

Proposition 13 and Residential Mobility

by Terri A. Sexton

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Terri A. Sexton is associate director of the Center for State and Local Taxation at the Institute of Governmental Affairs at the University of California at Davis and professor of economics at California State University, Sacramento.

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I. Introduction

Proposition 13 transformed California's property tax from a market-value-based tax to an acquisition-value-based tax, under which the assessed value of a property equals the market value at the time the property is sold, but can increase by no more than 2 percent per year until the next change in ownership. Acquisition value assessment discourages mobility because property owners lose their tax break from the assessment limit when they sell. Property taxes can increase dramatically after a move, even if the market value of the new property is the same or less than the old one. Young households may choose not to move to larger houses as their families grow in size and older households may not downsize as their children leave. Homeowners may not move if their job location changes and may not accept a job offer if it necessitates a move. Households may not "vote with their feet" by choosing to move to communities that provide their desired local services and taxes. Those choices result in inefficient resource allocation and decreased economic welfare.

To illustrate that mobility or lock-in effect, consider a California household that purchased a home in 1980 for \$200,000. That home was assessed at \$200,000 in 1980 (its market value at the time of purchase) and the tax bill was 1 percent of assessed value or \$2,000. Twenty-five years later, in 2005, the same house, assuming it had experienced the average appreciation of residential property in California over that period (433 percent), was worth \$1,065,700. However, under the provisions of Proposition 13, the property's assessed value could increase at most by 2 percent per year provided the household had not sold it, so in 2005 that house had an assessed value of \$328,121 and a tax bill of \$3,281. Had the household elected to sell that house and purchase an identical (same value) home elsewhere in the state in 2005, the household would have owed \$10,657 in taxes on its new home, a difference of \$7,376, or more than \$600 per month. Even if the household chooses to purchase a smaller home worth say \$500,000, roughly half the value of its former home, it would face a

tax increase of more than \$1,700 per year (\$5,000 minus \$3,281). Those increased tax costs are not one-time penalties for moving but persist year after year.

This report examines the theoretical nature of this mobility or lock-in effect and reviews the empirical evidence as to its magnitude. The next section summarizes theoretical and empirical studies of the determinants of household mobility, especially the role of transactions costs. Section III presents the empirical evidence of the lock-in effect of an acquisition-value-based property tax, and Section IV discusses the consequences of reduced residential mobility. Section V summarizes and concludes.

II. Household Mobility

The extensive literature on household mobility has identified many factors that influence the decision to relocate. In simplest terms, a household will change residence if its expected utility after the move is higher than its utility before the move and the increase in utility more than compensates for the costs of moving.

A move can be motivated by life-cycle events such as new household formation, marriage, birth of children, and aging. Typically, as individuals move through their life cycle they experience changes in preferences, needs, and resources that influence their housing demand. Households also move to adjust the characteristics of their housing unit or neighborhood or to increase accessibility to their workplace, family and friends, and schools and shopping. For example, anything that raises the time, cost, or frustration associated with commuting to work such as job relocation or higher gasoline prices may bring about a move. Quigley and Weinberg (1977); Weinberg (1979), and Weinberg, Friedman; and Mayo (1981) explore the factors that precipitate a move.

Ultimately, the decision to move is based on a comparison between the expected gain in utility and the cost of achieving it, or transactions costs that can include search costs, realtor fees, mortgage interest and closing costs, moving costs, capital gains taxes, and ad valorem transfer and property taxes. Those transactions costs, if large enough, can deter a household from moving. Empirical studies show that, because of transactions costs, changes in housing consumption are slow in response to changes in desired consumption. For example, Weinberg, Friedman, and Mayo (1981) find that the costs of searching and moving have a significant effect on the mobility of low-income renters or households.

The effect of the tax on capital gains arising from the sale of a home is the focus of several studies. Until 1997 those gains were taxed if the seller did not go on to buy a more expensive home, though if the homeowner was age 55 or older she qualified for a one-time exclusion of \$125,000 of capital gains. That likely caused homeowners younger than 55 who wanted to trade down to postpone such a move until age 55. The Taxpayer Relief Act of 1997 eliminated the differential treatment based on age and provided the data necessary to empirically measure the extent of the lock-in effect on under-55 homeowners.

Cunningham and Engelhardt (2008) use current population survey data on homeowners just above (56- to 58-year-olds) and below (52-to 54-year-olds) the age-55

threshold, both before (1996) and after (1998) the 1997 act to estimate the effect of removing the age threshold on the relative mobility of those two groups of homeowners. Using a difference-in-difference approach, they find that eliminating the age threshold had a statistically significant effect on the mobility of under-55 homeowners, increasing their mobility by 1 to 1.4 percentage points, or 22 percent to 31 percent of their mean mobility rate of 4 percent. Their results are consistent with the estimates of earlier studies that were based on more modest reforms (Newman and Reschovsky, 1987; Sinai, 1998).

Lundborg and Skedinger (1998) use changes in capital gains tax rules to estimate the lock-in effect of transaction costs in Sweden. They argue that transaction costs will reduce residential mobility if the homeowner is mismatched in the current residence, and thus focus on households that have recently experienced changes in income or family size. They find that the capital gains tax reduces the probability of moving among mismatched households seeking to move to smaller homes. In particular, among households that experience a decrease in income and hence housing demand, a 1 percent increase in capital gains taxes is found to result in a 0.12 to 0.13 percent reduction in the probability of moving.

Like the capital gains tax, a real estate transfer tax is a one-time cost associated with selling (or buying) a home. That tax is essentially a sales tax on housing because it is a percentage of the sales price. Van Ommeren and Van Leuvensteijn (2005) measure the lock-in effect caused by a transfer tax in the Netherlands. The authors use a sample of over 16,000 Dutch households from the Income Panel Research database. They demonstrate empirically that the 6 percent *ad valorem* transfer tax paid by buyers in the Netherlands has a strong negative effect on the owners' probability of moving. They find that a 1 percentage point increase in the transfer tax decreases residential mobility rates by at least 8 percent.

Another factor that influences the homeowner's decision to sell her existing home and purchase another is the change in credit costs, namely the mortgage interest rate. If the household has a mortgage at a favorable rate they may be reluctant to pay that off and borrow at the higher current rate. Doing so would involve a transaction cost that will affect them over the life of the mortgage. Quigley (1987) examines the decline in residential mobility caused by increases in mortgage interest rates. His empirical analysis indicates that the lock-in effect of favorable mortgage terms is quite large. According to his estimates, the average homeowner in 1981 would have lost \$1,800 if their mortgage had been financed at 1981 rates and the difference in premium ranged from a low of zero for households that owned their homes free and clear to a high of \$66,000 in 1981 when the average market value of houses in the sample was \$45,000.

III. Mobility Effect of Acquisition-Value-Based Property Taxes

A property tax system based on acquisition value assessment results in a lock-in effect similar to that associated with the transactions costs discussed above. Property taxes can rise dramatically when a household purchases a new home, even if it pays less for the new home than it received for the old one, because the new home will be taxed based on market value. Rather than lose the benefit of a reduced assessment

on their current home resulting from the limit, households may choose to postpone moving to an otherwise preferred residence. Unlike a transfer tax or capital gains tax, that added transaction or moving cost must be paid every year, making it more like having to pay a higher mortgage interest rate. However, unless assessments are frozen, the allowable percentage increase in assessed value will mean that each year the difference between the taxes on the original home and the new home will grow larger. Therefore it is expected that acquisition value assessment should have a larger negative effect on household mobility than that found by Quigley (1987) in the case of rising interest rates.

Table 1.
States With Acquisition Value Assessment

State	Coverage	Eligible Property	Limit	Tax Rate Limits
Arkansas	statewide (constitutional)	all	5% homestead, 10% other	Y
California	statewide (constitutional)	all	lesser of 2% or inflation	Y
District of Columbia	district-wide	homestead	10%; 5% for qualifying low-income residents	N
Florida	statewide (constitutional)	homestead	lesser of 3% or inflation	Y
Georgia	local option (local constitutional)	homestead	freeze (0%)	Y
Illinois	local option	homestead	7% with maximum exemption value of \$33,000	Y
Maryland	statewide	homestead	10%, statewide for state taxes; local options for local taxes range from 0% to 10%	N
Michigan	statewide (constitutional)	all	lesser of 5% or inflation	Y
Montana	statewide	all	16.66%/year phase-in of reassessment over 6 years.	Y
New Mexico	statewide	residential	0.03%	Y
New York	New York City and Nassau County	residential with 10 or fewer units	6% (residents up to three units) or 8% (other residential) per year; 20% or 30% over 5 years	Y
Oklahoma	statewide (constitutional)	all	0.05%	Y
South Carolina	statewide (constitutional)	homestead	15% over 5 years	N
Texas	statewide (constitutional)	homestead	0.1%	Y

Sources: Anderson (2006), Haveman and Sexton (2008).

In *Property Taxes and Tax Revolts*, O'Sullivan, Sheffrin, and I explore the effects of an acquisition value tax on the mobility of homeowners using a simple theoretical model of the costs and benefits of relocation. Our model incorporates property taxes into the household's optimization problem, allowing us to compare the optimum time

per dwelling under a conventional property tax and an acquisition value tax. Under both tax systems households increase the time between moves as moving costs increase. In the case of an acquisition value tax, the optimum time per dwelling increases as the tax rate, the market value of the property, and the rate of appreciation of the property increase. Whenever property values grow faster than the assessment limit, the optimum time per dwelling will be larger under acquisition value compared to market value assessment.

We use a numerical (simulation) version of the model to compute the optimal time per dwelling under the two taxes. Assuming a 3 percent property tax rate, a 2 percent assessment cap, and 6 percent inflation in home values, the time per dwelling is always longer for the acquisition tax, by as much as 12 percent (10.47 years versus 9.31 years) for the least mobile households. A higher housing inflation rate of 13 percent results in a larger penalty for moving and an increase of as much as 26 percent in the time per dwelling under the acquisition versus market value tax.

Theoretically, an acquisition-value-based property tax introduces moving penalties resulting in a lock-in effect, the magnitude of which depends on other features of the property tax system such as the tax rate and the assessment limit, and features of the housing market, namely housing prices and their rate of appreciation. Fourteen states now limit the increase in the assessed value of homeowner property and apply an acquisition value rule that resets assessed value to market value at the time of sale. Those states are identified in Table 1 (previous page). Assessment limits range from as low as 2 percent in California to as high as 10 percent in several states, and over 16 percent in Montana. Several empirical studies have attempted to measure the lock-in effect resulting from acquisition value assessment. Although most of those studies have focused on California, others have looked at Florida and Georgia.

Nagy (1997) was among the first to analyze Proposition 13's effect on household mobility. He examined the short-run effects immediately before and after Proposition 13 was introduced. Nagy compared mobility in three California metropolitan statistical areas (San Bernardino, San Diego, and San Francisco) and seven areas outside the state (Cincinnati; Columbus, Ohio; Kansas City, Mo.; New Orleans; Philadelphia; Rochester, N.Y.; and San Antonio). He used data from the U.S. Census Bureau's 1975, 1978, and 1982 annual housing surveys, which allowed him to calculate and compare homeowner duration in the pre- and post-Proposition 13 periods. Nagy's results indicate that households experienced significantly longer average housing tenure after 1978, but that was true for both California and non-California households. In fact, San Francisco's decline in mobility was significantly greater than only Philadelphia's. Nagy argued that rising mortgage rates over this period (from an average of 9 percent between 1975 and 1977 to 12.6 percent between 1978 and 1982) likely caused a general decline in mobility nationwide as suggested by Quigley (1987).

The period analyzed by Nagy may have been too short to measure the mobility effect of Proposition 13. The moving penalty associated with acquisition value assessment grows over time as the gap between market value and assessed value of the property increases. In fact, as he points out, in the year or two following passage of Proposition 13, homeowners may have had an incentive to sell their homes sooner to establish a new base year assessment in their new homes.

Stohs, Childs, and Stevenson (2001) examine the longer-term effects of Proposition 13 on mobility by comparing housing sales in California with those in Illinois and Massachusetts from 1995 to 2000. They measure mobility as the percentage of homes sold per year and compare that across census tracts in Orange and Sacramento counties in California; Dupage County, Ill.; and parts of the Boston metropolitan area. They find substantially less movement in California, with an average percentage of homes sold over the 1995-2000 period of 5.7 percent in California, 6.3 percent in Massachusetts, and 8.1 percent in Illinois. They translate those into average years spent per dwelling of 17.5, 15.9, and 12.3 years respectively. Both regression analysis and statistical tests of the differences in means across states support their hypothesis that mobility was significantly lower in California.

A major argument used to garner support for Proposition 13 was that senior citizens were being forced to sell their homes because they could not afford their rapidly rising property taxes. By the mid-1980s that argument had completely reversed -- senior citizens could not afford to sell their homes because they could not afford the increased property taxes on new, though smaller, homes. To address this new concern, Proposition 60 (1986) allowed persons over age 55 to transfer the assessed value of their homes to a replacement dwelling of equal or lesser value in the same county without a change of ownership reassessment. That exemption is available only once in a lifetime and it was expanded in 1988 (Proposition 90) to allow senior homeowners to transfer their assessed value to a comparable dwelling in a different county if the receiving county agrees. Together, those measures essentially remove the lock-in effect after age 55.

That portability feature provides a unique perspective from which to examine the mobility effects associated with an acquisition-value property tax. If the tax benefit from Proposition 13 affects household decisions to move, a significant increase in mobility rates for homeowners aged 55 or older should be observed. Ferreria (2004) uses the Integrated Public Use Microdata Series (IPUMS) to compare the mobility of 55-year-olds to 54-year-olds in 1980 and 1990. He finds that in 1990 the probability of moving among California 55-year-olds is from 1.2 to 1.5 percentage points higher when compared with 54-year-olds, representing an increase of approximately 25 percent on a base of 4 percent. No such differences are found among other control groups including renters in California in 1990, homeowners in Texas in 1990, and homeowners in California in 1980.

Our theoretical model and simulation results (O'Sullivan, Sexton, and Sheffrin, 1995a) show that the lock-in effect of an acquisition value tax should increase with housing prices and the rate of appreciation in housing prices. Wasi and White (2005) confirm that hypothesis in their empirical comparison of California homeowner mobility with that of Texas and Florida from 1970 to 2000. Using IPUMS data and a difference-in-difference approach, they conclude that the average ownership tenure for California households was 0.66 years or 6 percent longer than households in Texas and Florida and 6 percent longer than the average tenure of California owners in 1970. They also find that the responses to Proposition 13 have varied considerably across California. According to their results, the average tenure of homeowners increased 0.64 years in Fresno and Riverside, where housing prices and housing price appreciation are lower; 1.2 years in Los Angeles and Orange County; and from 2 to more than 3

years in the coastal areas of San Francisco, Santa Barbara, and San Jose, where housing prices and appreciation are among the highest in the state.

All of the empirical studies that have sought to measure the magnitude of the lock-in effect of Proposition 13 at least 10 years after its passage have concluded that the effect exists and is significant. However, there is variation in the estimated magnitude of the effect and it is difficult to compare results because they differ in the way the effect is measured and the data and methods used to estimate it.

California is not the only state with an acquisition value property tax (see Table 1, p. 31) though only two studies have estimated the lock-in effect in other states. In 1983, Muscogee County, Ga., adopted a true acquisition value property tax system, under which the assessed value of homestead property is frozen for local property tax purposes. Sjoquist and Pandey (2001) examined 1997 residential sales to determine if the assessment freeze created a lock-in effect for Muscogee County homeowners. For every homesteaded property, the county must maintain two values, the acquisition (frozen value) for local tax purposes and the market value for state taxes. If the assessment freeze creates a lock-in effect, the probability of a house being sold should be negatively related to the benefit of the freeze, namely the difference between the market value and the frozen value.

Sjoquist and Pandey estimate a probit regression model in which the dependent variable equals one if the house sold in 1997 and zero otherwise. Independent variables include the benefit of the freeze measured as the absolute or percentage difference between market value and frozen assessed value, a set of dummy variables to measure the number of years that the homeowner has occupied the house, and a set of socioeconomic control variables measured at the census tract level. They find that the benefit of the freeze is not statistically significant in explaining the probability of moving, leading to their conclusion that the assessment limit has no significant effect on housing turnover or household mobility in Georgia.

Stansel, Jackson, and Finch (2007) came to a similar conclusion on Florida's Save Our Homes assessment cap, which limits increases in residential homestead assessed values to 3 percent per year until the home is sold. They examine the average tenure of homeowners in 20 Florida counties in two different years, 2002 and 2006. Using county tax roll data, they calculate how many years the existing owner of each homestead property has owned that property and compute the average, median, and standard deviation for each county. They find that average tenure actually declined from 11.2 years in 2002 to 10.83 years in 2006, with lower average tenure and larger decreases between 2002 and 2006 in coastal counties.

The authors acknowledge that these results contradict expectations and offer several possible explanations. A large volume of new construction in response to rapid population growth will tend to reduce average tenure. The authors found that when they omit all properties built after 2002, average tenure did increase slightly from 11.2 years in 2002 to 11.44 years in 2006. Rapidly rising housing prices may also have contributed to reduced tenure by increasing home sales, including speculative home purchases. Low mortgage interest rates over that period may have also increased home sales, especially for first-time home buyers, which in turn, would decrease average

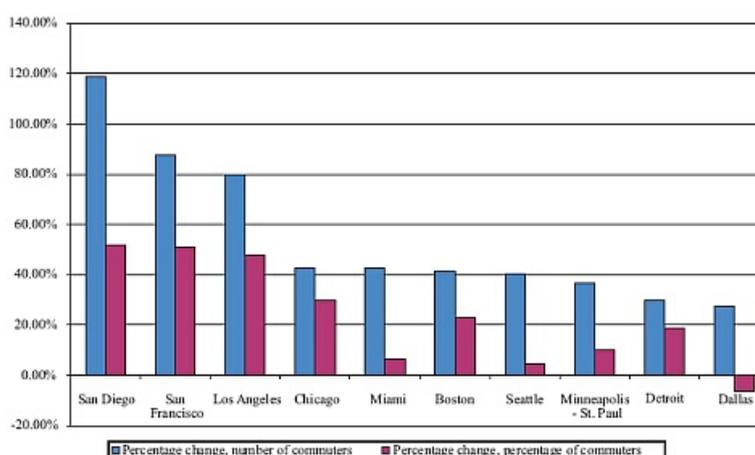
tenure. Finally, because the period of study was seven years after the assessment law went into effect, it may be that homeowners had already adjusted their housing consumption so that no further differences in housing tenure could be observed.

Concern that the lock-in effect of Florida's assessment limit has trapped homeowners in their current residences remains, and led to the approval of a portability measure in January 2008. Amendment 1 allows full-time Florida homeowners to take the tax benefits of their Save Our Homes assessment limit with them when they move. They can transfer up to \$500,000 of their assessed value savings on their old house and apply it to the assessed value of their new home. Observation of the effect of the amendment on home sales will provide another opportunity to estimate the mobility effect of the Save Our Homes assessment limit in Florida.

IV. Consequences of the Lock-in Effect

The distortions of household mobility resulting from acquisition value property tax systems can impede the efficient allocation of resources. Among the consequences addressed in previous studies are the negative welfare effects of suboptimal housing consumption (O'Sullivan, Sexton, and Sheffrin, 1995b), and reduced job mobility and increased unemployment (Van Ommeren, Rietveld, and Nijkamp, 2000). Other likely effects include increased commutes and a reduced stock of entry-level housing. On the positive side, reduced household mobility promotes neighborhood stability, an argument used by the U.S. Supreme Court in its judgment in *Nordlinger v. Hahn* (U.S. Law Week, 60 LW 4563-4574), which upheld the constitutionality of Proposition 13.

Figure 1.
Change in Commuters From Within to Outside Metro Areas:
1980 to 1990



As part of our extensive analysis of the effects of Proposition 13 in the early 1990s (O'Sullivan, Sexton, and Sheffrin, 1995b), we used a simulation model to estimate the excess burden (loss in economic well-being) resulting from a switch from a conventional property tax to an acquisition value tax. The excess burden incurred by a particular household as a result of the switch is the compensating variation or lump-sum payment required to restore the utility level achieved under a market-value system. The total excess burden is the sum of the compensating variations (some of which may be

negative) across households. Assuming a 3 percent tax rate and property value appreciation of 6 percent, our results suggest that a revenue-neutral switch from a market value to an acquisition value system would result in an estimated annual compensating variation for the median household of \$440 per year, representing about 4.5 percent of market value tax liability or 0.88 percent of income. The excess burden increases with the appreciation rate of housing and the tax rate.

Van Ommeren, Rietveld, and Nijkamp (2000) develop a theoretical search model to analyze the relationship between residential mobility, job mobility, and commuting. In their model, the decisions to change residence and change jobs both involve a change in commuting distance and thus are mutually dependent. One of their main conclusions is that residential moving costs discourage unemployed persons from moving, decreasing the probability of becoming employed and increasing the number of unemployed persons. In some cases, moving costs can also discourage employed persons from changing jobs. An increase in the transaction cost of changing residences decreases residential mobility, increasing the commuting cost of changing jobs, reducing job mobility, and possibly leading to increased unemployment. Their search model is consistent with the observation that a change of job that increases commuting distance normally triggers a residential move. However, if moving costs are sufficiently high, either the new job will not be accepted or the subsequent residential move may not occur.

These results suggest that transaction costs can be a deterrent to households moving when their job locations change, thereby increasing commuting distances and costs. Although no empirical tests have been performed, observed changes in commuting patterns in major metropolitan areas in California support that hypothesis. In particular, between 1980 and 1990, the number of workers in San Diego, San Francisco, and Los Angeles who commute outside the metropolitan statistical area to work increased 119 percent, 88 percent, and 80 percent, respectively. That is well above the growth in the number of similar commuters in other metropolitan areas across the nation, which generally ranged from 25 percent to 45 percent. Figure 1 illustrates that comparison. Not only did the absolute number of outside-metropolitan statistical area commuters increase faster in California but also the percentage of the workforce making those commutes increased at a faster rate in California. Although these census data are consistent with the conclusion that the moving penalty resulting from California's acquisition value property tax has increased commutes, more research is needed to determine the extent to which Proposition 13 has contributed to that increase.

Other consequences of the lock-in effect of Proposition 13 have also been observed but not tested. They include potential effects on the stock of housing. When households face a moving penalty, one possible response is to alter their existing residence to make it more nearly resemble what they would choose if they did not face high moving costs. If a household chooses to add square footage to its existing home, the household maintains the benefit of a lower assessment on the original square footage while only the added square footage is taxed at its current market value, usually the cost of construction. Thus we have seen two- and three-bedroom homes transformed into three- and four-bedroom homes. In that way, the stock of available entry-level housing has diminished.

Despite these consequences, all of which were pointed out by the critics of Proposition 13 in the years following its passage, the U.S. Supreme Court in its majority opinion argued that the assessment provisions of Proposition 13 furthered the state interest in local neighborhood preservation, continuity, and stability. Thus, the moving penalty was regarded as a virtue, albeit one that was never mentioned by supporters of Proposition 13 either before or after its passage.

V. Summary and Conclusions

Empirical studies confirm that households respond to increased transaction costs by not adjusting their housing consumption as often as they would in the absence of those costs, thereby reducing their mobility and introducing inefficiencies in housing markets. In the case of acquisition value taxes, however, the empirical evidence is mixed. In California the consensus has been that Proposition 13 has had a significant negative effect on mobility. However, the estimates of its magnitude vary from study to study and are shown to vary over time and geographically across the state. In the two other states that have been studied, Florida and Georgia, the empirical evidence suggests that the lock-in effect, if it exists, is not significant.

The efficiency consequences of reduced household mobility include the excess burden on households from suboptimal housing consumption, inefficient labor market outcomes, longer commutes with associated environmental and congestion costs, a reduction in the supply of smaller homes for young and old home buyers, and reduced incentives for households to vote with their feet, thereby impeding the efficient provision of local public goods.

Theory suggests that an acquisition value property tax imposes a moving penalty similar to other costs associated with selling one home and moving to another, such as higher mortgage interest costs, capital gains taxes, and real estate transfer taxes. However, more research is needed to ascertain the magnitude of the moving penalty and its associated efficiency costs.

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