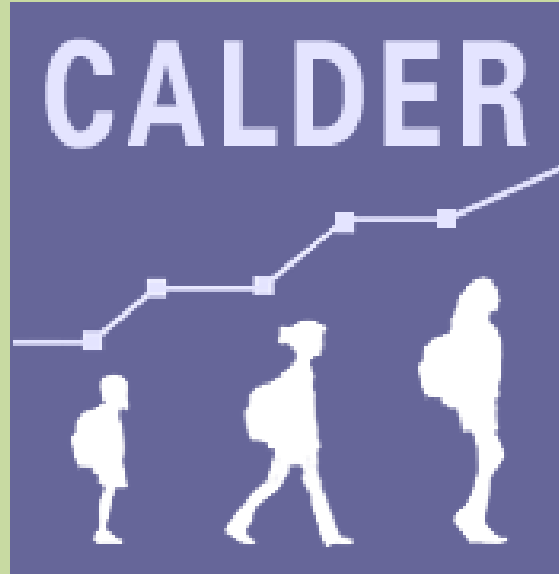


# National Center for Analysis of Longitudinal Data in Education Research



Principal Effectiveness and Leadership in an Era of  
Accountability: What Research Says

3<sup>rd</sup> Annual CALDER Conference

December 11, 2009



# The Policy Choices of Effective Principals

David Figlio, Northwestern  
U/NBER

Tim Sass, Florida State University  
December 2009



# Introduction



- Considerable research energy on measuring teacher (and now, principal) value added
- Increasing evidence of large variation in principal effectiveness; unsurprisingly, easily measured characteristics aren't particularly explanatory
- Very little knowledge of what effective principals actually do, and whether these actions might be transferable

# This project



- Merge measures of principal value added with rich survey data on instructional policies and practices in Florida
- Survey data collected on three occasions for 80% of all Florida public schools; today's first pass: 2001-02 and 2003-04 surveys of elementary school principals
- Panel nature of survey allows us to observe policy changes that come about with principal changes at a school

# Our research question



- What are the policy choices of effective principals?
- Exploratory analysis; very much a work in progress
- Two approaches:
  - Are the policy/practice choices of new principals in a school different for principals with high value added?
  - Do high value added principals “bring with them” different policy/practice choices from their prior schools?

# Defining principal value added



- Estimate “value-added” model of student achievement, including principal-by-year fixed effects
  - Time period = 2000/01-2004/05 school years
  - “Partial-adjustment” model
    - Dependent variable is normed (by grade and year) scale score on FCAT-SSS math exam, lagged score included as an explanatory variable
  - Includes controls for student and peer characteristics
  - Excludes controls for teacher characteristics and teacher fixed effects
    - principal value-added measures school-by-year quality, including average teacher quality

# Defining principal value added



- Alternative principal value-added models
  - Changing test measure (to the FCAT-NRT) or assumed persistence in prior educational inputs (gain-score model) has moderate effect on principal value-added measure
  - Adding observable teacher characteristics has virtually no effect on principal value-added
  - Including teacher fixed effects has big impact on principal value-added measure
    - With teacher fixed effects, principal value-added measure no longer includes average teacher quality

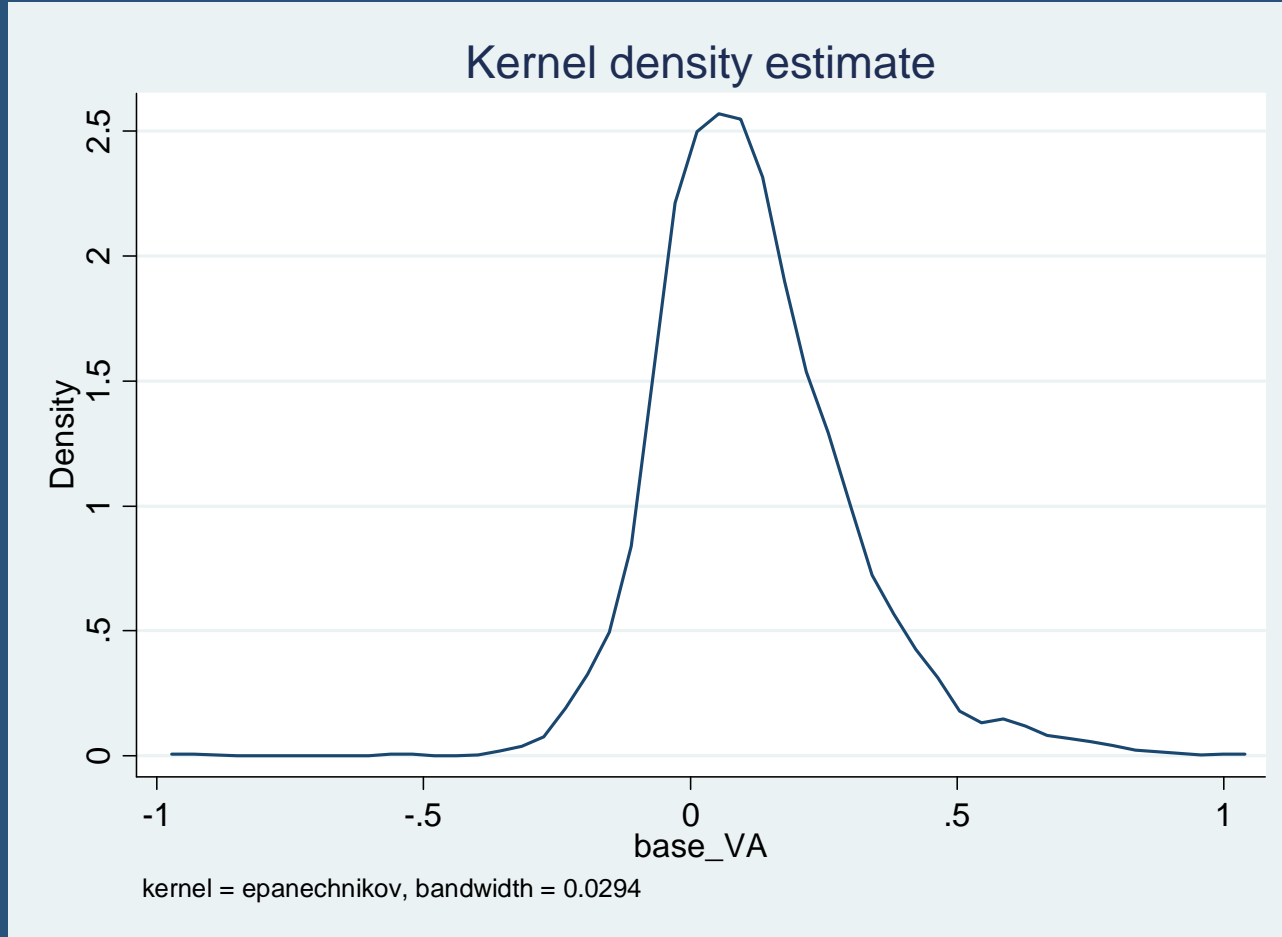
# Correlation of Principal Value-Added Measures (2003/04)



	Baseline Model	Change to FCAT-NRT	Change to Complete Persistence	Add Teacher Characteristics	Add Teacher Characteristics and Teacher FE
Baseline Model	1.000				
Change to FCAT-NRT	0.779	1.000			
Change to Complete Persistence	0.787	0.442	1.000		
Add Teacher Characteristics	0.998	0.777	0.788	1.000	
Add Teacher Characteristics and Teacher FE	0.401	0.281	0.381	0.399	1.000



# Distribution of estimated (baseline) principal value added measure



# School policies and practices



- Survey asked 65 questions about instructional policies and practices
- Because of a school budget constraint, and the fact that these are often variations of a theme, we combine these questions into domains
- Domains are weighted averages of individual policy responses, weighted by the variation in the question response

# Policy and practice domains



- Policies to improve low-performing students
- Lengthening instructional time
- Reduced class size for specific subjects
- Narrowing of curriculum
- Systems of scheduling and class organization
- Policies to improve low-performing teachers
- Teacher resources
- Teacher incentives
- Teacher control
- Principal control
- District control
- School climate

# Example: scheduling systems



- Component questions:
  - Block scheduling
  - Common prep periods
  - Subject matter specialist teachers
  - Organizing teachers into teams
  - Looping
  - Multi-age structure
  - Other scheduling systems

# Example: Policies to improve low-performing students



- Component questions:
  - Require grade retention
  - Require summer school
  - Require before/after school tutoring
  - Require in-school supplemental instruction
  - Require tutoring
  - Require Saturday school
  - Require other policy

# Cross-sectional relationships



- To fix ideas, we first conduct pairwise cross-sectional regressions of principal value-added on domains
- Signs are always consistent across two cross-sections; all positive except for teacher autonomy and school climate measures
- 8 domains have significant correlations in both years, 1 (teacher autonomy) in 2003-04 only, and 3 (teacher incentives, school and district control) in 2001-02 only

# Cross-sectional relationships

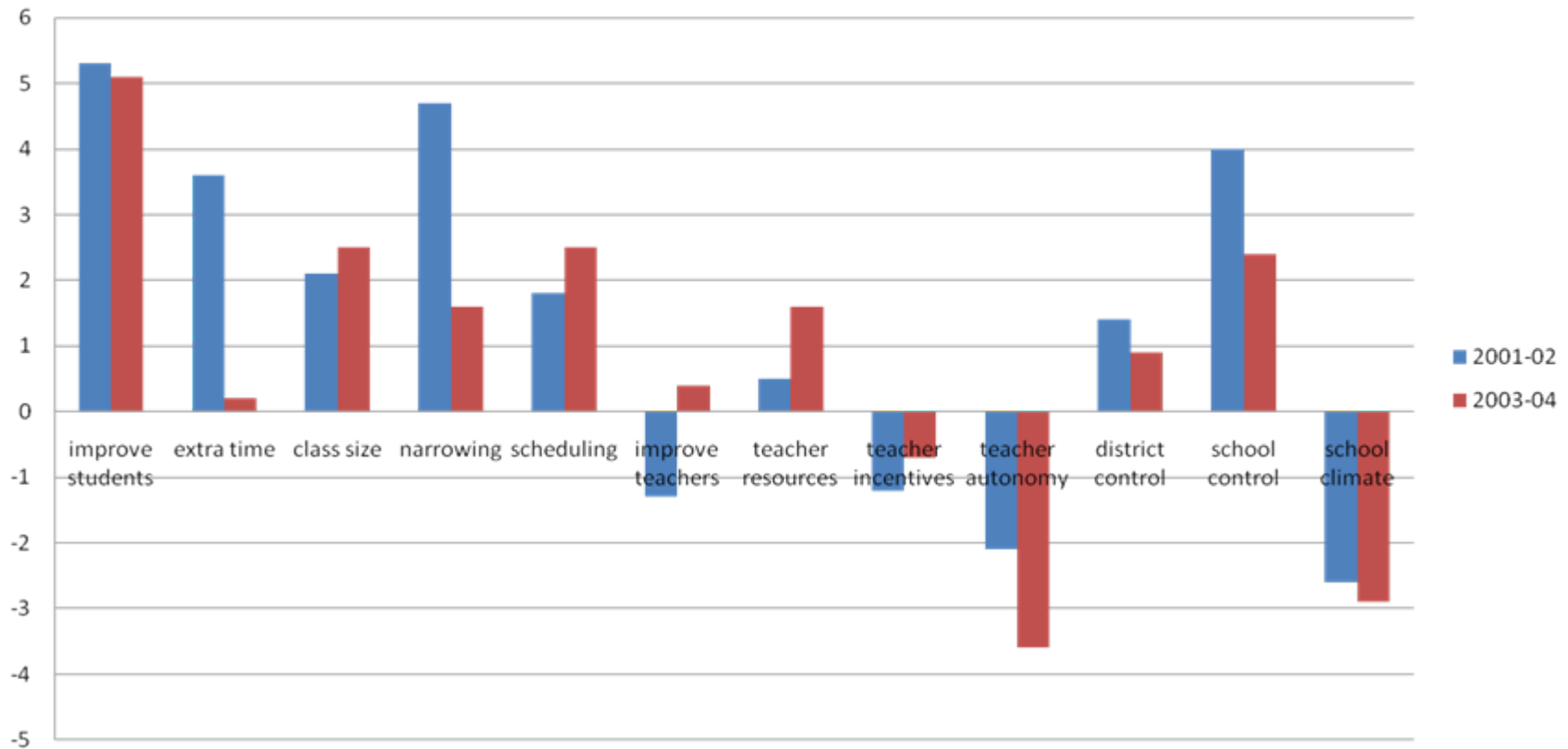


- Largest r-squared in 2001-02:
  - Improving low-performing students, narrow curriculum, lengthening instructional time, subject-specific class size, scheduling systems
- Largest r-squared in 2003-04:
  - Improving low-performing students, subject-specific class size, scheduling systems, narrow curriculum, lengthening instructional time

# Cross-sectional relationships



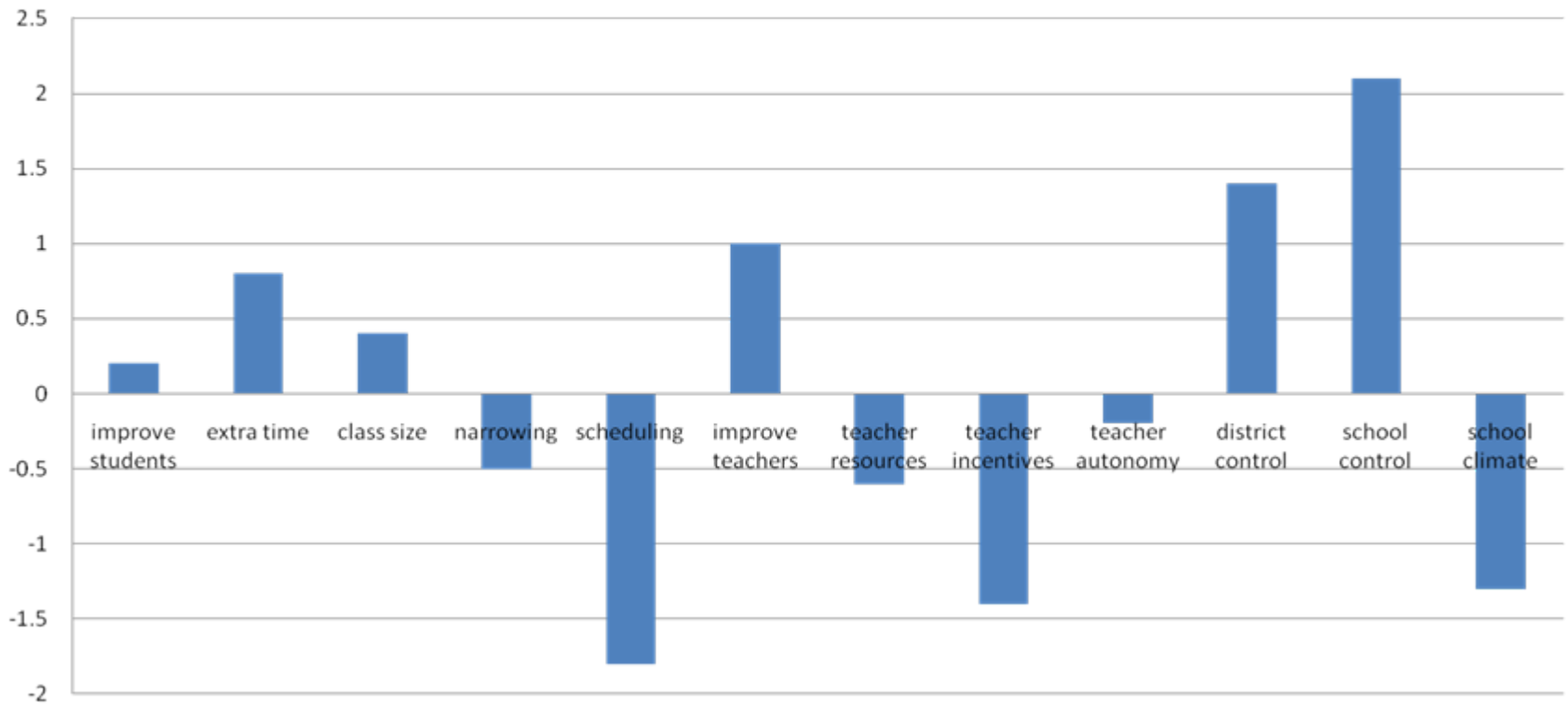
t-statistics of cross-sectional relationships: 2001-02 and 2003-04



# Are there policies that tend to come with new principals, regardless of VA?



t-statistics of difference in policy between 2001-02 and 2003-04:  
new principal versus existing principal



# Does new principal value added relate to school policy adoption?

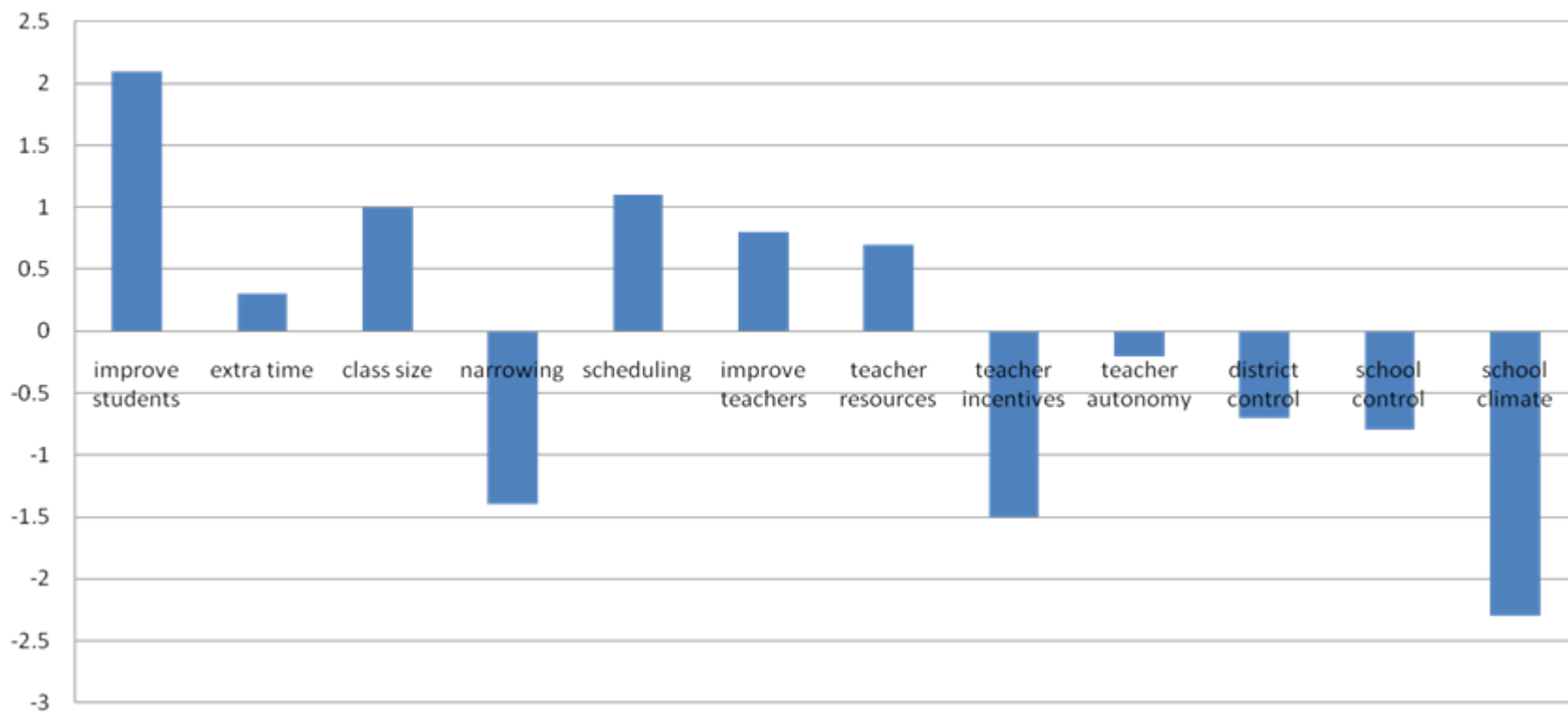


- Dependent variable: change in policy domain from 2001-02 to 2003-04
- Right hand size variables:
  - New principal since 2001-02
  - Principal's measured value added in 2001-02
  - **Interaction between new principal and principal's base year value added**

# Does new principal value added relate to school policy adoption?



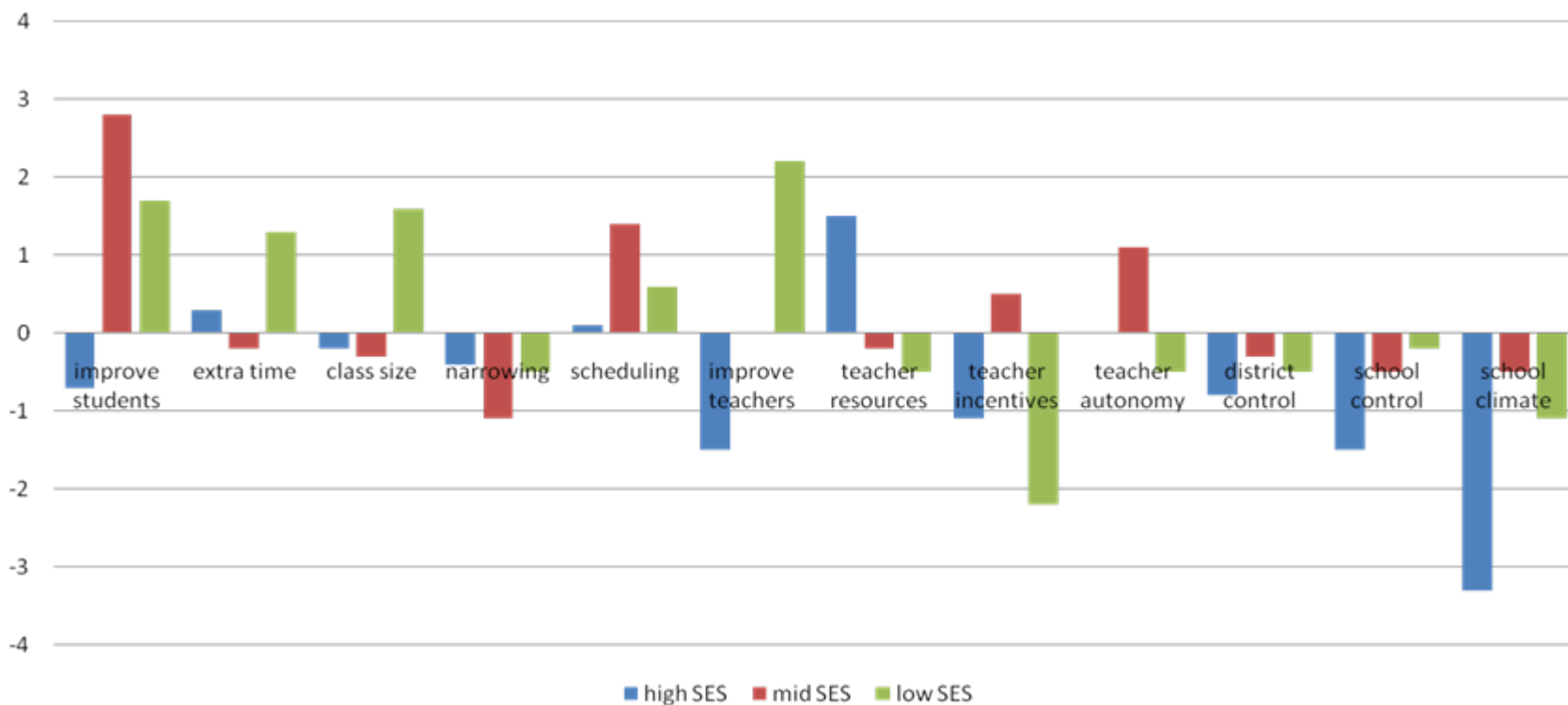
t-statistics on interaction between new principal and principal base-year value added: changes from 2001-02 to 2003-04



# Different relationships by school SES



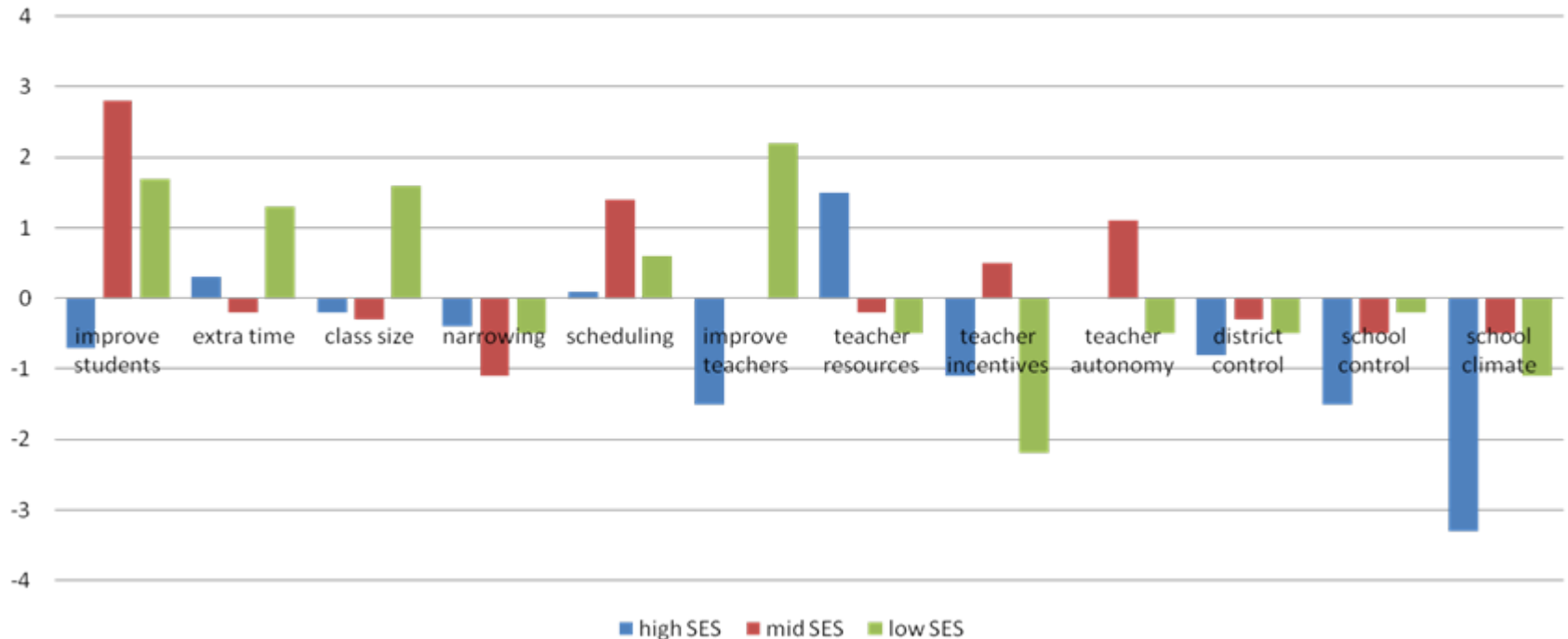
t-statistics on interaction between new principal and principal base-year value added: by SES of receiving school



# Different relationships by school SES, controlling for old school SES



t-statistics on interaction between new principal and principal base-year value added: by SES of receiving school, controlling for SES at old school



# Do principals bring their old policies to new schools?

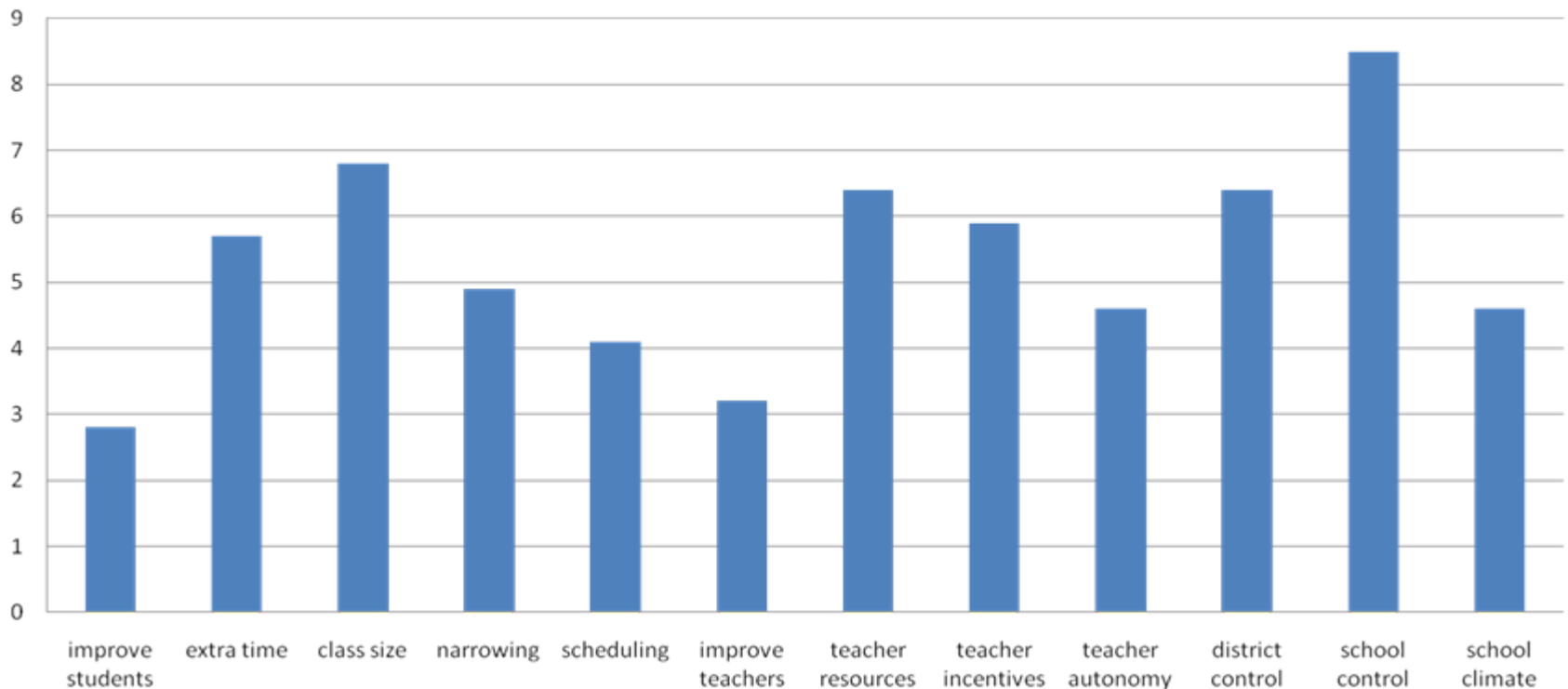


- Dependent variable: change in policy domain from 2001-02 to 2003-04
- Right hand size variables:
  - New principal since 2001-02
  - Principal's policy measures in 2001-02
  - **Interaction between new principal and principal's 2001-02 policy measures**

# Do principals bring their old policies to new schools?



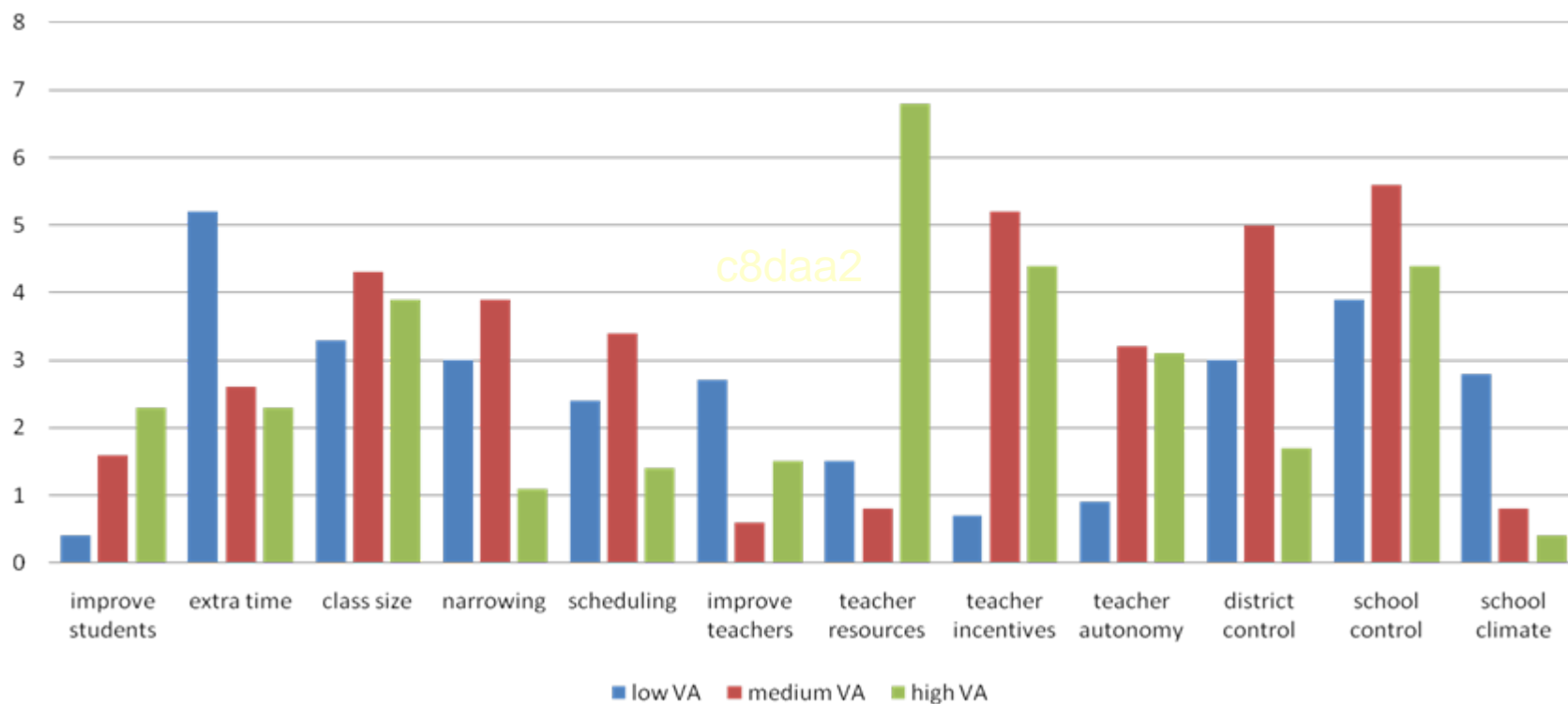
t-statistics on interaction between new principal and principal base-year measure of policy domain



# Are there differences by principal value added measures?



t-statistics on interaction between new principal and principal base-year measure of policy domain, by principal value added measure

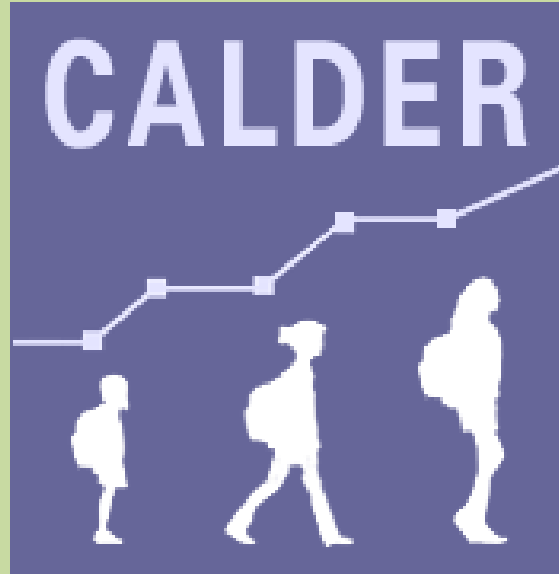


# Summary



- Too early to conclude anything; this research program is still in its infancy
- Early evidence indicates that:
  - Principal value added is correlated with different policy choices in cross-section
  - High value added principals implement different new policies when they arrive at a new school
  - Principals appear to “port” their policies from one school to another

# National Center for Analysis of Longitudinal Data in Education Research



Principal Effectiveness and Leadership in an Era of  
Accountability: What Research Says

3<sup>rd</sup> Annual CALDER Conference

December 11, 2009