

Why Voters Veto Vouchers: Public Schools and Community-Specific Social Capital

William A. Fischel

Professor of Economics
Dartmouth College
6106 Rockefeller
Hanover, NH 03755
office: (603) 646-2940
Bill.Fischel@Dartmouth.Edu
dept. fax: (603) 646-2122

draft of January 2005

Accepted for publication in *Economics of Governance*

Abstract: This article explains voters' attachment to public education: The public benefit of local schools accrues to adults, not children. Having children in local schools increases parents' "community-specific social capital." Through local school connections, parents get to know other adults in their community better, which in turn reduces the transaction costs of citizen provision of local public goods. Vouchers would disperse students from their communities and thereby reduce localized social capital. Empirical evidence supporting this also explains the rise and fall of Robert Putnam's national indicators of social capital, which have moved in lock-step with the number of children per household.

Acknowledgement: For helpful comments on earlier drafts, I thank without implicating Eric Brunner, Paul Carrington, Timothy Goodspeed, William Hoyt, Myron Lieberman, Robert Putnam, Lisa Snell, Jon Sonstelie, Michelle White, John Yinger, and two anonymous referees.

Key words: vouchers; public education; social capital; school districts

JEL classifications: H4 (public goods), H7 (state and local finance),
I22 (education finance), Z13 (social capital)

“When death comes to a small town, the school is usually the last thing to go. A place can lose its bank, its tavern, its grocery store, its shoe shop. But when the school closes, you might as well put a fork in it.”
New York Times, Dec. 1, 2003, p. 1.

1. The public-goods puzzle of local public schools.

Why are American primary and secondary schools provided largely in the local public sector and made equally and freely available to all who reside in the community? The economics profession is quietly perplexed by this question. Schooling is probably the most-used example of a local public good, but economists who reflect on it must concede that it fits poorly into the technical definition of public goods. A public good is one that is subject to the nonexclusion principle or possesses the nonrival quality: An entrepreneur who seeks to profit by selling views of his overhead fireworks display will find he cannot *exclude* people who won't pay, and those who refuse to pay but enjoy watching can assuage their consciences by noting that their viewing the display does not subtract from (“is not *rival* with”) anyone else's ability to see it.

But formal education has neither of these qualities. It is entirely possible to exclude nonpaying students, as is established by the existence of the private schools attended by about ten percent of American children and by the euphemistic “school censuses” that better public-school districts undertake to root out students who falsely claim residence. That education is rival is evident from the continuing concern about class size. Bigger classes (more student-consumers) do detract, at plausible margins, from the education of others (Boozer and Rouse 2001).

The economics literature falls back on two classes of arguments for the “publicness” of public schools. The older is that there are spillover benefits to education that cannot be captured by those who are educated (Benson 1961). The productivity of most workers is enhanced by the greater education of some. The extent to which this is true remains a matter of some debate. Years of education is closely correlated with lifetime earnings, suggesting internalization of much of the benefits of schooling. Even if we concede that there are uncaptured spillover benefits, however, it does not justify more than a subsidy to education. It does not explain why its *production* should be in the public sector, let alone the *local* public sector.

The other efficiency argument has to do with a defect in the capital market (Becker 1964). Because human capital cannot serve as its own security, it is too costly for students or their parents to borrow against the future income that will result from educational investments. But again, even if this incomplete

capital market is conceded, it argues for no more than a publicly financed subsidy to education, not for public provision. And both this and the previous case for education subsidies (the spillover benefits) would argue for national public financing of education, not local or even state funding, and certainly not local provision.

Eric Hanushek (2002, p. 20) points out that arguments for the external benefits of education are not much different from those for medical care. Health care has spillover benefits that may not be internalized, and long-term health investments may yield high returns that cannot be secured as collateral for lenders, causing individuals to underinvest in it. The institutional response to these defects for medical care, however, has been largely to subsidize its purchase with grants and tax-expenditures from the state and national governments, not to organize its production and most of its financing at the local level, as K-12 education is organized.

Just so, say American policy entrepreneurs of both the left and the right. The left finds in this argument a powerful argument against *local financing* of education (Botstein 2000). Uniform funding by as high a level of government as possible is desirable to internalize the spillover benefits of education, which surely accrue to a wider area than a single locality. The inefficiencies of the human-capital market require raising funds through national taxes to redistribute wealth through public education, assuming, as is reasonable, that capital-market constraints are more severe for the poor than the rich (Fernandez and Rogerson 1996). Nearly everyone agrees that redistributive taxes are best undertaken by the national government, whose burdens can least easily be escaped by migration to lower-tax jurisdictions.

The political-right side of this argument might quibble about the extent of redistribution that is necessary, but its real beef with the left is about *public provision* of education (West 1965). The right seeks to provide this good by simply subsidizing consumers' shopping for private schools with publicly-financed education vouchers. Voucher advocates argue chiefly for the benefits of competition that they see as being primarily in the private sector (Chubb and Moe 1990; Friedman 1962). Although there is sometimes a nod to competition among local public school districts in the manner of Tiebout (1956), the main difference between the left and right among education reformers is whether the higher-government funds ought to be distributed to state-run schools or via vouchers to privately run schools. Neither side has much use for locally funded, locally run public schools.

Yet the public thinks otherwise. They vote with their feet for local schools, as is evidenced from the fact that improving local public schools almost always raises home values (Black 1999; Haurin and Brasington 1996). They vote at the ballot box, too, rejecting both conservative proposals to adopt state-funded

voucher plans (Moe 2001, pp. 359-69; Ryan and Heise 2002) and liberal proposals to centralize financing of public education (Carrington 1973; Fischel 2001, pp. 118-20). Nobody loves local public schools but the people.

I think that the people are right. Economists have been unable to see why local public schools are a local public good because they have been looking solely at school children instead of their parents and other adult community members. The “local-publicness” of education is to be found among those who do not consume education directly.

2. *Serrano* reduced Tiebout-sorting and revived voucher proposals

The odd thing about local public education is that Americans have figured out a way to provide it much like private goods. Given a stock of numerous and independent districts, a highly regulated supply of housing (by zoning), and a mobile population (ala Tiebout 1956), local public education was converted into an essentially private good (Hamilton 1975). In order to get the benefits of the schools, you had to buy a home in the community whose property taxes covered the cost of education. You could not shirk from the property-tax burden by buying a less valuable home or subdividing an existing structure; local land use regulations would not permit it (Fischel 1992). Local schools, though nominally in the public sector, became more like a private good. Tuition for education quality differentials was extracted in the housing market, not at the schoolhouse door. Since education is in fact a private good at the local level, this aspect of the system is efficient.

This bottom-up system of local schooling has been attacked by a thirty-year movement in the courts to centralize the funding of public education (Heise 1998; Joondeph 1995). After voters in several states had rejected the centralizers’ proposed reforms in the late 1960s (Carrington 1973), reformers took their cause to the courts. Since the early 1970s, legal reformers have fought a war of attrition against localism in education in the state courts. (The U.S. Supreme Court washed its hands of the issue in 1973 in *San Antonio v. Rodriguez*, 411 U.S. 1.)

The earliest and most sweeping victory was obtained in California in *Serrano v. Priest*, 96 Cal. Rptr. 601 (1971). Its 1976 remedy (135 Cal. Rptr. 345) required that variations in local property-tax bases could not be the basis (as they surely were prior to the decision) for variations in school spending. Compliance with this edict by California’s legislature transformed the school component of the property tax from a fee-for-service into a deadweight loss. The voters further obliged the court by cutting the property tax in half with Proposition 13 in 1978, shipping the responsibility for school funding to the state (Fischel 2004).

Some equalization advocates initially regarded Prop 13 as a blessing in disguise in that it forced the state to deal more thoroughly with *Serrano* (Post 1979), since only a state-funded system could meet both its equal-spending and common-tax-base requirements. The state legislature, however, has found itself unable or unwilling to replace the locally-generated funds lost to Prop 13. California's schools soon fell from being among the best in the nation to being among the worst (Sonstelie, Brunner, and Ardon 2000).

In a post-*Serrano*-and-Proposition-13 world, California voters should have found vouchers an attractive option. As a result of this one-two punch, no district could spend more than any other. Thus the supposed advantages of local schools for the rich suburbs should have disappeared. Voters in those places should have been able to see the light of a voucher system.

This was the expectation of John Coons and Stephen Sugarman (1978), whose earlier work (1970, with Clune) supplied the intellectual basis for *Serrano* and related school-finance litigation. After *Serrano* accomplished what Sugarman called the "destruction of the old system" to "make the system rational" (McCurdy 1974), Coons and Sugarman entered the political arena. They attempted to get a voucher initiative on the California ballot in 1979 but failed for lack of signatures (Catterall 1982). Later voucher initiatives in California that did get on the ballot were nonetheless rejected by huge margins in 1993 and 2000, even when voucher supporters outspent their opponents — mainly teachers' unions — in the most recent election (Moe 2001, p. 366).

Vouchers were most soundly rejected in those places in California where local public schools have maintained their higher quality in the face of fiscal constraints (Brunner, Sonstelie, and Thayer 2001). Community residents in these places have managed to use private funds and a jury-rigged system of fees and "parcel taxes" to supplement Sacramento's meager offerings (Brunner and Sonstelie 1997). But why do California communities go to this kind of trouble to resuscitate local public schools? Why not just transfer their impressive fund-raising abilities to voucher-supported private schools? Why do the voters still like public schools so much?

3. The answer is community-specific social capital

Here's how I found out why California voters still prefer public schools. I spent a sabbatical year in Berkeley, California, in the academic year 1991-92. My son and only child was entering the eighth grade. Before going, I called friends in Berkeley who had children around that age, and I found that none of them sent their children to a public middle school in Berkeley. My wife and I decided instead to send our son to a tiny private school that happened to be just a block from the home we rented.

It looked perfect. But as the year progressed, we noticed something odd. We weren't getting to know very many people in the neighborhood. During a previous leave at UC Santa Barbara in 1985-86, when our son was in second grade, he attended a nearby public school and we had no trouble getting to know people in the area. But in Berkeley, all but our immediate neighbors remained strangers to us.

After a few months in Berkeley, we figured out what was different. Our son's schoolmates were drawn from all over the East Bay area. Indeed, the school (now defunct) had the grandiose name of East Bay Junior Preparatory School. Josh's school friends went home after school to widely-spaced communities, and he seldom visited with them except for special, parent-arranged events. We got to know some of those parents on those occasions, but, since only two of Josh's schoolmates lived in Berkeley itself, we did not get to know people in Berkeley very well. The publicness of local public schools, I submit, is that they enable *parents* to get to know the other members of their community.

What's so important about that? More precisely, what is the nonexcludable, nonrival aspect of knowing your neighbors? It is that public schools increase the community's "social capital," to invoke a term given wide currency by Robert Putnam (1995; 2000). Social capital, as I will use it, is one's network of friends and acquaintances in a community. When bottom-up collective action is necessary, having established a network of personal relationships makes it much easier to organize and get the job done.

The social capital I am concerned with is what I call "community-specific social capital." It is not just all the people you know, but the people you know within a given political community. (There are varying degrees of "knowing" other people, but exploring that dimension is not necessary for my thesis.) Community-specific social capital facilitates collective action. If you know others in your community, it is easier to get them to sign a petition to do something about the dangerous intersection. It takes less effort to round up members of the community to attend a hearing to oppose an adverse land-use proposal. It is easier to gather fellow gardeners to ask the city council to allow you to turn a derelict municipal lot into a community garden. It is more likely that neighbors or passers-by will report a suspicious stranger entering your house if they know something about your life. Local school-board membership, which is usually an easily-obtained political office, is often a stepping stone to municipal office, especially where the electorate of the district and the city overlap.

Public schools' public benefits — creating community-specific social capital — accrue mainly to a participatory view of local government. They do not help much for governance that is much removed from the neighborhood. Organized community groups are often the bane of higher governments. The neighborhoods are always interfering with the execution of regional plans and

the placement of public facilities. Parent groups get in the way of school experiments like open classrooms and “whole language” reading. Homeowner groups insist that police pay attention to graffiti and excessive noise as well as to the major crimes that cops get promotions for solving. And homeowners can be awfully effective “NIMBYs” when developers seek rezonings that threaten their property values.

That schools are the matrix of a community’s social capital is actually an old idea, though its history is discontinuous. An article by Lyda Judson Hanifan (1916) was identified by Robert Putnam as the first to use the term “social capital.” Mr. Hanifan was superintendent of West Virginia’s rural schools. He advanced the idea of social capital in its modern form, but then he gave a real-life example.

Hanifan described how an enterprising new school superintendent (one Lloyd T. Tustin, not Hanifan himself) got the adults of a poor, rural district to attend social meetings in the schools, which also served as community centers. In the course of these meetings, the parents began to discuss issues of local concern. These discussions and the networks they led to improved support for the schools, but they also led to the construction of road improvements and exchange of information about farming methods, both true public goods.

4. How vouchers undermine community-specific social capital

The publicness of local public schools is an argument against vouchers in the following sense. By enabling parents to select schools outside their communities and outside of local public supervision, vouchers work against the neighborhood and community networks that facilitate the bottom-up provision of local public goods. Community-specific social capital is more difficult to form if members of the community send their children to schools in other communities.

The problem is illustrated in the following two diagrams. In Figure 1, parents send their children to a public school within their community. They form parental networks with one another as a result, and this network is useful not just for schools but for producing other goods within the community that require citizen cooperation. In Figure 2, parents are free to send children to schools in other communities as well as within their own. If half of them do so (as I have assumed), the amount of community-specific social capital is cut in half.

[Insert Figure 1 and Figure 2 about here.]

It is important to note that the aggregate amount of social capital (number of people each household knows) is not reduced in the voucher program. Surveys indicate that the networks that adults and children acquire through schools are no less extensive in a private-school setting than in a public-school setting (Smith and Sikkink 1999). But in the voucher system characterized in

Figure 2, half of that social capital — those people you know *outside* the community in which you live — is not community-specific and is thus less valuable for producing local public goods.

The key to my argument is that a voucher system would allow students to cross municipal boundaries. (This would not necessarily require longer trips to school, as Figure 2 implies, for students who live near the edge of existing school districts.) As discussed in the following section, large cities might be able to supply enough private schools within their borders to have a student body that resides in the same municipality. But most suburbs and small towns would have to allow students to attend schools outside their borders. To offer vouchers but insist that they be used only within the a small district's limits would undermine the opportunities for choice and the inducements to competition that are the primary virtues of a voucher system.

The cost of vouchers, then, is that their primary virtue — greater competition among suppliers — undermines another virtue, the community-specific social capital that local public schools provide. To phrase it in terms made famous by Albert Hirschman (1970), the tax-financed, local public school system makes “exit” (to private schools) more costly, which promotes more “voice” within the community. Parents will inevitably seek to make their voices heard in the children's schools, wherever they are located. Public schools induce those within the same political jurisdiction to have a more effective common voice in self-governance in other community matters.

Public schools provide community-specific social capital mainly through the networks that parents establish. Children themselves also acquire a network of friends from schools. Schoolmates are undoubtedly social capital in that the benefits of knowing them last longer than the period of school attendance. But because people are so mobile after they leave school, their network of school friends is seldom *community-specific* social capital. Even if graduates do not move out of the metropolitan area in which they attended school, they are likely to have a number of municipalities in which they could reside. The social capital derived from any particular district's schools would be no greater than that derived from a private school in the same metropolitan area.

As long as public-school parents have some reason to get to know other parents, it does not matter for my thesis what the schools teach as long as it does not drive families to other districts or to private schools. My view of social capital does not require that public schools themselves promote civic virtue in children. In this respect, my view of public schools is different from those who defend them (and oppose vouchers) on the grounds that public schools are necessary not just to educate children but to civilize them (Macedo 2000). I view the public schools as a method of civilizing their parents and other adults by pulling them into a community network.

Many definitions of social capital focus on the good things that social capital may produce rather than the capital itself, which is, in my view, the number of people one knows. This makes a difference in how social capital is related to schools. For example, James Coleman and Thomas Hoffer (1987) define social capital as community norms and values that are transmitted to children from stable relationships among adults. Residential mobility undermines such relationships, and so Coleman and Hoffer regard the fact that many families choose a residence on the basis of schools as detrimental to social capital formation (*id.*, p. 23). Tiebout's vote-with-your-feet system holds no charms for them because mobility severs the deeper community roots that nurture social capital, as they define it. For Coleman and Hoffer, then, suburban schools are no better for social capital than those in the biggest cities.

My approach to social capital formation simply requires that parents get to know other parents. Investment in community-specific social capital is simply adding local names to your address book, and sending your child to a local school does that more effectively than any other means. It does not matter whether more parent-to-parent contact actually improves education. (Sociologists responding to Coleman and Hoffer have conflicting evidence about whether it does; Carbonaro [1998] says yes; Morgan and Sorensen [1999] say no.) As long as following their children's activities causes parents to know other adults within the same political jurisdiction, public schools help form community-specific social capital. Nor does my conception of social capital require that people trust all the people they know, as much of the social capital literature seems to assume. Even knowing people in your community that you don't trust is a form of social capital inasmuch as it enables you to avoid relying on them in cooperative endeavors.

For these reasons, I regard suburban and small-town schools as important and effective sources of social capital for their communities. Indeed, for a mobile society — which America has always been (Fischer 2002), stories of small-town stability notwithstanding — local public schools are among the most important ways of integrating newcomers into the community. Moving to a community and then using a voucher to send one's children to schools outside that community would undermine this function.

5. Why vouchers are more attractive in big cities

City and school-district size make a substantial difference for the formation of localized social capital. Eric Oliver (2000) found that indicators of civic participation in American cities — voting, contacting local officials, attending public meetings — were substantially less in larger municipalities, even after controlling for numerous demographic differences. His results were surprisingly insensitive to the size of the metropolitan-area: Other things equal, a city of 40,000 surrounded by rural territory had levels of civic participation similar to a

suburb of 40,000 in a large metropolitan area. I will argue in this section that the adverse effect of city size on civic participation comes in part from large school districts. My purposes are to show why vouchers are more attractive to big-city residents and to set up the empirical strategy for testing the social-capital hypothesis in the next section.

The drawback of big school districts, I submit, is that parents get to know other parents less well. Schools themselves are larger in big districts. For example, the 500 largest districts (the smallest of which in 1990 had about 14,000 students) have schools whose average size is sixty percent larger than that of schools in all remaining districts. Larger schools make it more difficult for parents to get to know one another because their children's classmates are more likely to change every year.

School governance is more bureaucratized in larger districts, so parental input will be less. Romer, Rosenthal, and Munley (1992) found that smaller New York State school districts were reasonably attentive to the demands of local voters, but larger districts were governed by a more bureaucratic model. Heather Rose and Jon Sonstelie (2004) suggest a reason for this: In the larger California school districts that they examined, teachers' unions, with their superior political organization, had a substantial impact on district decisions at the expense of local homeowners. With less parental influence on governance in big districts, there are fewer occasions for parents to interact with other parents at PTA meetings, school boards, and similar functions. And larger districts are more apt to send children out of neighborhoods to maintain racial balance or to receive more specialized education, so that parents of children in the same classroom live more distant from one another. It is well established that social capital is eroded by distance (Glaeser and Sacerdote 2000). All of these factors should reduce community-specific social capital in large school districts. (Voters' skepticism of statewide funding plans, noted in section 2 above, could also be driven by concern that such plans have historically resulted in larger districts and reductions in local fiscal control [Fuller 1982; Tyack 1972].)

Modern voucher programs that are confined to larger cities, as are most of the handful that are in operation (Ryan and Heise 2002, p. 2047), probably do not reduce the city-specific social capital of the parents. In large cities, most voucher-financed schools are within the same jurisdiction as the public schools. For the larger districts, then, vouchers may *increase* local social capital because of the greater parental involvement in private-school activities and governance. Mark Schneider et al. (1997) found from a study in New York and New Jersey that intra-district school-choice programs, which are like vouchers but are confined to choices among schools within the same district, did increase parental social capital.

Vouchers are more compelling for larger American cities for another reason. American suburbs and smaller cities are usually populated by people who have had a choice of several alternative communities. One of the most important reasons for choosing a community is its schools, and, because local residents (including childless homeowners) know this, they try to provide an efficient level of education to maintain their home values (Fischel 2001; Hoxby 2000). The advantages of this competitive system are attenuated in larger cities. Inner city parents are poorer than average, and their choice of communities is often further limited by racial prejudice. Residential immobility diminishes parents' ability to discipline unresponsive school officials by voting with their feet (Hoyt 1999). In such a situation, a voucher system offers choices to big-city residents that have long been enjoyed by suburban residents.

A statewide voucher system, however, would undermine community-specific social capital in the suburbs and smaller cities. This is consistent with the evidence of Brunner, Sonstelie, and Thayer (2001), who found that homeowners in the better (mostly suburban) school districts in Los Angeles County were more opposed to a 1993 voucher initiative than others. Brunner and Sonstelie (2003) found a similar pattern for the 2000 voucher initiative, which also failed. They believe that voter opposition was caused by a fear that vouchers would undermine the public schools in which residents had invested heavily. Residents had created somewhat better schools despite the limitations imposed by *Serrano* and Proposition 13 (discussed in section 2 above).

The most tangible manifestation of their school investment was the higher value of their homes. Brunner, Sonstelie, and Thayer (2001) suspected that it was residents' fear of a capital loss from a voucher system that made homeowners vote against it. This may explain their disproportionate opposition to vouchers, but the lopsided opposition by two-thirds of California's voters in both the 1993 and 2000 voucher initiatives would seem to require additional reasons. Even where schools are not especially successful for students, they still have a payoff for adults in the form of greater community-specific social capital. An inarticulate desire to maintain the network of intracommunity links that public schools provide may account for voters' resistance to statewide voucher programs even in places where vouchers would seem to be most attractive.

6. Using district size to test for social capital variations

The detrimental effect of large districts on social capital, described in the previous section, allows for an indirect test of the hypothesis that public schools are valued as incubators of local social capital. My empirical strategy is to focus on variations in the size of school districts among the forty-eight contiguous states, for which indexes of social capital are available.

American school districts vary greatly among the states in their average size and in their relationship to municipal boundaries. The school district and the incorporated town or city are almost always coterminous in New England and New Jersey and are approximately so in urban areas of the rest of the Northeast and North Central states. But school districts often cover much larger areas — sometimes the entire county — in much of the South and West. I use this interstate variation to determine whether bigger school districts reduce statewide measures of social capital.

In further support my focus on district size, I note that voters in smaller districts in California disproportionately opposed the 1993 statewide voucher initiative. A working paper by Jon Sonstelie (1995) estimated the extent of opposition to vouchers by school district for 44 unified (K-12) school districts in Los Angeles County, the only county for which votes on the initiative were available by school district. Sonstelie derived fixed-effect estimates of the degree to which each district's voters opposed the 1993 voucher initiative. The resulting voucher-opposition-index thus controlled for such differences in districts as childless households, private-school attendance, percent Catholic, household income, college graduates, race, ethnicity, political party, and employment in education. Figure 3 charts Sonstelie's estimates of voucher opposition (which I multiplied by minus 100, so that 240 on the vertical axis indicates the most opposition) for forty districts against their student enrollment. (I omitted Los Angeles and Long Beach because their huge enrollments — 617,000 and 72,000 — skew the diagram; their opposition indexes were 158 and 160, both below the median of the sample, indicating less than average opposition to vouchers, as my theory would predict.)

[Insert Figure 3 about here.]

Opposition to vouchers was clearly greatest among the smaller districts, even after accounting for their other demographic differences. The simple correlation between the opposition index and enrollment in Figure 3 is minus .52. It should be kept in mind, however, that voters opposed vouchers in the 1993 initiative in every district in this group. Statewide, 69.5 percent of voters opposed the voucher plan. The empirical work that follows is thus based on the idea that social capital is a *stronger* reason for residents of smaller districts to oppose vouchers, not that bigger school districts provide no social capital benefits to their residents.

In the regression reported in Table 1 below, the dependent variable is Robert Putnam's **social capital index** by state, excluding Alaska, Hawaii, and the District of Columbia. (Data and sources are listed in the appendix; census data are for 2000 and school district data are for the 1997-98.) My hypothesis is that interstate variations in social capital can be accounted for in part by the size of the school districts in the state and three control variables that were

found by Putnam to best explain this variation: percent college graduates (Putnam and Helliwell 1999), percent black in (Putnam 2000, pp. 280, 294), and percent of population in metropolitan areas (*id.*, p. 206). The four variables account for almost two-thirds of the interstate variation in the social capital index, an R-square that I consider reasonably large for these cross-section observations on the highly diverse states of the American union.

[Insert Table 1 about here.]

The key independent variable, **%in big district**, is the percent of public school children in the entire state who attend school in a district with more than 20,000 students. There are 310 such districts (of 16,365 school districts in the entire United States), and 35 percent of the forty-eight states' public school children attend a school in a district of this size. The sign and significance level of the coefficient on this variable support my basic proposition.

A district with 20,000 students would have a total population (adults and children) of about 125,000, given that public school children average about 16 percent of the nation's population. A problem with the 20,000 cutoff is that seven states then have zero for this variable. With a cutoff of 14,000 students, two of the seven states have finite (but still small) fractions, but the coefficient and the significance of the variable **%in big district** drops considerably, most probably because the additional districts of 14,000-to-20,000 students in other states promote social capital rather than retard it. I experimented with other indicators of "big district," including heavier weights for districts with over 30,000, 50,000 and 90,000 students, but none of the specifications did better than the 20,000 cutoff. (Measures of market concentration such as Herfindahl indexes do not test my theory, which is about absolute size rather than competition.) Note also that the voucher-opposition effect for the Los Angeles County districts in Figure 3 above does not have any appreciable variation for districts larger than 20,000. It looks as if all districts over 20,000 have the same detrimental effect on a state's social capital.

The three control variables are derived from Putnam's discussion of variations in his statewide indexes of social capital. The first is **%metro pop**, the percentage of a state's population that is within metropolitan areas. Social capital in general is lower in larger urban areas (Putnam 2000, p. 206). As anticipated, the coefficient on **%metro pop** is negative and statistically significant. As the correlation matrix indicates, this variable is partly correlated with **%in big districts**. But the correlation (.52) is not especially large, and I infer from this that **%in big districts** is not simply a proxy for large metropolitan areas. Many large MSAs are divided into small school districts. For example, Pennsylvania, which has 50 percent of its population in the Pittsburgh

and Philadelphia MSAs, has only 14 percent of its public school children in districts that enrolled more than 20,000 pupils.

Social capital is also unarguably greater among the better educated, as measured by **%college grad**, the percent of adults in the state who have four-year-college degrees. There may be some behavioral interactions between college grad and big districts. Better-educated parents are more likely to want to participate in school affairs, so there may be some Tiebout-selection by them towards states with smaller districts, though this seems improbable to me. More likely is that better-educated parents who find themselves in large school districts select private schools instead.

Social capital is lower in states with a large proportion of blacks, and the coefficient on **%black** in the regression results bear this out. As shown by Putnam's U.S. map (2000, p. 293), social capital is generally highest in states near the Canadian border and lowest in the states of the Confederacy. Putnam (2000, p. 294) explains the latter as the legacy of slavery and segregation.

States are actually reasonable divisions to test my hypothesis, since school districts are largely the product of each state's legislation and historical development. The regression exercise in Table 1 is less than conclusive because it assumes that school-district size is exogenous, which is a doubtful assumption for which I nonetheless have no alternative model. (For evidence that race, which I have controlled for here, is an important factor in district formation, see Alesina, Baqir, and Hoxby [2004].) That objection aside, the regression is consistent with the hypothesis that voters value public schools in part for their effect on social capital, which is valued in turn within the community for making true local public goods more plentiful. The regression does not examine how social capital maps into better local public goods. Putnam (2000, chaps. 18 and 21) makes a strong case for this intuitively-plausible proposition, and it has been confirmed with a sample of Iowa cities by Tom Rice (2001).

The elements that go into Putnam's Social Capital Index (the dependent variable for my regression) are given in the data appendix below. Only one of the fourteen elements even mentions local schools, which offers some assurance that the dependent variable is not related by definition to the independent variables. But it also makes one wonder how schools can be the incubator of social capital. What is it about having children and accessible (small-district) local schools that makes adults more likely to entertain friends, be trusting, belong to civic clubs, volunteer their time, and vote regularly?

I submit that community contacts obtained through public schools have a local multiplier effect. The school-based network of adult acquaintances makes it easier to get other people to join a local organization or volunteer on a community project or attend a neighborhood picnic. Positive experiences from

such activities create mutual bonds that increase people's sense of trust in others. Being recognized as members of the community ("the parents of Isabelle and Eloise") makes adults more inclined participate in public life. Even people without children who live in such communities find it easier to do all those things, since getting to know a few people in the network facilitates getting to know the others who are already plugged in.

7. The baby-boomers' *parents* have the most social capital.

Another broad test of my theory examines the role of children in the rise and decline of social capital over time. Again, research by Robert Putnam (1995; 2000) provides the basis for evidence for this issue. Putnam has famously documented the decline in social capital in the United States since the 1960s. His historical indicators of social capital — voter turnout, group membership, newspaper reading, surveys about trusting others — rose continuously through the post-World War II era and peaked in the middle 1960s. After that, almost all indexes of social capital declined steadily. As Putnam (2000, p. 184) frames the puzzle, "Why, beginning in the 1960s and 1970s and accelerating in the 1980s and 1990s, did the fabric of American community life begin to unravel?"

Putnam's explanations for the decline are candidly inconclusive. He convincingly rules out the cultural revolution of the 1960s, Watergate, family breakup, and, for the most part, women in the labor force. He ends up tentatively blaming suburbanization, with its longer commuting times, and television for keeping people at home and alone.

The problem with TV as an explanation is that the timing is off by almost a decade. TV-watching grew from near zero in 1948 to nearly universal by 1955 (Putnam 2000, pp. 217, 245-46), but most measures of social capital did not start declining until the middle 1960s (*id.*, pp. 438-439). If people were taking a pass on town meeting because they wanted to watch "Ozzie and Harriet," the decline should have started in the middle 1950s. Putnam suggests that TV did not affect the older generation as much as the younger, which could account for its delayed effect. But the one natural experiment that he mentions, in which sociologists examined remote Canadian communities before and after TV arrived in the 1970s, found that people of all ages were equally affected (and social capital adversely affected) by the arrival of television (Putnam 2000, p. 236).

Suburbanization is even more off in its timing as a cause of social capital's decline. The growth of suburbs was continuous throughout the twentieth century (Mieszkowski and Mills 1993). If longer commuting time was eroding social capital, the effect should have been noticed at least fifty years ago. Instead, social capital was booming through the 1950s even as suburbanization and automobile usage increased dramatically.

A tidier explanation for the decline in social capital since the middle 1960s is the baby boom and the baby bust. The baby boom began in 1946 and is conventionally dated as ending in 1964. Total fertility, the average number of births a woman would experience over her lifetime at current rates, peaked in the 1955-59 period at 3.69. (Total fertility is roughly equivalent to average family size; for accessible discussion of the concept, see McFalls [1998].)

The group that Putnam identifies as having the most social capital, more than those just before them as well as after them, are the *parents* of the children of the baby boom. He identifies the cohort born between 1910 and 1940 as “the long civic generation” (Putnam 1995, p. 674). Those born in the years 1925-1930 are singled out as adults who represented the “culminating point of this civic generation” (*id.*, p. 675). It was exactly this cohort that parented the baby boomers. They had more children per family than any other in the period since the First World War. (Total fertility was higher in the nineteenth and early twentieth century, but that reflected a more rural society with higher infant death rates and a more utilitarian view of children.) Because social capital does not deteriorate rapidly, the generation that parented the baby boom continues to lead in Putnam’s indicators of civic engagement.

After 1958, total fertility began a continuous decline until it bottomed out in 1976 at 1.74, less than half its 1950s peak. It has rebounded since then, though only briefly exceeding the long-run replacement rate of 2.1. The decline in childbearing after the late 1950s meant that by the middle 1960s, there were fewer first graders than the year before, and the decline continued at least until 1981. With fewer children, adults have narrower avenues on which to meet others in their community and smaller incentives to involve themselves in youth-oriented activities. Of course, a parent with only one child will invest more in that child, but the period of active engagement in child-oriented community affairs — chiefly public schools — is going to be shorter for the parents of one child than those of two, three, or four.

It is revealing to juxtapose graphs (Figure 4) of trends in twentieth century total fertility with that of Putnam’s longest-running measure of social capital, his index of participation by relevant groups in 32 national membership organizations. (For construction of this aggregated index, see Putnam [2001, pp. 54, 426]. Its vertical axis in Figure 4 is not labeled because the units have no special meaning.) This organization index is not Putnam’s only time-series measure of social capital, but it is the only one that has reasonably accurate data that span the century, and its post-1945 trend tracks most other measures.

The similarities in the two graphs in Figure 4 are strongest from 1930 to the present. Membership organizations declined during the Great Depression, as did total fertility. Both rose from the bottom of the Depression (circa 1935) and

climbed continuously to 1960, after which both began to decline. The decline for social capital was more gentle than for total fertility, and total fertility bottomed out in the early 1970s, whereas social capital continued to decline. But social capital's less precipitous decline is likely accounted for by the fact that it is capital, and the older generation — Putnam's "long civic generation" — has only slowly abandoned its attachment to organizations.

[Insert Figure 4 about here]

The major divergence between the trends in fertility and organization membership is at the beginning of the twentieth century, when organizations were rising but fertility was still falling. This seems explicable by the newness of the organizations in 1900 — a time that marked the invention of the modern "franchise" organization, in which clubs would open chapters in various towns and cities (Putnam 2000, pp. 384-85). Since it took time to spread this idea, the expansion of clubs during the 1900-1930 period is not surprising. The declining fertility in the 1900-1930 era marked the end of a long demographic transition from rural to urban. By 1930, however, American urbanization was nearly as complete as it was in 1960, so what we see after 1930 is the variation of births in an essentially urban society. The striking parallel between the two trends after 1930 is consistent with the view that parenthood is a wellspring of social capital for adults.

8. Smaller and fewer families reduce localized social capital

In our ongoing exchange, Putnam has generously provided me with data that show the importance of family size on participation in social-capital building activities. The data in Table 2 below are from a national series of questions asked by the DDB-Needham advertising agency (described in Putnam 2000, pp. 420-24). The numbers in the three right-hand columns refer to the average annual participation of married adults, not their children.

[Insert Table 2 about here.]

In general, the indicators of social capital are higher for adults who have more children, suggesting that larger families create more social capital. (The exceptions are the largest families in the later periods, as indicated by numbers in italics, and for entertaining at home.) The substantial effect of family size on church attendance could, of course, have the causality reversed, as more religious people may have larger families. But other out-of-home activities — volunteering, community projects, club meetings — seem unlikely to induce people to have larger families.

It is obvious from Table 2, though, that participation by parents does not increase in direct proportion to the number of children they have at home. In the most recent period, 1991-98, parents of four children volunteered 10 times per year, compared to 7.5 times per year for parents with two children. The

differences between two-child and four-child families are even smaller for other categories. Family size explains some but not much of the secular decline.

Another demographic factor, however, augments the effect of declining family size after 1960. This is simply the decline in the number of households with *any* children at home after the baby boom ended. (Table 2 does not measure this trend, since the survey only included married adults who had children at home.) There are two sources for this decline, both attributable to the aging of the baby boomers and their parents. By the 1980s, most children of the baby boom no longer lived with their parents. Thus their parents now became childless householders. At the same time, their young-adult children were slow in starting their own families and having children, at least compared to their parents at the same age.

The result of this was a substantial change in the nature of communities. Consider that households with children at home constituted 45 percent of all households in 1970 (Fields and Casper 2001). The majority of baby-boom kids were still at home, and community life centered around children and schools. By 2000, the fraction had declined to 33 percent. Households without children at home now outnumber those with parents living with their minor children by a ratio of two to one. Moreover, most of the decline in households with children came from those most likely to form community-specific social capital, the two-parent family. In 1970, 40 percent of all American households were married couples living with their own children. By 2000, only 24 percent of households were married couples with own children at home.

In considering the social-capital effects of the increase in households without children, it is important to recall that households correspond by definition with occupied housing units. A community with 10,000 housing units in 1970 had almost half (45 percent) of them occupied by adults who had at least one school-age or pre-school child. Thirty years later, that same community had only one-third of its housing occupied by adults who were likely to meet one another through child-oriented events, and many fewer of them would be mother-father units whose division of labor facilitates parent participation in schools and community-related activities. Combined with the aforementioned fact that those who nowadays do have children have fewer of them, the child-centered pathways between adults within the same community seem likely to have declined by at least fifty percent between 1970 and 2000.

There are a number of other explanations for long-term declines in social capital, including rising income inequality and increasing labor force participation by women (Kahn and Costa 2003). While I would not claim that changes in the number school-age children is the only explanation, it is the only one that does all three of the following: (1) It explains both social capital's rise and its fall; (2) it predicts its peak in the 1960s correctly; and (3) it offers a plausible

behavioral path of causation: variation in childbearing. Family size and women's labor force participation are no doubt jointly determined, though, so it would be presumptuous to privilege one over the other.

The primary issue I am concerned with in this article, however, is not social capital generally, but the community-specific social capital that local public schooling promotes. Adults may yet find alternative ways to build social capital without having school children around, but it is less likely to be the kind that makes local governments work better. Meeting people through work or clubs or athletic organizations or the internet does build a network of acquaintances (my minimalist definition of social capital), but because people in those networks are apt to live in many different municipalities, it does little to help overcome free-rider problems in local governance. Awareness of the social-capital-building effect of local schools may offer an additional explanation — aside from protection of home values — that childless voters are more inclined to support taxes for local schools than for statewide education expenditures (Harris, Evans, and Schwab 2001; Balsdon and Brunner 2003).

9. Conclusion: The past and future of schools and social capital

Leon Botstein, president of Bard College, wrote an opinion column about education in the *New York Times* during the 2000 presidential election campaign. It was titled, "Why Local Control?" Botstein (2000) could find no coherent reason to continue the "patchwork quilt of local governance." He dismissed school boards as too eager to fire school superintendents and regarded the electorate as too inclined to make children "victims of voters' frustration." He concluded, "A real 'education president' would be one who admits that our education crisis cuts across state lines, and that the solution is a federal system based on national standards and paid for with federal dollars."

The message of crisis, delivered from both the right and left on the political spectrum, produces an odd result in voters. Polls show that most Americans are worried about *other* people's schools, not those in their own community (Moe 2001). Attentive citizens apparently believe a crisis must be happening somewhere, even though it does not comport with their local experience.

This article has set out a possible explanation for Americans' persistent preference for local public schools despite experts' lamentation over their inadequacies. I submit that they prefer localism in schooling because it provides better local public goods, broadly conceived. I have not, however, described the mechanism by which the public has become inarticulately attached to my reading of localism's virtues. I could invoke Milton Friedman's (1953) method of positive economics and argue that I do not need an account as long as the theory yields correct predictions. The correct prediction here is that a general system of vouchers is a political loser. But given that there are other possible

explanations for this condition — such as historical “path dependence” — some account of how the public becomes attached to local schools is in order.

To that end, I invoke “historical evolutionary” inference. This holds that voluntary institutions that last for a long time in a democracy usually persist because those served by them are better off. The alternatives are weighed by the voters over a period of years, and those that don’t work are rejected sooner or later. In contrast, the “path dependence” stories regard institutions as prone to being stuck indefinitely in inefficient historical ruts. Although he does not invoke it specifically, Terry Moe (2001, p. 290) implicitly endorses the path-dependence idea, concluding from his intensive survey work that voters are too addicted to the status quo of public schools to vote for vouchers. (He forthrightly rejects that it is just the political muscle of teachers’ unions and their allies, since voucher supporters in the 2000 California initiative actually outspent the unions but still lost by the same lopsided margin as the 1993 initiative, in which the unions had greatly outspent voucher advocates.)

But the path-dependence stories in other contexts turn out to be less than meets the eye when the facts are examined more carefully. For example, Paul David (1985) offered the persistence of the QWERTY keyboard layout as an example of inefficient path dependence. This was refuted by Stanley Liebowitz and Stephen Margolis (1990), who found that QWERTY was the product of much competition and remains no less efficient than alternative layouts.

Local public schools are likewise the product of a long and contested history. The tension between economies of scale, which once warranted larger districts, and local-voter control, which is greatest in smaller districts, was nowhere more evident than in rural America in the late 1800s. Most of the school population was rural, and most of that population attended one-room schools, which usually lacked age-group progression from grades one through eight. District size was largely determined by how far a child could walk from home to school. City schools, with their higher population densities, had long had age-group grading, and by 1900, high schools were beginning to become a norm in most cities (Goldin 1998). As rural roads were improved around the turn of the century, legislatures were persuaded by education experts to consolidate rural one-room schools so that graded and, eventually, high school education could be made available to all (Carney 1912).

Resistance to consolidation came from rural communities, which had financed and governed their local schools from their inception. Rural residents regarded their schools a social centers for adults as well as places for their children to be educated (Reynolds 1999). Wayne Fuller was especially attuned to this in his history of rural schools in the upper Midwest. Without neglecting their drawbacks, Fuller (1982, p. 45) emphasized how closely the school was tied to the rest of rural community life:

[The rural school district] brought scattered families together in a common effort, provided a community where none existed, and gave the people who lived among the empty stretches of hills and plains a sense of belonging to a place. They were invaluable laboratories of democracy in which rural Americans learned the importance of their vote, how to make laws, and how to govern themselves.

The success of the rural consolidation movement would seem to have been a defeat for localism, which might suggest that its social capital reasons for existence were not decisive. It is not my claim, though, that facilitating adult social capital is the most important purpose of schools. Schools exist to educate children, and schools' value to the community as a source of social capital is incidental to their educational function. Yet as is suggested by this article's epigraph ("but when the school closes, you might as well put a fork in it"), taken from an article describing the contemporary travails of declining small towns on the Great Plains (Egan 2003), a town's school is still regarded as its most critical social institution. Its contribution to community life should not be underestimated.

Accounts of the rural consolidation movement often had a polemical tone that casts it as a battle between enlightened professionals and ignorant farmers (Cubberley 1914). The more balanced historical accounts of rural consolidation recognize that parents weighed the virtues of localism against the educational advantages of consolidation, and in most cases reluctantly acceded to the greater educational benefits that could be had in consolidated schools (Kaestle 1983; Reynolds 1999). Whatever regret rural opponents felt were eventually assuaged by the discovery that the same improved roads and vehicles that transported their children to a consolidated school also enabled parents to widen the geographical area that they called their neighborhood. This was especially helpful as rural population densities continued to decline. The rural consolidated high school became the locus of community activity early in the twentieth century (Tyack 1972). Thus the consolidated schools of the early twentieth century did not erode social capital as much as was feared, and the American upper Midwest, where these battles were fiercest (Fuller 1982), is today still identified by Putnam (2000) as having the most social capital.

The previous remarks are not to say that local social capital was the only noneducational consideration in the provision of public schools. From its earliest days, the system of local finance has lived in active tension with state-level egalitarianism, which has long sought to have schools financed equally by the state. The nature of school funding was constantly on the political agenda — often at constitutional conventions — of every state throughout the nineteenth and early twentieth century (Cubberley 1919; Keller 1994, chap. 2).

The mixed system of local funding and state subsidies that characterized most states by the 1950s was thus the product of a long and articulate struggle of well-represented forces in the legislatures. Only in the last third of the twentieth century, starting with *Serrano v. Priest* in 1971, have the state courts disturbed this political tension by putting their considerable political capital on the side of centralization of funding. The renewed interest in vouchers may be an offspring of the decisions of state courts, decisions that are not the product of voter discontent with their local public schools.

Judge-made centralization of funding over the last thirty years appears to have caused a decline in average educational results (Husted and Kenny 2000; Peltzman 1996). This in turn has energized the private-school movement (Downes and Schoeman 1998; Nechyba 2000), which had long been a complement to public schools, albeit a distinctly subsidiary one. As mentioned in section 5 above, it seems reasonable to predict that vouchers will tend to succeed in larger cities in which the combination of excessively large districts and low-quality schools overcomes the attraction of public schools in promoting local social capital. In most other places, however, local salvage operations of the type seen in California will probably keep the public schools politically viable.

State supreme court judges, the modern force behind centralization and loss of local control, seem impervious to any criticism of their school-finance decisions. Most state judges forestall criticism by wrapping their decisions around the language of *Brown v. Board of Education* despite its poor fit with the facts of school finance cases (Fischel 2001, pp. 103-108). It seems safe to predict, then, that the pressure for vouchers will continue for a long time.

This is hardly a bad thing. A voucher system has many virtues in promoting more individual choice among families and creative competition among suppliers. The present paper gainsays none of those benefits. My purpose is to point out that the public's continuing affection for local public schools is not irrational. However inchoate "community-specific social capital" may be, voters' longstanding regard for its everyday benefits may be what restrains widespread support for a general voucher system.

References

- Alesina, A., Baqir, R., Hoxby, C. M. (2004) Political jurisdictions in heterogeneous communities. *Journal of Political Economy* 112: 348-96.
- Balsdon, E. M., Brunner, E. J. (2003) Intergenerational conflict and the political economy of school spending. Working paper, San Diego State University.
- Becker, G. S. (1964) *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Columbia University Press.
- Benson, C. S. (1961) *The Economics of Public Education*. Boston: Houghton Mifflin.
- Black, S. E. (1999) Do better schools matter? Parental valuation of elementary education. *Quarterly Journal of Economics* 114: 577-99.
- Boozer, M., Rouse, C. (2001) Intraschool variation in class size: Patterns and implications. *Journal of Urban Economics* 50: 163-89.
- Botstein, L. (2000) Why local control? *New York Times*, September 19, p. A31.
- Brunner, E. J., Sonstelie, J. (1997) Coping with *Serrano*: Voluntary contributions to California's local public schools. *1996 Proceedings of the Eighty-Ninth Annual Conference on Taxation*. Washington, D.C.: National Tax Association.
- Brunner, E. J., Sonstelie, J. (2003) Homeowners, property values, and the political economy of the school voucher. *Journal of Urban Economics* 54: 239-57.
- Brunner, E. J., Sonstelie, J., Thayer, M. (2001) Capitalization and the voucher: An analysis of precinct returns from California's Proposition 174. *Journal of Urban Economics* 50: 517-36.
- Carbonaro, W. J. (1998) A little help from my friend's parents: Intergenerational closure and educational outcomes. *Sociology of Education* 71: 295-313.
- Carney, M. (1912) *Country Life and the Country School*. Chicago: Row, Peterson.
- Carrington, P. D. (1973) Financing the American dream: Equality and school taxes. *Columbia Law Review* 73: 1227-260.
- Catterall, J. S. (1982) *The Politics of Education Vouchers*. PhD dissertation, School of Education, Stanford University.
- Chubb, J. E., Moe, T. M. (1990) *Politics, Markets, and America's Schools*. Washington, D.C.: Brookings Institution,.
- Coleman, J. S., Hoffer, T. (1987) *Public and Private High Schools: The Impact of Communities*. New York: Basic Books.

- Coons, J. E., Clune, W. H., Sugarman, S. D. (1970) *Private Wealth and Public Education*. Cambridge: Harvard University Press.
- Coons, J. E., Sugarman, S. D. (1978) *Education by Choice: The Case for Family Control*. Berkeley: University of California Press.
- Cubberley, E. P. *Rural Life and Education*. (1914) Cambridge, Mass.: Riverside Press.
- Cubberley, E. P. (1919) *Public Education in the United States: A Study and Interpretation of American Educational History*. Boston: Houghton Mifflin.
- David, P. A. (1985) Clio and the economics of qwerty. *American Economic Review* 75: 332-37.
- Downes, T. A., Schoeman, D. (1998) School finance reform and private school enrollment: Evidence from California. *Journal of Urban Economics* 43: 418-43.
- Egan, T. (2003) Amid dying towns of rural plains, one makes a stand. *New York Times*, December 1, p. 1.
- Fernandez, R., Rogerson, R. (1996) Income distribution, communities, and the quality of public education. *Quarterly Journal of Economics* 111: 135-64.
- Fields, J., Casper, L. M. (2001) *America's Families and Living Arrangements*. U.S. Census Bureau, Current Population Report P20-537.
- Fischel, W. A. (1992) Property Taxation and the Tiebout model: Evidence for the benefit view from zoning and voting. *Journal of Economic Literature* 30: 171-77.
- Fischel, W. A. (2001) *The Homevoter Hypothesis*. Cambridge: Harvard University Press.
- Fischel, W. A. (2004) Did John Serrano vote for Proposition 13? A reply to Stark and Zasloff, 'Tiebout and tax revolts: Did *Serrano* really cause Proposition 13?' *UCLA Law Review* 51: 887-932.
- Fischer, C. S. (2002) Ever-more rooted Americans. *City and Community* 1: 177-99.
- Friedman, M. (1953) *Essays in Positive Economics*. Chicago: University of Chicago Press.
- Friedman, M. (1962) *Capitalism and Freedom*. Chicago: University of Chicago Press.
- Fuller, W. E. (1982) *The Old Country School: The Story of Rural Education in the Middle West*. Chicago: University of Chicago Press.

- Glaeser, E. L., Sacerdote, B. I. (2000) The social consequences of housing. *Journal of Housing Economics* 9: 1-23.
- Goldin, C. (1998) America's graduation from high school: The evolution and spread of secondary schooling in the twentieth century. *Journal of Economic History* 58: 345-74.
- Hamilton, B. W. (1975) Zoning and property taxation in a system of local governments. *Urban Studies* 12: 205-11.
- Hanifan, L. J. (1916) The rural school community center. *Annals of the American Academy of Political and Social Science* 67: 130-38.
- Hanushek, E. A. (2002) Publicly provided education. NBER Working Paper 8799.
- Harris, A. R., Evans, W. N., Schwab, R. M. (2001) Education spending in an aging America. *Journal of Public Economics* 81: 449-72.
- Haurin, D. R., Brasington, D. (1996) School quality and real house prices: Inter- and intrametropolitan effects. *Journal of Housing Economics* 5: 351-68.
- Heise, M. (1998) Equal educational opportunity, hollow victories, and the demise of school finance equity theory: An empirical perspective and alternative explanation. *Georgia Law Review* 32: 543- 631.
- Hirschman, A. (1970) *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations, and States*. Cambridge: Harvard University Press.
- Hoxby, C. M. (2000) Does competition among public schools benefit students and taxpayers? *American Economic Review* 90: 1209-238.
- Hoyt, W. H. (1999) Leviathan, local government expenditures, and capitalization. *Regional Science and Urban Economics* 29: 155-71.
- Husted, T. A., Kenny, L. W. (2000) Evidence on the impact of state government on primary and secondary education and the equity-efficiency tradeoff. *Journal of Law and Economics* 43: 285-308.
- Joondeph, B. W. (1995) The good, the bad, and the ugly: An empirical analysis of litigation-prompted school finance reform. *Santa Clara Law Review* 35: 763-824.
- Kaestle, C. F. (1983) *Pillars of the Republic: Common Schools and American Society, 1780-1860*. New York: Hill and Wang.
- Kahn, M. E., Costa, D. L. (2003) Understanding the decline in social capital, 1952-1998. *Kyklos* 56: 17-46.
- Keller, M.. (1994) *Regulating a New Society: Public Policy and Social Change in America, 1900-1933*. Cambridge: Harvard University Press.

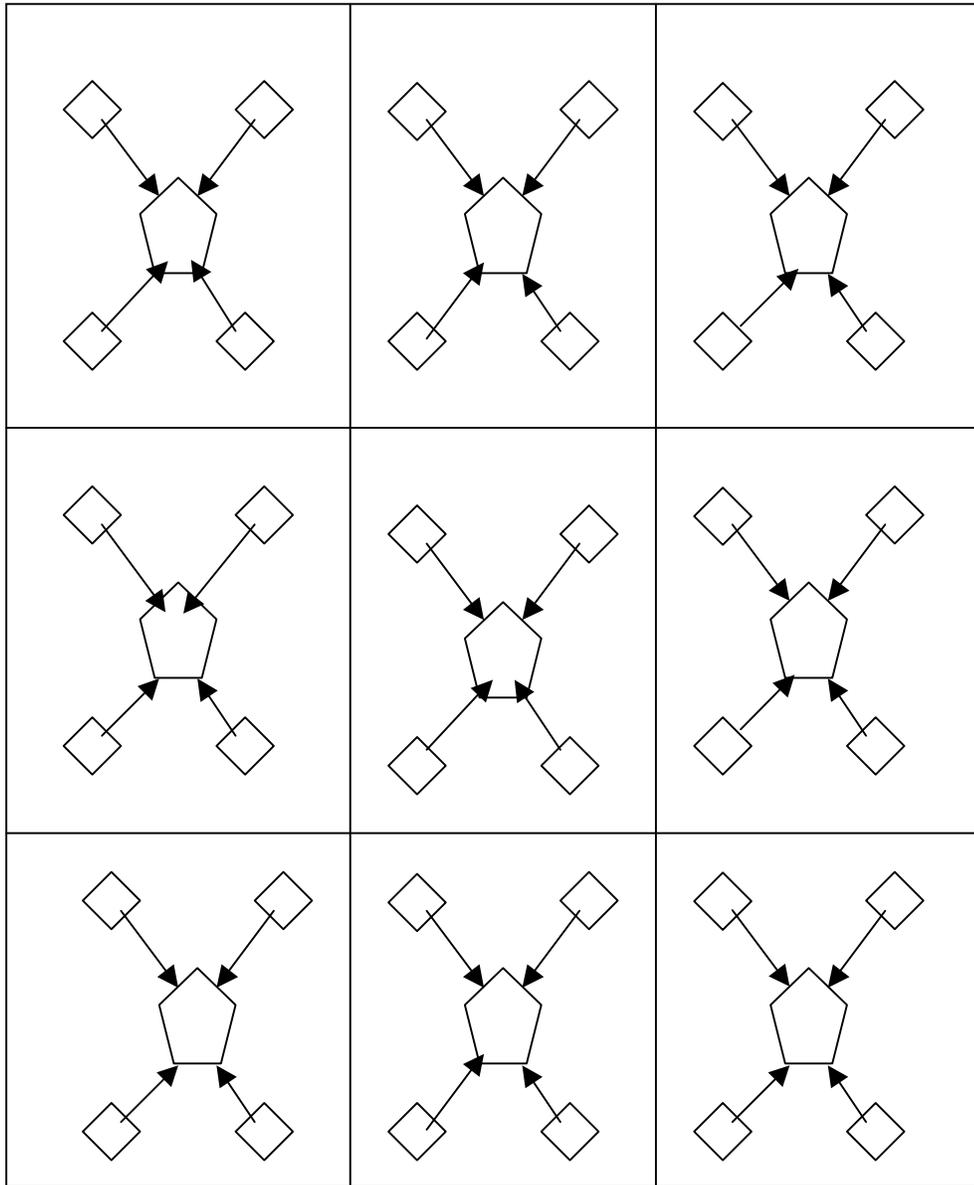
- Liebowitz, S. J., Margolis, S. E. (1990) The fable of the keys. *Journal of Law and Economics* 33: 1-25.
- Macedo, S. (2000) *Diversity and Distrust: Civic Education in a Multicultural Democracy*. Cambridge: Harvard University Press.
- McFalls, J. A. (1998) Population: A lively introduction. *Population Bulletin* 53: 1-48.
- McCurdy, J. (1974) School funding ruling: A setback for the poor? *Los Angeles Times*, June 30, pt. I, p. 3.
- Mieszkowski, P., Mills, E. S. (1993) The causes of metropolitan suburbanization. *Journal of Economic Perspectives* 7: 135-47.
- Moe, T. M. (2001) *Schools, Vouchers, and the American Public*. Washington, D.C.: Brookings,.
- Morgan, S. L., Sorensen, A. (1999) Parental networks, social closure, and mathematics learning: A test of Coleman's social capital explanation of school effects. *American Sociological Review* 64: 661-81.
- Nechyba, T. J. (2000) Mobility, targeting, and private-school vouchers. *American Economic Review* 90: 130-46.
- Oliver, J. E. (2000) City size and civic involvement in metropolitan America. *American Political Science Review* 94: 361-73.
- Peltzman, S. (1996) Political economy of public education: Non-college-bound students. *Journal of Law and Economics* 39: 73-120.
- Post, A. (1979) Effects of Proposition 13 on the State of California. *National Tax Journal* 32 (June supplement): 381-85.
- Putnam, R. D. (1995) Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political Science and Politics* (December): 664-83.
- Putnam, R. D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.
- Putnam, R. D. (2001) Social capital: Measurement and consequences. *Isuma, Canadian Journal of Policy Research* 2: 41-51.
- Putnam, R. D., Helliwell, J. (1999) Education and social capital. NBER Working Paper 7121.
- Reynolds, D. R. (1999) *There Goes the Neighborhood: Rural School Consolidation at the Grass Roots in Early Twentieth-Century Iowa*. Iowa City: University of Iowa Press.
- Rice, T. W. (2001) Social capital and government performance in Iowa communities. *Journal of Urban Affairs* 23: 375-89.

- Rose, H., Sonstelie, J. (2004) School board politics, district size, and the bargaining power of teachers' unions. working paper, Economics Department, University of California at Santa Barbara, August.
- Ryan, J., Heise, M. (2002) The political economy of school choice. *Yale Law Journal* 111: 2043- 136.
- Schneider, M., Teske, P., Marschall, M., Mintrom, M., Roch, C. (1997) Institutional arrangements and the creation of social capital: The effects of public school choice. *American Political Science Review* 91: 82-93.
- Smith, C., Sikkink, D. (1999) Is private schooling privatizing? *First Things* 92: 16-20.
- Sonstelie, J. (1995) School finance reform and the voucher: An analysis of precinct returns from California's Proposition 174. working paper, University of California, Santa Barbara.
- Sonstelie, J., Brunner, E., Ardon, K. (2000) *For Better or for Worse? School Finance Reform in California*. San Francisco: Public Policy Institute of California.
- Tiebout, C. M. (1956) A pure theory of local expenditures. *Journal of Political Economy* 64: 416-24.
- Tyack, D. B. (1972) The tribe and the common school: Community control in rural education. *American Quarterly* 24: 3-19.
- West, E. G. (1965) *Education and the State: A Study in Political Economy*. London: Institute of Economic Affairs.

Figure 1

Public School System: All families [= ] attend

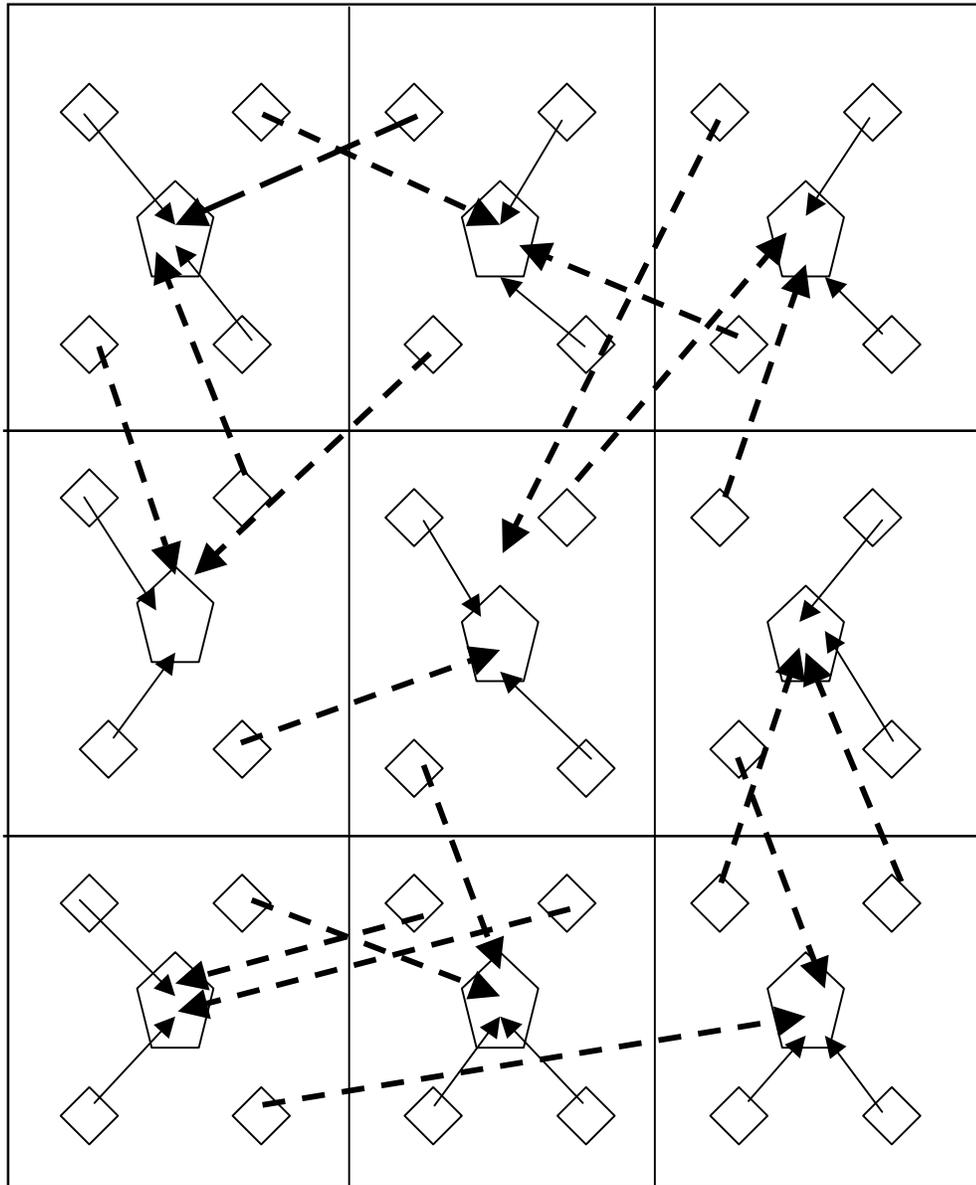
school [= ] within the same district.



Result: Social capital among parents is “community specific.”

Figure 2

Voucher System: Families can choose schools in any district. Half choose a school outside of their community.



Result: Social capital of *each family* remains the same, but “community specific” social capital is cut in half.

Figure 3

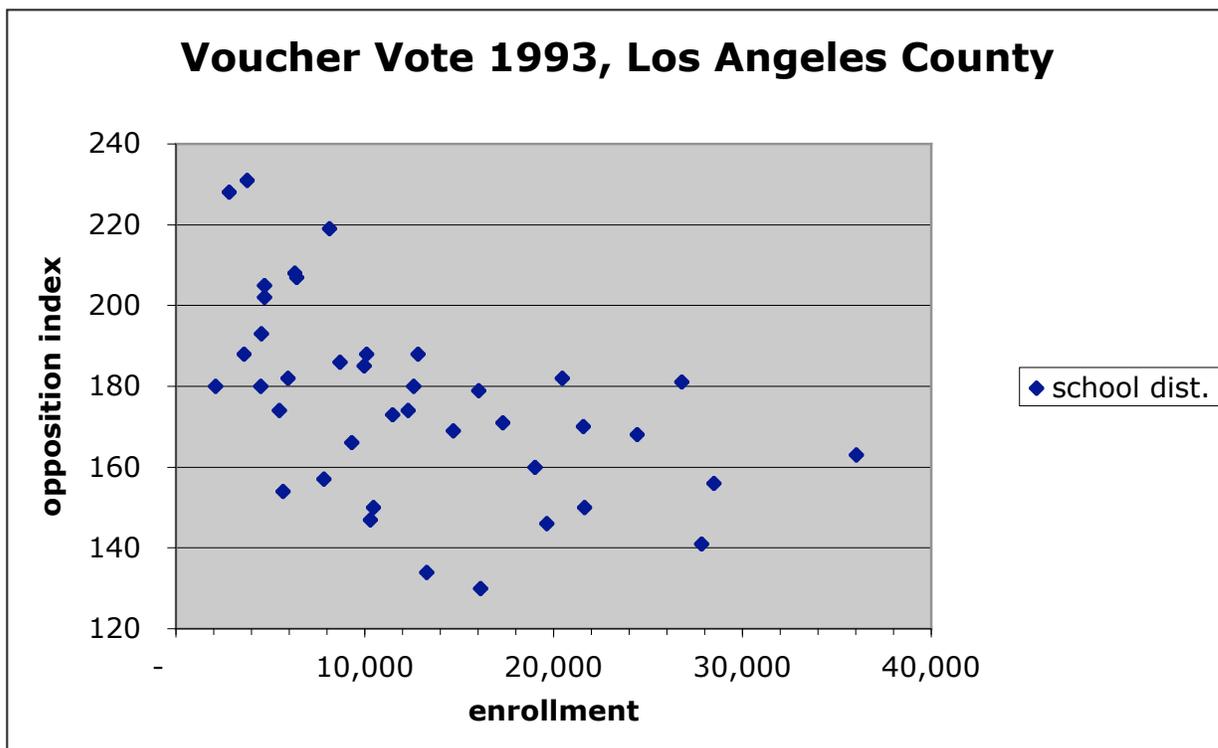
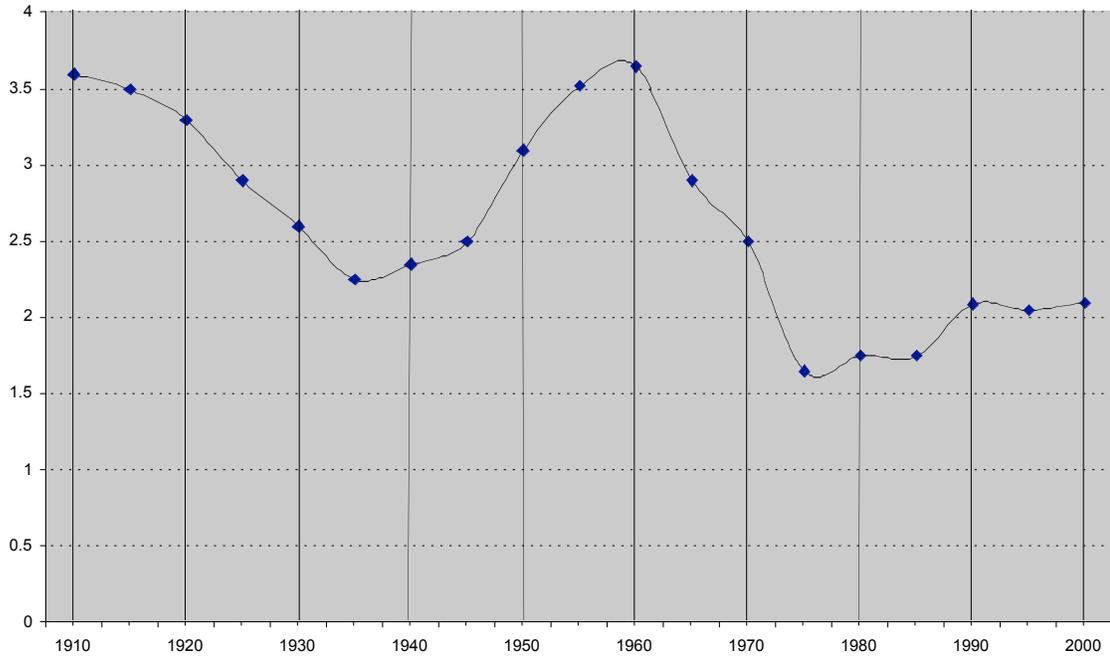


Figure 4: Twentieth-Century Total Fertility and Social Capital Trends

US Total Fertility Rate, 1910-2000



Average Membership Rate in 32 National Chapter-Based Voluntary Associations, 1900-1997

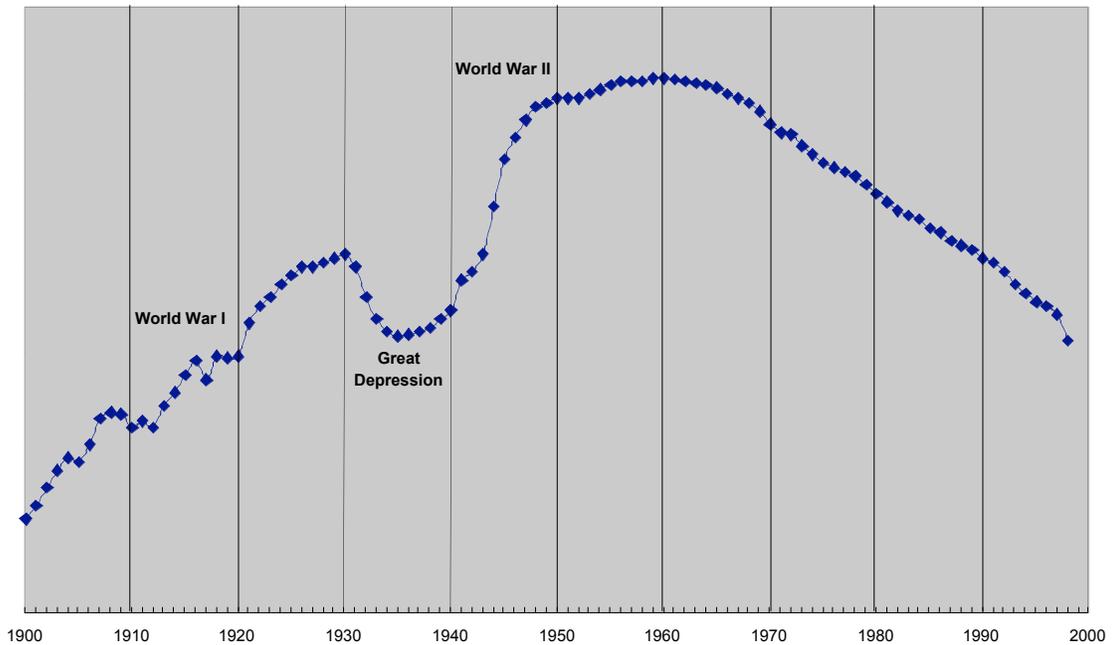


Table 1: Determinants of State-Level Indices of Social Capital

Dependent variable: social capital index [Source: Putnam 2000]

R-Square = 0.659

Adjusted R-Square = 0.627

Observations = 48

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	$b_x sd_x$	$beta = b_x sd_x / sd_y$
Intercept	1.948	0.4002	4.87		
%metro pop	-0.009	0.0043	-2.14	-.197	-.252
%black	-0.039	0.0081	-4.82	-.378	-.483
%college grads	0.069	0.0178	3.89	.321	.410
%in big district	-0.008	0.0038	-2.12	-.181	-.231

descriptive statistics

	<u>mean</u>	<u>std.deviation</u>	<u>minimum</u>	<u>maximum</u>	<u>median state</u>
social K index	2.44	.783	1.00 (NV)	4.14 (ND)	2.43
%metro pop	64.5	21.9	20.4% (ID)	100% (NJ)	67.5%
%black	10.73	9.7	0.5% (MT)	36.6% (MS)	7.5%
%college grads	24.6	4.65	17.3% (AR)	38.7% (CO)	23.9%
%in big district	26.0	22.6	0 (7 states)	88.0% (FL)	21.0%

Correlations

	<i>Social K</i>	<i>%metro pop</i>	<i>% black</i>	<i>%college</i>
social K index	1			
%metro pop	-0.302	1		
% black	-0.694	0.243	1	
%college grads	0.330	0.467	-0.152	1
%in big district	-0.480	0.521	0.369	0.154

Table 2: Family Size and Social Capital

Adult social-capital activity	number of children at home	1975-1983 (events per year)	1984-1990 (events per year)	1991-1998 (events per year)
Volunteered	One	5.5	5.5	5.8
	Two	7.6	7.1	7.5
	Three	8.3	7.9	9.3
	Four	8.2	8.6	10.0
	Five or more	9.7	9.2	10.6
Worked on community project	One	2.4	1.9	1.7
	Two	2.8	2.0	1.9
	Three	2.9	2.2	2.1
	Four	3.0	2.6	2.1
	Five or more	3.4	2.2	1.6
Attended club meetings	One	7.9	5.9	4.7
	Two	9.7	6.4	5.3
	Three	9.8	6.8	5.8
	Four	10.3	7.1	5.5
	Five or more	10.7	6.4	5.1
Attended church services	One	22.7	21.7	20.9
	Two	25.3	23.2	22.6
	Three	27.6	25.7	25.3
	Four	30.1	28.0	30.0
	Five or more	32.8	30.8	28.7
Entertained at home	One	15.0	11.3	10.1
	Two	14.4	11.3	10.0
	Three	14.3	11.4	10.2
	Four	13.8	10.4	9.7
	Five or more	13.7	9.9	8.9

Source: DDB-Needham Survey, described in Putnam (2000, pp. 420) and compiled by Robert Putnam for the author, April 2002.

Appendix

Below are the data for the regression reported in Table 1, sorted by Putnam's social capital index. School district data are from the National Center for Education Statistics for 1997-98 <<http://nces.ed.gov/pubs2001/overview/>>, and other data are from the 2000 Census. Putnam's social capital index is available at <<http://www.bowlingalone.com/data.php3>>. I added 2.43 to Putnam's index so the minimum is 1.00 rather than -1.43. His Social Capital Index is composed of the following fourteen indicators, gathered from surveys and sources in various years around 1990 and weighted by factor analysis:

1. Agree that "I spend a lot of time visiting friends"
2. Agree that "Most people can be trusted"
3. Agree that "Most people are honest"
4. Attendance at any public meeting on town or school affairs in last year (percent)
5. Number of civic and social organizations per 1000 population
6. Average number of club meetings attended in last year
7. Average number of group memberships
8. Average number of times volunteered in last year
9. Average number of times entertained at home in last year
10. Average number of times worked on community project in last year
11. Number of non-profit (501[c]3) organizations per 1000 population
12. Served as officer of some club or organization in last year (percent)
13. Served on committee of some local organization in last year (percent)
14. Turnout in presidential elections, 1988 and 1992

Data sorted by social capital index (highest = 4.14, lowest = 1)

state	Social K index	%in big district	% black	%college grad	%metro pop
North Dakota	4.14 (1 st)	0	0.8	22.3	40.3
South Dakota	4.12 (2)	0	0.9	25.6	29.5
Vermont	3.85 (3)	0	0.7	28.3	24.4
Minnesota	3.75 (4)	22	4.1	32	67.7
Montana	3.72 (5)	0	0.5	24	23.9
Nebraska	3.58 (6)	26	4.4	20.4	48.5
Iowa	3.41 (7)	6	2.5	21.7	44
New Hampshire	3.20 (8)	0	1	27.2	61.9
Wyoming	3.10 (9)	0	1	22.3	29.6
Washington	3.08 (10)	23	4	28.6	81.7
Wisconsin	3.02 (11)	17	6.1	23.6	67.4
Oregon	3.00 (12)	22	2.1	26.8	68.5
Maine	2.96 (13)	0	0.7	22.9	40.3
Utah	2.93 (14)	63	1.1	27.9	77.5
Colorado	2.84 (15)	52	4.4	38.7	81.5
Connecticut	2.70 (16)	8	10	33.5	91.6
Massachusetts	2.65 (17)	12	6.3	31	95.4
Oklahoma	2.59 (18)	13	8.3	23.7	59.4
Missouri	2.53 (19)	17	11.7	23	66.2
Idaho	2.50 (20)	20	0.6	20.8	20.4
Arizona	2.49 (21)	39	3.6	24.2	76.1
Michigan	2.43 (22)	15	14.8	21.3	80.1
Delaware	2.42 (23)	18	20.1	24	66.3
Rhode Island	2.37 (24)	17	5.5	26.8	91.3
Indiana	2.35 (25)	14	8.8	18.4	68.5
California	2.25 (27)	45	7.4	27.1	95.7
Ohio	2.25 (26)	16	12.1	25.5	79
Pennsylvania	2.24 (28)	14	10.5	23.9	84.8
Illinois	2.21 (29)	27	15.6	25.6	82.7
Maryland	2.17 (30)	87	28.8	34.7	92.8
Virginia	2.11 (31)	49	20.4	31.6	72.5
New Mexico	2.08 (32)	33	2.3	24.5	48.4
New York	2.07 (33)	42	17	26.9	91.1
New Jersey	2.03 (34)	8	14.4	30.5	100
Florida	1.96 (35)	88	15.5	21.6	90.8
Kansas	1.93 (37)	21	6.3	26.5	40.1
Arkansas	1.93 (36)	10	16	17.3	53.8
Texas	1.88 (38)	49	12	24.4	81.6
Kentucky	1.64 (39)	21	7.7	19.8	46.5
North Carolina	1.61 (40)	40	22.1	23.9	56.7
West Virginia	1.60 (41)	10	3.5	17.9	36.4
South Carolina	1.55 (42)	31	29.9	20.9	60.6
Tennessee	1.47 (43)	41	16.8	17.7	67.7
Louisiana	1.44 (44)	50	32.9	20.7	69.5
Alabama	1.36 (45)	30	26.3	21.8	67.4
Georgia	1.28 (46)	45	29.2	21.5	65
Mississippi	1.26 (47)	6	36.6	19.2	30.1
Nevada	1.00 (48 th)	82	7.5	20.2	82.9