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# Voting Your (Home)values: an Empirical Assessment of Homeownership and Voting Patterns in Seattle

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## Motivation

Over the course of my studies in politics and economics at Western Washington University, I have become more and more intrigued by the question of the political economy of local policymaking. Clearly, as major metropolitan areas face worsening crises of housing affordability and scholars and policymakers reckon with how to build communities resilient to the environmental challenges of the 21st century, the subject merits consideration. However, in my undergraduate classes, I often found that the process of policy selection and implementation was absent from discussions of public policy. When policymakers were mentioned in undergraduate-level discussions, their choices were generally taken as a given, as external inputs to an economic system rather than as products of a political economic system. These approaches never satisfied my interdisciplinary sensibilities: after all, if economists are to offer policy prescriptions, it seems naïve to do so without consideration for the political forces that will affect the likelihood of their passage and the shape of their implementation. Politics and economics, I believe, are too tightly interwoven for either to ignore the other without risk. So, for my honors thesis, I set out to find an interdisciplinary model for policymaking at the municipal level and put it to the test.

## The Homevoter Hypothesis

I found my model in the so-called "homevoter hypothesis", first proposed by Dartmouth Economist William A. Fischel. Fischel has long maintained that homeowners represent a crucial force at the local level of our democratic process. By his reasoning, the impact local

governments' decisions have on property values motivate homeowners to actively participate in local government in order to protect their homes' values (Carruthers, 2002, 785). The idea makes intuitive sense: as The New York Times wrote in 2018, most city dwellers can tell tales of homeowners from both parties who oppose new developments in their area that might lower their property values, and "do so in spite of their own ideologies — whether conservative voters might otherwise value free markets, or whether liberals value policies that aid the poor" (Badger and Bui, 2019). It also has a foundation in well-established economics scholarship: research shows that local public services are, indeed, capitalized into home values. A go-to example is education: in 2011 literature review, Nguyen-Hoang and Yinger find that "Almost all of the review studies find evidence that school quality, especially as measured by test scores, is capitalized into house values" (46). Despite differing data sets and methodological approaches, the examined studies show that house values increase by 1-4% in when student test scores in an area increase by one standard deviation (Nguyen-Hoang and Yinger, 2011, 46). This, of course, does not amount for direct support for the homevoter hypothesis. However, as I began reading further into the subject, I found that recent research on a dataset of Ohio voters by Andrew B. Hall and Jesse Yoder (2019) suggests that homeowners, do, indeed, participate in local elections at significantly higher levels than non-homeowners (2).

The homevoter hypothesis, therefore, seemed worth consideration. Happily, I discovered that, throughout the 2000s, several studies empirically tested the homevoter hypothesis. Brunner et al. (2001) consider a 1993 California initiative that would have subsidized private schools through a voucher program, hypothesizing that homeowners in good public school districts would consider the initiative a threat to their home values and thus vote against it (517). They find that voters in good public school districts were significantly less likely to support the school

voucher initiative than those in bad public school districts, although they could not conclude whether those results were more attributable to the initiative's perceived threat to home values or to a perception that the initiative was a referendum on local public schools (531). Brunner aims to address this issue in a follow-up paper, Brunner and Sonstelie (2003), which conducted a similar analysis of a 2000 California school voucher initiative, a vote that they had more data on, having gained access to a survey of California voters in the 2000 election (531). In this study, they pay particular attention to homeowning families without school children. If such families were more likely to vote against the voucher initiative in school districts with public schools that provided a significant boost to property values than renters, they reason, it would amount to significant support for the homevoter hypothesis; this is, in fact, what they observed (254).

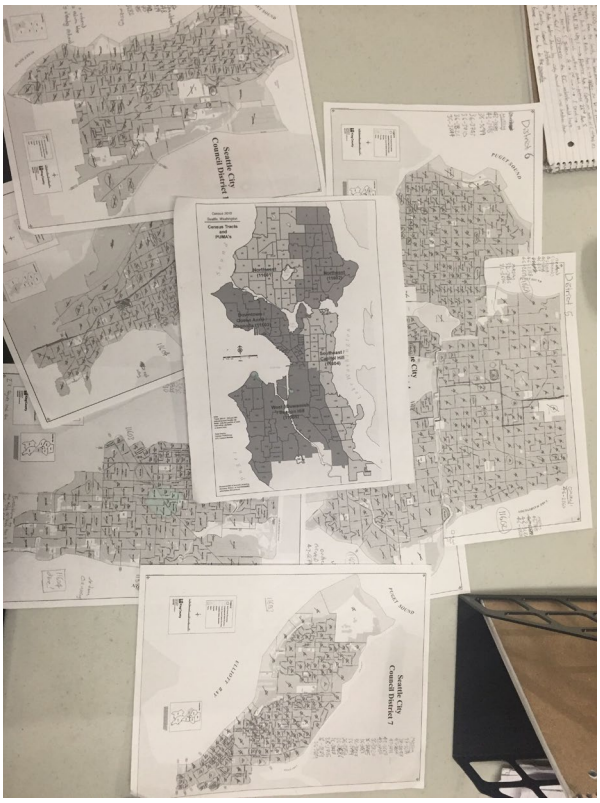
Later in the decade, Dehring et al. (2008) test the homevoter hypothesis using a 2004 Arlington, Texas, referendum on the installation of a publicly subsidized football stadium. The stadium was projected to lower land values near the chosen site but raise land values past a certain distance from it. For every $1000 increase in housing prices, Dehring et al. (2008) find between a 0.9% and a 1.2% increase in support for the stadium project and a 1.0% decrease in voter turnout (168); not only were districts where home values were negatively impacted more likely to vote against the stadium project, but they were also more likely to turn up to the polls. The homevoter hypothesis's predictions were borne out. Glaeser and Ward's (2009) results from Greater Boston, too, provide some indirect support. They find that land price in an area is negatively associated with the amount of development in that area, suggesting more limits on supply in higher-value areas (Glaeser and Ward, 2009, 268). This seems to fit the homevoter hypothesis: households in such areas might be supporting land-use restrictions in order to keep the prices of their homes high. Finally, Hilber and Robert-Nicoud (2013) conduct their inquiry

on a larger scale, developing a homevoter model for land use regulations—"In the model, owners of developed residential land favor additional land use constraints as this raises the price of their land; owners of undeveloped land oppose such tightening because it increases the cost of development" (Hilber and Robert-Nicoud, 2013, 29)—and comparing that model's predictions with observations from U.S. Metropolitan Statistical Areas from across the country. They find that their homevoter model is consistent with the empirical evidence (Hilber and Robert-Nicoud, 2013, 41). It seems, then, that a homevoter effect may well play a major role in affecting municipalities' voting patterns.

## My Study: Choice of Subject and Data Gathering

After discovering and reading through the above literature, I was confident that the homevoter hypothesis would make for an interesting, and fruitful, topic of study. I eventually settled on a subject inspired by Brunner and Sonstelie (2003), Dehring et al. (2008), and Hilber and Robert-Nicoud (2013). As Brunner and Sonstelie did, I decided that, rather than examining voting on a municipal project or candidate, I would consider support for a state-level initiative that could have a (perceived) impact on the provision of education: Washington State Initiative 1240, passed in 2012, which allowed 40 charter schools to open across Washington over the following five years. However, unlike Brunner and Sonstelie, I lacked access to statewide data on voters' household characteristics. Instead, I focused on a particular municipality for which I could obtain both voting and household data: the City of Seattle. I obtained 2012 general election voting data for Seattle from the King County Elections website. As for my household data, I drew on a U.S. census bureau dataset, as Dehring et al. and Hilber and Robert-Nicoud did: specifically, I used estimates from the 2013 American Communities Survey for Seattle (City of Seattle).

Finding my datasets was easy: parsing them took significantly more effort. To my disappointment, I discovered that voting precincts and census precincts do not line up. Moreover, precise information on precinct boundaries was not readily available: in order to compare my King County Elections and Census Bureau data, I had to print out maps of the each of Seattle's City Council districts and manually compare the boundaries of precincts with the boundaries of the five Census Bureau Public Use Microdata Areas (PUMAs) that make up Seattle; comparing at the census precinct level would have meant far too many voting precincts bisected, and therefore impossible to enter into my database.




My workspace as I went through each of Seattle's voting precincts one-by-one and entered them into my database.

Even making the compromises I did make, I still had to eliminate dozens of voting precincts from my dataset. Many were bisected by PUMA boundaries, and many others were not present in my King County Elections dataset. The total number of eliminated voting precincts

was small relative to the total number of voting precincts in Seattle, but even so, it is plausible that their elimination, while necessary in order to conduct my study, could have had a distortionary effect on my results. In any case, once I had sorted and entered all my data, I was left with a dataset that had voting and demographic data for each of Seattle's PUMAs. My sample size was winnowed down to five data points—workable, but far from ideal.

## Analysis

With my dataset assembled, I ran a series of single and multiple regressions that attempted to assess the viability of a PUMA's homeownership rate as a predictor of its voting and turnout in the 2012 general election. My two single linear regression models comparing owner occupancy rates with voting and turnout, were statistically insignificant, with the F-test for model significance returning p-values of 0.343 and 0.499, respectively.

SUMMARY OUTPUT

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.544111521 |
| R Square | 0.296057347 |
| Adjusted R Square | 0.061409796 |
| Standard Error | 0.031027146 |
| Observations | 5 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.001214629 | 0.001215 | 1.261711 | 0.343106192 |
| Residual | 3 | 0.002888051 | 0.000963 | | |
| Total | 4 | 0.00410268 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |
|---|---|---|---|---|
| Intercept | 0.453248791 | 0.074439012 | 6.088861 | 0.008897 |
| Owner occupancy rate | -0.173090584 | 0.15409677 | -1.12326 | 0.343106 |

*Owner occupancy rate vs yes share of vote on Initiative 1240*

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.40466546 | | | | |
| R Square | 0.163754135 | | | | |
| Adjusted R Square | -0.114994487 | | | | |
| Standard Error | 0.018037703 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 1 | 0.000191136 | 0.000191 | 0.587462 | 0.499193323 |
| Residual | 3 | 0.000976076 | 0.000325 | | |
| Total | 4 | 0.001167212 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | 0.890347455 | 0.043275292 | 20.57404 | 0.000251 | |
| Owner occupancy rate | -0.06866299 | 0.089584513 | -0.76646 | 0.499193 | |

*Owner occupancy rate vs participation in 2012 general election*

Once I added in median home value—a proxy for the quality of nearby schools, since areas with higher quality schools should, based on the research discussed earlier, tend to see higher home values—as an additional explanatory variable, the significance of my model for the yes share of the vote on Initiative 1240 improved dramatically, with an F-test p-value of 0.196, and coefficient p-values of 0.104 for owner occupancy rate and 0.151 for median home value; hardly rock-solid statistical significance, but not bad at all given the small size of my sample. Moreover, as expected under the homevoter hypothesis, both predictors were negatively associated with yes votes on Initiative 1240: in particular, a 1 percent increase in owner occupancy in an area was correlated with a roughly 0.4 percent *decrease* in support for Initiative 1240.

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.896460797 | | | | |
| R Square | 0.803641961 | | | | |
| Adjusted R Square | 0.607283922 | | | | |
| Standard Error | 0.020069806 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 2 | 0.003297086 | 0.001649 | 4.09273776 | 0.196358039 |
| Residual | 2 | 0.000805594 | 0.000403 | | |
| Total | 4 | 0.00410268 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | 0.816365445 | 0.16679972 | 4.894285 | 0.039301985 | |
| Owner occupancy rate | -0.403315282 | 0.142083177 | -2.83859 | 0.10493308 | |
| Median home value, thousands | -0.000572667 | 0.000251859 | -2.27376 | 0.150847712 | |

*Owner occupancy rate and median home value vs yes share of vote on Initiative 1240*

However, my multiple regression model comparing owner occupancy and median home value with participation in the 2012 election returned a p-value of 0.487 for the F-test.

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.716266667 | | | | |
| R Square | 0.513037938 | | | | |
| Adjusted R Square | 0.026075876 | | | | |
| Standard Error | 0.016858054 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 2 | 0.000598824 | 0.000299 | 1.053548 | 0.486962062 |
| Residual | 2 | 0.000568388 | 0.000284 | | |
| Total | 4 | 0.001167212 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | 0.729682108 | 0.140106921 | 5.208038 | 0.034947 | |
| Owner occupancy rate | 0.033202707 | 0.119345742 | 0.278206 | 0.806978 | |
| Median home value, thousands | 0.000253384 | 0.000211554 | 1.197724 | 0.353718 | |

*Owner occupancy rate and median home value vs participation in 2012 general election*

Moreover, when I added the share of households with a resident under 18 years of age into my multiple regression model for the yes share of the vote on Initiative 1240, the model's significance plummeted, returning a p-value of 0.537 for the F-test and a p-value of 0.714 for the significance of the owner occupancy rate as a predictor.

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.899817996 | | | | |
| R Square | 0.809672426 | | | | |
| Adjusted R Square | 0.238689703 | | | | |
| Standard Error | 0.027943749 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 3 | 0.003321827 | 0.001107 | 1.418033 | 0.537309452 |
| Residual | 1 | 0.000780853 | 0.000781 | | |
| Total | 4 | 0.00410268 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | 0.882541911 | 0.438350645 | 2.013324 | 0.29348 | |
| Share of households w/ one or more under 18 | 0.304219459 | 1.709080225 | 0.178002 | 0.887855 | |
| Owner occupancy rate | -0.63483673 | 1.315626972 | -0.48254 | 0.713789 | |
| Median home value, thousands | -0.000618197 | 0.000434045 | -1.42427 | 0.389702 | |

*Owner occupancy rate, median home value, and share of households with one or more resident under 18 years of age vs yes share of vote on Initiative 1240*

Suspecting high multicollinearity between the owner occupancy rate and the share of households with one or more resident under 18 years of age, I ran a regression directly comparing the owner occupancy rate with the share of households with one or more resident under 18 years of age, and found that they were very highly correlated, with the F-test returning a p-value of 0.001. This, combined with the fact that a multiple linear regression model comparing the share of households with one or more residents under 18 years of age and median home value with the yes share of the vote on Initiative 1240 had very similar significance and coefficients to my model comparing the owner occupancy rate and median home value with the yes share of the

vote on Initiative 1240, means that I am unable to support the notion that owner occupancy rate is a uniquely worthwhile predictor for support of Initiative 1240 relative to simpler demographic measures.

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.989873011 | | | | |
| R Square | 0.979848578 | | | | |
| Adjusted R Square | 0.973131437 | | | | |
| Standard Error | 0.011684142 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 1 | 0.019914442 | 0.019914 | 145.8729 | 0.0012215 |
| Residual | 3 | 0.000409558 | 0.000137 | | |
| Total | 4 | 0.020324 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | -0.122631604 | 0.028032097 | -4.37469 | 0.022102 | |
| Owner occupancy rate | 0.700867266 | 0.058029459 | 12.07778 | 0.001222 | |

*Owner occupancy rate vs share of households with one or more residents under 18 years of age*

| SUMMARY OUTPUT | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| *Regression Statistics* | | | | | |
| Multiple R | 0.874846532 | | | | |
| R Square | 0.765356455 | | | | |
| Adjusted R Square | 0.53071291 | | | | |
| Standard Error | 0.021939318 | | | | |
| Observations | 5 | | | | |
| | | | | | |
| ANOVA | | | | | |
| | *df* | *SS* | *MS* | *F* | *Significance F* |
| Regression | 2 | 0.003140013 | 0.00157 | 3.261784 | 0.234643545 |
| Residual | 2 | 0.000962667 | 0.000481 | | |
| Total | 4 | 0.00410268 | | | |
| | | | | | |
| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* | |
| Intercept | 0.690337599 | 0.143682468 | 4.804606 | 0.040694 | |
| Share of households w/ one or more under 18 | -0.511095942 | 0.201768006 | -2.53309 | 0.126861 | |
| Median home value, thousands | -0.000478044 | 0.000253235 | -1.88775 | 0.199675 | |

*Share of households with one or more residents under 18 years of age and median home value vs yes share of vote on Initiative 1240*

## Conclusion

While the unfortunate limitations of my dataset, discovered too late into my research process to be addressed without restarting it entirely, mean that none of my results amount to definitive support for one conclusion or another, I was still able to find some support for one of the key predictions of the homevoter hypothesis: particularly, that a higher homeownership rate and higher home values in a given PUMA was negatively correlated with support for Initiative 1240's charter school program, which could be perceived as a threat to home values. However, I was unable to find support for its other main prediction—that a PUMA's homeownership rate would be positively correlated with its overall participation level in the 2012 election—nor was I able to demonstrate the worth of homeownership as a predictor of voting behavior compared to a simple demographic predictor.

The limitations of my dataset were the single most important source of problems in this study. Were I to conduct future research on a similar ballot measure, it would probably be necessary to find household-level data that covers both demographics and voting intentions, as Brunner and Sonstelie (2003) did, so I could focus on childless homeowners and renters and thus more directly assess the homevoter effect. Lacking that data, I would likely need to conduct a survey to obtain it myself.

## Works Cited and Datasets Used

Badger, E. & Bui, Q. (2019). Cities Start to Question an American Ideal: A House With a Yard On Every Lot. *New York Times*. Retrieved from https://www.nytimes.com/interactive/2019/06/18/upshot/cities-across-america-question-single-family-zoning.html

Brunner, E. & Sonstelie, J. (2003). Homeowners, property values, and the political economy of

the school voucher. *Journal of Urban Economics, 56,* 25-50.

Brunner, E., Sonstelie, J., & Thayer, M. (2001). Capitalization and the voucher: An analysis of precinct returns from California's Proposition 174. *Journal of Urban Economics, 50,* 517-536.

Carruthers, J. I. (2002). Book review: The homevoter hypothesis: how home values influence local government taxation, school finance, and land-use policies. *Regional Science and Urban Economics, 32,* 785-788.

City of Seattle Office of Planning and Community Development. *American Community Survey.* https://www.seattle.gov/opcd/population-and-demographics/american-community-survey

Dehring, C. A., Depken, C. A., & Ward, M. R. (2008). A direct test of the homevoter hypothesis. *Journal of Urban Economics*, *64*, 155-170.

Glaeser, E. L. & Ward, B. A. (2009). The causes and consequences of land use regulation: Evidence from Greater Boston. *Journal of Urban Economics, 65,* 265-278.

Hall, A. B. & Yoder, J. (2019). *Does Homeownership Influence Political Behavior? Evidence from Administrative Data*. Stanford: Stanford University. Retrieved from http://andrewbenjaminhall.com/

Hilber, C. A. L. & Robert-Nicoud, F. (2013). On the origins of land use regulations: Theory and evidence from US metro areas. *Journal of Urban Economics, 73,* 29-43.

King County Elections. (2012). *November 06, 2012 General Election*. https://results.vote.wa.gov/results/20121106/king/#

Nguyen-Hoang, P. & Yinger, J. (2011). The capitalization of school quality into house values: A review. *Journal of Housing Economics, 20*, 30-48.