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THE POLITICAL ECONOMY OF STATE AND LOCAL INVESTMENT IN PRE-K PROGRAMS

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ABSTRACT

The expansion of access to publicly provided pre-kindergarten bundles together redistribution to the poor with an early human capital investment. Financing publicly provided pre-K investment is mainly a state and local issue. Which voters favor local pre-K expansion? This paper uses several new data sets to describe the circumstances such that local voters reveal a willingness to spend on an early intervention that may not yield direct benefits for them. Republican voters consistently oppose the expansion of publicly provided pre-K. Suburban voters also tend to oppose such investment. We explore several possible explanations for these facts.

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Introduction

In a series of influential studies, James Heckman has argued that the expansion of pre-kindergarten (pre-K) education for disadvantaged children represents a rare policy that can be justified on both efficiency and equity criteria (Heckman 2006, Heckman and Masterov 2007, Heckman et. al 2010). Pre-K programs are a distinct group of programs designed specifically to make sure that preschoolers are ready for kindergarten and will be succeeding in school by third grade. Every dollar invested in high quality early education yields a 7 to 10% annual return (Heckman 2011). Few other investments in young people are likely to offer a greater rate of return (Bartik 2011). Heckman argues that by investing in early education that society can close disparities early rather than paying later to remediate disparities when they are harder and more expensive to close (Heckman 2011).

Based on data from the National Institute for Early Education Research (NIEER), it costs about $5500 per year per child to provide pre-K. In 2011, 39 states and the District of Columbia spent about $5.5 billion on prekindergarten initiatives that collectively served approximately 28 percent of the nation's four-year-olds and 4 percent of three-year-olds (Duncan and Magnuson 2013).

Given the large federal budget deficit and political gridlock in the Congress, it is unlikely that there will be a major national expansion of pre-K. Alan Krueger served for several years as the Chair of President Obama's Council of Economic Advisers. In 2013, he wrote;

"There is no obvious pay-for in the case of preschool, however. The Obama administration proposed an increase in the tobacco tax to pay for Preschool for All , and also would require state matching funds in a way that leveraged federal funding. While a higher tobacco tax has many economic benefits, so far there has been little constituency for the tax and an organized opposition against it. I suspect that in the long run, the groups that support preschool education would be more effective if they devoted more effort to building a constituency for a funding source. Until then, they will have good intentions and little prospect at success." (Krueger 2013).

In the absence of federal subsidies, the financing of such pre-K investments is primarily a state and local decision. Thus, the preferences of state and local voters play a key role in determining whether the pre-K expansion actually takes place. This paper studies the propensity of California voters to support expanding pre-K. Pre-K is an expensive investment requiring certain upfront expenditures and offering a future risky stream of benefits to the localities and

states that adopt the program. When states and localities invest in pre-K, they are making a sunk irreversible investment in people. The payback to these localities will occur years later if these trained individuals remain in the locality and if the treatment is indeed effective in triggering the dynamic complementarities in developing cognitive and non-cognitive skills that scholars such as Heckman have emphasized.

In 1998, 2006, and 2012, California's voters have had the opportunity to directly vote on a bundle of taxes and pre-K expansion. Such binding voting is informative about their preferences (Matsusaka 2005). We use these data to present a revealed preference test for measuring local support for pre-K expansion. Voter initiative data have been used to study the demand for environmental regulation (Deacon and Shapiro 1975, Kahn and Matsusaka 1997, Kahn 2002, Wu and Cutter 2011, Holian and Kahn 2015), open space conservation (Kotchen and Powers 2006), the support for redistribution to the poor (Luttmer 2001) and to document differences in voting patterns by political party (Snyder 1996).

We test several pre-K support hypotheses related to home ownership, suburbanization, and political ideology. We document that minorities, people who live closer to the city center, poorer people and renters are more likely to support pre-K. Holding these factors constant, Republican voters consistently vote against expanding pre-K. Using the Chetty and Hendren (2015) county level measures of the consequences for a poor child of growing up in a given county, we find that voters in places with worse geographic impacts for poor kids are more likely to support pre-K investment. We use these regression results to predict a demographic index of voter support for pre-K and document that this indicates is positively correlated with state spending on pre-K based on the state's overall demographics. Together these pieces of evidence support the claim that the geography of opportunity for young children could continue to vary substantially because of demographic differences in preferences for supporting pre-K combined with the fact that the population is not uniformly distributed across geographic areas (Chetty et. al. 2014). In addition to studying the correlates of pre-K support, we also study the role of demographics and political ideology as correlates of overall expenditure patterns on pre-K programs by state/year. To better understand our ideology results, we present an analysis of the content of editorials supporting pre-K in the New York Times and others that oppose pre-K expansion published in the Wall Street Journal. An open question is whether Republicans would be more likely to support pre-K investment if it was privately supplied through vouchers?

Direct Democracy Voting on Local Pre-K Expansion

Over the last twenty years, several states and localities have relied on direct democracy voting initiatives to determine whether they would enact new laws to invest in expanding pre-K. Examples include California in 1998, 2006 and 2012, San Antonio, Seattle and a town in Indiana. In this section, we focus on the initiatives that we report regressions for in the next section. California often uses direct initiatives to determine the adoption of new laws (Matsusaka 2005).

In November 1998, Californians voted on Proposition 10. This proposition imposed an additional tax on cigarettes of 50 cents per pack as well as additional taxes on other tobacco products. The revenue from this new tax would be used to create state and county commissions to establish early childhood development and smoking prevention programs. This initiative passed and provided $700 million per year in pre-K spending in California.[1] 50.5% of voters voted in favor and it passed.

In June 2006, California voters opposed Prop 82 as only 39.1% of voters supported it. If Proposition 82 had been approved, it would have created a free, voluntary, half-day public preschool program available to all 4-year olds. To pay for the program, the State of California would have imposed a new tax on high-income individuals. The new tax would have applied to individuals earning over $400,000 annually, and to couples earning over $800,000 annually.[2] A key feature of Proposition 82 – and one reason its implementation would have been expensive – is it raised program standards, including requiring teachers to have bachelor's degrees and be paid commensurately with public school teachers.3

[1] See http://nieer.org/publications/universal-pre-k-not-yet-california%E2%80%99s-cards
[2] http://ballotpedia.org/California_Proposition_82,_Free_Half-Day_Public_Preschool_Program_(June_2006) , http://en.wikipedia.org/wiki/California_Proposition_82_%282006%29

[3] http://nieer.org/publications/universal-pre-k-not-yet-california%E2%80%99s-cards

In November 2012, California voters opposed Prop 38 as 29% of voters voted for it.[4] Proposition 38, a "State Income Tax Increase to Support Public Education" would have increased state income tax rates for most Californians, resulting in increased revenues to the state of about $10 billion a year. This income tax increase would have ended after 12 years, unless voters had reauthorized it. This proposition earmarked most of the new revenue of $10 billion for public school districts and early childhood development programs.[5]

In that same election cycle, Governor Brown opposed Prop 38 and he supported his own bill called Proposition 30. Prop 30 passed as it received 55% of the vote. This proposition increases personal income tax on annual earnings over $250,000 for seven years and it increases sales and use tax by ¼ cent for four years. It allocates temporary tax revenues with 89% going to K–12 schools and 11% to community colleges.[6] Propositions 30 and 38 competed against each other. Voters could vote "yes" on both but the one that garnered more votes would win. In the next section we will use the data from these four initiatives in California to study the correlates of local support for pre-K. It is important to note that 89% of the revenue from Prop 30 was earmarked for K-12 with 11% for community colleges while 60% of Prop 38 was earmarked for K-12 education and between 10% to 15% was earmarked for pre-K investment.[7]

In recent years, other jurisdictions have voted on pre-K. Residents of the city of San Antonio in 2012 voted on Prop 1 which proposed to enact a sales tax to create a new "Municipal Development Corporation" that would build and operate new early childhood education centers around the city. This proposition passed.[8] The initiative was funded by the city's remaining 1/8 cent sales tax.[9] In November 2014, Seattle voters passed Prop 1 which introduces a four-year, $58 million property tax hike to enroll 2,000 children in 100 classrooms by the year 2018. The

[4] http://elections.cdn.sos.ca.gov/ror/ror-pages/15day-general-12/qual-pol-parties1.pdf, http://voterguide.sos.ca.gov/propositions/38/analysis.htm

[5] http://ballotpedia.org/California_Proposition_38,_State_Income_Tax_Increase_to_Support_Education_%282012%29

[6] http://vig.cdn.sos.ca.gov/2012/general/pdf/30-title-summ-analysis.pdf

[7] http://edsource.org/wp-content/publications/edsource-californiaschoolinitiatives-10-15cs4.pdf

[8] http://www.mysanantonio.com/elections/article/Voters-approve-Castro-s-Pre-K-plan-4014635.php

[9] http://heartland.org/policy-documents/21-reasons-why-san-antonio-pre-k-tax-plan-bad-idea

plan would cost the average homeowner $43.36 per year, or $3.61 per month. [10] We have collected the voting data for these places but they provide us with few data points and we are unable to collect data on the political party of registration. It is relevant to note that other states including Arizona, Colorado and Florida have voted on pre-K.[11] We have contacted the Board of Elections in each of these areas and have not been able to acquire the voting data at the precinct level.[12]

The Correlates of Local Political Support for Pre-K Expansion

Voter level data on California initiative voting does not exist. Instead, from the statement of the vote we can collect precinct level data on the count of yes and no votes on each of these initiatives. The count of registered voters can also be collected. Using a spatial geocorr engine, these precincts can be assigned to Census geography to allow for the merger of Census data. In our regression results, we will use three different geographic levels. Some results will be reported at the census block level, others at the block-group level and others at the census tract level. The tract is the largest of these various geographic units and it contains roughly 4000 people.

From an individual voter's perspective, each of the listed pre-K initiatives offers private benefits and private costs. The private cost of voting in favor of such an initiative is that one's taxes will increase. Since richer people are more likely to pay a higher share of the taxes given the progressive financing schemes listed above, it is plausible that richer people will be more

[10] http://www.kplu.org/post/seattle-leaders-hope-magic-sauce-will-guarantee-quality-proposed-pre-k-plan

[11] http://election.dos.state.fl.us/initiatives/initdetail.asp?account=34708&seqnum=1

[12] Prop 203: First Things First For Arizona's Children, Passed with 52.6% voting Yes – 52.6 percent, No, 47.4 percent. Raises the tax on cigarettes by 80 cents, from the current $1.18 to $1.98, to fund early childhood development. The tax increases for other tobacco products are: 9 cents per ounce on smoking tobacco (for those who roll their own cigarettes), snuff, and chewing tobacco; 2.2 cents per ounce on cavendish, plug, or twist tobacco; 17.8 cents per pack of 20 on small cigars; and 8.8 cents per three on cigars that retail for no more than 5 cents apiece, and 8.8 cents each on more expensive cigars

likely to vote against these initiatives. Individual voters will recognize that their private benefits from voting for pre-K expansion will be higher if they have expect that their child will participate in such a new program (Cascio and Schanzenbach 2013). Richer households and suburban households may already have arranged their childcare and may not find this option to be attractive (Brandon and Hofferth 2003). A second private benefit from pre-K expansion accrues to home owners in areas whose quality of life is expected to improve in the medium term because of the spatial concentration of young children receiving pre-K education. If enough children are trained and if these children are spatially concentrated then local public goods such as street safety could be improved in the medium term (Deming 2009, 2011). A rational expectations model would predict that this expected discounted capitalization effect would raise home prices in the short run (Hilber and Mayer 2009). Given that the poor tend to concentrate in center cities (Glaeser, Kahn and Rappaport 2008), this capitalization benefit is likely to be greatest for center city home owners. Conversely, if pre-K trained children grow up and require fewer resources for welfare, prison and health care then there be a general state wide fiscal spillover independent of where these trained individuals live within the state. In this second case, forward looking home owners would be more likely to support pre-K.

Voting on pre-K may also depend on voter ideology (Snyder 1996). We use political party of registration data to proxy for voter ideology. We posit that Republicans will be less likely to support public investment in pre-K. This correlation may reflect that this group is less altruistic towards the poor. This group may also live further from such individuals and thus gains less. Republicans may also oppose the expansion of the state and may view public provision of pre-K as a transfer to public sector unions (DiSalvo 2015).

We adopt a reduced form approach and estimate voting regressions of the form presented in equation (1). The unit of analysis will either be at the census tract, census block or census block group. The dependent variable equals (yes votes)/(yes votes + no votes).

$$\%\, Vote\ for\ Initiative_{\,m} = \ \gamma + \ \alpha * X_m + \ U_m \qquad (1)$$

In this regression, we will often include county fixed effects and the explanatory variable vector will include a set of relevant correlates of voting patterns. We weight the regressions by the

count of total voters on a specific initiative. The error term reflects the unobserved determinants of support for an initiative.

The Role of Political Ideology

In Table One, we present four regressions based on equation (1). Each column reports results on a different education vote; Proposition 10 in 1996, Proposition 82 in 2006, Proposition 30 in 2012 and Proposition 38 in 2012. We include county fixed effects in each regression and the geographic area's share Republican registered voters is the omitted category. Across all four initiatives, Democratic areas are more likely to vote for investment in public education. In 1996, a ten percentage point shift from Republicans to Democrats is associated with a 2 percentage point increase in the share of yes votes for Prop 10. This differential grows over time. Based on the results in column (2), a tend percentage point shift from Republicans to Democrats is associated with a 8.3 percentage point increase in the support for Prop 82 in 2006. It is notable that the Democrat/Republican gap (and the Green Party/Republican gap) is larger for Prop 30 than for Prop 38 in 2012. Recall that Prop 30 earmarked new tax revenue for K-12 and community colleges while providing nothing for pre-K. In contrast, roughly 15% of Prop 38 revenue was earmarked for pre-K programs.

Table Two presents additional estimates of equation (1) using only votes from the November 2012 election. In this case our unit of analysis is the census block. The University of California at Berkeley's IGS has taken the precinct level data and used an algorithm to assigned vote counts to census blocks.[13] A precinct consists of several blocks and the algorithm satisfies an adding up constraint. The payoff of smashing precincts into census blocks is that this allows census data to be merged to the voting data. We will return to this point in Table Three below.

Table Two reports four OLS estimates. Each of these regressions includes county fixed effects. The dependent variable differs across the four regressions. In Column (1), the dependent variable is the percentage of yes votes on the Pre-K initiative (Prop 38). In Column (2), the dependent variable is the percentage of yes votes on Prop 33. This proposition focused on how auto insurance rates are set in the state. The key issue here is whether price

[13]See https://igs.berkeley.edu/

discrimination for different risk categories would be allowed. In Column (3), the dependent variable is the percentage of yes votes on Prop 34. This proposition would end the death penalty in California. We report the voting on these different measures to show how the relationship between political ideology and voting varies across issues.

As shown in Table Two, relative to Republicans, Democrats support expanding pre-K access, oppose price discrimination for auto insurance and support ending the death penalty. All else equal, a ten percentage point shift in a census block's percent Democrat is associated with a 5.3 percentage point increase in voting for pre-K expansion and a 6.4 percentage point increase in voting in favor of ending the death penalty. We recognize that many voters choose not to vote. In column (4) of Table Two, we report the correlates of participation in voting on Prop 38. Democrats are less likely to participate in this vote.

The Role of Poor Child Upward Mobility in Support for Pre-K Investment

In Table Three, we report the same regressions reported in Table Two but we now drop the county fixed effects and replace them with four county attributes and cluster the standard errors by county. The four county attributes we include are the log of the county's population in 2010, its latitude and two measures of upward mobility from the Chetty and Hendren (2015) upward mobility geographic index. For 56 of the 58 counties in California, they provide data of the percentage gain (or loss) in income at age 26 from spending one more year of childhood in a given county relative to the national mean. The key point is that they estimate this effect separately for poor children (whose parents earn an income at the 25^{th} percentile of the national income distribution) and for rich children (whose parents earn an income at the 275^{th} percentile of the national income distribution).

A priori, it is uncertain whether counties in which poor kids experience a negative treatment effect (i.e a negative p25 index) would support increased investment in early education. While they would benefit from such a cross-subsidized intervention and thus should vote for it out of self interest, it is also possible that one reason for why the county has low upward mobility for the poor is due to low investments in human capital and a voter apathy for such investments. As shown in Table Three, all else equal voters in counties with negative poor

kid treatment effects are more likely to vote for pre-K. Interestingly, these counties are also more likely to oppose banning the death penalty.

Socio-Demographic and Spatial Determinants of Pre-K Support

In Table Four, we further study voting on Prop 38 (the pre-K initiative voted on in California in November 2012) but now our unit of analysis is the block group and we have merged in Census data from the year 2010. We must aggregate our block data to the block group data to be able to merge in year 2010 Census data. Table Four presents four regressions with two for Prop 30 (see columns 1 and 2) and two for Prop 38 (see columns 3 and 4). In columns (1) and (3), we include county fixed effects and in columns (2) and (4), we include metro area fixed effects and drop geographic areas more than 75 kilometers from a central business district.

Controlling for a full set of socio-demographic controls, political ideology continues to matter. In Table Four, the variable Liberal is the share of registered voters who are Democrats plus Peace and Freedom plus Green Party registered voters. This variable has a positive and statistically significant coefficient in all four regressions. The coefficient is twice as big for Prop 30 than for Prop 38. Based on the results in column (3), a ten percentage point shift in an area's share Republicans to Liberal is associated with a 3.6 percentage point increase in support for Prop 38.

We find that there are fewer pro-pre-K voters in areas featuring; older people, owner occupied housing, children present, college graduates, blacks and married people and in low density suburban areas. The negative coefficient on home ownership suggests that this group does not believe that the future benefits are more valuable than the current upfront costs of the tax hike. The only counter-intuitive finding here is the negative coefficient on percent black in the area. The results for Prop 30 and Prop 38 are quite similar with just one exception. More educated communities support Prop 30 but oppose the pre-K Prop 38.

The key difference between columns (1) and (2) and (3) and (4) is the inclusion of the variable measuring a block group's distance to the central business district (CBD). For both Prop 30 and Prop 38 we find that all else equal suburban voters oppose investment in public

education. In the case of Prop 30, a doubling of distance from the CBD reduces support for this initiative by .8 percentage points. The suburban effect is 50% smaller for Prop 38 voting. These findings are consistent with the hypothesis that those who live in the suburbs at low population density have fewer interactions with the urban poor and this may lead them to oppose pre-K investment because they gain little in terms of improvements in their local public goods (street safety) and perhaps because they do not interact with those who will gain from this investment (endogenous altruism). We recognize that these voting regressions are ecological regressions but it is important to note that our unit of analysis is small as it is either block groups or census blocks.

Micro Survey Data

We are able to supplement this actual voting data with individual level survey data. The Public Policy Institute of California (PPIC) regularly conducts household surveys before elections. In October 2012, the PPIC asked roughly 2000 California adults about their intended votes in the upcoming election. We use these micro data to estimate equation (3).

$$Support\ Pre\ K_j = \gamma + \alpha * X_j + U_j \quad (3)$$

Table Five presents three discrete choice models where the dependent variable equals one if the respondent supports Prop 38 (i.e supports pre-K investment). Column (1) is estimated using a probit model and the marginal effects are reported. Columns (2) and (3) are estimated using a linear probability model and in column (3) , county fixed effects are included. Across all three specifications, Liberal voters support pre-K investment. Each survey respondent is asked to reveal their political party affiliation. Self reported liberals have a 23 percentage point higher likelihood of supporting pre-K than non-liberals. Controlling for ideology, home owners are much less likely to support pre-K. Home owners are 25 percentage points less likely to support pre-K than renters. College graduates and those who are older and born in the United States are less likely to support pre-K. Blacks and Hispanics are more likely to support pre-K. Again, note that the correlates of support for pre-K barely change when we include county fixed effects. In results available on request, we have included the Chetty and Hendren (2015) county level upward mobility measures for poor and rich children. We find that the 25th percentile coefficient

is negative and the 75th percentile coefficient is positive (the same patterns that we presented in Table Three) but the two coefficients are statistically insignificant.

These individual level findings are intuitive. The large negative effect of home ownership suggest that home owners do not believe that the capitalization effects of improved future local public goods will materialize or that the fiscal gains from pre-K treated kids paying greater income taxes, and receiving lower welfare payments will materialize.

Following Luttmer (2001), we take the micro survey PPIC data and use the micro estimates of equation (3) to form a predictive index of each block group's propensity to vote in favor of Prop 38. In particular, we form a demographic index of support for Prop 38.

$$Pro\ Prop\ 38_{ij} = c + b * \left(\sum_j B_{ppic,j} * X_{census\ ij}\right) + U \qquad (4)$$

We construct the explanatory variable $\sum_j B_{ppic,j} * X_{census\ ij}$ presented in equation (4), which represents the predicted block group support for Prop 38, using the equation: .634 -.0022*(median age) + .217*Liberal -.036*male -.229*Own +.040*kids -.062*College Graduate +.164*Black.

Intuitively, we use micro data to estimate the coefficients $B_{ppic,j}$ (see Table Five for such estimates) and then combine these estimates with census block-group data. The vector $B_{ppic,j}$ is used to collapse the census demographic data into a single index of block-group support for pre-K investment.

As shown in Table Six, this single index explains roughly 75% of the variation in actual voting. The results reported in Table Six show that in a regression based on equation (4) that does not and does include county fixed effects, that there is a strong correlation between the predicted voting share and the actual voting share. This suggests that survey responses related to Pre-K support are capturing actual preferences of voters. A one percentage point increase in the Pro Prop 38 index (see equation 4) is associated with a .5 percentage point increase in a block group's vote share in favor of Prop 38.

State Level Pre-K Investment Variation

In this section, we use a state/year panel covering the years 2002 to 2013 to explore the propensity of states to invest in pre-K. Such investment is distinct from the federal government's Head Start program. By 2008, more children at ages 3 and 4 were enrolled in state-funded pre-K programs than in Head Start. State programs enroll about 1.1 million preschoolers, while Head Start serves about 920,000 in that age range. [14] We run regressions of the form;

$$Pre\ K\ Investment_{jt} = \gamma_j + \delta * X_{jt} + U_{jt} \qquad (4)$$

Our data source is the NIEER website. In order to be counted in these data, an education initiative must be "funded, controlled, and directed by the state." Therefore kids who attend private pre-k are not counted in these data.[15]

As explanatory variables, we have merged in a number of state attributes related to demographics, migration, and political variables. We will discuss each below. In column (1) of Table Seven, the dependent variable is a state's real pre-K expenditure per child enrolled in such programs. The mean for this variable is $1,814 with a standard deviation of $1381. All else equal, expenditure is declining over time by $64 per year. We find no evidence of a correlation between state pre-K expenditure and the state's annual unemployment rate. We find evidence of the role of political ideology. Those states that are Right to Work states (see Holmes 1999) and that have conservative senators (based on the DWNOMINATE Ideology Index) are spending less per pre-K child and these two variables are statistically significant at the 1% level. Column (2) is identical to column (1) except in this case the dependent variable is expenditure per child

[14] http://www.newamerica.net/blog/early-ed-watch/2009/head-start-and-state-pre-k-competing-collaborating-and-evolving-14411

[15] In studying NIEER data it is relevant to note that some nuances can arise in determining what is a city pre-K program and what is a state program concentrated on a certain city. A NIEER spokeswoman said that "while the Mayor pushed very hard at first to have the program funded and administered at the city-level, through an income tax increase, in the end, it's a statewide expansion that, right now, just focuses heavily on NYC. The majority of the funds in the new state program for this year did go to NYC, since they were lobbying hardest for it, but over $100 million went to other districts in the state. So, while we talk about NYC as though it is a local program, those children are actually enrolled in the state program". That program would be counted in the NIEER data.

in K-12 education. Conservative states invest less in K-12 and states with higher poverty rates also spend less on K-12. In column (3), we use as the dependent variable the ratio of pre-K expenditure per child divided by K-12 expenditure per child. We also test whether states with higher out migration rates invest less in pre-K. We reject this hypothesis.[16]

We include the Chetty and Hendren (2015) spatial treatment effects with one for poor families (the 25th percentile) and one for rich families (the 75th percentile). We create state level measures of these variables by taking their county level data and aggregating them up to the state level using each county's population in the year 2000 as the weights. We find all else equal, that states where poor children suffer from living there invest more in pre-K and states where rich children gain from living there invest more in pre-K. As shown in column (3), we find the same effects when we take the ratio of state pre-K to K-12 expenditure.

In the right two columns of Table Seven, we report the state's yearly % of all three year olds and four year olds enrolled in pre-K. Few statistically significant results emerge. As shown in column (3), we find that more conservative Right to Work states have fewer three year olds enrolled in pre-K but this effect vanishes for four year olds.

As a final piece of the empirical work, we study the connection between our individual survey data (the California PPIC sample discussed above) and state investment decisions. In a first step, we estimate a linear probability model to determine the correlates of each voter's propensity to support California's Prop 38. We estimate the following function: support for Pre-K = .542 + .231*Liberal -.254*Owner -.052*College Graduate +.173*Black +.218*Hispanic. For each state, we use year 2000 Census data on the % owner occupied housing, % college graduate, % black and % Hispanic and we also collect the percent of the state's voters in the year 2000 Presidential Election who voted for the Democrat (Al Gore). We label this last variable as % Liberal. We use the equation above to predict for each state its demographic index of support for Pre-K. Note that this is based on the PPIC survey regression model and the actual demographics of each state in the year 2000.

[16] This test mirrors research examining the subsidizing public university education in states featuring large out-migration rates (Bound et. al. 2004). Intuitively, if all University of Michigan undergraduates move to California after they graduate then why are the Michigan tax payers subsidizing their education? We sought to test whether states with high out-migration rates invest less in young children. We reject this hypothesis.

We then correlate this index with the year 2002 state level data on investment in pre-K. The correlation between share of 3 years olds in pre-K and our index is .237. The correlation between share of 4 year olds in pre-K and our index is .260 and the correlation between our index and expenditure per child is .346. These positively and fairly large correlations are consistent with our hypothesis that voter demographics matter in determining public goods investment in pre-K.

Editorial Page Pre-K Discussion in Liberal and Conservative Newspapers

In the previous section, we have used several independent data sets and consistently documented across all of them that Republicans oppose pre-K investment. To better understand what might be the mechanisms, we have explored the editorial content of the New York Times (a liberal editorial page), the Wall Street Journal (a conservative editorial page).

The New York Times takes for granted that Pre-K is a necessary policy that gives high returns. The Los Angeles Times is more reserved in its assessment; they argue for targeted Pre-K programs only for low-income families. The Wall Street Journal rejects all ideas that state-funded pre-k is beneficial, arguing that though liberals may have good intentions, the science is not yet established and that this is a waste of money and an example of extreme government overreach.

The New York Times paints quite a rosy picture of pre-k. An editorial from September 2014 calls the new pre-k expansion in New York City "a milestone of education reform" ("Universal Pre-K Takes Off", NY Times, 2 Sep 2014). In a March 2014 editorial, they call Obama's proposal to help states provide preschool for all 4-year olds "one of the most important tools for reducing education inequality" ("The What-Might-Have-Been Budget", NY Times, 5 Mar 2014). The Times further says "full-day prekindergarten is a smart investment in growing minds, preparing children to be skilled learners at a moment when they are primed for it. It's better to reach them at age 4 rather than fixing their learning problems later" ("Pre-K on the Starting Blocks", NY Times, 21 Jan 2014). In a December 2013 editorial, the Times takes for granted "Studies have shown that every $1 invested in preschools saves society $7 in the future

through lower spending on remedial education, higher productivity, and less crime," ("Missing From Science Class", NY Times, 11 Dec 2013).

The Wall Street Journal isn't receptive at all to President Obama's wishes for pre-k for 'every child in America', according to a February 2013 editorial. Also in response to Obama's 7 to 1 return on investment statement, they reference an evaluation of Head Start by the Obama administration's own Health and Human Services Department, saying that "any cognitive gains disappeared by the third grade". They attack liberals as simply wanting to spend more government money, regardless of results. ("Pre-K Government", WSJ, 15 Feb 2013)

Less than two weeks later, the Wall Street Journal wrote another editorial in response to more comments from Obama while speaking in Georgia. The editorial notes that although the state has subsidized free pre-k since 1995, "Georgia's fourth- and eighth-grade reading, math and science scores all trail the national average, and the spread between white and black or Hispanic students is 25 points." The editorial again attacks liberals as having good intentions but with useless solutions. ("Head Start for All", WSJ, 27 Feb 2013).

Conclusion

In his discussion at a Brookings Institution Conference, Alan Krueger wrote; " At this stage, I think the most interesting research question is, Why is it taking so long to expand access to preschool education?" (Krueger 2013). We have attempted to answer this question by introducing basic ideas from urban economics. The beneficiaries of the program tend to be concentrated in center cities while the tax payers are disproportionately located in the suburbs. This spatial separation has implications for both the perceived benefits and costs from introducing this expensive early intervention.

Suburban parents are likely to already have access to quality pre-K and some mothers may choose not to work to invest in their children. Others in the suburbs may view the public provision to be of lower quality than the child care they already can access. Other suburbanites may oppose pre-K because it will raise their taxes and the benefits will be spatially concentrated in improving the lives and the neighborhoods of predominantly center city residents. A political

economy literature has examined the preferences for redistribution (Alesina, Glaeser and Sacerdote 2001, Alesina, Baqir and Easterly 1999, Poterba 1997, Luttmer 2001, Alesina and La Ferrara 2005). This would appear to be an important topic for future research seeking to study the conditions such that pre-K is locally financed.

All else equal, Republicans tend to oppose the public provision of pre-K. During this time of great concern about income inequality, it is important to understand the root causes of Republican opposition to an intervention that is viewed to be cost effective. Does this group reject the social scientific arguments documenting these treatment effects? Or, do Republicans mainly worry about expanding the size of the state and the influence of public sector unions? One way to test this claim would be to introduce a field experiment in which voters can choose to vote for a private voucher system in which eligible children's parents would receive a voucher for a private pre-K program of their choice. Would Republicans be more willing to vote for such a private voucher approach?

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Table One

California Voting on Pre-K Investment in 1998 and 2006 and 2012

	(1)	(2)	(3)	(4)
	1998	2006	2012	2012
Explanatory Variables	Prop 10	Prop 82	Prop 30	Prop 38
Democrats	0.203***	0.834***	0.867***	0.528***
	(0.007)	(0.006)	(0.001)	(0.001)
American Independent Party	-2.054***	0.362***	0.066***	0.847***
	(0.076)	(0.054)	(0.008)	(0.009)
Peace and Freedom	-5.046***	5.152***	1.561***	5.356***
	(0.256)	(0.140)	(0.029)	(0.032)
Miscellaneous Registration	1.131***	-1.066***	1.137***	0.730***
	(0.291)	(0.157)	(0.006)	(0.006)
Libertarian Party	-1.803***	-0.417***	0.463***	0.064***
	(0.265)	(0.143)	(0.019)	(0.021)
Natural Law Party	-0.532***	2.018***	2.055***	-0.688***
	(0.108)	(0.259)	(0.011)	(0.013)
Green Party	2.572***	1.271***	1.667***	0.457***
	(0.088)	(0.054)	(0.055)	(0.061)
Reform Party	-1.614***	-1.948***	-0.882***	-1.106***
	(0.212)	(0.385)	(0.068)	(0.075)
Declined	1.088***	0.753***	0.715***	0.494***
	(0.028)	(0.011)	(0.002)	(0.002)
Constant	0.338***	-0.132***	-0.004***	-0.080***
	(0.005)	(0.004)	(0.001)	(0.001)
County Fixed Effects	Yes	Yes	Yes	Yes
Unit of Analysis	Tract	Block-Group	Block	Block
Observations	7,038	14,265	365,380	365,261
R-squared	0.681	0.800	0.933	0.749
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

The omitted category is the share Republican.

Table Two

California Voting on Initiatives in 2012

	(1)	(2)	(3)	(4)
	% Vote in Favor of Each Proposition			% Vote
Explanatory Variables	Prop38	Prop33	Prop34	Prop38
Democrats	0.528***	-0.320***	0.636***	-0.378***
	(0.001)	(0.001)	(0.001)	(0.001)
American Independent Party	0.851***	-0.039***	-1.128***	-1.258***
	(0.009)	(0.008)	(0.010)	(0.015)
Peace and Freedom	5.281***	2.048***	-1.353***	-6.414***
	(0.032)	(0.030)	(0.036)	(0.052)
Miscellaneous Registration	0.727***	-0.548***	1.186***	-0.394***
	(0.007)	(0.006)	(0.007)	(0.011)
Libertarian Party	0.067***	-1.407***	0.516***	-0.469***
	(0.021)	(0.019)	(0.023)	(0.034)
Natural Law Party	-0.682***	-3.768***	3.765***	2.212***
	(0.013)	(0.012)	(0.014)	(0.021)
Green Party	0.431***	-3.278***	1.695***	0.639***
	(0.063)	(0.058)	(0.070)	(0.103)
Reform Party	-1.200***	-1.002***	-0.465***	0.310**
	(0.075)	(0.070)	(0.084)	(0.123)
Declined	0.495***	-0.130***	0.293***	-0.575***
	(0.002)	(0.002)	(0.002)	(0.003)
Constant	-0.080***	0.652***	0.128***	1.000***
	(0.001)	(0.001)	(0.001)	(0.001)
County Fixed Effects	Yes	Yes	Yes	Yes
Observations	365,298	365,295	365,297	365,301
R-squared	0.748	0.798	0.871	0.468
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

The omitted category is the share Republican.

Table Three

California Voting in 2012 and County Intergenerational Income Mobility

	(1)	(2)	(3)	(4)
	% Vote in Favor of Each Proposition			
Explanatory Variables	Prop38	Prop 30	Prop33	Prop34
Democrats	0.482***	0.878***	-0.378***	0.674***
	(0.018)	(0.016)	(0.033)	(0.030)
American Independent Party	0.881***	-0.151	-0.228	-1.279***
	(0.161)	(0.165)	(0.246)	(0.206)
Peace and Freedom	5.835***	1.048**	2.470**	-2.242***
	(0.879)	(0.519)	(0.990)	(0.429)
Miscellaneous Registration	0.157	0.894***	-0.526***	0.947***
	(0.210)	(0.133)	(0.185)	(0.095)
Libertarian Party	0.293	0.229	-1.012***	0.464*
	(0.201)	(0.173)	(0.251)	(0.246)
Natural Law Party	-0.889**	2.129***	-3.811***	4.089***
	(0.365)	(0.293)	(0.504)	(0.492)
Green Party	0.523	1.929	-2.422	3.280*
	(0.926)	(1.171)	(1.477)	(1.876)
Reform Party	-0.662	1.181	0.381	0.933
	(0.977)	(1.092)	(1.713)	(1.203)
Declined	0.409***	0.719***	-0.251***	0.527***
	(0.048)	(0.039)	(0.053)	(0.055)
Chetty/Hendren 25th Percentile	-0.041**	-0.000	-0.008	0.073***
	(0.015)	(0.010)	(0.015)	(0.012)
Chetty/Hendren 75th Percentile	0.021	0.026	-0.027	-0.051*
	(0.031)	(0.021)	(0.043)	(0.029)
Log County Population in 2010	-0.015***	-0.008*	0.001	0.011***
	(0.003)	(0.004)	(0.004)	(0.004)
Latitude	-0.009***	0.002	-0.007**	-0.000
	(0.001)	(0.002)	(0.003)	(0.002)
Constant	0.510***	0.044	0.925***	-0.083
	(0.087)	(0.127)	(0.143)	(0.104)
Observations	358,204	358,204	358,203	358,204
R-squared	0.706	0.921	0.734	0.849
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table Four

The Correlates of California Voting on Education Initiatives in 2012

	(1)	(2)	(3)	(4)
Explanatory Variables	Prop 30		Prop 38	
Median Age	-0.002***	-0.002***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Liberal	0.823***	0.799***	0.357***	0.315***
	(0.004)	(0.004)	(0.003)	(0.003)
% Male	0.007	0.006	0.008*	0.008*
	(0.005)	(0.005)	(0.004)	(0.005)
% Owner Occuped	-0.033***	-0.029***	-0.037***	-0.035***
	(0.002)	(0.002)	(0.002)	(0.002)
% Households with Kids Present	-0.113***	-0.104***	-0.014***	-0.011**
	(0.005)	(0.005)	(0.004)	(0.005)
% Adults who are College Graduates	0.062***	0.059***	-0.031***	-0.034***
	(0.002)	(0.002)	(0.002)	(0.002)
% Black	-0.069***	-0.061***	-0.062***	-0.056***
	(0.003)	(0.003)	(0.003)	(0.003)
% Hispanic	-0.024***	-0.028***	0.043***	0.047***
	(0.002)	(0.002)	(0.002)	(0.002)
% Married	0.002	0.005**	-0.004	-0.001
	(0.002)	(0.003)	(0.002)	(0.002)
log(population density)	0.008***	0.008***	0.003***	0.004***
	(0.000)	(0.000)	(0.000)	(0.000)
log(median household income)	-0.017***	-0.019***	-0.025***	-0.026***
	(0.001)	(0.001)	(0.001)	(0.001)
log(distance to CBD)		-0.011***		-0.005***
		(0.000)		(0.000)
Constant	0.401***	0.459***	0.454***	0.490***
	(0.012)	(0.013)	(0.011)	(0.012)
Observations	23,004	21,559	23,004	21,559
R-squared	0.926	0.923	0.817	0.814
Fixed Effect	County	MSA	County	MSA
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table Five

The Determinants of Individual Stated Support for Prop 38 in 2012

	(1)	(2)	(3)
	Support Pre-K Initiative		
Explanatory Variables			
Age	-0.002***	-0.002***	-0.002**
	(0.000)	(0.001)	(0.001)
Liberal	0.256***	0.230***	0.226***
	(0.003)	(0.027)	(0.028)
Male	-0.041***	-0.033	-0.036
	(0.003)	(0.024)	(0.025)
Born in USA	-0.172***	-0.151***	-0.164***
	(0.004)	(0.032)	(0.033)
Home Owner	-0.246***	-0.224***	-0.206***
	(0.004)	(0.030)	(0.031)
Children in Household	0.047***	0.039	0.049
	(0.004)	(0.029)	(0.030)
College Graduate	-0.076***	-0.064**	-0.071**
	(0.004)	(0.028)	(0.028)
Black	0.207***	0.188***	0.172***
	(0.005)	(0.046)	(0.048)
Hispanic	0.172***	0.152***	0.159***
	(0.004)	(0.034)	(0.035)
Married	0.017***	0.012	-0.003
	(0.004)	(0.029)	(0.030)
Estimation	Dprobit	OLS	OLS with
			County FE
Observations	1,405	1,405	1,405
R-squared		0.187	0.226
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

The omitted category is a non-Liberal white woman who is not married, was not born in the United States, rents, does not have children at home and does not have a college degree.

Table Six

The Survey Demographic Index Predicts Actual California Voting in 2012

	(1)	(2)
	Vote on Prop 38	
Explanatory Variables		
Demographic Index Based on PPIC Estimates	0.529***	0.512***
	(0.002)	(0.002)
Constant	-0.002	0.007***
	(0.001)	(0.001)
Observations	23,009	23,009
R-squared	0.671	0.733
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

The unit of analysis is a block group. The dependent variable has a mean of .31 and a standard deviation of .09. The explanatory variable has a mean of .586 and a standard deviation of .14. Column (1) does not include county fixed effects. Column (2) reports regression results including county fixed effects.

Table Seven

State Level Determinants of Pre-K Spending

	(1)	(2)	(3)	(4)	(5)
	Expenditure			Share of	Share of
Explanatory Variables	pre-K	K-12	Ratio	Age 3	Age 4
Time Trend	-64.674**	198.140***	-0.010***	0.123	1.739***
	(28.848)	(38.587)	(0.003)	(0.111)	(0.467)
State Unemployment Rate	73.324	29.016	0.006	0.036	-1.757**
	(46.049)	(86.217)	(0.005)	(0.193)	(0.727)
Right to Work State	44.756	-1,657.361***	0.030	-0.462	-6.604
	(298.798)	(502.824)	(0.033)	(1.180)	(7.756)
Conservative Ideology Senate Score	-1,383.368***	-2,085.097***	-0.101***	-3.470*	4.303
	(357.476)	(648.063)	(0.037)	(1.886)	(9.654)
log(Population)	230.921	-435.442	0.035**	0.509	4.036
	(144.950)	(376.074)	(0.017)	(0.754)	(2.522)
% Poverty	-70.216	-292.991***	-0.000	0.001	0.831
	(57.267)	(78.069)	(0.005)	(0.195)	(0.864)
% Black	-34.599	69.161	-0.005*	-0.148*	0.314
	(32.467)	(44.247)	(0.003)	(0.088)	(0.486)
% Hispanic	21.311	27.694	0.001	0.018	-0.032
	(15.651)	(27.904)	(0.001)	(0.086)	(0.296)
Out Migration Rate	-82.413	200.607	-0.002	0.105	-1.431
	(109.299)	(277.479)	(0.012)	(0.373)	(1.420)
Chetty/Hendren 25th Percentile	-3,050.298***	-965.030	-0.298***	-5.379	0.654
	(937.911)	(1,515.046)	(0.093)	(3.484)	(13.357)
Chetty/Hendren 75th Percentile	5,927.404***	3,370.587	0.530***	8.094	-7.861
	(1,331.899)	(2,228.198)	(0.134)	(6.908)	(29.608)
Constant	-362.195	18,991.054***	-0.295	-4.359	-50.176
	(2,424.405)	(6,390.062)	(0.267)	(13.031)	(40.253)
Observations	525	528	525	528	528
R-squared	0.431	0.563	0.362	0.180	0.205
Mean of Y	1813.566	10335.27	0.176	2.644	17.244
Standard Deviation of Y	1380.51	2501.658	0.128	4.48	18.787
Robust standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Standard errors are clustered by state. The unit of analysis is a state/year. The data cover the years 2002 to 2013.