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# Improving Educational Productivity and School Finance

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The education productivity problem historically has been rising resources with flat or only slowly rising student achievement. In the period 1960-1990, inflation-adjusted revenues per pupil rose by slightly more than 200% (National Center for Education Statistics, 1994). However, despite a number of positive performance indicators, student achievement in core subject areas during the same period rose only modestly (Mullis et al., 1994; Odden, 1991). The future productivity problem is producing much higher student achievement, the goal of current education reform, with stable resources, because education resources have been flat for the past 5 years and are unlikely to do much better in the near future (Odden, 1994c). Both education programs and finance structures will need to be restructured to accomplish these productivity challenges.

Of course, we recognize that low student performance may be due in part to declining social and economic conditions of children and their families, lack of hard work by students, and lack of parental support for schools and children (Casserly & Carnoy, 1994; Odden & Odden, 1995, chapter 2). Indeed, there is considerable truth to the proposition that maintaining levels of student achievement in a period of decline in the conditions of children would be a significant accomplishment (Bracey, 1994; Casserly & Carnoy, 1994). But our research focused on what schools controlled and could do to improve student achievement and thus productivity.

## Factors Behind Low Productivity

There are a number of possible reasons for low productivity. We can dismiss two at the outset: Analysis of the data does not support the common assertions that wasteful administration or high teacher salaries are to blame. Other reasons merit more scrutiny.

**Poor Resource Distribution.** In the United States, the overall national investment in public schools is distributed quite unequally across states, districts, schools, and students. Differences in base funding for education can vary by as much as three to one across states, greater across districts within states (Hertert, Busch, & Odden, 1994), and substantially across schools within districts (Cooper, 1993; Hertert, 1993). Furthermore, mechanisms for distributing education dollars often provide more money to socioeconomically advantaged and higher-achieving areas (Alexander & Salmon, 1995). These resource distribution practices can be challenged on effectiveness and productivity grounds, in addition to traditional equity grounds (Odden & Clune, 1995).

**Unimaginative Use of Money.** Shortcomings in distribution of dollars are exacerbated at the district and school levels by unimaginative and unproductive resource allocation and use practices (Odden, Monk, Nakib & Picus, 1995). Many studies of how education dollars are used by states, districts, and schools have been conducted in the past few years (Barro, 1992; Cooper, 1993; Hartman, 1994; Hertert, 1993; Lankford & Wyckoff, 1995; Monk & Roellke, 1994a, 1994b; Nakib, 1994, in press; Picus, 1993a, 1993b; Picus & Bhimani, 1993; Picus, Hertert, & Tetreault, 1995; Raimondo, 1994).

The major findings are that dollars are not used in ways that directly raise student achievement. Districts tend to use most of any increased revenues to hire more teachers, typically to reduce class size or provide more out-of-classroom services. Neither strategy boosts student achievement very much (Allington & Johnston, 1989; Odden, 1990; Slavin, Karweit & Madden, 1989).

Districts also use new dollars to increase teacher salaries, but these funds have not been used strategically to enhance teacher professional expertise (Lankford & Wyckoff, 1994; Odden, in press). Another portion of increased revenues is used to expand services for special student populations, but there is little evidence that services have boosted achievement (Independent Review Panel, 1993).

Use of funds in states undergoing school finance reform reflects the same pattern of traditional resource use. Studies in Kentucky, New Jersey, and Texas showed that poor districts used relatively few of their additional dollars to improve the regular school program. Typically, these districts chose to improve their overall environment—constructing or improving facilities, buying books and supplies, funding health and social services—before ad-

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## References

Adams JO. Spending school reform dollars in Kentucky: Familiar patterns and new programs, but is this reform?. *Educational Evaluation and Policy Analysis* 1994;16:375-390

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Adams JE Jr and White WE II. The equity impact of school finance reform in Kentucky. Paper prepared for the Consortium for Policy Research in Education Finance Center University of Wisconsin-Madison in press.

[Google Scholar](#)

Alexander K and Salmon R. *American school finance* 1995 Boston Allyn & Bacon

[Google Scholar](#)

Allington RL and Johnston P. Slavin RE, Karweit NL, and Madden NA. Coordination, collaboration and consistency: The redesign of compensatory and special education interventions. *Effective programs for students at risk* 1989 Boston Allyn and Bacon 320-354

[Google Scholar](#)

Bacharach S and Conley S. Sergiovanni TJ and Moore JH. Uncertainty and decision-making in teaching: Implications for managing line professionals. *Schooling for tomorrow: Directing reforms to issues that count* 1988 Boston Allyn and Bacon 311-329

[Google Scholar](#)

Barnett S. Obstacles and opportunities: Some simple economics of school finance reform. *Educational Policy* 1994;8 4 436-452

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Barnett S. Economics of school reform: What can we learn from three promising models. 1995 April Paper prepared for the Brookings Institution conference held in Washington, DC

[Google Scholar](#)

Barro S. *What does the education dollar buy? Relationships of staffing, staff characteristics, and staff salaries to state per-pupil spending* 1992 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education–The Finance Center

[Google Scholar](#)

Barzelay M. *Breaking through bureaucracy: A new way for managing in government* 1992 Berkeley, CA University of California Press

[Google Scholar](#)

Bracey G. The fourth Bracey report on the condition of public education. *Phi Delta Kappan* 1994;76 2 115-127

[Google Scholar](#)

Brown L. *School finance reform in the seventies: Achievement and failures* 1977 Washington, DC U.S. Department of Health, Education and Welfare, Office of the Assistant Secretary for Planning and Evaluation and Killalea Associates, Inc

[Google Scholar](#)

Casserly CM and Carnoy M. *The national education goals 2000: Changing demographics of the under 17 population and U.S. achievement trends: Are they compatible?* 1994 New Brunswick, NJ Rutgers, The State University of New Jersey, Eagleton Institute of Politics, Consortium for Policy Research in Education

[Google Scholar](#)

Clune WH. New answers to hard questions posed by Rodriguez: Ending the separation of school finance and educational policy by bridging the gap between wrong and remedy. *Connecticut Law Review* 1992;24 3 721-755

[Google Scholar](#)

Clune WH. The shift from equity to adequacy in school finance. *Educational Policy* 1994a;8 4 376-394

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Clune WH. The cost and management of program adequacy: An emerging issue in educational policy and finance. *Educational Policy* 1994b;8 4 365-375

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Clune WH. Accelerated education as a remedy for high poverty schools. *University of Michigan Journal of Law Reform* in press a.

[Google Scholar](#)

Clune WH. Introduction to educational adequacy: A theory and its remedies. *University of Michigan Journal of Law Reform* (in press b).

[Google Scholar](#)

Clune WH and White P. Education reform in the trenches: Increased academic course taking in high schools with lower achieving students in states with higher graduation requirements. *Educational Evaluation and Policy Analysis* 1992;14:2-20

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Committee for Economic Development. *Putting learning first: Governing and managing the schools for high achievement* 1994 New York Author

[Google Scholar](#)

Conley S and Odden A. Linking teacher compensation to teacher career development. *Educational Evaluation and Policy Analysis* 1995;17:219-238

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Coons JE, Clune WH, and Sugarman SD. *Private wealth and public education* 1970 Cambridge, MA Belknap Press of Harvard University Press

[Google Scholar](#)

Cooper B. School-site cost allocations: Testing a micro-financial model in 23 districts in ten states. 1993 March Paper presented at the Annual Meeting of the American Education Finance Association Albuquerque, NM

[Google Scholar](#)

Cubberly EP. *School funds and their apportionment* 1905 New York Teachers College Press

[Google Scholar](#)

Darling-Hammond L. Reframing the school reform agenda. *Phi Delta Kappan* 1993;74 10 753-761

[Google Scholar](#)

Darling-Hammond L. *The current status of teaching and teacher development in the United States* 1994 Background paper prepared for the National Commission on Teaching and America's Future, Washington, DC.

[Google Scholar](#)

Darling-Hammond L. Fuhrman S and O' Day J. Beyond bureaucracy: Creating incentives for "high performance" schools. *Incentives and systemic reform* San Francisco Jossey-Bass (in press).

[Google Scholar](#)

David J. *School-based decision making linking decisions to learning: Third-year report to the Pritchard Committee* 1994 Palo Alto Bay Area Research Group

[Google Scholar](#)

Ehrenberg RG and Brewer DJ. Did teachers' verbal ability and race matter in the 1960s?: Coleman revisited. *Economics of Education Review* (in press).

[Google Scholar](#)

Ehrenberg RG, Goldhaber DD, and Brewer DJ. Do teachers' race, gender, and ethnicity matter?: Evidence from NELS. *Industrial and Labor Relations Review* (in press).

[Google Scholar](#)

Elmore R. Fuhrman S and O' Day J. Getting to scale with successful educational practices. *Incentives and systemic reform* San Francisco Jossey-Bass (in press).

[Google Scholar](#)

Elmore R and Fuhrman SH. Opportunity to learn standards and the state role in education. *Teachers College Press* 1995;96 3 432-457

[Web of Science](#)

[Google Scholar](#)

Ferguson RF. Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation* 1991;28 2 465-498

[Web of Science](#)

[Google Scholar](#)

Ferguson RF and Ladd H. Additional evidence on how and why money matters: A production function analysis of Alabama schools. 1995 April Paper prepared for the "Performance-Based Approaches to School Reform" Brookings Institution conference held in Washington, DC

[Google Scholar](#)

Firestone WA. Redesigning teacher salary systems for educational reform. *American Educational Research Journal* 1994;31:549-574

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Firestone WA, Goertz ME, Nagle B, and Smelkinson MF. Where did the \$800 million go? The first year of New Jersey's Quality Education Act. *Educational Evaluation and Policy Analysis* 1994;16:359-373

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Goertz ME. *The equity impact of the Quality Education Act in New Jersey* 1995 Madison, WI University of Wisconsin, Wisconsin Center for Educational Research, Consortium for Policy Research in Education Finance



Center

[Google Scholar](#)

Guthrie JW and Kirst MW. *Conditions of education in California, 1985* 1986 Berkeley, CA University of California, Policy Analysis for California Education

[Google Scholar](#)

Hanushek E. The impact of differential expenditures on school performance. *Educational Researcher* 1989;18 4 45-65

[Crossref](#)

[Google Scholar](#)

Hanushek E. Money might matter somewhere: A response to Hedges, Laine, and Greenwald. *Educational Researcher* 1994a;23 4 5-8

[Crossref](#)

[Google Scholar](#)

Hanushek E, Benson C, Freeman RB, Jamison DT, Levin HM, Maynard R A, Murnane RJ, Rivkin SG, Sabot RH, Solmon LC, Summers AA, Welch F, and Wolfe BL. *Making schools work: Improving performance and controlling costs* 1994b Washington, DC The Brookings Institution

[Google Scholar](#)

Hartman WT. District spending disparities revisited. *Journal of Education Finance* 1994;20 1 88-106

[Google Scholar](#)

Hedges LV, Laine RD, and Greenwald R. Does money matter? A meta-analysis of studies of the effects of differential school inputs on student outcomes. *Educational Researcher* 1994;23 3 5-14

[Crossref](#)

[Google Scholar](#)

Hertert L. *Resource allocation patterns in public education: An analysis of school level equity in California* 1993 University of Southern California Unpublished doctoral dissertation.

[Google Scholar](#)

Hertert L, Busch C, and Odden A. School financing inequities among the states: The problem from a national perspective. *Journal of Education Finance* 1994;19 3 231-255

[Google Scholar](#)

Independent Review Panel. *Reinventing Chapter 1: The current Chapter 1 program and new directions* 1993 Washington, DC U.S. Department of Education

[Google Scholar](#)

Kelley C and Odden A. *New ideas for reinventing teacher compensation* 1995 New Brunswick, NJ Rutgers University, Consortium for Policy Research in Education (CPRE Finance Brief).

[Google Scholar](#)

Lankford H and Wyckoff J. The changing structure of teacher salaries: 1970–1994. 1994 Paper presented at the annual meeting of the Association for Public Policy Analysis and Management Chicago

[Google Scholar](#)

Lankford H and Wyckoff J. Where has the money gone? An analysis of school spending in New York. *Educational Evaluation and Policy Analysis* 1995;17:195-218

[Crossref](#)

[Google Scholar](#)

Lawler EE. *High involvement management* 1986 San Francisco Jossey-Bass

[Google Scholar](#)

Lawler EE. *Strategic pay: Aligning organizational strategies and pay systems* 1990 San Francisco Jossey-Bass

[Google Scholar](#)

Lawler EE. *The ultimate advantage: Creating the high involvement organization* 1992 San Francisco Jossey Bass

[Google Scholar](#)

Levine DI. *Reinventing the workplace* 1995 Washington, DC Brookings Institution

[Google Scholar](#)

McPhail-Wilcox B and King RA. Resource allocation studies: Implications for school improvement and school finance research. *Journal of Education Finance* 1986;12 2 191-222

[Google Scholar](#)

Mohrman A, Mohrman SA, and Odden A. Aligning teacher compensation with systemic school reform: Skill-based pay and group-based performance rewards. *Educational Evaluation and Policy Analysis* (in press).

[Google Scholar](#)

Mohrman SA and Wohlstetter P. *School-based management: Organizing for high performance* 1994 San Francisco Jossey-Bass

[Google Scholar](#)

Mohrman SA, Lawler EE III, and Mohrman AM Jr. Applying employee involvement in schools. *Educational Evaluation and Policy Analysis* 1992;14:347-360

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Monk DH. Education productivity research: An update and assessment of its role in education finance reform. *Educational Evaluation and Policy Analysis* 1992;14:307-332

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)



Monk DH. Instructional alignments in secondary schools: Results from a production function research program and implications for policy. 1994 April Paper presented at the Annual Meeting of the American Educational Research Association New Orleans, LA

[Google Scholar](#)

Monk DH and Roellke C. *The origin, disposition and utilization of resources within New York State public schools systems: A progress report* 1994a Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Monk DH and Roellke C. *The origin, disposition and utilization of resources within New York State public schools systems: An update* 1994b Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Mullis IVS, Dossey JA, Campbell JR, Gentile CA, O'Sullivan C, and Latham AS. *NAEP 1992 trends in academic progress* 1994 Washington, DC National Center for Education Statistics

[Google Scholar](#)

Murnane R. Odden A and Webb LD. Quantitative studies of effective schools: What have we learned?. *School finance and school improvement: Linkages for the 1980s* 1983 Cambridge, MA Ballinger 193-209

[Google Scholar](#)

Murnane R, Singer JD, Willett JB, Kemple JJ, and Olsen RJ. *Who will teach?* 1991 Cambridge, MA Harvard University Press

[Google Scholar](#)

Nakib Y. *The allocation and use of education dollars at the districts and school level in Florida* 1994 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Nakib Y. *The allocation and use of education dollars at the districts and school level in Minnesota* Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center (in press).

[Google Scholar](#)

National Center for Education Statistics. *Digest of education statistics, 1994* 1994 Washington, DC U.S. Department of Education

[Google Scholar](#)

Odden A. Class size and student achievement: Research-based policy alternatives. *Educational Evaluation and Policy Analysis* 1990;12:213-227

[Crossref](#)

[Google Scholar](#)

Odden A. Odden AR. Thinking about program quality. *Education policy implementation* 1991 Albany, NY State University of New York Press 125-143

[Google Scholar](#)

Odden A. Decentralized management and school finance. *Theory Into Practice* 1994a;33 2 104-111

[Crossref](#)

[Google Scholar](#)

Odden A. *Linking school finance to systemic reform* 1994b New Brunswick, NJ Rutgers, The State University of New Jersey, Eagleton Institute of Politics, Consortium for Policy Research in Education

[Google Scholar](#)

Odden A. Trends and issues in American school finance. 1994c Paper prepared for the Carnegie Corporation New York, NY

[Google Scholar](#)

Odden A. Decentralized school management in Victoria, Australia. 1995 Paper prepared for the World Bank Washington, DC

[Google Scholar](#)

Odden A. Fuhrman S and O'Day J. Incentives, school organization, and teacher compensation. *Incentives and systemic reform* San Francisco Jossey Bass (in press).

[Google Scholar](#)

Odden A and Clune W. School finance formulas: Aging structures of renovation. 1995 Paper prepared for the Consortium for Policy Research in Education Finance Center, University of Wisconsin-Madison

[Google Scholar](#)

Odden A and Kotowski N. Odden A. Financing public school choice: Policy issues and options. *Rethinking school finance: An agenda for the 1990s* 1992 San Francisco Jossey Bass 225-259

[Google Scholar](#)

Odden A and Marsh DD. How state education reform can improve secondary schools: Vols. I and II. 1987 Berkeley, CA University of California, Policy Analysis for California Education

[Google Scholar](#)

Odden A and Marsh DD. How comprehensive reform legislation can improve secondary schools. *Phi Delta Kappan* 1988;69 8 593-598

[Web of Science](#)

[Google Scholar](#)

Odden A and Massy W. *Education funding for schools and universities: Improving productivity and equity* 1993 Madison, WI University of Wisconsin, Madison, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Odden A, Monk D, Nakib Y, and Picus L. The story of the educational dollar: No fiscal Academy Awards and no fiscal smoking guns. *Phi Delta Kappan* 1995;77 2 161-168

[Google Scholar](#)

Odden A and Odden E. Applying the high involvement framework to local management of schools in Victoria, Australia. 1994 April Paper presented at the Annual Meeting of the American Educational Research

Association New Orleans, LA

[Google Scholar](#)

Odden A and Odden E. *Educational leadership for America's schools* 1995 New York McGraw Hill

[Google Scholar](#)

Odden A and Picus LO. *School finance: A policy perspective* 1992 New York McGraw Hill

[Google Scholar](#)

Odden E and Wohlstetter P. Making school-based management work. *Educational Leadership* 1995;52 5 32-36

[Web of Science](#)

[Google Scholar](#)

Odden A, Wohlstetter P, and Odden E. Key issues in effective school-based management. *School Business Affairs* 1995;61 5 4-16

[Google Scholar](#)

Osterman P. How common is workplace transformation and who adopts it?. *Industrial and Labor Relations Review* 1994;47 2 173-188

[Crossref](#)

[Google Scholar](#)

Picus LO. *The allocation and use of educational resources: District level analysis from the schools and staffing survey* 1993a Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Picus LO. *The allocation and use of educational resources: School level analysis from the schools and staffing survey* 1993b Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Picus LO. The local impact of school finance reform in four Texas school districts. *Educational Evaluation and Policy Analysis* 1994;16:391-404

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Picus LO and Bhimani M. *Determinants of pupil-teacher ratios at school sites: Evidence from the schools and staffing survey* 1993 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education-The Finance Center

[Google Scholar](#)

Picus LO, Hertert L, and Tetreault D. *The allocation and use of education dollars at the districts and school level in California* 1995 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium

for Policy Research in Education Finance Center

[Google Scholar](#)

Picus LO. *Texas school finance after Edgewood* 1995 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education Finance Center

[Google Scholar](#)

Porter AC. Opportunity to learn. *Educational Researcher* 1993;22 5 24-30

[Crossref](#)

[Google Scholar](#)

Porter AC, Kirst MW, Osthoff EC, Smithson JL, and Schneider SA. *Reform up close: An analysis of high school mathematics and science classrooms* 1993 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education

[Google Scholar](#)

Raimondo HJ. *How much for administration? Expenditure priorities across New Jersey school districts, FY90-91* 1994 New Brunswick, NJ Rutgers, The State University of New Jersey, Eagleton Institute of Politics

[Google Scholar](#)

Ravitch D. *National standards in American education* 1995 Washington, DC Brookings Institution

[Google Scholar](#)

Robertson PJ, Wohlstetter P, and Mohrman SA. Generating curriculum and instructional innovations through school-based management. *Educational Administration Quarterly* 1995;31 3 375-404

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Rossmiller R. Odden A and Webb LD. Resource allocation and achievement: A class-room analysis. *School finance and school improvement: Linkages for the 1980s* 1983 Cambridge, MA Ballinger 171-192

[Google Scholar](#)

Schwartz M and Moskowitz J. *Fiscal equity in the United States* 1988 Washington, DC Decision Resources

[Google Scholar](#)

Shedd JB and Bacharach SB. *Tangled hierarchies* 1991 San Francisco Jossey Bass

[Google Scholar](#)

Sizer T. *Horace's school: Redesigning the American high school* 1992 Boston Houghton Mifflin

[Google Scholar](#)

Slavin RE, Dolan LJ, and Madden NA. Scaling up: Lessons learned in the dissemination of Success for All. 1994 Paper prepared for the Center for Research on the Education of Students Placed at Risk, Johns Hopkins University Baltimore, MD

[Google Scholar](#)

Slavin RE, Karweit N, and Madden N. *Effective programs for students at risk* 1989 Needham Heights, MA Allyn and Bacon

[Google Scholar](#)

Slavin RE, Karweit N, and Wasik B. Preventing early school failure. 1994 Boston Allyn and Bacon

[Google Scholar](#)

Slavin R, Madden NA, Dolan LJ, Wasik BA, Ross S, and Smith L. Whenever and wherever we choose: The replication of Success for All. *Phi Delta Kappan* 1994;75 8 639-647

[Web of Science](#)

[Google Scholar](#)

Slavin RE, Madden NA, Dolan LJ, Wasik B, Ross S, Smith L, and Dianda M. Success for All: A summary of research. 1995 April Paper presented at the Annual Meeting of the American Educational Research Association San Francisco

[Google Scholar](#)

Underwood J. School finance litigation: Legal theories, judicial activism, and social neglect. *Journal of Education Finance* 1995;20:143-162

[Google Scholar](#)

Verstegen D. Further evidence on why and how money matters in education. *Journal of Education Finance* 1994;20 1 Entire issue.

[Google Scholar](#)

White RA, Gamoran A, and Smithson J. *Math innovations and student achievement in seven high schools in California and New York* 1995 Madison, WI University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education

[Google Scholar](#)

Wohlstetter P and Anderson L. Charterschools. *Phi Delta Kappan* 1993;75 6 486-491

[Google Scholar](#)

Wohlstetter P, Smyer R, and Mohrman SA. New boundaries for school-based management: The high involvement model. *Educational Evaluation and Policy Analysis* 1994;16:268-286

[Crossref](#)

[Web of Science](#)

[Google Scholar](#)

Wykoff J. The interstate equality of public primary and secondary education resources in the U.S., 1980–1987. *Economics of Education Review* 1992;11 1 19-30

[Crossref](#)

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