CONDUCTING SOUND TAX POLICY:

INVESTIGATING PUBLIC OPINION AND PUBLIC KNOWLEDGE

OF PROPERTY TAX IN CALIFORNIA

A Thesis

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Matthew John Livers

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Department of Public Policy and Administration

Abstract

of

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Property tax tends to survey as one of the most disliked forms of taxation. This frustration towards the tax has led to tax revolts throughout the United States. In 1978 California, voters had Proposition 13 on the ballot that set a limit to rising property tax by capping it at one percent of value at acquisition. The aftermath of Proposition 13 involved a significant drop in local government revenue that limited the services that the government provides. Various forms of fees and taxes have filled the gap left by a lack of property tax revenue. The hateful sentiment towards property tax has continued and may be linked to a lack of knowledge about how the tax works and what benefits they individually see from it.

In this thesis, I investigate the potential relationship between poor public opinion towards property tax and the level of knowledge in the community about the tax. I use survey data from the CalSpeaks 2017 Survey to research the relationship and interview data from property tax policy experts. Using property tax as a progressive tax as a

dependent variable to gauge the respondents potential understanding of how property tax works, I compare demographic factors to see what patterns arise.

My regression results demonstrate that most respondents do not believe the tax to be a progressive tax and affects all levels of income relatively the same. If the respondent is over the age of 65 or middle income they are very likely to not think of property tax as a progressive tax. The available literature and interview data suggests that it is likely that people have low understanding of property tax and that it does relate to the tax being one of the most disliked taxes but there are other factors.

Based on my findings I offer policy recommendations that may help raise the level of knowledge of property tax and in-turn possibly change the public opinion of it. I recommend changing the way property tax is paid to make it less salient like other forms of tax. On the other hand, I also recommend making the tax bill more understandable and making the community more aware of what they are getting back in services from the property tax they have paid.

_____, Committee Chair
Robert Wassmer, Ph.D.

_____
Date

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INTRODUCTION

Public opinion is an important part of constructing successful public policy. In policy areas such as taxation, public opinion contributes to the process of enacting tax law. Taxation tends to not be a popular subject to the public and many residents have negative opinions towards paying taxes for an assortment of services provide by government. In California, tax policy has been at the center of many political debates on whether it is effective at supplying revenue or is ineffective and hurtful to the state and its residents. Property tax is no different in how public opinion views it, even with the benefits it provides to the community such as providing local cities and districts with much need revenue to keep local services and schools running. Property tax in California has always been a balancing act because residents like the local services that property tax revenue goes towards, but residents also like paying low amounts of property tax. In fact, in California, residents decided they wanted low property tax to the point of making it into law.

With the well documented Tax Revolt of the late 1970s, starting in California and spreading throughout the nation, voters chose to decide for themselves how they wanted property tax to work in the state. The decision, amongst other aspects of Proposition 13, was to cap property tax at one percent of property value, lowering the rate that homeowners must pay annually, saving residents a lot of money but greatly hurting revenue for local services. This would then require state and local government to scramble to find new revenue sources. Public opinion on raising taxes for revenue is

usually negative and so learning what preferences the public has towards taxation methods and services is important. Unfortunately, even with the ability to rally the voters of California to write and enact tax law that limits property tax, many residents have no idea how the property tax system works and how it affects them personally. Due to this and a multitude more of past legislation in the state of California along with a very convoluted tax code, it is hard for the average tax payer to completely grasp how property tax works and where the revenue goes and who receives it.

In this thesis I intend to investigate the individual demographics of people who consider property tax to be regressive and progressive to understand what the overall knowledge of the property tax system is according to survey respondents and interviews by experts. This makes the question this thesis aims to answer is: what are the characteristics of Californian's who think state property taxes are progressive?

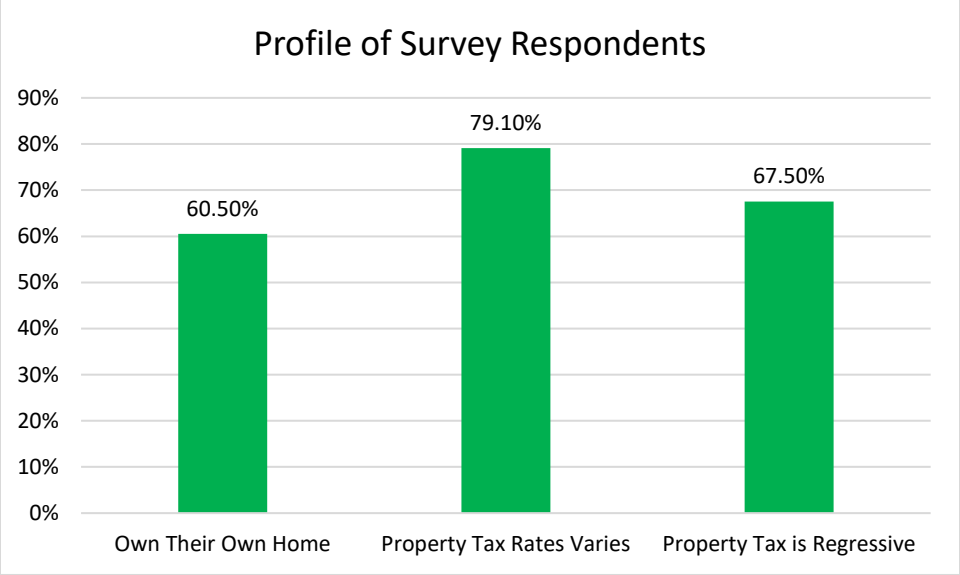
The remainder of chapter one will discuss the background of property tax policy in California. This includes an explanation for how property tax is determined and where the revenue collected from it goes. Also included will be a discussion of public attitude towards property tax and what this means for establishing tax policy. Finally, this chapter will include the history leading up to the tax revolt of the late 1970s, Proposition 13 and its response by California residents, and the implications for drastic property tax policy for the state.

Problem Definition

Many experts argue that property tax is progressive, however with little understanding of the property tax system the public may think otherwise. According to

data from the CalSpeaks 2017 Survey, respondents overall considered property tax to be regressive by 67.5%.

Figure 1: Profile of Selected Respondents from CalSpeaks 2017 Survey



This demonstrates the need to research what drive individuals to argue that this is the case which is the opposite to what tax experts suggest. Furthermore, 79.1% of respondents believe that property tax varies throughout the state which is false because of the one percent cap on property tax enacted from Proposition 13 is statewide and does not vary at all. Of the respondents, 60.5% own their home and pay property tax directly yet still do not understand how it works in the state and assume it is regressive.

This information asymmetry of public understanding of property tax compared to how experts understand it creates a disconnect between the taxpayers and the government. With this knowledge gap comes the undesirable occurrence of taxpayers always voting no on anything tax related even if the tax is small and designed to help with services everyone needs to use (Anderson & Lichtenstein, 2013). The voters who do

not understand how certain taxes such as property tax works will consistently vote down anything with the word tax because they are misinformed. This then hurts citizens who rely on taxes for many services.

Since property tax directly or indirectly affects everyone, my hypothesis is that public opinion suggests different demographics will judge property tax as regressive and some as progressive. The demographics that could outline this may be age, education, gender, and whether the respondent is a homeowner. I will define the problem that needs to be investigated as: lower level public understanding of the property tax process and allocation causes different demographics to view property tax differently and the lack of knowledge is detrimental to taxpayers and causes a negative externality that hurts future attempts at tax policy.

The desired outcome from this analysis is to investigate how survey and interview respondents view and understand property tax through the lens of how it affects various levels of income. Furthermore, I will use the output from the qualitative and quantitative research to shape policy recommendations that will raise the level of understanding of how property tax works and how it affects everyone. With the increase in tax comprehension, there will also be recommendations for other ways communities can receive the much-needed tax revenue without the obtrusive tax salience of property tax. The desired outcome will include recommendations that embody using fee structures over taxing and offering ideas for reducing the salience of property tax to make them less noticeable to taxpayers. These outcomes are beneficial because public opinion can be determined by how noticeable the impact of a tax is on the public.

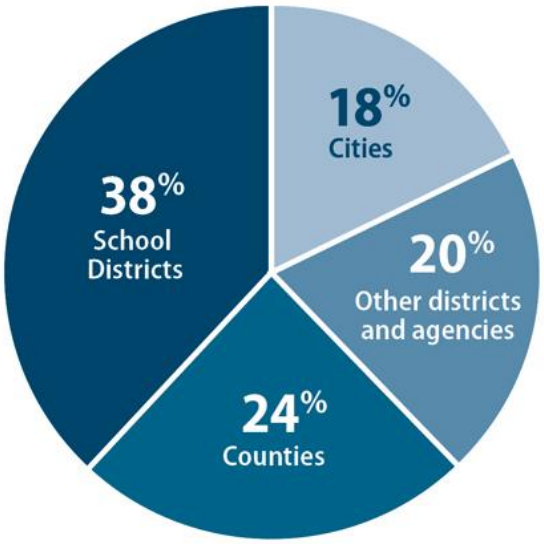
Determining Property Tax

The system for collecting and dispersing taxes differs by the kind of tax being collected. When it comes to property tax, the system appears to be convoluted and difficult to grasp for the average person. In most states, the first step, as outlined in Fisher (2006), is to have the county assessor gauge the market value of a property. This trained professional uses the assessment ratio rule and formulas based on square footage, acreage, bedrooms, bathrooms, and accessories to come up with a value for the cost of the property in its entirety. From the assessed value, a percentage is calculated based on the tax rate of that locale which becomes the amount owed in property tax. In states like California, the poverty tax is based off acquisition value at the time of purchase instead of market value. Additionally, some states have variable property tax rates throughout their state, however in California there is a fixed property tax rate ceiling that the entire state abides by. The percentage is then billed to the resident or property owner and collected by a tax collector. Then in many states the controller disperses property tax according to legislation to numerous services in the community. In California however, property tax is returned to the state legislature who then divide the revenue up using complex formulas that the state legislature has the authority to change at their discretion. This ultimately harms local communities because they cannot use the property tax revenue from their jurisdiction at their own will and much is already ear marked for specific services.

In California, there is a rigid allocation of property tax from the taxes collected at the county level being redistributed back to entities within the county. According to the California State Auditor's Office (2015), education receives the largest portion at 38

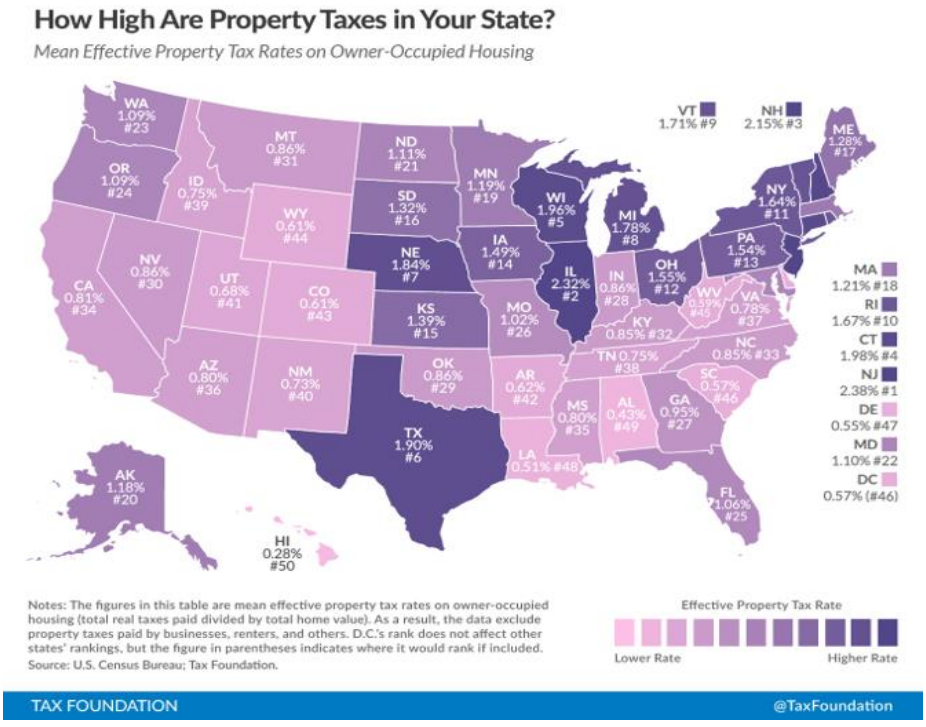
percent of property tax revenue. Education receives this large percentage of revenue because of Proposition 98, passed in 1988, requiring a specific level of expenditure on schools in the state of California. This money is allocated throughout kindergarten to high school along with community colleges in the districts as well. The rest of the revenue is split up between counties at 24 percent, cities at 18 percent, and other districts and agencies at 20 percent of total property tax revenue. These percentages are of the total revenue collected through property tax, which for some local districts is one of their only sources of income to provide their residents with services. Sales tax also plays a role in providing local funding but with the limit on property tax being one percent of assessed value of the property, many localities must look to other ways to receive funding for the community.

Figure 2: California State Property Tax Allocation Percentages



Due to the one percent cap on property tax in California, the state ranks low on the total revenue incurred from property tax. California ranks 34th in the United States for income brought in by property tax (Rosenberg, 2015). The low percentage of property tax is problematic in a state that champions services for its residents, let alone the most populous state in the entire country. In the diagram below you will see how every state ranks according to mean effective property tax rates on owner occupied housing. States that rank high in property tax include Texas, New York, Illinois, and New Jersey as the highest. These states however, have other taxes that are low or nonexistent. Some states choose to not have an income tax, and some choose not to have a sales tax. These tradeoffs require California to have higher rates of other taxes and fees to replace the burden of low property tax.

Figure 3: National Levels of Property Tax by State



Public Opinion of Property Tax

Taxes tend to not be looked favorably upon by the public. Many taxpayers enjoy services in their communities supplied through tax revenue but despise paying taxes on their income, purchases, and property. When it comes to which tax types are disliked the most, property tax tends to rank high. According to Fisher (2006), property tax consistently ranks as the most hated or second most hated tax in public opinion surveys (p. 318). The reason for this may have to do with the salience of property tax. Taxes that are hated less such as income and sales taxes, are paid directly but in the form of a fee on the cost of a product or taken directly out of a check each month. This system of "invisible" taxes provide revenue but go unnoticed for the most part by taxpayers. With salient taxes such as property tax, the homeowner must pay out of pocket each year in the form of a bill that is mailed to them and can appear to be very expensive.

To a homeowner, paying a tax bill every year is much more noticeable than a few cents tacked onto a purchase or directly taken from paychecks. Moreover, homeowners are not the only residents that pay property tax. Renters pay property tax calculated into their monthly rent making property tax less salient to renters which may explain why renters tend to survey as more supportive of property tax. Another opinion of why this is possibly true is because renters tend to be lower income than their homeowning counterparts. Lower income residents also tend to enjoy public services provided by taxes more and so they may understand the tradeoff of paying property tax to then benefit them in services. Whether public knowledge of property tax is the reason for this or not can be

better understood through people's perception of the progressivity or regressively of property tax as an indicator.

Progressive Versus Regressive Taxation

As with many taxes, experts and scholars have argued where property tax sits as either a regressive or progressive tax. A regressive tax is one that disproportionately affects lower income individuals and families, such as sales tax and taxes on certain products such as cigarettes. Adversely, a progressive tax is a tax that proportionality effects every one of every different income equally such as income tax. Proponents of the idea that property tax is regressive argue that property is a good and the tax raises the price of the good which means it costs a larger proportion of total income. This can be related to any other good such as groceries where sales tax hurts lower income people more because it is a larger portion of their income than wealthy people and families. This would then cause the burden to lie on lower income individuals and families whose percentage of income that goes towards shelter, either ownership or rental, is higher than wealthier people.

Most experts argue the opposite point in that property taxation is a progressive tax. The progressive point of view looks at the tax as a tax on capital such as land or buildings. that effectively reduces the return that someone owning it gets from either renting it or selling it. Since the wealthy get a far greater percentage of their income from selling or renting capital, and property taxes are considered to lower this return to less than what it would be without the tax, a system of property taxation hurts the rich more than the poor. Thus, with this way of thinking, the property tax is progressive.

In simple terms, progressive taxes reduce the rate of return on property, and since wealthy people get a greater percentage of their income from property than the poor, progressive taxes such as property tax hurts the rich more. On the other hand, property tax viewed as regressive is due to looking at what a person pays in rent or a mortgage as a percentage of their income. As their shelter cost rises, their income falls.

An alternative to the progressive versus regressive argument is to view property tax as a benefit tax or fee. This treats the tax as a fee for the offered services on a certain community. As Fisher (2006) explains, property tax then becomes the "price" for goods and services in that area. This view then does not distort allocation decisions because there is no incentive to reallocate property tax capital between various jurisdictions (p. 361). Under this theory, higher income areas' residents are living there for the benefits they receive from that community. However, of these three views on property taxation, it is generally considered to be more progressive than regressive or a benefit tax.

Proposition 13: The People's Initiative to Limit Property Taxation

The California tax revolt of the late 1970's came about after years of growth in the Golden State. With a booming economy in the 1950's and 1960's, property values began to skyrocket which also caused property tax to increase as well. In fact, from 1966 to 1974 the median home price in California doubled and would potentially continue to increase moving into the election year. In 1974, Governor Jerry Brown started his first tenure in office as governor of California. According to Wassmer (2012), his election on a platform that promised growth controls in construction and environmental protection that led to a vast reduction in new homes being built throughout the state. However, the

population of the state continued to climb, driving the housing cost up even further. This resulted in the nominal value of the average home to triple between the years 1974 and 1978. Homeowners' resentment for the rising tax bills increased because higher taxes did not seem to improve public services.

Public opinion for limiting the rising tax problem grew and in 1978, after a summer of failed attempts by the government to reach a compromise from proposals, the movement to cap property tax was in full effect. Anderson and Lichtenstein (2013) write that Howard Jarvis and Paul Gann, Libertarian tax advocates, submitted 1.2 million signatures to place a new potential law on the ballot. Howard Jarvis would become the one of the most outspoken tax reform advocates to lead in the tax revolt that would later spread throughout many jurisdictions and many states. These signatures were all collected by volunteers and began pouring in by the truckload. This demonstrated the sheer volume of individuals willing to volunteer their efforts in to collecting signatures about something they felt passionate about. It became obvious to California that the ongoing inflation of housing prices and in turn property tax was starting to align many taxpayers with the revolt. The actual number of signatures received ended up topping 1.5 million which was twice as much as anyone had ever collected before for any proposition of any kind in California (Jarvis, 1979, p. 53). The legislature and Governor Jerry Brown knew what was at stake if a proposition of such magnitude passed in a state with a growing population and attempted to voice opinions against its passing. Jarvis (1979) writes that his opposition went to great lengths to attempt at stopping Proposition 13, teachers were informed that huge layoffs were eminent, and schools would shut down.

Additionally, to scare senior citizens into voting against Proposition 13, the California Franchise Tax Board sent out a notice to elderly people of the state informing them that their rent assistance would not be mailed out till after the June statewide election where Proposition 13 would be on the ballot because they did not know if there would be any money to give (p. 62). It is common knowledge that elderly people tend to vote in the highest percentages, so it would be fitting for the state government to attempt to draw their votes against the tax revolt. In reality, Proposition 13 did not affect tax exemptions and assistance for the elderly at all, but the state was aware that elderly voters can be uninformed about what is really happening around them politically. These low blows would eventually backfire because most taxpayers did not understand taxes, more specifically property tax, and the idea of saving money by limiting taxes along with limiting the voting power of the government that was obviously rallying against individuals saving money made far more sense.

Proposition 13 would be voted on in June of 1978 and was approved by 65 percent to 35 percent. The legislature put Proposition 8 on the ballot in response and it was designed to limit property tax for some and put more pressure on business property. Proposition 8 would only provide the public with one-fifth as much tax relief as Proposition 13 and so this action by the state proved too little too late and was defeated 47 percent to 53 percent.

Proposition 13 did far more than just cap property tax at one percent. In fact, the bill had six parts that drastically altered the way politics in California would be run from then on. First, the one percent cap was on the full value of the property at the time of

acquisition and secondly, Proposition 13 rolled back the property value for tax purposes to their 1975 to 1976 levels. The third property related change to the Constitution of California was that property would no longer be assessed annually. Prior to 1978 assessors would gauge the value of a property every year to compensate for any growth in inflation. After 1978, property would only be assessed upon change of ownership at the market value at that point. This change of ownership would only be between unrelated parties and so handing down generationally to offspring would allow the assessment to remain from before. Additionally, every year, the value of the property is limited to a two percent increase in overall value based on inflation. This means that even if the value of a property skyrockets in a year, only two percent of the inflation increase can be counted towards the value that is assessed for property tax.

Prior to 1978, jurisdictions chose their own property tax rates according to what services were offered. The tax was then payed directly to the jurisdiction which then dispersed the revenue accordingly. The fourth change to the law brought about in 1978 was disbursement responsibility for all property tax would become the responsibility of the state. Furthermore, the legislature is prohibited from shifting more property tax dollars away from the cities and counties to education. The last two changes to the California Constitution changed how many representatives it would take in the California Legislature to pass tax related laws. For measures enacted for increasing state taxes, the legislature would have to pass the law with a supermajority of two-thirds. For local taxes, two-thirds of voters would have to approve for these measures to pass. Proposition 13

drastically altered the landscape of California taxation; its implications would be instantaneous and lasting.

One implication from Proposition 13 would be a drastic loss in revenue for local jurisdictions. According to the Legislative Analyst's Office (LAO) (2012), property tax revenue dropped 60 percent following the passing of the law. Moreover, the share of property being sold each year began to decline. Due to the benefits of keeping your property for a long time, mobility declined throughout the state at a steady rate. Also, higher income homeowners began receiving the greatest amount of tax relief. In fact, two-thirds of tax relief goes to incomes of over $80,000 annually. Local jurisdictions scrambled to find alternatives to collect precious revenue by raising other taxes at the local and state level. For example, sales, utility, and hotel taxes have increased 600 percent at 2014 to 2015 levels. Unfortunately, the money for services still must come from somewhere and increased regressive taxes have put that burden on lower income individuals and families to make up a lot of the loss.

There has been attempts to potentially tear down Proposition 13 over the years, but the voters always tend to defend it even with the revenue shortfalls that are a direct result. Fox (2016) writes in the *Los Angeles Times* that public opinion surveys show that Proposition 13 still enjoys staunch support from voters and that changing Proposition 13 to raise more taxes would be the ultimate test of the voters' attitude toward "the anti-tax spirit" that Californian's have consistently shown they possess since the 1970s. This demonstrates that the only way to truly gauge public attitude and knowledge of property tax is through a comprehensive public opinion survey that is distributed throughout the

state. I now turn to research from the available literature on this topic to determine what is already known concerning public opinion knowledge of property taxes and progressivity.

Thesis Framework

This thesis will look at survey data and interviews to gauge public opinion towards tax concepts that encompass property tax. It will use regression to isolate demographics of survey respondents in California who believe property tax is a progressive tax or a regressive tax as a marker for how well versed in property tax the public is.

Then this thesis will offer policy recommendations that can raise public understanding of property tax that can remove the asymmetry of information between tax policy makers and the public. The policy recommendations will include alternative ideas for new revenue sources for government in California based on the regression results conducted from survey data for this thesis.

This thesis will discuss why public perception of property tax is important to policy makers in a state where the public has passed restricting tax laws to how the government can raise revenue. It will explain the methods for getting data to run regressions, what the regression outputs are, and how these outputs can affect decisions of policy makers working in property tax policy. The rest of this thesis is organized into chapters as follows: Chapter two of this thesis will contain a literature review organized thematically into three sections that will provide information about what is already known about property tax and public opinion. This is followed by chapter three which

contains the quantitative methodology and results of logistic regression of survey data conducted for this thesis. Chapter four will then contain qualitative date analysis based off human subject interviews of individuals in tax policy. It will provide information about what questions are asked and how their answers relate to the results found in chapter three. The closing chapter of this thesis, chapter five, will contain concluding remarks from the results of the quantitative and qualitative data analysis. It will provide policy implications and recommendations for developing better property tax policy in the future based from informed public opinion. Finally, it will include a discussion of opportunities for future research to be conducted in public opinion and property tax.

Chapter Two

LITERATURE REVIEW

Government acquiring tax revenue to provide services to the public has a negative connotation to many, and the lack of support is reflected in public opinion. Typically, progressive leaning taxpayers view taxes as dues required for civilization to function and conservative taxpayers may view taxes as imposing on their personal freedom. Regardless, taxpayers on both sides of the aisle continuously demonstrate that they want a multitude of services that are provided by tax revenue. The idea of receiving something for nothing may stem from the publics low level of knowledge about how taxation works including where the revenue comes from and where it goes. This is not surprising because, as mentioned in Chapter One, taxation can be a rather convoluted concept. From being tacked on at the end of a purchase as in sales tax, removed directly from a paycheck as in income tax, or paid as an annual charge as in property tax, revenue is provided by the community in various ways.

In public opinion surveys dating as far back as the 1950's, one specific tax tends to stand out as the least liked, the property tax (Cabral & Hoxby, 2012; Citrin, 1979; Citrin & Green, 1985). Moreover, when asked to name the "least fair" tax, Americans consistently choose the highly visible property tax (Citrin, 1979). One of the reasons for this has to do with the salience of property tax, as compared to other taxes that are more indirect to those paying them (Cabral & Hoxby, 2012). This all occurs even though communities pay these hated property taxes for services consumed by people living in the area. Attitudes on property taxation has even led to tax revolts in states across the

country. A notable occurrence being California in 1978 where lawmakers capped the amount that local government can charge in property tax.

The purpose of this chapter is to review the available literature on the relationship between public opinion and public understanding of property tax through various lenses. To narrow the scope of this investigation, I will primarily focus on California property tax and Proposition 13 but will include studies of other regions and countries to offer comparison. Proposition 13, as I have mentioned, dramatically altered the property tax landscape of the state by bringing an annual tax cap of one percent of property value, limiting increases in assessed value for tax purpose to two percent until property sold, and forces the allocation of property tax revenue to become a state responsibility by taking allocation power away from local jurisdictions (Citrin & Green, 1985; Fisher, 2006). The available literature will lend expertise to this thesis from past studies and research to help develop the understanding of public opinion towards property tax.

Specifically, I summarize the content of the relevant literature into three specific themes that will assist myself and the reader to better understand the topic of this thesis. The first theme in understanding the topic of public opinion towards property tax is to provide an explanation for why taxpayers expect something for nothing. A multitude of studies have used survey and housing data to investigate where residents expect tax revenue to go and what they are willing to pay in taxes to accomplish this. The second theme discusses academic studies that investigate how well taxpayers understand the system of taxation and specifically property tax. This can gauge if there is a connection between attitude towards property tax and knowledge of how it works. The third theme

examines how the public understands what constitutes a progressive or a regressive tax and how this can relate to public knowledge of property tax, affecting public opinion.

Theme One: Something for Nothing

California put a severe limit on the amount of revenue it collects with its 1978 passing of Proposition 13. With a large chunk of potential property tax revenue no longer available, many communities had to cut down on local services previously enjoyed by the public. The California electorate did not seem to understand this was a tradeoff they would have to accept. Citrin (1979) writes that on the eve of the vote on Proposition 13, 38 percent of the California electorate believed that state and local governments could provide the same level of services as previously with a 40 percent reduction in their budget. The study demonstrates more than a third of voters have little understanding on how basic taxation works. Regardless, the entire state would feel the effects of Proposition 13 on their communities almost instantaneously. This first theme further explores why taxpayers often want something for nothing. It includes explanations of how services are affected under property tax caps and how revenue is still acquired, tax salience, and a discussion of a lack of knowledge in the property tax system and its effects.

The Effect on Services

The reduction of services would happen very rapidly throughout the state and the need for new sources to collect needed revenue would require local government to get creative. Welch (1985), whose results are relevant to California, writes that majorities preferred increases in spending, even with the tax cut, to services such as mental health,

police, fire, prisons and corrections, schools, and transportation. The survey that provided this information was conducted through random digit dialing of one midwestern state and had 809 respondents. The survey asked a myriad of questions to gauge the wants of the respondent. Just under 50 percent of respondents believed across federal, state, and local that taxes could be reduced and services could increase with increases in government efficiency (Welch, 1985). Furthermore, as Citrin (1979) and Mueller (1963) write, many people survey as wanting both more services and less taxes; something for nothing is the reason that government attempts to tax in a way that is neither seen or felt by the public.

Citrin (1979) furthers this line of inquiry by explaining that various demographic and socioeconomic groups favor public services differently. Certain groups that demonstrate through their survey responses that they do not mind raising property taxes are renters, minorities, lower income, and lower educated. Groups that are higher income and higher education tend to argue for reduced taxes because they do not need access to services as much as their lower income counterparts. These results found statistical significance at a p-value of 0.01, suggesting a strong correlation between the variables of higher education and desiring lower taxes. This lends to the idea that more educated people tend to think that government is wasteful and do not need more revenue to supply services that communities demand (Glaeser, 1995; McCabe, 2000; Youngman, 2016). In a related study, Dye and McGuire (1997) conduct research on a natural experiment where certain Illinois jurisdictions capped the property tax in their jurisdiction and other jurisdictions did no. Their findings demonstrate that the difference is noticeable in the amount of offered services to the public. Other taxes and fees are then required to fill in

the gaps left behind from property tax caps. Increases in sales tax and local fees are synonymous in areas that enacted tax caps (Dye and McGuire, 1997).

Tax Salience

The reason that people believe that you can get services from state and local governments without an increase in tax revenue suggests that the public knowledge surrounding taxes and more specifically, property tax is very limited. This limited information may be due to issues with tax salience (Chetty, Looney, & Kroft, 2007). The term *salience* refers to how visible the tax is to the public. As mentioned, property tax is paid with a bill that must be paid annually, depending on where the taxpayer lives, to a state and local government. This makes it a very salient tax. In comparison, a sales tax would be less salient because it is just tacked onto a purchase. Typically, sales tax is an afterthought in a purchase and the individual paying the tax does not pay as much attention to it as they would if they received a sales tax bill in the mail to then must pay out of pocket later.

To investigate the correlation between the strong dislike for property tax and tax salience, Cabral and Hoxby (2012); and Chetty, Looney, and Kroft (2007) use a dependent variable of tax salience and a multitude of demographic explanatory variables to run regressions on their correlation. The results of these studies align with what would be expected and demonstrate that the property tax is overtly salient. In other related studies, McCabe (2000) and Dye and McGuire (1997) use dependent variable that discuss public knowledge and are aimed at the public reliance of property taxes for fiscal revenue. These studies have explanatory variables concerning different services that are

reduced or removed due to property tax that can provide insight into whether the public notices or not.

McCabe (2000) finds results significant at a p-value of 0.05 for taxpayers noticing an increase in sales tax or fee reliance when a reduction of property tax occurs. These results demonstrate that taxpayers notice the increase in other fees and taxes, even if they are more salient. Furthermore, the results also suggest that certain services that are cut are more noticeable than others. The findings demonstrated that if local parks in the community must be cut and become under maintained or abandoned, the public will not notice as much as they notice when their local roads and infrastructure in the community suffers. The reason for this is due to certain services being utilized by more individuals in the community.

A Significant Lack of Knowledge

To understand if the public truly understands property tax in California, Ferreira (2010) analyzed the tax benefits realized by homeowners from Proposition 13 in the form of residential mobility as a dependent variable. Using housing dating from the state, the results determined that homeowners are not taking full advantage of the benefits from California property tax. Wasi & White (2005) investigate the lock-in effect caused by Proposition 13 to affect the average tenure length of owners and renters in the state of California as a dependent variable. Their works suggests that renters, who do not directly pay property tax, are more likely to support raising property tax in the state. However, once again homeowners are more likely to support Proposition 13 and the cap limit at one percent for property tax. The reason that renters survey to support raising property tax

more than homeowners lends again to tax salience (Cabral & Hoxby 2012). If renters were more aware that they pay some or all the homeowners property tax in their monthly rent, their opinion on property tax possibly would be more aligned with the homeowners in not supporting increases to the tax.

These studies provide valuable information into why taxpayers behave the way they do. It is obvious that the increased salience of the tax combined with little understanding fuels animosity from the public towards property tax. Cabral and Hoxby (2012) mention that salient taxes lead to more anti-tax sentiment, so a model for decreasing frustration amongst the public would be to enact taxes that are indirect, complex, fragmented, or withheld. Increasing complexity in taxation seems counterintuitive to increasing transparency of government; but, surveys have continuously demonstrated that salience is negatively correlated to accepting property taxation as a viable revenue raising source.

Theme Two: Attitude and Knowledge

Attitudes towards property tax can be difficult to gauge. Surveys aimed at accomplishing a comprehensive understanding of how taxpayers feel towards their civic duty to pay tax on their property must be written carefully. Mueller (1963) and Welch (1985) express the importance of wording when devising public opinion surveys to ensure the data collected is accurate. This concept holds true for all disciplines conducting social science research because the need for accurate data is imperative. Additionally, Fisher (1985), Citrin (1979), Citrin & Green (1985), along with Shapiro, Puryear, and Ross (1979), use survey research to shape the overall understanding of

people's attitudes towards property taxes. They all ask a series of questions that provides information about what services are the most important to respondents, what is a reasonable rate to tax at, and what the respondent's views are of government efficiency.

Other academic studies use housing data from the U.S. Census along with local housing authorities to compute the amounts of property tax paid in various areas and the effects the tax has on government and the services it can afford to offer with the reduced revenue. The results from these studies all provide important feedback that at all levels of income and education, taxation is still not viewed in a positive manner (Cabral & Hoxby, 2012; Dye & McGuire, 1997; Ferreira, 2010; McCabe, 2000; and Wasi & White, 2005).

Sources show that most individuals through survey data and Census data, dislike property tax and also enjoy the benefits of Proposition 13. Even so, some groups would like to see increases in services provided by communities at the cost of raising property taxes because some people are not directly affected by property tax due to not being a home owner (Lowery, 1985).

In many studies concerning attitudes towards property tax, surveys tend to be the medium for receiving data. With surveys comes problems with misinformation and sample bias. Mueller (1963) has a sample size of 1,358 individuals for their results, in turn the CalSpeaks data I am using for my study has a sample size around 3,000 individuals. In comparison, Ferreira's (2010) study on Proposition 13's effects on benefits and mobility of residence, the sample size was 98,407 because the information pulled from well-established Census data instead of a comprehensive survey. The benefits of a large sample size when conducting a study is to gauge the public opinion

more effectively and accurately. Housing data is also beneficial because survey data relies on the honesty of the respondent to provide accurate information and housing data uses data that is unaffected by opinion.

Most of the academic studies that I reviewed had statistically significant results pertaining to their variables. Cabral and Hoxby (2012) find statistical significance at a p-value of 0.01 that tax escrow paid through property taxes were usually misrepresented by their payers. A property tax that is included in the taxpayer's monthly mortgage payment so the individual or family does not have to write a check every year it is in escrow. The data found for this study was pulled from U. S. Census data from 1980, 1990, and 2000 and looked at homeowner rates and how well these individuals determined their own property tax (Cabral & Hoxby, 2012). This study then suggests that if people misunderstood their property taxes to the point that they over estimate and pay too much then they more than likely do not have a strong understanding of property tax and how it works.

Citrin (1979), and Citrin and Green (1985) find statistically significant results explaining age as an important factor in attitudes towards the tax revolt and Proposition 13. Older people, aged 46-60 and 60 and older, have less disposable income because they are either close to retirement or are already retired so they may strongly support limiting their taxes more than other age groups. Ferreira (2010) found similar age-related results to be statistically significant but referring to people staying at their residence for more years to enjoy tax breaks from Proposition 13 suggesting a marginal understanding of the benefits of property tax in California.

Each of the academic studies had results that suggested property tax is not truly understood in the state of California or elsewhere in the United States. A point that is clearly made in all the studies, regardless of what the dependent variable was or what the study aimed to do, is that overall people feel poorly about paying taxes, specifically property taxes.

Mueller's (1963) survey experiment concerning attitudes towards fiscal programs exhibits that people feel the government should spend more money on programs. Specifically, help for needy and older people, education, medical care, defense, highways, unemployment benefits, and parks. The results demonstrate the growing problem of how taxpayers want something for nothing because the expected increase in services does not align with the want for lower taxes that occurs. If taxpayers believe they deserved higher levels of services from state and local government then they should accept the consequences of higher taxes to provide what they desire. However, reforming property tax by raising taxes does not survey as something locals and communities are ready to attempt (Welch, 1985).

Citrin (1979), along with Citrin and Green (1985), have comparable results as they surveyed attitudes about Proposition 13 and found that in 1981 and 1983, 52 percent and 48 percent of survey takers in a sample size ranging from 715 to 1,317 were satisfied with the proposition. These results indicate that possible property tax reform would still have support of at least a proportion of the population. Shapiro, Puryear, & Ross (1979) produce similar results as well except it was found that minority groups favored services more than middle class and whites did. This lends to the assumption that minority groups

use public services more than their white counterparts and that a small rise in property tax would be beneficial to their communities and the state. Overall, the public opinion surveys produced results that could be predicted. The verdict remains that most people prefer not to pay taxes but want services none the less because most people do not have a full understanding about how property taxes works.

Cabral and Hoxby (2012) conduct research that had a different outcome as well. Their results demonstrate that people generally agree that property tax is spent relatively effectively, at least at the local level. This aligns on some levels with previous studies and suggests that a lot of people want lower taxes and still want higher services but are still trusting enough of local government to agree that their limited tax dollars are spent effectively. Alternative reasons for why people dislike property tax aside from the salience issue are taxpayers find the assessment process around property tax to be unfair. This along with places where caps do not exist or are not very low outside of California, rising home prices may cause residents to find it hard to pay because of low cash flow (McGuire, 1999). It is apparent that the misunderstanding of how property tax works in providing local revenue to communities has caused many state governments to have to search for alternative methods of meeting the demands of the citizens, all while committing to a fiscal austerity that is doing the opposite.

Understanding what causes people's attitudes towards taxes and tax policy can be very helpful to government when deciding how to go about funding services for the public. In California, the state government cannot raise property tax due to Proposition 13, but due to the revenue potential for raising the tax, exploring the publics' opinion on

it is important (Eriksen & Fallen, 1996). In addition, comparing these attitudes towards public knowledge of how the tax is collected can provide insight into what demographics would benefit from an increase. Attitudes towards property tax has been linked to the level of knowledge the public possesses on the topic. Academic studies demonstrate that due to a lack of understanding of the property tax process, many individuals do not fully grasp how the tax is beneficial to them.

Theme Three: Progressive or Regressive

The final theme relevant to my thesis topic and included in this literature, views public opinion through the lenses of progressive and regressive property taxation. These convoluted terms describe how a tax affects the public at all levels of income, but the terms themselves confuse an already tax illiterate public. Judging how the public views property tax as either progressive or regressive can offer a more comprehensive explanation of the misunderstanding of property tax in California and other states. As I have discussed in the first chapter of this thesis, experts on taxation argue whether property tax is progressive or regressive but it currently is widely accepted as a progressive tax on capital. Musgrave (1974) writes that the public does not understand these concepts and frequently confuses them for one another or does not comprehend either at all.

Slemrod (2006) offers expertise through researching what exchanging an income tax structure with a flat-rate tax could accomplish. This idea to change to a flat-rate tax on income is a topic for discussion amongst policy makers and is considered by the public to be a move in the progressive direction. Public opinion supports this change but

through a nontrivial amount of misconception that these changes would be progressive rather than regressive. The results of this study demonstrate that individual's misconceptions on the income tax change to a flat-rate tax along with an understanding that voter education can change policy preferences shows that a better-informed voting base is necessary to conduct good tax policy. Slemrod's (2006) results determine that if public knowledge of taxation were higher, the support for changing income tax to a flat-rate would drop by over seven percent based solely on increased understanding. This would occur because the change to a flat-rate would in fact be regressive towards the public, hurting lower income families more.

In the property tax realm, the situation is the opposite, with many considering it regressive when it is not. Musgrave (1974) writes that if the tax burden falls on the consumers of housing services, then property tax tends to be regressive. However, economists over the years have begun to lean towards property tax as a tax on capital causing experts to lean to the progressive side. Oates and Fischel (2016) discuss property tax as a benefit tax assuming individuals and families choose a location to live from what services are offered. The study explains that a benefit tax is still a tax on capital because a family can only live within their means. If the family desires to live in an area that offers a certain benefit but cannot afford to live there then it is due to not possessing enough capital. As a tax on capital, property tax is progressive but little research has been conducted on what demographic and socioeconomic groups are spending more of their disposable income to support local government.

Beal-Hodges, Borg, and Stranahan (2016) use OLS regression models to determine who bears the greatest property tax burden of 326,972 single family homes in four Florida counties. According to their research, blacks pay a lower percentage of their current income in property tax compared to homeowners of other races and ethnicities. Seniors and highly educated homeowners pay a higher percentage. Determining who is affected by paying property tax the most offers an explanation into the progressiveness of the tax. Ihlanfeldt (1982) uses data from the Annual Housing Survey to estimate a regression model of the income elasticity of property tax. His results show that the tax is regressive at low levels of income and roughly proportionate, or progressive at higher levels. This could suggest that the reason many individuals do not consider property tax progressive is more than just a lack of knowledge on the topic. Lower income families and individuals are hurt more by any tax but if it affects all levels of income equally it is progressive (Suits, 1977). It may not feel this way to lower income individuals and families because they still need to shell out their limited resources to pay the tax.

Davies, Orton, and Bosworth (2007) continue this research on re-examining the property tax burden and had similar results. Using housing data from England, they looked at the relationship between property tax and current income and found that property tax was proportionate at higher levels making it more progressive. They also found that it had a U-shaped relationship at lower levels of income. The magnitude of this information suggests that property tax could be considered regressive by low income individuals and families. This in turn means that certain demographic groups and races that tend to have lower incomes may have different views on how this tax affects them. If

a family paying property tax is low income it is possible their opinion on property tax will not be the same as middle income or higher, outside of just a lack of knowledge on the subject (Davies, Orton, & Bosworth, 2007; Sirmans, Diskin, & Friday, 1995).

Takeaways from Literature Review

In conclusion, the available literature on the effects of public opinion in relation to public knowledge of property tax provides some explanation into the lack of understanding of the tax. The topic has been divided into three specific buckets of research to help contribute to this thesis. These topics consist of an explanation into what drives the need for the public to want something for nothing when it comes to services paid for through tax revenue. Secondly, the research develops an understanding in why the attitude towards property tax is the way it is and how that can affect public opinion. The final theme discusses the debate by experts on whether property tax is progressive or regressive.

The available research has found that a lack of knowledge contributes to the dislike of property tax but not as much as the fact that the tax is overtly salient in comparison to other taxes. In instances where property tax is paid in a less salient manner such as a renter or included in the mortgage payment, support for it as a viable revenue source increase. Additionally, as mentioned, a lack of knowledge did contribute to individuals misunderstanding certain aspects of Proposition 13 that benefit them. This lack of knowledge is detrimental to taxpayers that are missing benefits they could be otherwise receiving. Another issue that a lack of knowledge contributes to is the

something for nothing problem. Many taxpayers expect a multitude of services but also expect to pay less in taxes that fund these services in the local community.

Another important takeaway from the available literature is differences in how the public views property tax depending on demographic information. The available research demonstrates that experts still debate whether property tax is a truly progressive tax or if it leans more regressive. This is worrisome because the average taxpayer tends to be confused about government processes and taxes, and if experts cannot fully decide on who is more effected by property tax, the average taxpayer will have a lot more difficulty. The different points of view add to the confusion on how property tax determined and allocated in California which in turn affects public opinion negatively. This literature contributes to the direction of this thesis by shaping what to expect in my own methodology and survey research on property tax.

Chapter Three

QUANTITATIVE METHODOLOGY AND ANALYSIS

Investigating common demographic traits amongst respondents on whether they consider property tax to be progressive or regressive can provide valuable insight into what drives differences in public knowledge on the important topic. The relevant literature on this topic demonstrated that certain demographic groups were more likely to gauge property tax as regressive based on the need for certain services provided by revenue. The literature also demonstrated that a lack of understanding of the tax system can be confusing to socioeconomic groups that may be less educated. To investigate the potential correlation between public opinion and knowledge, I will conduct regression-based research and crosstabs to understand public opinion survey data. The regression model will determine characteristics of individuals that understand property tax at various levels. Additionally, the crosstab model will investigate the survey respondent's opinion on raising and lowering property tax for local services in their community.

This chapter is divided into three sections. The first section covers an explanation of the regression model for this thesis and presents the variables with clarification on the intended use. The second section covers the data portion and will use various descriptive statistics to present the information including crosstabs of a few of the relevant explanatory variables. The data portion also offers justification for why the specific dataset was used for this thesis. The final section consists of the regression results and analysis. This contains an interpretation for what the results suggest and how that relates to the available literature. The quantitative methods and results in this chapter offers

insight into public opinion on property taxation and how different demographics tend to think about the property tax system in California.

Model

To set up the specific regression model, the dependent variable I used is a dummy variable for individuals who chose to identify property tax as a progressive tax. As I discussed in Chapter Two, there is consensus amongst economists and tax experts that property tax is progressive, but some argue the opposite. The respondent's decision to pick the option for property tax as a progressive tax can be based off their knowledge of the property tax system or just based off their opinion of the topic. This model is designed to offer demographic information that correlate with the stated belief that the income incidence of the property tax is progressive. The dependent variable will then be used to test the against the many explanatory variables. Since this research is based off survey respondent's opinion, it is necessary to turn the survey question responses used in this study into binary variables. The respondent's specific choice on each question will be transformed into dummy variables and are designated with a one. If the respondent chose any other option on the survey question, whether it is one, two, or three, the designation is a zero. For example, the other option for the response used as the dependent variable, property tax as a progressive tax, is the choice that property tax is regressive and affects lower income individuals and families more. The act of making the answer binary then isolates the specific answer to allow for a survey weighted logistic regression analysis of the isolated variables.

All the variables I used in this regression model are pulled directly from the CalSpeaks 2017 survey dataset (Barker, Nalder, & Kerschner, 2017). The CalSpeaks survey is a statewide public opinion survey that asks questions on respondent's attitudes towards government, political opinion, and demographic information. In 2017, a set of questions was added to the survey that covered a multitude of tax topics. The questions cover property tax in depth and allows respondents to state their opinion on raising or decreasing various tax types. This subset of questions, along with demographic and socioeconomic questions will be used as variables in this thesis regression model and crosstabs.

Every year the number of respondents increases, and for the year 2017, the number of respondents is just below 1,000 from all over the state of California. Sacramento State University's Institute for Social Research (ISR) distributes the survey intermittently and is also responsible for the data collection from the survey. ISR is known in the region for being a very responsible data collecting source that takes pride in the high quality of their work. The CalSpeaks Survey is designed well and provides a good cross section of the population of the state's public opinion. The data is well cleaned and accurate and will provide valuable information for this research. A concern that arises from the survey data is that specific questions were not answered in large numbers while some questions had many observations. This problem limited the responses for certain questions that were, in my initial opinion, to be valuable explanatory variables. In fact, some responses were limited well below the threshold of being able to find statistical significance due to small sample sizes. After cleaning out

questions that dropped the number of observations to levels that were too low, the many explanatory variables I could use provided great information with over 800 observations.

My extensive list of explanatory variables for this regression analysis fit into a handful of broad categories for easier understanding. These categories consist of respondent demographics, their income and assets, and their attitudes concerning government. My dependent variable, choosing property tax as a progressive tax on capital, is listed in the section including attitude towards government, however it is not an explanatory variable. I included it in the model to demonstrate where it would lie if it were used as an explanatory variable in another study that may look at similar information. Therefore, this makes the full survey weighted logistic regression model I plan to use have the theoretical mode of:

(Property Tax is a Progressive Tax) = β_0 + β_1(Respondent Demographics) + β_2(Respondent Income and Assets) + β_3(Respondent Attitude Concerning Government)

In this specific model, the key explanatory variables in the various categories consist of:

Respondent demographics - f(Respondent is male, Respondent is 65 years old and older, Respondent is a college graduate, Respondent is self-reported black, Respondent is self-reported Hispanic, Respondent is other ethnicity, Respondent is married or in a civil union, Respondent is divorced, Respondent is widowed, Respondent is separated)

Respondent income and assets - f(Income for respondent is between $30,000 and $100,000 annually, Income for respondent is over $100,000 annually, Respondent is a homeowner, Respondent owns a second home, Respondent owns business property)

Respondent government attitude - f(Respondent is registered to vote, Respondent considers themselves to be politically progressive, Respondent consider themselves to be politically moderate, Respondent considers themselves to be politically conservative, Respondent considers themselves to be very politically conservative, Respondent believes property tax to be a progressive tax)

The demographics of the respondents look at a multitude of factors that could possibly cause a difference in the dependent variable. These variables consist of sex, age, race, and income. Due to the sample size of the survey being under 1,000 respondents, the model does not include location of where respondents live. Many counties did not have any respondents and the ones that did were too small of a sample size to include in this study. Every variable used to conduct the regression based analysis has been turned into a binary dummy variable. This allows for the specific isolation of the option in each survey question to be tested individually. The broad causal factor of income and assets consists of categories of specific income groups that respondents choose.

The income categories have been grouped together into three categories to reflect more common income levels of the public. I am excluding the lowest income range for the purposes of needing an omitted variable. Additionally, the assets aspect refers

specifically to whether the individual is a homeowner, which could obviously have a large effect on their view of property tax. The third group references respondent attitude towards government and whether they are registered to vote or not. This section also includes whether the respondent self identifies as progressive or conservative in their political ideology. The dependent variable, property tax is a progressive tax, would be included in the government attitude section if it was an explanatory variable.

All the variables in the three broad categories lend in offering explanations to the various demographics, political values, and knowledge someone may possess if they prefer tax reform that would raise the property tax in California. These variables will then be examined against the dependent variable of property tax as a progressive tax to gauge the demographics of individuals who possess correct knowledge on property tax through descriptive statistics. These statistics will demonstrate what percentage of individuals chose which options on the survey. This will offer insight into what kind of people are survey respondents and how do they feel about altering property tax to pay for services.

Table 1: Variable Description and Expected Effect on Respondent Opinion of Property Tax as a Progressive Tax

Variable	Description	Expected Direction
Respondent Demographics		
Male Dummy	Dummy Variable = 1 if chose male as gender	-
(Female)	Dummy Variable = 0 if chose female as gender	Excluded
(Age Below 65)	Dummy Variable = 0 if chose below age 65	Excluded
Age 65 or Older Dummy	Dummy Variable = 1 if chose 65 and older	-
(No College Degree)	Dummy Variable = 0 if respondent does not possess a college degree	Excluded
College Graduate Dummy	Dummy Variable = 1 if chose College graduate/ post graduate	-
(White)	Respondent self-reported as white	Excluded
Black Dummy	Dummy Variable = 1 if self-reported black	+
Hispanic Dummy	Dummy Variable = 1 if self-reported Hispanic	+
Other Race Reported Dummy	Dummy Variable = 1 if other ethnicity	+
(Single)	Respondent self-reported as single	Excluded
Married or in a Domestic Partnership Dummy	Dummy Variable = 1 if self-reported married	+
Divorced Dummy	Dummy Variable = 1 if self-reported divorced	+
Widowed Dummy	Dummy Variable = 1 if self-reported widow	-
Separated Dummy	Dummy Variable = 1 if self-reported separated	-
Respondent Income and Assets		
Homeowner Dummy	Dummy Variable = 1 if owns place of residence	-
(Renter)	Dummy Variable = 0 if respondent is a renter	Excluded
Owns a Second Home Dummy	Dummy Variable = 1 if respondent owns a second home	-
(Does not own a second home)	Dummy Variable = 0 if respondent does not own a second home	Excluded
Owns Business Property Dummy	Dummy Variable = 1 if respondent owns business property	-
(Does not own business property)	Dummy Variable = 0 if respondent does not own business property	Excluded

(Income Less than 30)	Respondent income level less than $30,000 annually	Excluded
Income 30 to 100 Dummy	Dummy Variable = 1 if chose income level between $30,000 and $100,000 annually	+
Income more than 100 Dummy	Dummy Variable = 1 if chose income level of more than $100,000 annually	-
Respondent Government Attitude		
Registered to Vote Dummy	Dummy Variable = 1 if respondent is registered to vote	+
(Not Registered to Vote)	Dummy Variable = 0 if respondent is not registered to vote	Excluded
(Very Progressive)	Respondent considers themselves to be very progressive	Excluded
Progressive Dummy	Dummy Variable = 1 if respondent considers themselves to be progressive	+
Moderate Dummy	Dummy Variable = 1 if respondent considers themselves to be moderate	-
Conservative Dummy	Dummy Variable = 1 if respondent considers themselves to be conservative	-
Very Conservative Dummy	Dummy Variable = 1 if respondent considers themselves to be very conservative	-
Property Tax is a Progressive Tax Dummy	Dummy Variable = 1 if believes property tax imposes greater burden on high-income people	?
(Property Tax is a Regressive Tax)	Believes property tax imposes greater burden on low-income people	Excluded

Data

As I have mentioned, the data in this study is survey based from the CalSpeaks 2017 Survey distributed by ISR (Barker, Nalder, & Kerschner, 2017). Table 1 consists of an explanation of the dependent variable and the explanatory variables used in this study. The first column consists of the abbreviated variable name as used in the actual regression analysis with a description of the variable in the column next to it. The third column uses a plus or minus sign to gauge what the expected direction the specific explanatory variable will push the dependent variable in, and excluded variables will not be considered. I determined whether each specific cause would be directed positive or negative based on a rough understanding of the demographics of individuals who support increases in taxes to provide services. The counties that respondents live in were left out of the table because they just reference the location of residency and had far too few observations. It is also important to mention that there are variables used in the crosstabs of this research that are not included in the list of variables. These variables cover the respondents attitude towards raising or lower various taxes when certain circumstances arise in the community.

Table 2: Descriptive Statistics

Variable Name	Observations	Mean	Std. Dev.	Min.	Max.
Dependent Variable					
Property Tax is a Progressive Tax Dummy	931	0.310	0.463	0	1
Respondent Demographics					
Male Dummy	951	0.461	0.499	0	1
(Female)	-	-	-	-	-
Age Below 65 Dummy	950	0.726	0.446	0	1
Age 65 or Older Dummy	950	0.216	0.412	0	1
(No College Degree)	-	-	-	-	-
College Graduate Dummy	950	0.507	0.500	0	1
(White)	-	-	-	-	-
Black Dummy	950	0.046	0.210	0	1
Hispanic Dummy	950	0.148	0.330	0	1
Other Race Reported Dummy	950	0.124	0.356	0	1
(Single)	-	-	-	-	-
Married or in a Domestic Partnership Dummy	855	0.701	0.458	0	1
Divorced Dummy	855	0.083	0.276	0	1
Widowed Dummy	855	0.027	0.162	0	1
Separated Dummy	855	0.074	0.261	0	1
Respondent Income and Assets					
Homeowner Dummy	938	0.613	0.487	0	1
(Renter)	-	-	-	-	-
Owns a Second Home Dummy	932	0.109	0.312	0	1
(Does not own a second home)	-	-	-	-	-
Owns Business Property Dummy	931	0.049	0.217	0	1
(Does not own business property)	-	-	-	-	-
(Income Less than 30)	-	-	-	-	-
Income 30 to 100 Dummy	950	0.565	0.203	0	1
More than 100 Dummy	950	0.276	0.234	0	1
Respondent Government Attitude					
Registered to Vote Dummy	849	0.910	0.183	0	1
(Not Registered to Vote)	-	-	-	-	-
(Very Progressive)	-	-	-	-	-

Progressive Dummy	950	0.271	0.444	0	1
Moderate Dummy	950	0.359	0.480	0	1
Conservative Dummy	950	0.174	0.379	0	1
Very Conservative Dummy	950	0.071	0.256	0	1

Table 2 consists of summary statistics for all the variables used in this study. The table includes STATA outputs that explain the individual variable name abbreviation along with the number of observations each variable consists of. Additionally, the table provides the outputs for the mean, standard deviation, minimum value and maximum value for each variable.

Analysis of Descriptive Statistics

All the individual variables used in this study are binary, meaning the minimum and maximum values will be zero and one. Table 2 shows this in the last two columns to demonstrate this point of all dummy variables. However, the number of observations for each variable differs, ranging from 951 observations for the gender demographic (in this case a male dummy variable) to 849 observations on whether the survey respondent is registered to vote. The reason for this change in observations across variables is based on if the individual taking the survey chose to provide this information. Therefore, certain variables had to be excluded because the number of observations fell well below 849. The mean and the standard deviation of each variable provides insight into how many people chose the specific options and how far from the mean that option lies per variable. From this information 46 percent of respondents chose male as their gender, making most respondents in this survey, female.

Other information pulled from Table 2 suggests that many of the respondents are educated and have completed some college or have completed their college degree. Additionally, the respondents are overwhelmingly white at nearly 70 percent of the total number of responses. The respondents are mostly young to middle-aged individuals

taking up 73 percent of all respondents. When it comes to income, dividing the brackets into three district ranges made the information easier to present. For income, 57 percent of individuals make between $30,000 and $100,000 a year, with 15 percent of respondents making less and 28 percent making more. Furthermore, the standard deviations of the incomes suggest that the various income levels are distributed relatively evenly. When it comes to voting, 91 percent of respondents of the CalSpeaks 2017 Survey are registered to vote.

The dependent variable, believing that property tax is a progressive tax, was only chosen by 31 percent of survey respondents. This infers that only one in three individuals believes that property tax is a progressive tax. That leaves almost 70 percent of respondents misunderstanding how the tax works or having an opinion that property tax affects lower income individuals and families unequally. This can lend to the notion that a lack of knowledge might have an adverse effect on public opinion of property tax. Another 88 percent of respondents believe sales tax is regressive, but this could be due to misunderstanding the question or having the opinion that sales tax is more detrimental to lower income people. In other categories, 70 percent of respondents are married and only five percent own business property.

Correlation Coefficients

The table of pairwise correlation coefficients, demonstrating the correlation coefficients for the explanatory variables, is attached in **Appendix A** due to its size. It demonstrates the simple correlation coefficients between all the explanatory variables. Correlation coefficients are measures of the degree to which changes in value of a

variable causes change in value to another variable. If the correlation coefficient is a positive number, this means that the value will increase or decrease simultaneously. For negative correlation coefficients, one variables value will increase while the other value decreases. For the zeros, there is no discernible relationship between the two variables. To identify multicollinearity using the partial correlation coefficient diagram, noticing the larger values can help. All the values will be between zero and one and anything 0.8 or higher indicates the possibility of multicollinearity. Controlling for this requires combining similar variables, dropping redundant variables, and increasing sample size. Unfortunately, sample size is rather fixed for this study, but after reducing and combining variables, there are no coefficient that exceed the 0.8 threshold. The closest to 0.8 for this study are the variables for income and have a coefficient of -0.7383, suggesting that no variables have multicollinearity according to the pairwise correlation.

Cross Tabs

I will also conduct a few cross tabulations to supplement the regression analysis for this study. These cross tabs will allow me to isolate other opinions on local fiscal issues expressed by poll respondents and compare them with the primary opinion studies here of belief in property tax as progressive to see potential correlations. This is a handy tool to look at trends in the CalSpeaks 2017 data that can lend some insight into how certain demographics think about how different opinions on local finance are related.

These crosstabs will consist of variables that are not included within the regression analysis, but represent survey respondent's opinion on whether property tax should be raised or lowered in various circumstances. The survey questions asked what

taxes the respondent would prefer to see raised and lowered to pay for situations in the community consisting of a revenue shortage, a revenue surplus, and funding for inadequate services. The survey respondents were given the options of property tax and sales tax for a couple questions along with raising fees and income tax for others. The crosstabs isolate the option for property tax to compare these answers with the dependent variable of choosing property tax as a progressive tax that affects all levels of income equally.

Table 3: Knowledge of Different Taxes

Sales Tax as a Regressive Tax	Property Tax as a Progressive Tax			
	No	Yes	Missing Value	Total
No	4.0%	8.2%	0.0%	12.2%
Yes	**63.3%**	22.2%	0.0%	85.5%
Missing Value	0.1%	0.0%	2.2%	2.3%
Total	67.4%	30.4%	2.2%	100%

Table 3 compares the property tax as a progressive tax dependent variable with the question of whether the respondent considers sales tax a regressive tax. This crosstab provides insight into if Table 3 is based off a lack of knowledge of how these taxes work or a general disagreement with economists based off their alternative opinion. Table 3 demonstrates that 86 percent of respondents agree that sales tax is a regressive tax. Being that this is true, many individuals may be getting this correct based on the wording of the question on the survey. The survey asked if sales tax affected lower income individuals and families more, which is does because it is a large portion of their income than higher

income individuals. In turn, the survey asked if property tax did the same, which it does not because wealthier individuals that own larger property pay more tax on that property. Either way, 63 percent of respondents believe that both property and sales taxes are regressive and hurt lower income people more than wealthy people. This may lend to the idea that many individuals may think that taxes in general hurt lower income individuals and families more than other incomes. In the literature, it was determined by some that at very low incomes, property tax can be a bit regressive. However, the results are possibly the result of a low understanding about how property tax works and how it affects the community.

Table 4: Preference to Lower Property Tax in a Surplus

Preference to Lower Property Tax in Revenue Surplus	Property Tax as a Progressive Tax			
	No	Yes	Missing Value	Total
No	**44.1%**	21.4%	0.4%	66.0%
Yes	23.1%	8.9%	0.4%	32.5%
Missing Value	0.2%	0.0%	1.4%	1.6%
Total	67.4%	30.4%	2.2%	100.0%

Table 4 consists of the percentage of respondents that would prefer to lower property tax during a revenue surplus equaling 500 dollars a household and whether the respondent considers property tax to be a progressive tax. In Chapter Two, some academic literature suggested that public opinion of property tax was low due to a lack of understanding of the property tax system. The literature also found that if someone was given the option to pay lower taxes they would, regardless of an education or

understanding of how property tax works. The data demonstrates that just over half, 51 percent, of respondents are college educated. This is higher than the national percentage which is 32 percent for 25 years old and older individuals (U.S. Census Bureau, 2014). Even with half of respondents being educated, most individuals still consider property tax to be regressive like sales tax.

However, according to Table 4, in a surplus, most respondents would lower another option over property tax. In fact, 66 percent of respondents would prefer to lower sales tax in a surplus to 33 percent that would lower property tax. This suggests that respondents may believe that Proposition 13 has been effective enough to keep property tax low and it does not need to be reduced anymore when sales tax is as high as it is. Lastly, only 9 percent of respondents understand property tax as a progressive tax and would also lower it during a surplus year.

Table 5: Preference to Raise Property Tax in a Shortage

Preference to Raise Property Tax in Revenue Shortage	Property Tax as a Progressive Tax			
	No	Yes	Missing Value	Total
No	**57.1%**	25.9%	0.6%	83.7%
Yes	10.2%	4.4%	0.2%	14.8%
Missing Value	0.1%	0.0%	1.4%	1.5%
Total	67.4%	30.4%	2.2%	100.0%

Table 5 continues the same line of thinking as Table 4, except in this table respondents were asked which form of taxation they would be willing to raise to pay for a revenue shortage in their community to the amount of 500 dollars a household. The

results demonstrate that 84 percent of respondents would raise sales tax to fill the shortage instead of property tax. This might lend to the idea that Californians really dislike high property tax and that the Proposition 13 mentality has not left the minds of residents of the state. To raise revenue through sales tax equal to 500 dollars a household, sales tax would have to be raised a few cents on every purchase. If respondents would rather have this price hike on all goods purchased within the state than an increase in property tax, that demonstrates the mentality that Californians have. Additionally, of the 15 percent of respondents that would choose to raise property tax in a revenue shortfall, only 4 percent total believe property tax to be progressive.

Table 6: Preference to Raise for Inadequate Services

Preference to Raise Property Tax for Inadequate Services	Property Tax as a Progressive Tax			
	No	Yes	Missing Value	Total
No	**57.1%**	26.3%	0.7%	84.1%
Yes	10.2%	4.1%	0.1%	14.4%
Missing Value	0.1%	0.0%	1.4%	1.5%
Total	67.4%	30.4%	2.2%	100.0%

Table 6 offers the same explanation as Table 5 but provided the respondents with other answer options as well. They could choose raising property tax, sales tax local fees, or income tax to pay for a myriad of inadequate services in the community. These services in the community could benefit from a raise in property tax, but it appears that survey respondents that represent the population of taxpayers in California would rather have other taxes raised instead. Whether the respondent considers property tax

progressive or not, only 14 percent of individuals would raise property tax to help pay for inadequate services, also lending to the idea that residents of the state of California will not support legislation that increases property tax of any kind.

It is obvious through these cross-tabs, that if revenue is going to be acquired through taxation, property tax increases are not desired by the public. To increase revenue for local services, local and state government should focus on increasing less salient taxes such as sales or income tax. Furthermore, an increase to sales or income tax would be accepted by the public more than increases in property tax according to this research. Another option on the survey was to increase fees to certain residents who use certain services. This would also circumvent Proposition 13, which requires a super majority vote to increase a tax. For fees there is no need for a large majority to enact by a local or state government making it an option to consider. The crosstabs demonstrate that property tax remains one of the most hated taxes and taxpayer's devotion to low property tax in California is evident in this research.

Logistic Regression Analysis

In this study, I can determine if there is any correlation between my dependent variable and explanatory variables using survey weighted logistic regression based analysis. It then determines if these results are statistically significant and provide useful insight into how various demographic information interacts with public opinion of property tax. There are multiple forms of regression functional forms that can provide information, but for a survey based regression, logistic regression is necessary. This is since all variables are binary because they are answers on a survey that are either a "1"

for a yes, the option applies to the respondent, or a “0” for not applicable to the respondent. With this study having binary variables, other functional forms such as a lin-lin (OLS) regression or a lin-quadratic regression that require continues variables do not apply. Additionally, to ensure the survey is weighted appropriately a survey weighted logistic regression is the optimal choice for a model. This model then adds weights for the demographics of respondents to mirror the population more effectively. Using survey weights brings the population of the survey to over nine million. Also, like any other functional form, a survey weighted logistic regression must be checked for multicollinearity and heteroskedasticity to ensure the conclusive results are valid. Once they are controlled for, the study will analyze the information that the completed logistic regression analysis produces.

Multicollinearity is a common problem in regression analysis that can occur when multiple variables coincide with one another greatly. If multicollinearity is present in a regression analysis it can possibly provide results that could be interpreted as incorrectly significant, damaging the likelihood that the results are valid. As mentioned earlier, one test for multicollinearity is to use pairwise correlation coefficients for all the independent variables which can be found in **Appendix A.** After adjusting variables by grouping related ones together, no sets of correlation coefficient variables exceeded the 0.8 threshold to suggest multicollinearity. An additional test for multicollinearity is to use a regression’s Variance Inflation Factors (VIF) which are shown in Table 7 below. These values are interpreted by a VIF number over five representing the possibility of multicollinearity. To control for large VIF figures, it is important to combine similar

variables. I grouped income into three categories instead of the eight on the survey and grouped the age brackets into two separate groups. Combining these like variables allowed to control for large VIF's and reduced all the independent variables in this study below the threshold of five. All the variables used in this regression were well below the VIF threshold of five, with an average VIF of 1.58. The largest VIF was for respondent income over 100 thousand which is 2.89. According to Table 7 multicollinearity is not a problem in this survey weighted logistic regression.

Table 7: VIF Values for Independent Variables

Variable	VIF	1/VIF
Income more than 100 Dummy	2.89	0.346
Moderate Dummy	2.52	0.396
Income 30 to 100 Dummy	2.47	0.404
Progressive Dummy	2.33	0.429
Married or in a Domestic Partnership	2.31	0.433
Conservative Dummy	1.99	0.503
Divorced Dummy	1.65	0.605
Separated Dummy	1.58	0.635
Very Conservative Dummy	1.44	0.694
Homeowner Dummy	1.33	0.754
Widowed Dummy	1.23	0.811
College Graduate Dummy	1.23	0.812
Age 65 or Older Dummy	1.15	0.872
Owns a Second Home Dummy	1.11	0.898
Hispanic Dummy	1.11	0.899
Other Race Reported Dummy	1.11	0.901
Male Dummy	1.08	0.929
Registered to Vote Dummy	1.07	0.932
Black Dummy	1.06	0.940
Owns Business Property Dummy	1.02	0.979
Mean VIF	**1.58**	**-**

The survey logistic regression results are calculated using STATA statistical software version 14.2 and compare the numerous variables to changes in the dependent variable, whether the respondent considers property tax to be a progressive tax. Table 8 contains the results and contain five separate variables that possess statistical significance at a 90 percent confidence interval. The results demonstrate the odds ratio, robust standard errors, p-values, and lower and upper bounds of the confidence interval used in the survey weighted logistic regression. These metrics are used to determine the percent increase in likelihood that the dependent variable will increase in value for every one-unit increase in an explanatory variable. Furthermore, some of the results determined through logistic regression are in line with previous assumptions concerning the dependent and explanatory variables.

Table 8: Expanded Weighted Survey Logistic Regression Results

	Odds Ratio	(Odds Ratio -1) *100	Linearized Std. Error	P-value	90 Percent Confidence Interval	
Property Tax is a Progressive Tax Dummy					**Lower Bound**	**Upper Bound**
Male Dummy	1.074	7.438	0.276	0.780	0.704	1.640
Age 65 or Older Dummy	0.514**	-48.553	0.164	0.037	0.304	0.870
College Graduate Dummy	1.261	26.135	0.324	0.366	0.826	1.926
Black Dummy	0.182***	-81.767	0.117	0.008	0.063	0.526
Hispanic Dummy	0.720	-28.009	0.246	0.337	0.410	1.265
Other Race Reported Dummy	1.177	17.711	0.385	0.618	0.583	1.923
Married or Domestic Partnership Dummy	0.760	-24.019	0.298	0.483	0.399	1.448
Divorced Dummy	1.234	23.424	0.706	0.713	0.481	3.167
Widowed Dummy	0.124***	-87.643	0.104	0.013	0.031	0.491
Separated Dummy	0.296**	-70.401	0.153	0.019	0.126	0.693
Homeowner Dummy	1.227	22.684	0.355	0.480	0.762	1.975
Owns a Second Home Dummy	1.375	37.460	0.488	0.370	0.766	2.466
Owns Business Property Dummy	1.080	8.0011	0.648	0.898	0.402	2.890
Income 30 to 100 Dummy	0.326**	-67.431	0.157	0.020	0.147	0.720
More than 100 Dummy	0.516	-48.384	0.266	0.199	0.221	1.204
Registered to Vote Dummy	1.576	57.566	0.629	0.255	0.817	3.039
Progressive Dummy	1.314	31.441	0.508	0.480	0.695	2.485
Moderate Dummy	0.948	-5.209	0.356	0.887	0.510	1.760
Conservative Dummy	1.366	36.585	0.686	0.535	0.601	3.124
Very Conservative Dummy	1.929	92.898	1.004	0.207	0.818	4.547

To further ensure that the statistical significance is valid, a goodness of fit test is required to help determine the validity of the results. The survey weighted logistic regression in Table 8 has a Pseudo R^2 of 0.0365 meaning that the results demonstrate a four percent chance of fitting the model correctly. A Pseudo R^2 is designed for basic logistic regressions to mirror an R^2 from an OLS regression but is not an exact predictor, especially when using survey data. The four percent match is not a good outcome and will require other forms of goodness of fit tests to determine if the model is accurate.

When using a survey weighted based logistic regression, a goodness of fit test that can provide information is a link test. A link test is used to detect specification errors known as link errors within the survey logistic regression model. The output consists of a linear predicted variable (_hat) and a linear predicted variable squared (_hatsq). The linear predicted variable should be a statistically significant predictor since it is the predicted value from the model. If the linear predicted variable is not significant, then the model is completely specified incorrectly. On the other hand, the linear predicted variable squared should not have predictive power except by random chance. This would require the linear predicted variable squared to be insignificant to be an accurate test of goodness of fit. In Table 9 below, the values demonstrate significance in the linear predicted variable as they should, along with insignificance in the linear predicted variable squared. This demonstrates that it is likely that the needed variables are present within the regression model and the survey logistic regression is likely more accurate within the parameters than the four percent Pseudo R^2 demonstrated. The extent to the increased accuracy is not available through a link test, and will need additional goodness of fit tests.

Table 9: Link Test

Property Tax as a Progressive Tax	Coefficient	Linearized Std. Error	T-Statistic	P-Value	90% Confidence Interval	
					Lower Bound	Upper Bound
Linear Predicted Variable (_hat)	0.883	0.271	3.25	0.001	0.351	1.416
Linear Predicted Variable Squared (_hatsq)	-0.087	0.175	-0.50	0.617	-0.430	0.256
Constant	-0.016	0.153	-0.11	0.915	-0.316	0.283

An additional goodness of fit test that can help determine a general gauge if the model fits the data is using "lfit" in STATA. This checks the overall fit of a logistic regression model but is not typically used for survey data. In this model, the test uses a Pearson chi^2 and has a p-value of 0.40 meaning there is a moderate correlation between the data and the model. The Pearson chi^2 statistic determines the magnitude of the correlation coefficient and in-turn determines the strength of the correlation. In this model the result suggests that the data does fit the model to an extent, but no variables are in a high linear relationship.

A final goodness of fit test to determine whether the results fit the model well are hit ratios. A hit ratio determines how well the data fits by determining if it is classified correctly within the model. The table consists of positively and negatively classified observations based on if the observation being greater or less than 0.5. Table 10 consists of the hit ratios for the survey regression model and concludes that 68.8 percent of the variables are classified correctly, suggesting a relatively good fit of the data. Roughly 70 percent of the variables fit within this test. This, along with the other goodness of fit tests demonstrate that the model does fit the output to an extent but it is not perfect. It is

important to incorporate multiple tests of fit because no one test is going to be an exact measure and the various tests can only offer some insight into the fit of the data in the model.

Table 10: Hit Ratios

TRUE			
Classified	D	~D	Total
+	23	20	43
-	239	548	787
Total	262	568	830
Classified + if predicted Pr (D) >= .5			
True D defined as Property Tax is a Progressive Tax Dummy != 0			
Correctly Classified			**68.80%**

Findings of Regression Analysis

This purpose of the weighted survey logistic regression model is to determine a correlation between answers from respondents of the CalSpeaks 2017 Survey and negative public opinion of property tax through the lens of property tax as a progressive tax. The results produced by this study coincide with some assumptions that can be made about taxpayer's opinion of property tax. Certain demographic characteristics might have a negative opinion of property tax for various reasons.

Altogether, five explanatory variables out of 20 were statistically significant to the dependent variable. The study discovered that for every one-unit increase in the respondent being over the age of 65, there was a -48.55 percent decreased likelihood that they respondent believes that property tax is progressive at a 90 percent confidence

interval. This demonstrates that the survey respondents that are older and possibly retired are also less likely to believe correctly that property tax is progressive. This may because of circumstances that affect the elderly. They could possibly be on a fixed income and feel that the tax is unfair towards them for financial reasons. Additionally, for every one-unit increase in the respondent having a household income between 30,000 and 100,000 dollars annually, there is a -67.43 percent less likelihood of believing that property tax is progressive. This evidence supports the claim that those that make middle to low income believes that taxes, including property tax, affect them most.

When it comes to the reported race of the survey respondent, for every one-unit increase in respondents being black, there is a -81.77 percent decreased likelihood at a 99 percent confidence interval that they will consider property tax a progressive tax. Lastly, when it comes to relationships, for every one-unit increase in respondents choosing to report as widowed there is a -87.64 percent decreased likelihood of considering property tax to affect all levels of income equally. Respondents that chose "separated" had a similar outcome, suggesting that individuals that are single but previously with someone have a more negative opinion towards property tax and its effects on lower income individuals and families.

Many of the demographic factors that I included in the regression provided information but the results were not statistically significant. Variables such as the respondent being a college graduate, their political leaning, and whether they owned a home or business property would have been expected to have some effect on the

respondents understanding of property tax and possibly sway their opinion on the topic, but no significance was found.

The results aligned with the problem that I have defined for this thesis. Public opinion of property tax is adversely affected by a lack of knowledge. The analysis suggests that there is a large lack of understanding of property tax across different demographic groups and this links to the literature suggesting that property tax is the most disliked tax. However, the results also can suggest that the lack of respondents considering property tax to be progressive is due to an attitude towards taxation and not necessarily a lack of knowledge of the tax. It could all depend on the individual experiences that the taxpayer has encountered to shape their understanding and opinion of taxation in general, and specifically, property tax. To add to this quantitative analysis, personal interviews with various tax policy experts across different points of view are necessary. This will provide further insight into why property tax is disliked and why knowledge is so poor on the topic across the state.

Chapter Four

QUALATATIVE RESEARCH AND ANALYSIS

To complement the regression based research for this study, I also conducted a qualitative analysis of interviews with property tax policy experts. This additional interview data provides insight into the findings discovered throughout the investigation of my thesis hypothesis. By itself, the regression analysis in Chapter Three presents valuable information into how survey respondents view property tax across a spectrum of demographics. The purpose of qualitative research interviews with tax experts is to ask questions that can clarify how well individuals understand their property tax and what that represents. These experts view property tax through different lenses and how the tax affects the community and the state. This is beneficial to this study by adding an additionally dimension to explain the results from the survey data and to further investigate the interaction between public knowledge and public opinion of property tax.

The process of conducting research interviews can be broken down into a few steps. From the beginning stage of receiving permission from the Internal Review Board (IRB) to transcribing the individual interviews, conducting qualitative research is a rigorous but beneficial part of the research process. This chapter is separated into two sections that include, an explanation of the interview process and an investigation and analysis into the answers that are provided by property tax experts. The section for the interview process will include a discussion of ideal policy experts and the questions I have asked. The analysis section will compare answers from the policy experts I interviewed and the output from Chapter Three. From the research I expect to glean what

the property tax experts can tell us about public opinion of property tax and its connection to public knowledge of the topic.

Interview Process

The purpose of qualitative research in this study is for investigating the relationship between public opinion and property tax. This research adds another level of information to this study by broadening the scope of understanding and to synthesize data from the study and previous literature. This in-turn can fill gaps in the data and shed light on the results because some tax policy experts have experience in the field as practitioners and not just in theory or academia. This might provide further insight into understanding the how public opinion can be swayed based on public knowledge of property tax.

Finding the correct tax policy experts to agree to participate in an interview is challenging. For a study like this, it is important to interview different points of views of property tax. This would require interviewing individuals from different political backgrounds and occupations. Ideally, finding experts from both conservative and liberal tax policy agencies would be beneficial. Additionally, experts in the housing industry that work directly with taxpayers can provide needed insight how taxpayers interact with their property tax. Finally, tax policy analysts within the state or local government would add another layer of expertise on the topic but from a governance standpoint.

Of all the relevant policy practitioners that this study would benefit from, I interviewed three different property tax policy experts. According to confidentiality, I have agreed to not release identifying information for the experts except their profession

and organization. This information is used solely for the process of creating legitimacy of the interview.

I interviewed a property tax expert lobbyist from the California Association of Realtors (CAR), another from the California Taxpayers Association (CTA), and a local area realtor that was previously a sales tax auditor from the Board of Equalization. Unfortunately, I could not get in touch with a representative from the Howard Jarvis Taxpayers Association or the Legislative Analyst Office as I had intended. These organizations would have offered additional points of view on the topic. However, the three interviews I did complete offered very helpful insight into my research question. Each interview lasted around 20 minutes and consisted of eight questions that took place at the interviewee's offices for two and at a local pub for one.

The list of interview question for the property tax policy experts consist of:

1. What is your professional title and with what agency or organization are you with?
2. What is your professional experience in the field of property tax policy and how do you interact with tax payers?
3. Do you have any insight into why property tax has always surveyed as one of the most disliked taxes?
4. In your opinion, is Proposition 13 an effective model for property tax or are the short falls outweighing the positives?
5. In your opinion, is property tax a progressive or a regressive tax?
6. Why do you think many demographic groups believe it to be regressive?

7. Do you think that there are ways to better inform the public of how property tax works in California?
8. Could public knowledge of how the property tax system in California works increase support for it or would it have the opposite effect?

Most of the questions are open ended and allow for the interviewee to speak as long as they need to answer the question as they seem fit.

Interview Analysis

The set of eight questions range from a simple explanation of their profession to their specific opinion on property tax and its effects on the individuals they work with. The first question I asked was for the interviewee to state their professional title and what agency they worked for. The second question was for the expert to explain their professional experience in the field of property tax policy and what their interaction with taxpayers consisted of. The lobbyists from CAR works with realtors and homeowners to help push policy in the state and local government that is aligned with their interests as an organization. The lobbyist from CTA works with businesses more to try to change the taxes that might inhibit business growth in the area. The realtor's answer explained that they work directly with homebuyers to understand the property tax that they will be paying on their purchase.

The third question I asked interviewees was what their personal insights were towards why property tax is always surveyed as the least liked or close to least like tax overall. The two lobbyists were not surprised that this was true but had not heard that it was the most hated tax before. CTA's representative suggested that this was due to

overtly high property tax in the past. Proposition 13 was a direct result of property tax being the most hated tax and that mentality still holds true. The lobbyist from CAR also argued that the purpose for Proposition 13 was because property tax is one the most hated taxes. They mention that it is a very big tax that individuals and families must pay. Also, they mentioned that it may be hard for tax payers to connect what they are paying for and what they are getting. The realtor argued a different perspective and suggested that property tax was one of the most hated taxes because of the general idea that you can never truly own your property. “Even after you may own it from the bank, you still must pay taxes on your property and there must be negative feelings towards that.” With sales tax, the cost may increase marginally but you will still own the product after paying. Interestingly, the idea that property tax is as if you are always renting your property from the government and never truly own it had not come up in the literature review.

The fourth question I asked in the qualitative research of interviews with tax policy experts was whether they considered Proposition 13 to be an effective model for property tax or if the shortfalls of the tax outweighed the benefits. The lobbyist from CAR mentioned that there is certainly a positive to limiting property tax to ensure individuals and families are not taxed out of their residences as was happening in 1978 when the law passed. However, they mention that as time has passed, the downside to Proposition 13 is that it keeps property tax very low, severely limiting resources for government and causing a lock-in effect for residences to stay at their current home to keep the market value very low. This is most common amongst seniors who may not have many option to move anyways, but are bound to their current property because of

financial restraints. Proposition 13 causes a huge disparity between what these residents pay, and what they should be paying based on the market value of their homes. They mention that this lock-in effect might cause, in part, the building housing crisis that California is currently facing.

The lobbyist from CTA had a similar answer but mentioned that the effects Proposition 13 has had on businesses in the state, but argue that Proposition 13's shortfalls do not outweigh the positives. They explain that there have been attempts to alter the business property aspects of the law but attempts have failed because the state knows that the businesses affected will have the opportunity to move out of state if necessary to avoid growing property tax law. They argue that business property tends to be left out of the Proposition 13 conversation and that is a positive since businesses I California already pay a larger portion of their income than they should.

The realtor I interviewed said that one of the pitfalls is the need for a model for move-up buyers of homes. He reiterated the lock-in effect mentioned in the CAR interview and what can be done to curb some of its effects. The example they gave was newlyweds buying their first house at 25 years of age and buy for $200,000. "Flash forwards around eight years may be less, the market has increased substantially and now they have multiple kids and need more space to live. Right now, they are paying taxes on the value at $200,000 but the house is worth $300,000 now and they want to use that extra equity to buy something at $400,000 but for that property tax has doubled. Financially they can afford the house, but they cannot afford the property tax." There

should be a mechanism in place that can allow homeowners to buy a new home or second home without the acquisition-based property tax potentially doubling their tax bill.

They also mentioned Mello-Roos Taxes that began to arise after Proposition 13 that allowed special districts to charge a premium for living within their borders. They can be effective at providing services where Proposition 13 has failed due to the limits and they are voted in by the locals. Mello-Roos Taxes can also be detrimental to residents that do not vote for them in their area but are implemented on them just the same and now they have another tax that may cause them to have to sell their home because they can no longer afford to live in that area. I noticed that Mello-Roos Taxes were not mentioned by name in the literature but represent some articles explanation for increased local fees for certain jurisdictions.

The fifth question I asked in the interviews was whether they considered property tax to be a progressive tax or not. This question directly relates to the dependent variable throughout my logistic regression and was found to be considered regressive by many respondents. The property tax experts I interviewed has a different take and aligned more with what economist think, that property tax is a progressive tax on capital and effects all levels of income equally. CAR explained that the link between income and the house you can purchase suggests that it is a progressive tax. CTA mentions that property tax is progressive on the business end as well but only to some extent. Some businesses do not need to be larger than a small building and so for some businesses the progressiveness of property tax allows them to increase their income and wealth without necessarily increasing their property tax. The realtor I interviewed argued that the tax is progressive

but that it can be more on an individual basis of how it will affect the resident. They added that the tax, "ought to be more related to household, much like income tax and what can be deducted, versus the value of land." The example they provided was someone owning a two-acre lot and a medium sized house with two people living within it with neighbors in a small house next door with six individuals living within it. The smaller house pays less property tax than the two-acre lot, but they will use the services from the property tax way more than the two-acre lot will. If property tax was more geared towards number of residents than size of land and home then it would still be progressive like income tax but the services provided through property tax would be dispersed more evenly.

I then asked for my sixth interview question whether the expert could provide insight into why many of the survey respondents believe the tax to be regressive. The lobbyist from CAR said that he could not speak to this because they did not know. The lobbyist from CTA mentioned that it might be due to it being an expensive tax and lower income individuals might encompass other demographic factors and that these groups might believe that the tax unfairly affects poor individuals and families. However, they did not have much to add to this because they also did not know that respondents of the CalSpeaks 2017 Survey primarily consider the tax to be regressive and affect lower income individuals more than other income ranges. The relator wanted to know what the percentage of homeowners in the survey were, around 50 percent. They then added that certain demographics are affected by property tax less and less because they may not own a home and do not have to pay a direct payment in property tax. Also, if they do not see

the revenue from taxes helping services in their area, they may consider it adversely affecting the poor. This answer lends to the issue of tax salience that was discussed in detail throughout the literature review.

The seventh interview question that I asked involved better informing the public of how property tax works and how to portray the benefits to the public. The representative from CAR argued that there are better ways of informing the public. They commented by discussing some of the efforts that they have lobbied for that better ties what is being paid in property tax to what specific services are supported and payed for by it. This will in turn add knowledge on property tax to those who pay it and might improve opinion towards it if the taxpayer is more aware of what they get in return. They continued, “Right now, if you look at your tax bill, I defy most people to try and explain line by line what is being paid and what is it for.” They continue that there are tons of abbreviations and acronyms that convolute the process even further for taxpayers. The need for plain English for laypeople is imperative when it comes to their tax bill. The bill may say what they are paying for but it is not in terms that are easily understood by the taxpayer.

The lobbyist for CTA also argued that the tax is disliked because of how difficult it is to understand for taxpayers. They mentioned that adding a useful “how to” guide to the bill might alleviate some of the stress around it. Since most businesses have accountants file their taxes and take care of the property tax, they may view it as just more money the government is trying to take from business. If this “how to” guide was included it might offer insight to the local businesses what they can receive in return in

services from the tax that they have payed. The realtor that I interviewed remarked by saying that they believed that almost all taxes should require writing a check to pay. This would then force taxpayers to take a harder look at what they are paying and perhaps make them think more critically about how paying a tax benefits them and their family specifically. This might raise the level of awareness throughout the community what taxes are intended to do. Most people pay income tax out of their checks each month and some pay property tax directly out of their mortgage each year. The realtor alluded that people will probably hate the taxes more in the short run but in the longer term they might pay more attention when tax policy lands on the ballot that they vote on. This would then allow the public to better understand and decide how their taxes will be dispersed to pay for services in the community.

The eighth and final question I asked the three property tax policy experts in our interviews was whether public knowledge on property tax increasing would increase support for the tax or have the opposite effect. The realtor answered this in-part in their answer to the previous question but added that not only is it a lack of knowledge but a general assumption that the taxpayer is not receiving anything back for the tax that they paid. The services provided by tax revenue need to be displayed or focused upon more in the community, and that may increase support for property tax. Also, when it comes to a Mello-Roos Tax, the families and individuals paying into it know exactly what the tax is being used for and what they receive for it and make sure it is getting done. If this could be accomplished for property tax, then individual and family support may increase.

The CAR lobbyist answered this question by referencing that cities have tried to use property tax as a viable revenue source by creating parcel taxes. In their opinion these parcel taxes violate Proposition 13 because they can be based off a portion of the property. These taxes may violate Proposition 13 because it accomplishes almost the same goal but for part of property and does would exceed the mandatory one percent cap that the law requires. If increased support for property tax is the desired goal, creating caveat taxes and other fees that accomplish the same or similar goals should be avoided. The CTA lobbyist discussed that it was hard for them to think of a system of property tax that would receive more support than the system already in place in California. Even with a rise of knowledge on the topic, support for the tax may not increase and might decrease because homeowners may realize that the taxes are not going to where they would see most fit. Also, business property owners are weary to support any alternatives to Proposition 13 because they tend to raise business property tax to alleviate the low revenue received through residential property tax.

Takeaways from Interviews

Overall, the interview process went well and a lot of valuable information was gleaned towards public knowledge and public option of property tax. The interviews with lobbyists from CAR and CTA along with a local realtor aligned with some of the available literature and provided insight into some of the quantitative analysis and regression results. The interviewees all had different backgrounds that allowed their approaches to property tax to differ in ways that gave multiple perspectives. The three distinct perspectives on the issue helped build the evidence needed to answer the research

question for this thesis. A synthesis of the regression and crosstab results along with the interview answers will provide the final insight into this thesis and will be included in the following final chapter.

Chapter Five

CONCLUSION

The public sentiment against property tax increases in California led to the passing of Proposition 13 in 1978. The capping of property tax in the state at one percent marked the beginning of a tax revolt that spread throughout the United States. Currently in California, the strong dislike for property tax possibly stems from multiple factors, however a misunderstanding of the property tax system and how the public benefits from the revenue is key. The lack of knowledge concerning how property tax works in taxpayer's communities possibly leads to ongoing resentment towards the intrusive annual bill. To research the possible link, I read decades of available literature and acquired survey data that asked property tax specific questions along with demographic information. This was followed by an extensive data analysis and additional tax policy expert interviews to supplement the output from the quantitative analysis. The results acquired from investigating the relationship between public opinion and knowledge of the property tax system yielded interesting findings. I will use these findings to offer recommendations to shape relevant tax policy and to improve the publics knowledge of property tax and the individual benefits provided by tax revenue in their community.

This final chapter concludes the research and contains four sections that wrap up this thesis. The first section compares the findings from the quantitative and qualitative chapters and draws conclusions from the results. This section also incorporates information gleaned from the available literature. This will be followed with policy recommendations for how to proceed to reduce the negative opinion for property tax in

the state. These recommendations are designed to cause incremental change that can be manageable by state and local government. The last section in this chapter discusses limitations to this study and what could have been improved, along with opportunities for further research in property tax policy.

Synthesis of Quantitative and Qualitative Analysis

Chapters Three and Four of this thesis incorporate quantitative and qualitative research and the corresponding results to test the hypothesis that property tax knowledge is linked to public opinion of the tax. This section offers a synthesis of the results to determine the relationship between survey respondent answers and the opinion of property tax policy experts. For example, the survey demographics were predominantly representative of the population of the state, but demonstrated a lack of knowledge about property tax. This piece of information was explained by the tax policy experts as being caused by misunderstanding the tax and its benefits. The information in-turn relates to findings in previous studies throughout the available literature. There are multiple connections between the regression results and expert interviews, along with the available literature to demonstrate that a correlation may exist between public opinion and public knowledge.

To start, question number five on the list of interview questions directly relates to my dependent variable from my logistic regression model. To reiterate, the question asked whether the expert believed property tax to be progressive. All three interviewees unanimously agreed that it is indeed progressive, and is a tax on capital. This aligns with the available literature and the consensus of economists that the tax is progressive

(Musgrave, 1974). However, the survey respondents did not agree and painted a different picture of how the public views the tax. They instead leaned heavily in the opposite direction, arguing property tax unevenly affects low income individuals and families. The dichotomy between the public's and expert's understanding of property tax suggests an asymmetry of information. To explain further, experts understand the tax system and help shape policy based on years of involvement in tax. On the other side, the public may not understand the tax policy, in part or a whole, but still must pay it. This may cause negative sentiment towards taxation because they do not understand what the government is doing. Additionally, it is also likely that they do not know how property tax revenue helps them in their community. This makes information asymmetries problematic and can leave the public feeling anger and betrayal from the state or local government. Furthermore, this misunderstanding may contribute to the poor public opinion of property tax.

The fourth question from the qualitative section posed the question asking if the expert considered Proposition 13 the best model for property tax or if better options exist currently. The member of CAR discussed the lock-in effect created from Proposition 13 as a negative externality. The effect caused homeowners to stay in their homes for long periods of time and avoid moving to reap the benefits of Proposition 13. With not a lot of houses becoming available on the market, this lack of mobility has added to the issues arising in the current California housing crisis. The literature on the lock-in effect demonstrated that elderly people can take their rate with them when they move once they are over 55 (Wasi & White, 2005). The survey results also added that elderly, 65 and

older, were very likely to assume property tax unequally effects the poor. This may be due to the fact, as I mentioned in previous chapters, they are on a fixed income and cannot afford increases in property tax. The elderly may get the opportunity to keep their rate after they move but may also have a low income that causes property tax to still be a worrisome topic. This demonstrates a possible reason why elderly survey to think property tax affects lower income more as they did on CalSpeaks.

The final question I asked the property tax policy experts was designed to answer my research question. I inquired whether increased knowledge of the system could better the public's opinion of property tax. They all agreed that in time certain small changes to the property tax system could reduce its salience and in turn increase its positive public opinion. The realtor also suggested the opposite as well, increasing property tax obtrusiveness might have positive affect as well by forcing taxpayers to become more involved in the process and possibly pay more attention on ballots with tax measures. The literature on this suggested the earlier point, less salient taxes rank as more liked than property tax possibly because the individual paying does not see the tax as blatant (Chetty, Looney, & Kroft, 2007).

This speaks to some of the results from the crosstabs in Chapter Three. Throughout the survey questions that asked the respondents preference to raising or lowering property tax in various situations provided insight into public opinion of the tax. Most individuals would prefer to raise revenue through other means to pay for inadequate services than property tax such as sales or income tax. Additionally, respondents would not raise the tax for a revenue shortage either. This may be due to what the interview with

the lobbyist from CAR explained, property tax is overall a very large tax. Because of its size, respondents do not want to raise property tax. This was discovered in the literature to be due to the tax revolt spirit alive and well in California, and the experts generally agreed that this might be the case.

Policy Recommendations

The results of this study exhibit the need for a handful of small changes to the property tax system in California. Under Proposition 13, the one percent cap sets a rigid limit to property tax, and stricter rules on how new tax legislation can be proposed. The law has been set up to not allow for the system to be changed, so altering the law will not build sound property tax policy because it is very unlikely to happen. Instead of proposing groundbreaking legislation, the policy recommendations for this thesis are a bit more incremental. The recommendations consist of reducing the salience of the tax, making the taxpayers bill easier to understand, and making the benefits received from tax revenue more evident and transparent to the taxpayer.

Throughout the research I conducted for this thesis, the salience of property tax consistently appeared to be a contributing factor and problem towards its public opinion. The policy recommendation for combating salience is incorporating more property tax through mortgage payments. Homeowners have the option of paying their property tax through their mortgage and the relevant literature suggests that homeowners who do this have a better opinion towards property tax. This opinion also includes renters who only pay property tax indirectly through rent. If the overall salience of the tax could be reduced by nudging homeowners to pay their taxes monthly in their mortgage, the

possibility of reducing the dislike towards property tax seems more reasonable. Additionally, homeowners should be given the option to have property tax be taken directly out of their income like an income tax. If this were enacted, the individual paying property tax would barely notice the drop in income unless the tax is out of the range they can afford. If this was the case though then the house they purchased is financially problematic. Removing property tax directly from income would then possibly provide the needed salience to turn some opinion positive.

Reducing the salience does not mean reducing the public's understanding of the tax, but just reducing the noticeable impact the tax has on their income. It is still important to pursue increased levels of public knowledge of property tax and tax in general. With increases in public knowledge, the information asymmetry between experts and taxpayers might be partially reduced. This could then make the taxpayers more understanding of the property tax as it pertains to themselves. When it comes to simplifying language on the actual bill, using layperson terms and less abbreviations and acronyms may be helpful. Additionally, including an extra sheet of paper explaining the bill itself might benefit the taxpayers understanding. Furthermore, it is very important to outline where the revenue is going in the community is imperative to persist transparency. This can be accomplished by detailing what percentages go towards services the taxpayer uses but in a simplified way. It is important to demonstrate to the taxpayer that their property tax dollars are being used constructively.

The final policy recommendation is just that local and state governments need to provide a more developed medium for taxpayers to experience the benefits of their tax

dollars. This is already implemented in some communities by placing sign posts near construction projects showing where certain measures and tax law's revenue is providing services. This can be further accomplished by sending out monthly or quarterly newsletters from the local or city government to residents within their borders. To increase this needed transparency, it will be important to get the needed information into the hands of the taxpayer. Getting the information to the person instead of relying on the person to come to the information makes local government seem more accountable and proactive towards the community they govern. These mailers will increase the public's understanding of property tax and possibly instill some trust in government and increase public opinion. Finally, to increase public opinion these mailers from local government would benefit from including resident satisfaction surveys that can provide data on whether the government is accomplishing what taxpayers want from their tax revenue.

Limitations to this Study

Surveys from local government can provide increased insight into what residents expect in return from property tax. This was the method of the CalSpeaks 2017 Survey used in the research for this thesis. The issue with CalSpeaks though is that it would have benefited greatly from more respondents. As I have mentioned, after cleaning the 2017 data, around 1,000 respondents contributed. The demographics were relatively equivalent to the population but the small sample size is a large limitation to this study. The survey weighted logistic regression may have adjusted for this issue but more data would have helped the research.

In addition to more data, more survey question geared toward developing taxpayer understanding of property tax would have been beneficial. The survey contained some appropriate questions concerning how property tax works in California but the sample size was too small. The number of respondents that answered some property tax knowledge question was below 200 people. This by no means will provide information that is useable in tax policy research. This severely limited the scope for understanding the respondent's knowledge of property tax. The answers for the questions that were not included may have been able to provide insight into my research if there were more respondents.

Another limitation to this study were significant gaps in the available literature that researched public knowledge of property tax through survey data. Most sources that used survey data asked respondents preferences towards services provided by property tax revenue. Additional sources used housing data to see if residents were using the benefits of Proposition 13 to their advantage as a metric of public knowledge of the tax. Research that gauged the public's understanding of property tax currently was rare. This gap in the available literature offers an opportunity for this study to be taken to the next step with further research.

Further Research

This study sheds light onto the possible relationship between public knowledge and public opinion of property tax. From the results, I conclude that a relationship does exist and the necessary policy recommendations should be incorporated into state and local government plans to improve public knowledge of property tax. This thesis offers a

detailed introduction into property tax policy and how the public interacts with the tax and how it affects their lives. In the future, a larger amount of survey respondents answering specific questions on how likable certain taxes are in very specific communities will offer comparative statistical results to gauge how different communities throughout the state feel about property tax.

There is also an opportunity for future studies to research in depth the accountability of local government. An investigation between local service and resident satisfaction of the services could help shape tax policy further to better sympathize with the public's needs. This will allow governing bodies to be more aware of their constituents. Public opinion of property tax can demonstrate larger issues between the interaction of taxpayers and government. The research I have conducted for this thesis can outline possible paths for research in the future on the topic.

Appendix A: Pairwise Correlation Coefficients for Independent Variables

	Male	Age 65 or Older	College Graduate	Black Dummy	Other Race Reported	Hispanic	Income 30 to 100	Income Over 100	Registered to Vote	Progressive Politically	Moderate Politically	Conservative Politically	Very Conservative Politically	Married/Partnership	Divorced	Widowed	Homeowner	Business Property Owner	Owns a Second Home	Separated
Male	1																			
Age 65 or Older	0.1	1																		
College Graduate	0.15	0.09	1																	
Black	0.02	-0.02	-0.12	1																
Other Race Reported	0.03	-0.12	0.09	-0.09	1															
Hispanic	-0.04	-0.15	-0.12	-0.07	-0.16	1														
Income 30 to 100	-0.05	0.06	-0.15	0.03	0	0.04	1													
Income Over 100	0.11	-0.03	0.33	-0.09	0.01	-0.09	-0.74	1												
Registered to Vote	0.06	0.09	0.17	0.01	-0.11	-0.03	-0.05	0.11	1											
Progressive Politically	0.026	0.01	0.08	0	0.04	0	-0.04	0.09	0.06	1										
Moderate Politically	-0.1	-0.03	-0.10	-0.04	0.04	0.08	0.08	-0.12	-0.12	-0.47	1									
Conservative Politically	0.07	0.06	0.02	-0.04	-0.09	-0.07	-0.03	0.06	0.04	-0.28	-0.34	1								
Very Conservative Politically	0.06	0.03	-0.03	0.02	0.01	-0.03	-0.02	0.01	0.02	-0.16	-0.19	-0.12	1							
Married/Partnership	0.11	-0.09	0.9	-0.03	0.08	-0.03	-0.03	0.17	-0.04	0	-0.01	0.04	0.04	1						
Divorced	-0.1	-0.01	0	-0.02	-0.07	0.03	0.03	-0.03	0.04	0.07	0.01	-0.02	-0.06	-0.46	1					
Widowed	0.01	0.05	-0.03	0.04	-0.03	-0.04	-0.02	-0.04	0.03	-0.04	0.06	-0.02	-0.01	-0.26	-0.05	1				
Homeowner	0.07	0.21	0.17	-0.12	-0.06	-0.12	0.01	0.22	0.09	-0.02	0.01	0.09	0.09	0.22	-0.09	-0.06	1			
Business Property Owner	-0.01	0.01	0.02	-0.02	0.01	0	0.01	0.01	0.04	-0.02	-0.01	0	0.06	0.01	-0.05	-0.04	0.07	1		
Owns a Second Home	-0.02	0.1	0.12	-0.07	-0.02	-0.01	-0.13	0.21	0.03	0.04	-0.07	0.05	0.05	0.06	0.04	-0.01	0.23	0.1	1	
Separated Dummy	-0.08	0.11	-0.06	0.06	-0.05	-0.05	0.05	-0.1	0.02	-0.02	-0.01	-0.01	-0.02	-0.44	-0.09	-0.05	-0.08	0.02	-0.06	1

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