs)  
(9,388 remain – this is the cohort of continuing teachers)
- Divide teachers into 4 groups (by test scores)
- Divide schools into 4 groups (by SES)

# What we observe in our cohort

(among continuing teachers)

- Teachers gravitate toward large (higher-paying) districts  
Especially Wake County (Raleigh)  
Rural districts in the Piedmont are big losers
- Teachers also gravitate toward higher SES schools  
(This applies to teachers at every test score quartile.)

Net Movement of Teachers by School SES and Type of District, One  
Eight Year Cohort of Teachers, 1994/95-2002/03

Net increase or decrease

District group	SES				Total
	Lowest	2nd	3rd	Highest	
Largest five	119	-45	-91	262	245
Other urban	-134	-81	90	102	-23
Rural	-340	6	7	105	-222
Total	-355	-120	6	469	0

# Filling Teacher Positions, by School SES, 2003/04

(as percent of all teachers)

	School SES			
	Lowest	2nd	3rd	Highest
In the same school last year	73.2	76.7	79.2	77.6
<b>Newly hired:</b>				
From another school in the district last year	8.6	7.5	6.5	7.6
From another NC district last year	3.6	3.4	3.3	3.6
<b>Experienced teacher new to NC</b>				
or not teaching last year	7.1	6.1	5.5	6.4
Novice teacher	7.5	6.2	5.4	4.8
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Attrition rate (a)	0.27	0.23	0.21	0.22
Portion of hires who are novice (n)	0.28	0.27	0.26	0.21

# Vacancy-filling:

## Schools able to attract desirable teachers

- Those with lower % nonwhite or in low-nonwhite districts
- Those with higher average incomes (MS & HS)
- Those in newer buildings
- Those in high-salary districts

# Implications for equity

- Initial assignments of teachers favor higher-income schools (teacher test score as indicator)
- Patterns of attrition and movement exacerbate the inequities (teacher test scores; experience)

All this is made possible by 4 institutional features:

1. Competitive labor market for teachers
2. Generally easy transfers within districts
3. Uniform salary schedules within districts
4. Salary differentials across districts corresponding to community wealth

# How does segregation in schools figure in?

We know that public schools in the U.S. are **segregated** by race/ethnicity and by income.

-- Not in the sense of legally mandated segregation, which was addressed in *Brown v. Board of Education* in 1954.

-- Rather, in the sense that racial and economic disparities exist between the schools in a district. (Disparities also exist between districts and between classrooms within schools.)

# Some legal history

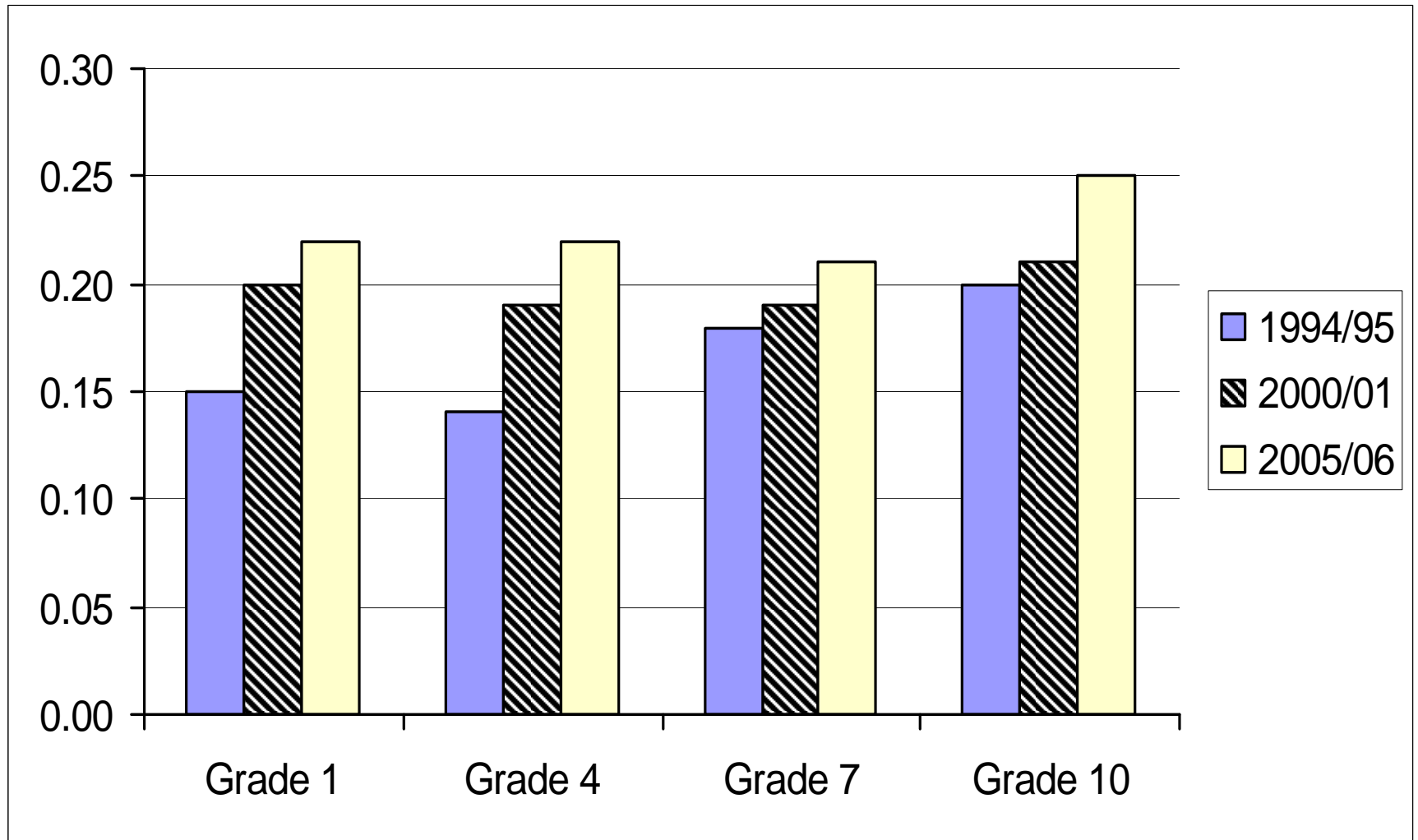
- *Brown v. Board of Education of Topeka* (1954)
- *Green v. County School Board of New Kent County* (1968)
- *San Antonio Independent School District v. Rodriguez* (1973)
- *Milliken v. Bradley* (1974)
- *Parents Involved in Community Schools v. Seattle School District #1, et al.* (2007)

## Segregation of Black Students, Selected States, 2001/02

State	(% black students in 90-100% minority schools)
Michigan	62.7
Illinois	61.0
New York	60.8
<i>Maryland</i>	<i>52.1</i>
New Jersey	50.8
Pennsylvania	48.1
Wisconsin	44.7
<b>Alabama</b>	<b>44.3</b>
<b>Mississippi</b>	<b>43.8</b>
<b>Louisiana</b>	<b>42.3</b>
<i>Missouri</i>	<i>40.2</i>
California	37.6
<b>Texas</b>	<b>37.3</b>
<b>Georgia</b>	<b>36.5</b>
Ohio	36.0
Connecticut	32.0
<b>Florida</b>	<b>31.5</b>

State	(% black students in 90-100% minority schools)
Massachusetts	25.3
<b>Arkansas</b>	<b>21.5</b>
Indiana	20.9
Colorado	19.4
<b>South Carolina</b>	<b>17.8</b>
Minnesota	17.7
Rhode Island	17.2
<i>Oklahoma</i>	<i>16.9</i>
Virginia	15.6
Nevada	12.4
<b>North Carolina</b>	<b>11.3</b>
Kansas	9.6
Nebraska	7.4
Delaware	7.2
Washington	7.0
<i>Kentucky</i>	<i>0.2</i>
Source: Orfield and Lee (2004)	

## Classroom-Level Segregation in N.C. Schools, Four Grades

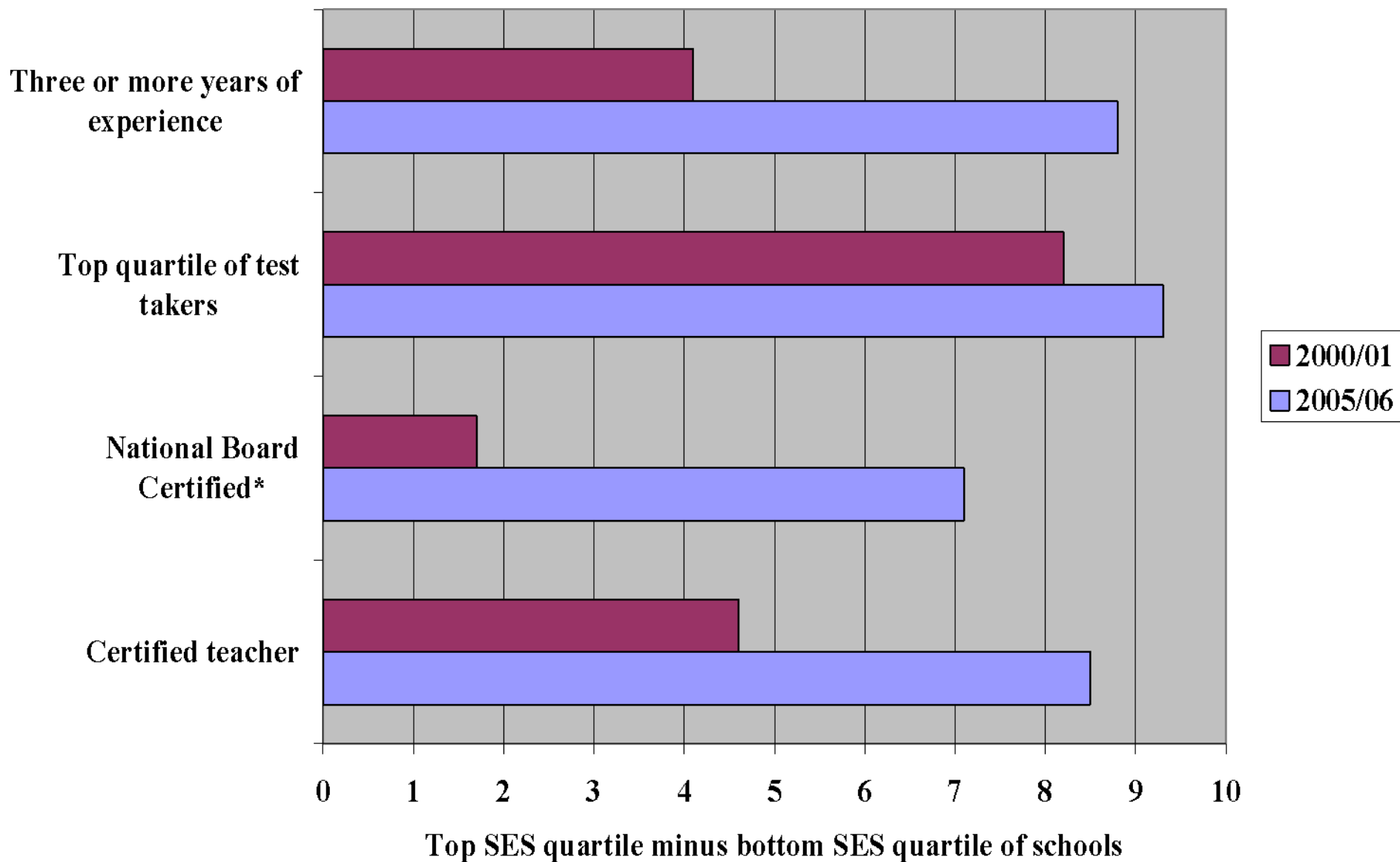


# The teacher labor market interacts with segregation

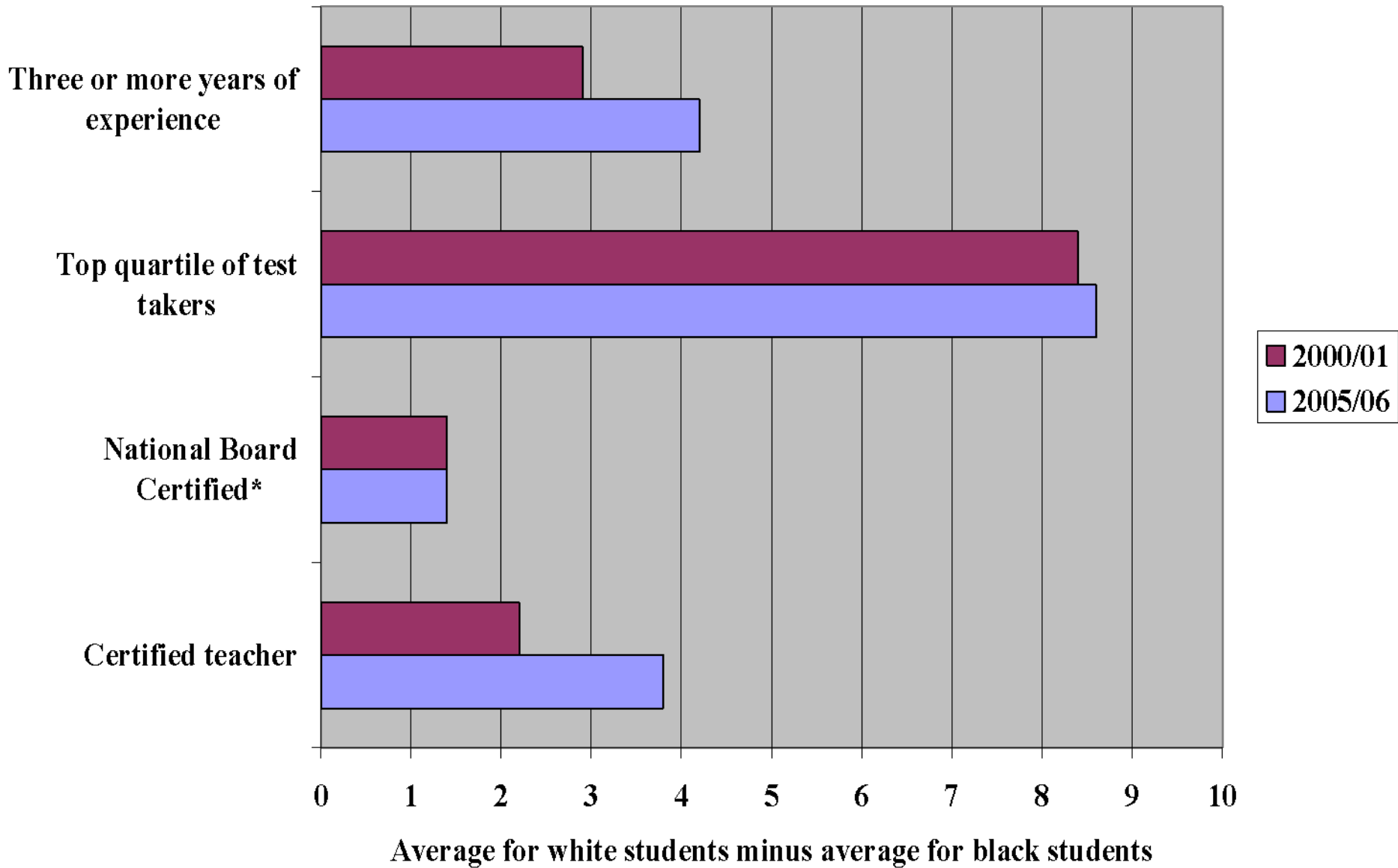
This interaction is influenced by two fundamental structural aspects of U.S. public schools:

- Local wealth disparities lead to disparities in funding and teacher salaries  
(*Rodriguez*: this is not a violation of the 14<sup>th</sup> Amendment)
- Teachers are able to move within a district and across districts

# Teacher Quality by Income in the Charlotte-Mecklenburg School District, 2000/01 and 2005/06



# Teacher Quality by Race in the Charlotte-Mecklenburg School District, 2000/01 and 2005/06



# **Four possible policy prescriptions with the potential to reduce disparities between schools**

- Salary differentials within districts (or other incentives to teach in hard-to-staff schools)
- State aid to low-income districts to reduce salary differences
- Additional assistance to teachers in low-income schools
- Balancing student bodies by SES (subject to legal limitations on race-based assignments)

# Examples of the First Policy: Salary Differentials within Districts

## 1. North Carolina's \$1,800 Teacher Bonus

For three years beginning in 2001, North Carolina gave a bonus to math, science and special ed teachers in low-income and low-achieving middle schools and high schools. Our research suggests this reduced turnover of these teachers by 17%.

## 2. Equity-plus programs in a few N.C. districts

Three districts have had explicit policies to pay higher salaries to teachers in low-income schools. Our analysis of two of them showed some reduction in teacher exits in one district.

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