

Commercial assessment limitation and income inequality among racial groups

Isaac William Martin

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Abstract

The 2020 California Schools and Communities First Initiative would allow local governments to assess most commercial and industrial property at its fair market value. The purpose of this report is to identify possible implications of such a policy change for the income disparities among racial groups. It offers a conceptual model of how a commercial assessment cap, such as the one that has been in place in California since 1978, might affect income disparities, and presents a new analysis of data from the Annual Social and Economic Supplement of the Current Population Survey since 1971 to assess *how much* commercial assessment caps, including California's, may have contributed to income inequality among racial groups. The existence of a commercial assessment cap likely widens income disparities among racial groups, especially the Black/White income gap and the Latinx/White income gap. A reform to lift the cap could help to reduce such disparities in the future.

Acknowledgments

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Overview of Key Findings

The California Schools and Communities First Initiative would allow local governments to assess most commercial and industrial property at its fair market value. It would thereby lift the commercial assessment cap that has been in place since 1978, which requires that commercial and industrial property be assessed at its acquisition value plus an increment of no more than 2 percent per year. The fair market value of a commercial or industrial real estate parcel today is, in many cases, much greater than its market value at the time it was acquired. The commercial assessment cap therefore provides a valuable tax break to many owners of commercial and industrial real estate. The California Schools and Communities First Initiative, by reducing this tax break, could generate substantial additional revenues for public education in California.

The purpose of this report is to identify possible implications of such a policy change for the income disparities among racial groups. Some conclusions include the following:

- Few people receive any direct benefit from the existence of a commercial assessment cap, because fewer than 1% of families in the United States report owning any commercial real estate.
- There are stark differences across racial groups in the ownership of commercial real estate.
 - Although few families of *any* race own commercial property, White families are more than 4 times as likely as Black or Latinx families to report ownership of at least *some* commercial real estate.
 - Specifically, 0.98% of White families, 0.22% of Black families, and 0.27% of Latinx families report owning at least some commercial real estate.

- The average value of commercial real estate reported by families in each racial group, including families that do not own any commercial real estate, works out to \$27,025 per White family; \$417 per Black family; and \$4,074 per Latinx family.
- It is likely that some of the public expenditure cuts that result from a commercial assessment cap have most disproportionately reduced the incomes of Black people.
- California's commercial assessment cap likely widens income disparities among racial groups.
 - According to the best available estimate, the income gap between otherwise typical households headed by White and Black adults is *12% wider* than it would be if Proposition 13 had only applied to residential property.
 - According to the best available estimate, the income gap between otherwise typical households headed by White and Latinx adults is *23% wider* than it would be if Proposition 13 had only applied to residential property.
- A reform that replaces a commercial assessment cap with fair market assessment could reduce income disparities among racial groups.

Introduction

The California Schools and Communities First Initiative would allow local governments to assess most commercial and industrial property at its fair market value. It would thereby lift the commercial assessment cap that has been in place since 1978, which requires that commercial and industrial property be assessed at its acquisition value plus an increment of no more than 2 percent per year. The fair market value of a commercial or industrial real estate parcel today is, in many cases, much greater than its market value at the time it was acquired. The commercial assessment cap therefore provides a valuable tax break to many owners of commercial and industrial real estate. The California Schools and Communities First Initiative, by reducing this tax break, could generate substantial additional revenues for public education in California.

The purpose of this report is to identify possible implications of such a policy change for the income disparities among racial groups. Previous studies do not provide a sufficient social science evidence to permit precise measurement of the effects of the commercial assessment cap on the distribution of income among groups. They do permit at an informed judgment about whether a commercial assessment cap is likely to widen or narrow the income gaps among groups. The first part of this report offers a conceptual model of *how* a commercial assessment cap might affect incomes, and it reviews studies of economic inequality and structural racism that bear on the question of how the existence of such a cap—and, inversely, the lifting of the cap—might affect different racial groups differently.¹ The second part of this report presents new

¹ “Race” in this review refers to a particular kind of ascriptive, pan-ethnic classification of people that makes reference to phenotypical characteristics, among other characteristics, and that is associated with an enduring history of unequal status in American society. Throughout this review, I capitalize White and Black to emphasize that these are folk ethnonyms for pan-ethnic groups—analogueous to Asian American or Native American—rather than ordinary

statistical evidence to assess *how much* the commercial assessment cap may have contributed to income inequality among racial groups. The report supports the following conclusions:

The group differences described in this report are the differences among group averages. In order to avoid misunderstanding, it is important to note that the group-specific average ignores inequality within a group; very few White people have received any tax savings from a commercial assessment cap. Although those who do benefit from such tax savings are likely disproportionately White, that does not mean that the savings accrue to the group as a whole. The existence of a commercial assessment cap likely widens income disparities among racial groups by conferring tax savings on a small number of people who disproportionately belong to the group that already had the highest average income.

Part 1. Review of the social science literature

A “commercial assessment cap” refers to a state law that limits the annual increase in the value of a commercial or industrial real estate parcel that may be recorded for the purposes of levying local property tax on the owner of that parcel. Commercial assessment caps are uncommon. At the time of this writing, 28 states have laws to limit the annual growth of local property tax revenues, but most of these state laws apply limits to the *total* property tax revenue collected by a local government, while allowing local governments to adjust the share of that amount collected from the owner of any *individual* parcel if the market value of that parcel increases or decreases faster than average. Only 12 states limit the annual increase in property

color adjectives. I use Latinx and Hispanic interchangeably as gender-neutral ethnonyms for the panethnic group that includes people who also may prefer to identify themselves, depending on context, as Latinx, Latino, Latina, or Hispanic. All of these groups overlap, and all of these group names are disputed by some of the people to whom they are commonly applied.

taxes by limiting the annual increase in the value, recorded for tax purposes, of *each individual* real estate parcel. Such assessment caps generally apply to residential property, and some people defend them as a way to protect homes from rapid tax increases. Only eight states currently apply assessment limitations to commercial and industrial property (see Table 1). California’s commercial assessment cap is one of the most restrictive of the eight.

Table 1. States with commercial assessment caps

State	Year effective	Description
California	1978	Assessed value may increase no more than 2% per year, except for certain improvements or change of ownership.
Arizona	1980	Assessed value may increase no more than 10% per year (1980 to 2015) or 5% per year (after 2015).
Idaho	1980 to 1982	Assessed value may increase no more than 2% per year, except for certain improvements or change of ownership; repealed effective 1982.
Michigan	1994	Assessed value may increase no more than 5% per year or the rate of inflation, except for certain improvement or change of ownership.
Oklahoma	1996	Assessed value may increase no more than 5% per year, except for certain improvements or change of ownership.
Oregon	1997	Assessed value may increase no more than 3% per year, except for certain improvements or subdivision.
Arkansas	2001	Assessed value may increase no more than 10% per year, except for new construction, substantial improvement, or change of ownership.
South Carolina	2007	Assessed value may increase no more than 15% per 5-year reassessment period, except for certain improvements or change of ownership.
Florida	2008	Assessed value may increase no more than 10% per year except for qualified improvements or change of ownership.

Sources: Alan Dornfest, 2006. “Property Tax Budget Limitations and 1% Initiatives, 1978–Present.” Idaho State Tax Commission, http://tax.idaho.gov/pubs/EPB00107_01-01-1998.pdf; Mark Haveman and Terri A. Sexton, 2008. *Property Tax Assessment Limits*. Lincoln Institute of Land Policy; State of South Carolina, 2015. *South Carolina Property Tax*, https://dor.sc.gov/resources-site/publications/Publications/Property_Tax_Guide.pdf

The focus of this review is on how a commercial assessment cap might affect the market incomes of individuals, families and households. Market income is only one component of disposable income. Households also may receive non-market income in the form of transfer payments, for example, and their disposable income may be reduced by necessary expenditures on government fees, schooling, transportation, or health care. This review focuses specifically on market income because it is the largest component of disposable income for most families and

households. The existence of a commercial assessment cap may affect every component of disposable income, however, and this review does not pretend to cover every possible causal pathway by which the existence of a commercial assessment cap could affect disposable income gaps among groups.

The review is presented in two sections, corresponding to two different pathways by which a commercial assessment cap might affect the market income gap between racial groups. First, a commercial assessment cap provides tax savings to owners of commercial and industrial property. Second, a commercial assessment cap affects spending on local government employee compensation. Both of these pathways are likely to affect the distribution of income among racial groups. Although a commercial assessment cap is formally neutral with respect to race, the members of different racial groups are not represented in equal proportions among real estate owners, nor among public employees or the consumers of workforce-supporting public services. Different groups are therefore likely to be affected unequally by the existence of a commercial assessment cap. Both pathways are likely to exacerbate the aggregate inequalities of income between White people and Black people in particular. A reform that lifts the cap could reduce the Black/White income gap.

The first pathway: tax savings for property owners

The existence of a commercial assessment cap can produce substantial savings for real estate owners who would owe more tax if it were not in place. Although many commercial assessment caps only restrain the growth of assessments in years of especially rapid increases in market value, the cumulative effect of such a cap the long run may be substantial. The longer an owner holds onto a parcel, the more that the property may be worth—and, under an assessment cap, the less the share of that increased value that may be taxed. The aggregate amount of the

resulting tax savings can be substantial. One recent estimate puts the aggregate for California at \$11 billion.²

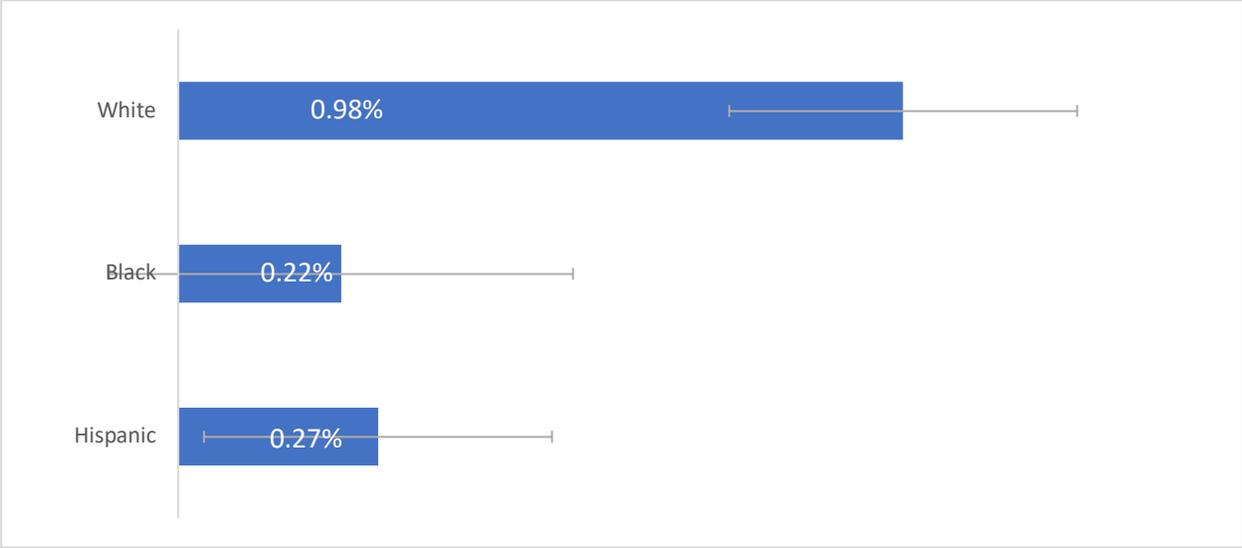
The tax savings from a commercial assessment cap are likely to exacerbate income disparities among racial groups. Although commercial assessment caps are facially neutral with respect to race, the ownership of commercial and industrial property is unequally distributed. The graphs in Figures 1 and 2 illustrate this point, by presenting the share of families in which survey respondents reported owning some commercial real estate (Figure 1), and the average value of commercial real estate reported (Figure 2), by the self-reported race of the responding adult. The data come from the 2016 Survey of Consumer Finances (SCF), a nationally representative survey of families conducted by the National Opinion Research Center for the Federal Reserve Board.³ (These graphs present results only for White, Black, and Latinx people, because the numbers of Asian American, Native American, and other people in the survey sample were too few to produce statistically meaningful, group-specific estimates.) Very few families own commercial real estate: even among White people, who are, on average, the most advantaged group, fewer than 1% of all families report ownership of any commercial real estate. The percentages are even smaller for other groups. Thus, although most White people do not own commercial real estate, the investors in real estate are disproportionately White, and the typical White family is therefore more likely than the typical African American or Latinx family to have at least *some* commercial or industrial real estate income.

² Jennifer Ito, Justin Scoggins, and Manuel Pastor. 2020. *Getting Real about Reform II: Estimating Revenue Gains from Changes to California's System of Assessing Commercial Real Estate*. USC Dornsife, Program for Environmental and Regional Equity.

³ For a description of this survey, see Jesse Bricker, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Paack, John Sabelhaus, Jeffrey Thompson, and Richard Windle. 2017. "Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances." *Federal Reserve Bulletin* 103(3).

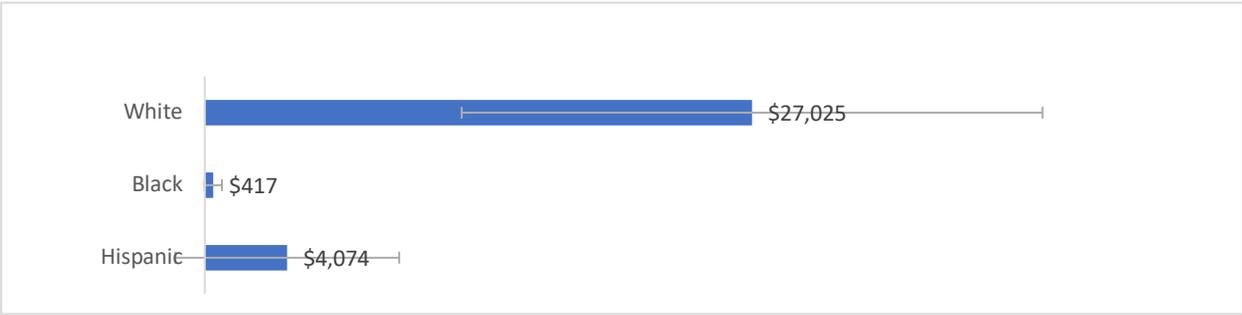
The graph in Figure 2 shows the average value of commercial real estate reported by respondents to the SCF. The value reported here includes the value of up to two commercial properties for each family that reported owning some commercial real estate. Each group-specific average in this graph is computed over all families in the group, including the great majority of families in each group who report owning \$0 of commercial real estate; the average value of the commercial real estate *owned by families that own commercial real estate* is much greater than the averages reported in this graph. Because a greater fraction of White families own at least some commercial real estate, and because the commercial real estate that those families own is more valuable, on average, than the commercial real estate owned by members of other groups, the average value of commercial real estate owned by White people is much greater than the average value owned by members of other groups. Tax treatment that favors the owners of commercial real estate will not advantage most White families. But the families to which it provides the greatest financial advantages are most likely to be White.

Figure 1. Percentage of families reporting *any* commercial real estate ownership, by racial group, 2016



Source: Author’s computations from 2016 Survey of Consumer Finances, public use dataset.

Figure 2. Self-reported value of commercial real estate owned, averaged over all families, by racial group, 2017



Source: Author’s computations from 2016 Survey of Consumer Finances, public use dataset.

Black people are the least likely to own commercial real estate, and the real estate that they own has, on average, the lowest total market value. This pattern is in keeping with well-documented patterns of wealth inequality between Black and White Americans. Social science

research on this wealth gap emphasizes the role of unequal access to inherited wealth.⁴ Some share of the Black/White wealth gap can be traced to the racist institution of chattel slavery, and associated legal prohibitions that prevented the ancestors of many Black Americans from owning or bequeathing property. Many additional legal and illegal means were used to exclude Black purchasers from real estate markets in the Twentieth Century, and ongoing discrimination in credit and real estate markets today also helps to explain a share of the wealth gap.⁵

Figure 1 and Figure 2 show that Latinx people also are underrepresented among owners of commercial real estate, and report lower values than White people, on average. This gap is consistent with what is known about the gap between these groups in net wealth; that gap is partly attributable to differences in inherited wealth and partly to differences in access to credit.⁶

Commercial assessment caps could exacerbate racial disparities even if the owners of real estate were to pass along all of the tax savings to their commercial and industrial tenants. That is because the owners of the commercial and industrial businesses that rent real estate are also disproportionately likely to be White. Figures 3 and 4 illustrate this point, with survey data on the percentage of families in which respondents reported ownership of at least one private business, and the average self-reported value of all privately owned businesses, by the race of the survey respondent. As with the ownership of real estate investment property, the ownership of a

⁴ Melvin Oliver and Thomas Shapiro, 2006. *Black Wealth/White Wealth*, 2d ed., Routledge; for a recent study of the direct contribution of inheritances to the gap, see Signe-Mary McKernan, Caroline Ratcliffe, Margaret Simms and Sisi Zhang. 2014. “Do Racial Disparities in Private Transfers Help Explain the Racial Wealth Gap? New Evidence from Longitudinal Data.” *Demography* 51: 949-974.

⁵ On legal means of segregation and exclusion, see Richard Rothstein, 2017. *The Color of Law*, W. W. Norton. The continued existence of discrimination in real estate markets is well documented; recent evidence that discrimination is directly relevant to wealth inequalities comes from a study documenting a correlation between skin tone and wealth acquired by new immigrants, especially when it comes to forms of wealth acquisition that require face-to-face interaction: Matthew A. Painter II, Malcolm D. Holmes and Jenna Bateman. 2016. “Skin Tone and Wealth Inequality.” *Social Forces* 94 (3): 1153-85.

⁶ See Lisa A. Keister, Jody Agius Vallejo, and E. Paige Borelli, 2015. “Mexican American Mobility,” *Social Forces* 93(3): 1015-1046; Lori Ann Campbell and Robert L. Kaufman, 2006. “Racial Differences in Household Wealth.” *Research in Social Stratification and Mobility* 24: 131-152; Michele Maroto, 2016. “Growing Further Apart.” *Sociological Science* 3: 801-824.

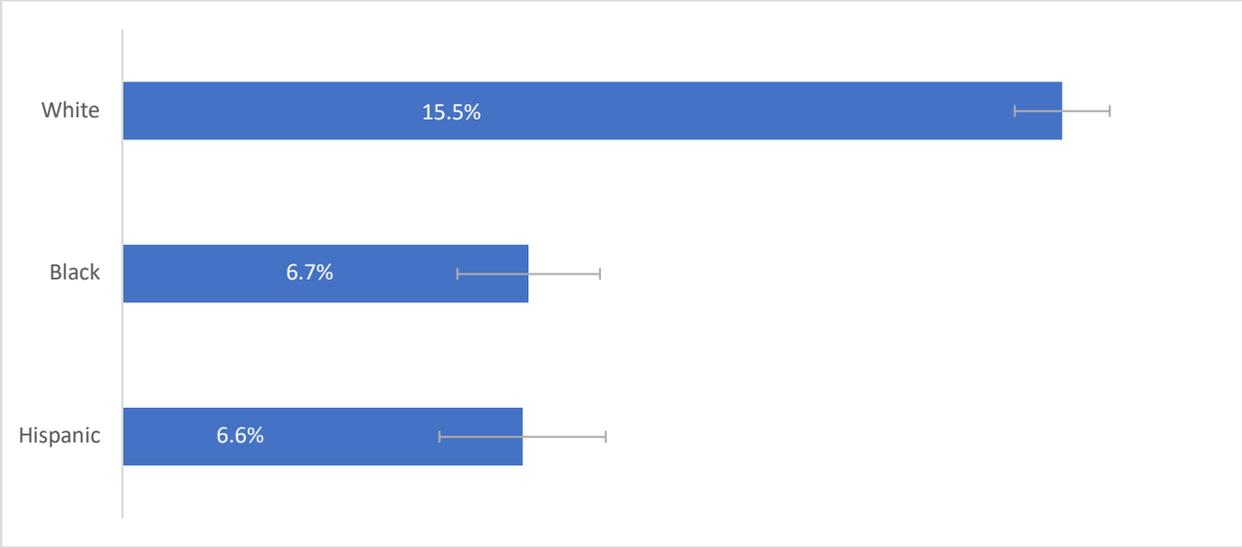
private business is also unequally distributed among racial groups. White people report the highest average value of business assets owned, and Black people the lowest. The unconditional average depicted in Figure 4 includes the great majority of families who do not own *any* business assets; for those who do own a private business, the average value of their business assets is substantially greater than what is depicted here. The point of the graph is simply to illustrate that a policy that benefits business owners will yield different amounts of benefit to different groups, on average.

Even if some share of the commercial property tax were passed on to workers and consumers, it would be unlikely fully to compensate for these disparities. In principle, the degree to which commercial and industrial property taxes are passed on to commercial and industrial tenants might be expected to depend on the elasticity of demand and the elasticity of supply, which might vary from place to place. In practice, empirical studies generally find that most of the incidence is borne by the owners of the property.⁷ Because commercial assessment caps advantage *past* decisions to purchase real estate, and because most of them permit full market value reassessment of new construction or improvements, the savings from a commercial assessment cap are likely to accrue disproportionately to long-term owners of land.⁸ As long as the owners of real estate or their commercial tenants share some of the cost of commercial property tax, a commercial assessment cap will confer disproportionate advantage on White people.

⁷ See Kimberly G. Key and Teresa A. Lightner. 2015. "The Relation Between Business Property Values and Local Property Taxes." *Journal of the American Taxation Association* 37(1): 103-128; Joyce Y. Man. 1995. "The Incidence of Differential Commercial Property Taxes: Empirical Evidence." *National Tax Journal* 48 (4): 479-96.

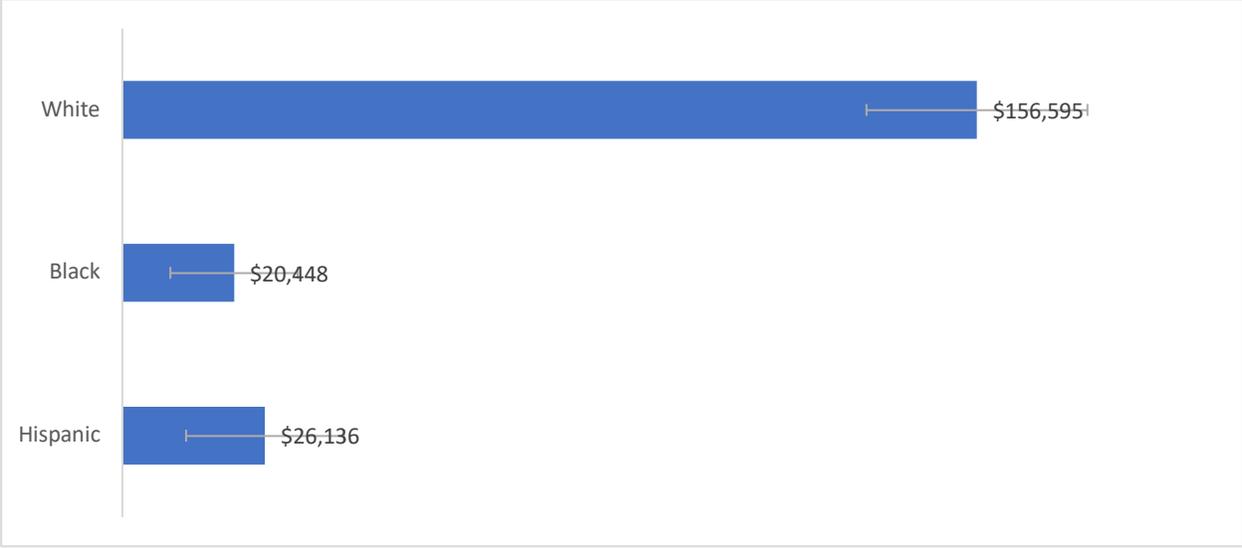
⁸ Steven Sheffrin. 2009. "Economic Aspects of a Split-Roll Property Tax." UC Davis.

Figure 3. Percentage of households reporting any ownership of a private business, by racial group, 2016



Source: Author’s computations from 2016 Survey of Consumer Finances, public use dataset.

Figure 4. Self-reported value of private business assets owned, averaged over all families, by racial group, 2017



Source: Author’s computations from Panel Study of Income Dynamics, public use dataset. Produced and distributed by the Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, MI (2019).

The second pathway: reduced compensation for public employees

The existence of a commercial assessment cap also might exacerbate income disparities by reducing the compensation of local government employees, an occupational group that is disproportionately Black. Those who argue in favor of commercial assessment caps have sometimes advocated for them explicitly as a way to limit public employee pay. In 1977, for example, the UCLA economist Neil Jacoby argued that a property tax assessment cap in California would “compel our public officials to cut wasteful spending and stop giving outsized annual increases in the pay and benefits of public employees.” To the degree that groups are unequally represented in public sector jobs, a limit on public sector pay will affect those groups unequally.⁹

Commercial assessment caps may cut spending on public employee pay indirectly by depriving local governments of property tax revenues. The loss of property tax revenues creates pressure to cut spending, because local governments typically have no authority to run deficits, and they have few other revenue options that will yield as much as the property tax. Several studies have measured how much a state policy of property tax limitation affects local public spending. These studies lump commercial assessment caps together with residential assessment caps, so the evidence that they provide is indirect, but it is consistent with the hypothesis that commercial assessment cap might reduce public spending substantially. A recent, systematic review of estimates from fourteen studies finds that property tax limitations cause an average reduction of 5% in local public budgets per capita.¹⁰

⁹ Jacoby is quoted in Howard Jarvis with Robert Pack, 1979. *I'm Mad as Hell*. New York Times Books, p. 96.

¹⁰ Isaac William Martin, 2019. “Land, Power, and Property Tax Limitation.” *Research in Political Sociology* 26: 56

Social scientists have also published a small number of studies of how tax and expenditure limitations, including commercial assessment caps, affect the numbers and pay of local government employees. Such studies report that tax and expenditure limitations are followed by slower growth in public employment. One study found that many fire departments subject to a statewide property tax limitation responded by transforming themselves into all-volunteer departments. Another found that local public sector employment grew more slowly in states with tax and expenditure limitations than in states without them.¹¹ A handful of studies have reported that school districts subject to tax and expenditure limitations subsequently employed fewer public school teachers per student.¹² A few studies have also examined the effects of such limitations on the pay of local public employees. One study found that the wage growth of local public sector employees in the years from 1980 to 1991 was about 6% less in states that had local tax and expenditure limitations than in states without such limitations. Another found that starting teacher salaries in 1988 were between \$1,861 and \$4,614 less in school districts subject to property tax limitation than in districts that were not.¹³ Although these findings are not specific to the effects of commercial assessment caps, these studies generally include commercial assessment caps in the more general category of property tax limitations whose effects they measure. It is a reasonable inference from these studies that the existence of a

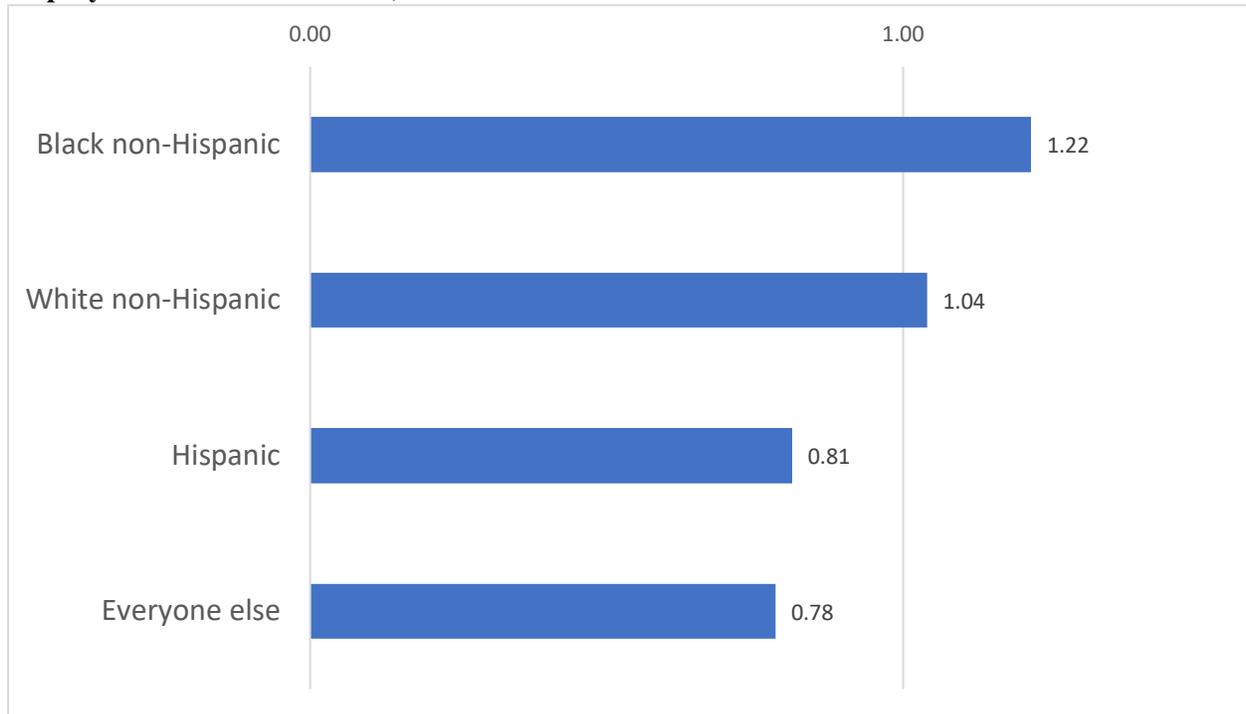
¹¹ Douglas C. Bice and William H. Hoyt, 2000. "The Impact of Mandates and Tax Limits on Voluntary Contributions to Local Public Services: An Application to Fire-Protection Services." *National Tax Journal* 53(1):79–104; James M. Poterba and Kim S. Rueben, 1995. "The Effect of Property-Tax Limits on Wages and Employment in the Local Public Sector." *American Economic Review* 85(2):384–89

¹² David N. Figlio, 1997. "Did the 'Tax Revolt' Reduce School Performance?" *Journal of Public Economics* 65:245–69; David N. Figlio, 1998. "Short-Term Effects of a 1990s-Era Property Tax Limit: Panel Evidence on Oregon's Measure 5." *National Tax Journal* 51(1):55–70; Ronald J. Shadbegian, Ronald J. 2003. "Did the Property Tax Revolt Affect Local Public Education? Evidence from Panel Data." *Public Finance Review* 31(1):91–121.

¹³ See Poterba and Rueben, "The Effect of Property Tax Limits"; Figlio, "Did the 'Tax Revolt' Reduce School Performance?"

commercial assessment cap likely contributes to reducing the numbers and pay of local public employees, relative to what might be expected in the absence of a commercial assessment cap.

Figure 5. Group share of local government employees relative to share of the total employed civilian workforce, 2014-2018



Source: Author’s computations from the American Community Survey, data retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

Any across-the-board cut to the numbers, hours, or pay of public employees is likely to widen the income gap between White and Black Americans. The graph in Figure 5 illustrates why. Each bar in this graph represents the ratio between the share of local government employees belong to a particular racial group and the share of the total civilian labor force belonging to that group. The data come from the Census Bureau’s nationally representative

American Community Survey and cover the period from 2014 to 2018.¹⁴ In this period, White workers were represented among local government employees roughly in proportion to their representation in the labor force as a whole (66% compared to 64%, a ratio of 1.0). Black workers were comparatively overrepresented in local government employment (14% compared to 11%, a ratio of 1.2). Latinx workers were comparatively underrepresented in local government employment (14% compared to 17%, a ratio of 0.8). From the 1970s through the 1990s, Black workers in large metro areas were especially likely to find employment in local government. The local public sector was an important source of stable jobs for middle-class African American workers in the last decades of the twentieth century, and employment in the public sector was an especially important path of upward social mobility for African Americans.¹⁵ Commercial assessment caps, by cutting jobs and pay in the public sector, may have narrowed or blocked that path.

These are only two of the pathways by which a commercial assessment cap might affect the distribution of income among racial groups. For example, commercial assessment caps also might affect the availability of local public services—such as after-school programs, public transportation, or public libraries—that help adults find and keep full-time employment. They also may affect wages in the long run by affecting the quality of education available to public school students who will eventually enter the labor force. To the extent that members of different groups differ in their average use of public schools and other labor-market-supporting public

¹⁴ The data were retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

¹⁵ Todd Gardner, “The Racial and Ethnic Composition of Local Government Employees in Large Metro Areas, 1960-2010,” U.S. Census Bureau Center for Economic Studies, working paper CES 13-28; Virginia Parks, 2011. “Revisiting Shibboleths of Race and the Urban Economy,” *International Journal of Urban and Regional Research* 35(1): 110-129; Steven Pitts, 2011. “Black Workers and the Public Sector,” UC Berkeley Labor Center Research Brief, April 4.

services, effects like these could also contribute to exacerbating income differences among racial groups in the long run. The effect of a commercial assessment cap on inequality via each of these pathways might be small. But the cumulative effect over all of these pathways still might be large. The second part of this report therefore aims to quantify the *total* effect of a commercial assessment cap on inequality among racial groups, regardless of the direct or indirect pathway by which the commercial assessment cap exerts its effects.

Part 2. Measuring the cumulative effect of a commercial assessment cap

This part of the report provides new evidence concerning the effects of a commercial assessment cap on income inequality among racial groups. The core finding is that commercial assessment caps appear to widen the income gaps between households headed by White people and households headed by Black or Latinx people. These gaps are wider in states with commercial assessment caps than in states without them, and they are wider the longer that the commercial assessment caps have been in place. In order to quantify this gap, a statistical model is fitted to national data, and then used to produce predicted income gaps for standardized households in California circa 2018 under alternative scenarios. The model predicts that the White-Black income gap was 9% wider than it would have been, and the White-Latinx income gap was 13% wider than it would have been, had the 1978 Jarvis-Gann amendment not capped the growth of commercial property assessments.

The statistical approach, which is described in more detail below, involves a comparison of incomes across groups, before and after the implementation of commercial assessment caps in nine states: Arizona, Arkansas, California, Florida, Idaho, Michigan, Oklahoma, Oregon and South Carolina. I refer to these as the “assessment cap states.” The shortest of these assessment caps was in place for two years (Idaho’s, from 1980 to 1982) and the longest for more than 40 years (California’s, continuously since 1978). The assessment caps also vary in their details, and treating them all as equivalent policies for the purpose of this analysis might underestimate the effects of a particularly stringent cap such as California’s. The advantage of pooling data from many states is the precision that comes from the largest available sample. Pooling data also yields additional inferential leverage: because all of these states combined commercial

assessment caps with other property tax limitations, an estimate of the effects of a commercial assessment cap depends on comparison of this group states to other, similar states that had residential property tax limitations *without* commercial assessment caps.

The income and demographic data for this analysis come from the Annual Social and Economic Supplement to the Current Population Survey (CPS), which is a survey of a representative sample of U.S. adult civilians living in households. This survey is a source of high-quality data about incomes that is designed to facilitate comparisons across states and over time; the Census Bureau has conducted this survey every March since 1956, and has used data from it to compute official estimates of the poverty rate every year since 1967. The present analysis includes data from 1971 to 2019. As the U.S. has become more diverse, the CPS has changed how it records information about racial and ethnic group identity. The span from 1971 to 2019 is the longest span of time for which it was possible to compare groups with reasonably consistent definitions. It is long enough to include a period of seven years before the enactment of the first commercial assessment cap and eleven years after the implementation of the last one.

The outcome measured in this analysis is household income adjusted for inflation to 2019 dollar values. It includes cash transfer payments such as Temporary Assistance to Needy Families, but excludes non-cash or near-cash benefits such as housing vouchers, Medicaid, or the Supplemental Nutrition Assistance Program. It includes market (or “pre-tax”) wage and salary income, but not employers’ health or retirement benefit contributions. It excludes unrealized capital gains, but it includes other forms of capital income, including rental income and profits from business, such as might accrue to the owner of commercial or industrial property that is subject to an assessment cap. The total household income analyzed here is the sum of the income from all of these sources reported by all of the people who live in the same household, regardless

of whether they or not they are related to each other. People who live in institutional settings such as nursing homes and prisons are not included in the survey, and their incomes, if they have any, are not counted in any household.

The income inequalities measured here may be underestimates because the CPS deliberately under-states the incomes of very high-income individuals in order to protect their privacy. This practice is called “top-coding.” The specific thresholds and rules that the CPS used to top-code income have varied by the income source and by year, but not by racial group or by state, so this practice is unlikely to bias the effects that are estimated from year-adjusted, group- and state-averaged before-and-after comparisons reported here. It could, however, lead to underestimating the average income differences among groups.

The CPS records detailed information about racial and ethnic identities. For the purposes of this analysis, I used this information to group survey respondents into three general categories that consistently included enough people to facilitate meaningful statistical comparisons, and that also could be defined in relatively consistent ways over time. The three categories are White non-Hispanic (sometimes abbreviated as “White”); Black non-Hispanic (sometimes abbreviated as “Black”); and Hispanic of any racial group. The statistical models include a fourth, residual category (abbreviated “Other”) that refers to everyone else, including people who indicated that they were Asian, Pacific Islander, Native American, or members of some other category not included in the first three; because this residual category is so heterogeneous, and because its composition may have changed over the period from 1971 to 2019, the average incomes for this category are difficult to interpret meaningfully, and the results presented here focus on comparisons of the incomes reported by White non-Hispanic people to those reported by Black non-Hispanic people and Hispanic people, respectively. Many households in the U.S. include

people from more than one of these racial groups. I have simplified the analysis by focusing only on the one individual per household who was recorded as the reference person or householder. This is typically the person in whose name the housing unit was rented or owned; prior to 1980, in the event that a married heterosexual couple owned or rented a unit together, the Census Bureau always recorded the husband as the householder, but since 1980, either spouse in a married couple might be recoded as the householder.

The first statistical model reported here is a comparison of the differences in the average natural logarithms of the household incomes reported by White non-Hispanic, Black non-Hispanic, Hispanic, and other-race householders in seven of the eight assessment cap states in each of the seven years before and after the implementation of the commercial assessment cap. (Because Idaho’s commercial assessment cap was in place for only two years, I omit it from this analysis.) Analyzing differences in the natural logarithm of income, instead of income, yields coefficient estimates that are not unduly influenced by the occurrence of rare, very-high-income households; a difference in the natural logarithm of income between groups can be exponentiated to yield the ratio between the group-specific averages. A linear model of the logarithm of household income is equivalent to the following exponential model, which I fitted to the data by maximum likelihood:

$$\begin{aligned}
 \text{Equation 1. } Y_i = \exp & \left(B_0 + B_{1,Black} D_{Black,i} + B_{1,Hispanic} D_{Hispanic,i} + B_{1,Other} D_{Other,i} \right. \\
 & + \left(\sum_{year \in \{-7, -6, \dots, -1, 1, 2, \dots, 7\}} B_{2,year} T_{year,i} + B_{3,Black,year} D_{Black,i} T_{year,i} + B_{3,Hispanic,year} D_{Hispanic,i} T_{year,i} \right. \\
 & \left. \left. + B_{3,Other,year} D_{Other,i} T_{year,i} \right) \right) \cdot u_i
 \end{aligned}$$

In this equation, Y is household income; each B is a coefficient to be estimated, which may be group- or year- specific, or both, according to its subscripts; $D_{\text{group},i}$ refers to an indicator variable equal to 1 if respondent i is a member of racial *group*, and 0 otherwise; $T_{\text{year},i}$ is an indicator variable equal to 1 if the respondent was surveyed concerning income in *year*, where years run from -7 to 7, indexed to 0 as the (omitted) year in which the respondent i 's state first implemented a commercial assessment cap; and u is a multiplicative error term that is assumed to follow a Poisson distribution with mean 1. This estimation method yields coefficients that can be interpreted as the differences among groups in the average logarithm of income, or, when exponentiated, as the ratios among groups' average incomes.¹⁶ The standard errors used to compute confidence intervals are adjusted for the complex sampling design of the CPS.¹⁷

The income differences among groups widened after the implementation of a commercial assessment cap. Figure 6 represents the results from this statistical analysis by graphing the year-specific difference in the average log household income reported by Black non-Hispanic and White non-Hispanic householders in assessment cap states (equal to the coefficient $B_{3,\text{Black},\text{year}}$). These differences are standardized so that they represent changes relative to the income gap between these groups that existed in the year in which commercial assessment cap was implemented. Values greater than zero indicate a shrinking gap, as incomes reported by Black householders increased towards the higher average incomes reported by White householders; and values less than zero indicate a growing gap, as incomes reported by Black householders

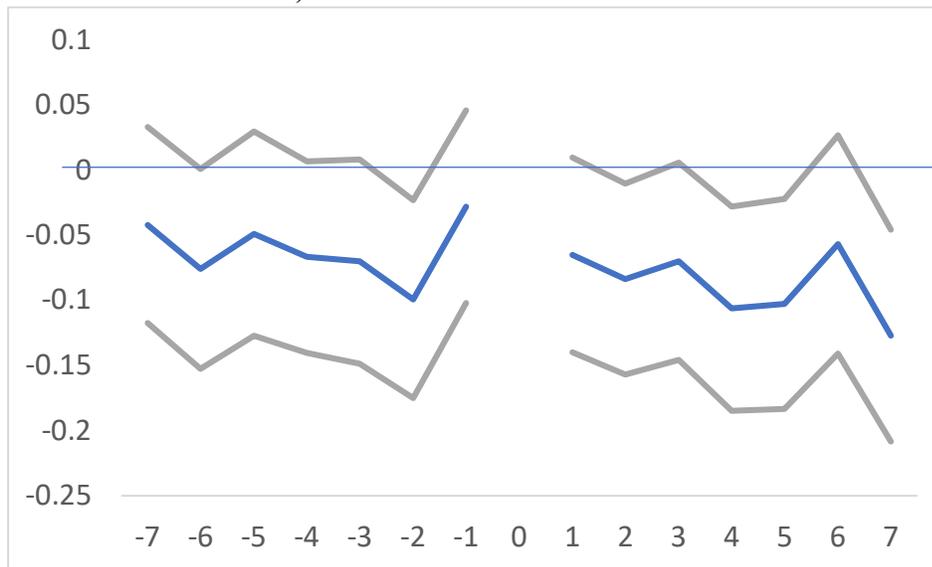
¹⁶ "Average" here has its usual meaning of the arithmetic mean. Attempting to compute the difference in arithmetic means by ordinary or weighted least squares estimation of a linear model of $\ln(Y)$ is a common mistake; that method yields coefficients that can be interpreted instead as the difference in the *geometric* means between groups, which is rarely a quantity of any particular meaning or interest. For a thorough discussion of this point and some cautionary examples, see Trond Petersen. 2017, "Multiplicative Models for Continuous Dependent Variables: Estimation on Unlogged Versus Logged Form." *Sociological Methodology* 47(1): 113-164.

¹⁷ The method followed is that recommended by Michael Davern, Arthur Jones, Jr., James Lepkowski, Gestur Davidson, Lynn A. Blewett. 2006, "Unstable Inferences? An Examination of Complex Survey Sample Design Adjustments Using the Current Population Survey for Health Services Research." *Inquiry*, 43(3): 283-297.

decreased even further relative to the average incomes reported by White householders. Before the enactment of a commercial assessment cap, the difference exhibited no particular trend. After the enactment of a commercial assessment cap, Black householders' incomes fell relative to White householders, and in four of the first seven years after the commercial assessment cap was implemented, the 95% confidence interval around this estimate excluded zero.

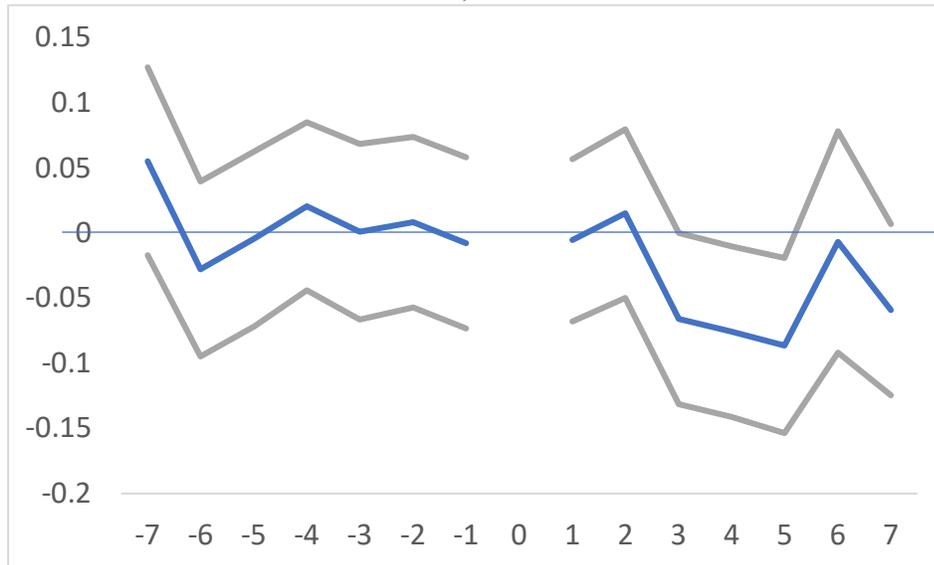
Similarly, Figure 7 reports the differences in the average log household incomes reported by Hispanic and White non-Hispanic householders (equal to the coefficient $B_{3,Hispanic,year}$). The evidence here is less clear. Analogously to the Black-White differences, we see in this graph of Hispanic-White differences that the enactment of a commercial assessment cap was associated with lower average income of Hispanic relative to White non-Hispanic householders; the 95% confidence interval around the estimated difference excluded zero in two of the first even years after the cap was implemented.

Figure 6. Black-White gap in logarithm of household income before and after commercial assessment limitation, with 95% confidence intervals



Source: Author's computations from Annual Social and Economic Supplement to the Current Population Survey, data retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

Figure 7. Hispanic-White gap in logarithm of household income before and after commercial assessment limitation, with 95% confidence intervals



Source: Author's computations from Annual Social and Economic Supplement to the Current Population Survey, data retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

The second statistical model includes all nine assessment cap states and incorporates states without commercial assessment caps as a comparison group. The comparison makes it possible to distinguish the effects of commercial assessment cap from the effects of other policies enacted at the same time in the same states that also affected inequalities of household income. In particular, it is possible thereby to distinguish the effect of enacting commercial assessment caps from the enactment of residential assessment caps and other forms of property tax limitation with which they coincided. The model adjusts for binding residential property tax limitations, which include all state-wide, comprehensive laws that limit the annual growth of local property tax levies.¹⁸ This statistical model treats the effect of commercial assessment caps

¹⁸ These include explicit limitations on the annual growth rate of the total property tax levy of each local government, as well as limitations that arise implicitly from the combination of state-imposed maximum property tax rate with a cap on the growth of residential assessments. For an analytical discussion of residential property tax

as cumulative: assuming a fixed property tax rate, an assessment cap affects the annual growth rate of the property owner's tax liability, so that the potential tax savings compound over time. As before, the equation for the income of householder i is fit to the data in exponential form, with coefficients estimated by maximum likelihood estimation:

$$\begin{aligned} \text{Equation 2. } Y_i = \exp & (B_0 + B_{1,Black}D_{Black,i} + B_{1,Hispanic}D_{Hispanic,i} + B_{1,Other}D_{Other,i} + B_{2,White}D_{White,i}C_i + B_{2,Black}D_{Black,i}C_i \\ & + B_{2,Hispanic}D_{Hispanic,i}C_i + B_{2,Other}D_{Other,i}C_i + B_{3,White}D_{White,i}P_i + B_{3,Black}D_{Black,i}P_i + B_{3,Hispanic}D_{Hispanic,i}P_i \\ & + B_{3,Other}D_{Other,i}P_i + B_4A_i + B_5W_i + B_6H_i + B_7J_i + B_8Z_i + S_{state} + T_{year}) \cdot u_i \end{aligned}$$

In this equation, Y is household income; each B is a coefficient to be estimated, which may be group- or state- or year- specific, according to its subscripts; $D_{group,i}$ refers to an indicator variable equal to 1 if respondent i is a member of racial *group*, and 0 otherwise; C_i is the number of years that a commercial assessment cap has been in force in the respondent i 's state; P_i is the number of years that a potentially binding limitation on residential property taxes has been in force in respondent i 's state; A_i is the age of respondent i ; W_i is an indicator variable equal to 1 if respondent i is a woman, and 0 otherwise; H_i is an indicator equal to 1 if respondent i has a high school diploma but no further education; J_i is an indicator variable equal to 1 if respondent i has a four-year college degree but no further education; Z_i is the natural logarithm of the number of persons in the household; S_{state} is a state-specific constant; T_{year} is a year-specific constant; and u is a multiplicative error term that is assumed to follow a Poisson distribution with mean 1.

Information about the group-specific effects of a commercial assessment cap *over and above the effects of other policies to limit residential property taxes* is contained in the group-specific coefficients $B_{2, group}$. Because the policy of interest is measured at the state level, the standard

limitations, see Isaac William Martin, 2019. "Land, Power and Property Tax Limitation." *Research in Political Sociology* 26: 37-63.

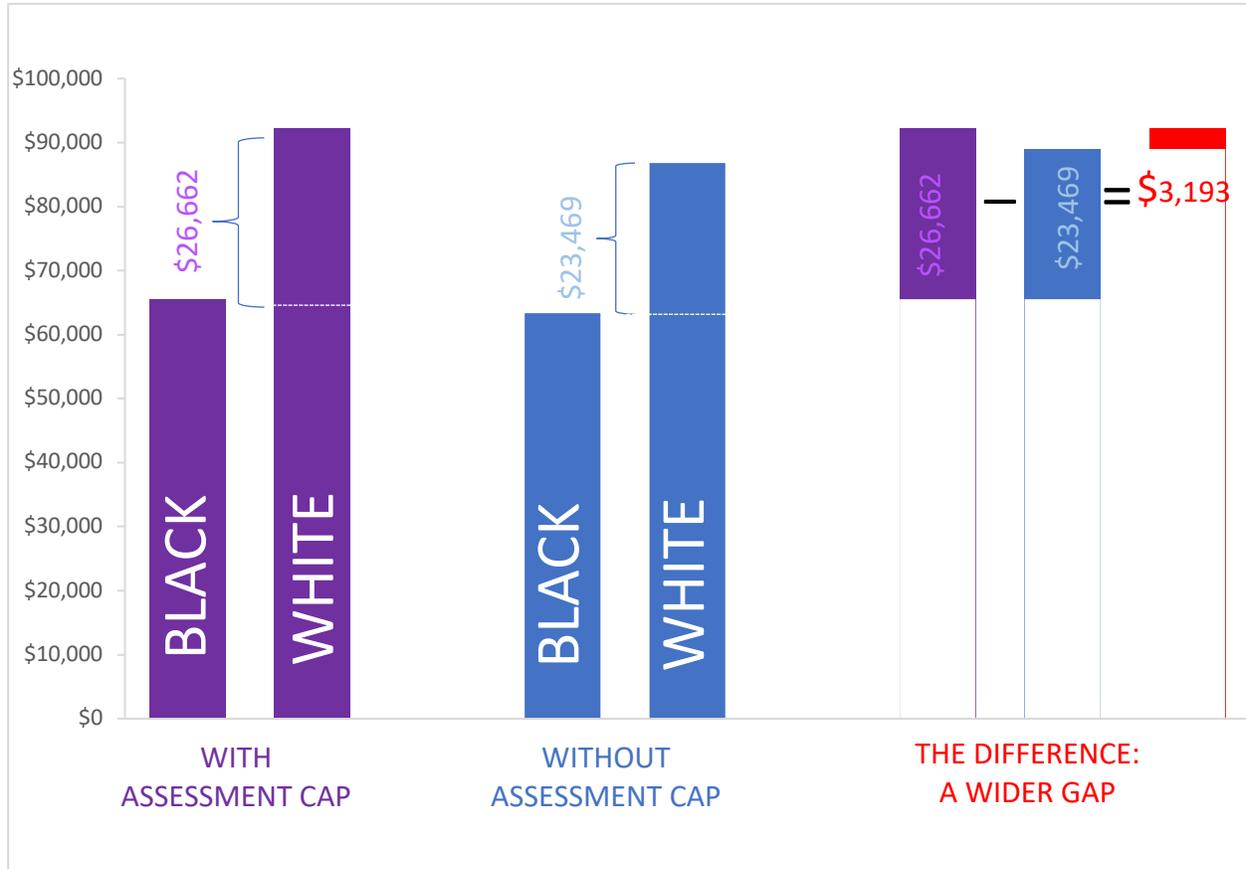
errors reported in the appendix are adjusted for the clustering of observations and measurements at the state level. A table of regression coefficients is included as an appendix to this paper.

There are two important results to report from this analysis. First, as is already well known, there are enduring differences among racial groups in household income. On average, White non-Hispanic householders report the greatest household incomes and Black non-Hispanic householders report the least. In an average state without a commercial assessment cap, in 2018, this model implies that a typical householder (as described below) would have reported household income that was \$25,663 less if she were Hispanic than if she were White non-Hispanic. A typical Black non-Hispanic householder with the same characteristics would have reported income that was \$28,844 less than her otherwise comparable White non-Hispanic counterpart. These differences are adjusted for average differences among the groups in household size, gender, age, and educational attainment, and they are statistically significant at the $p < .05$ level.

Second, the existence of a commercial assessment cap appears to affect the distribution of income among racial groups. Figure 8 illustrates the difference attributable to a commercial assessment cap, by simulating the average income of a typical householder in California 40 years after the Jarvis-Gann amendment to the state constitution. The model is applied to compute the expected incomes for a White non-Hispanic householder and a Black non-Hispanic householder in 2018, and to compare these to what they would be in a simulated baseline scenario in which the Jarvis-Gann amendment had limited the residential property tax only, but had *not* applied a cap to commercial and industrial assessments. The typical householder assumed for the purpose of this simulation is a 48-year-old woman with a high school diploma who lives in in a three-person household. In reality, a typical householder meeting this description would not have any

income from commercial property; this simulation should be understood simply as a convenient way to present group-specific averages that have been adjusted to account for the fact that groups also differ, on average, in age, education, and household size.

Figure 8. California’s commercial assessment cap widens the income gap between White- and Black-headed households

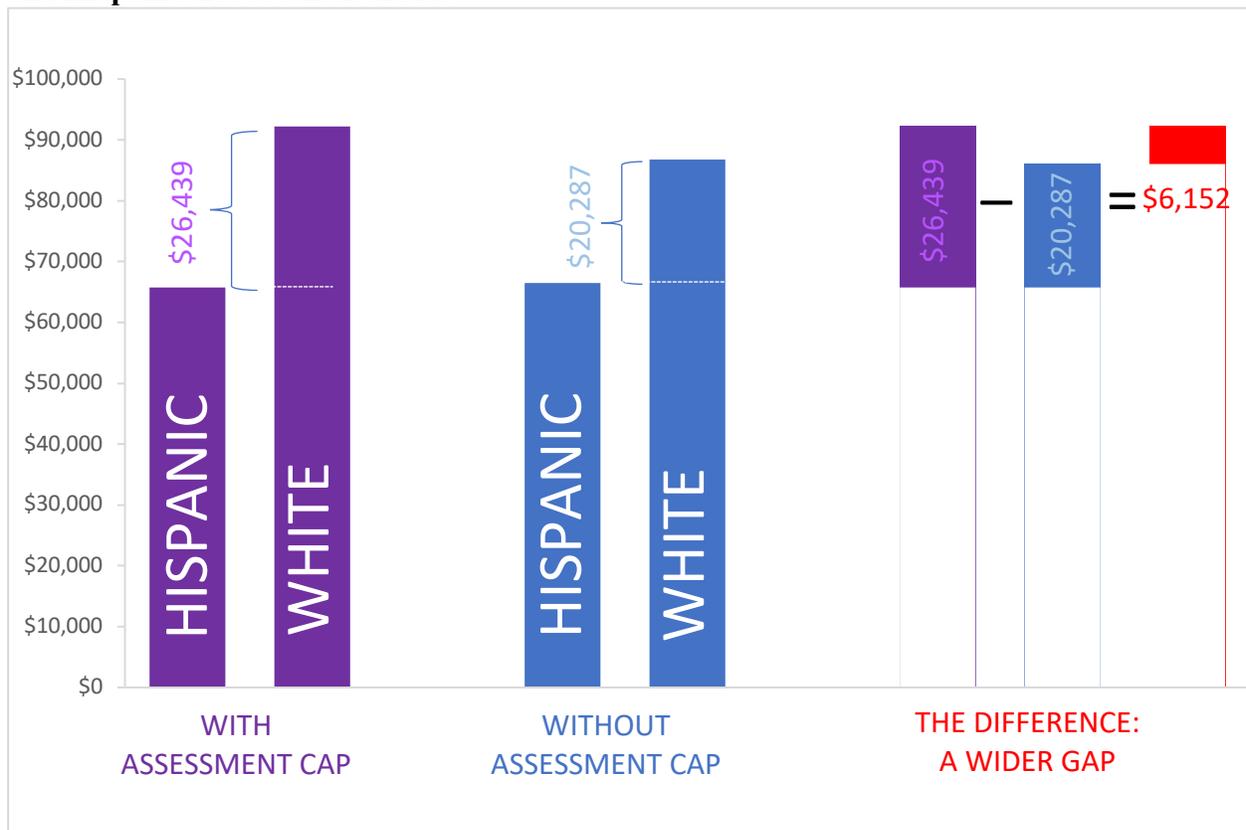


Source: Author’s computations from Annual Social and Economic Supplement to the Current Population Survey, data retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

The illustration in Figure 8 shows that the commercial assessment cap appears to make a measurable contribution to widening the income gaps between groups. The model simulates a total household income of \$65,523 for a Black non-Hispanic householder and \$92,185 for a

White non-Hispanic householder after 40 years under California’s commercial assessment cap. Of this total gap, \$23,469, or 88%, is the gap between these groups that would be expected in the baseline scenario even without a commercial assessment cap, and \$3,193, or 12%, is the *widening* of the household income gap between Black and White non-Hispanic householders that is attributable to the commercial assessment cap.

Figure 9. California’s commercial assessment cap widens the income gap between White and Hispanic-headed households



Source: Author’s computations from Annual Social and Economic Supplement to the Current Population Survey, data retrieved from IPUMS USA: Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 10.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D010.V10.0>

Figure 9 illustrates the incremental income gap between White non-Hispanic householders and Hispanic householders that is attributable to a commercial assessment cap. The model simulates a total household income of \$65,745 for a Hispanic householder, and a total

White-Hispanic income gap of \$26,439. Of this total gap, \$20,287, or 77%, is the gap that would be expected in the baseline scenario without a commercial assessment cap, and the remaining \$6,152, or 23%, is the widening of the household income gap attributable to the commercial assessment cap.

These figures are illustrative and some caveats are in order for their interpretation. We cannot be certain whether gaps this large would be found in the population outside this survey sample; in the underlying statistical model, the differences among White non-Hispanic, Black non-Hispanic, and Hispanic survey respondents in the annual impact of a commercial assessment cap are significant at the $p < .10$ level, but not at the more stringent $p < .05$ level. The quantities presented in Figure 8 and Figure 9 are group-specific averages, and like all averages, they summarize the data by obscuring inequalities within each group. The typical person, whether White non-Hispanic, Black non-Hispanic, or Hispanic, could expect to receive no direct income benefit from the existence of a commercial assessment limitation. Average group differences such as those depicted in these figures presumably exist because a small number of households experienced much larger effects on their market incomes—and because the few households for whom commercial assessment caps make a big difference were unevenly distributed among racial groups.

Concluding implications for reform

The evidence presented in this report suggests that commercial assessment limitation provides comparatively little economic benefit to Black and Hispanic householders and their households. On average, it appears that the existence of a commercial assessment cap provides more economic benefit to White non-Hispanic householders than to Hispanic or Black non-

Hispanic householders, perhaps because a policy of commercial assessment limitation most benefits individuals who are long-term holders of commercial and industrial property, and people who fit that description are disproportionately White non-Hispanic people. The focus of this analysis on group differences should not be taken to imply that costs and benefits are equally distributed *within* these groups. Although most White non-Hispanic people probably receive no benefit from the existence of a commercial assessment cap, those who do receive some tax savings from a cap are disproportionately White non-Hispanic people. And those who pay a price in lost earnings are disproportionately likely to be Black non-Hispanic people.

The income gaps documented in this report concern market income. They might be even wider if the report addressed other components of disposable income. There is some evidence, for example, that local governments subject to property tax limitation might raise *other*, non-tax user fees to compensate; to the extent that they do so, and the costs are borne unequally across groups, this practice might further exacerbate the disposable income gaps among groups.¹⁹ The gaps documented here might be wider still if the definition of household income were expanded to encompass the value of non-cash services, from transportation to education, that are provided by local governments. For example, several studies suggest that property tax limitations may reduce the quality of the educational experience that public school districts can provide. That is a kind of cost, too, and it is one that is borne disproportionately by families of children who attend public schools—who are also, in California, disproportionately Black and Hispanic.²⁰

¹⁹ Estimates of the average effect of property tax limitation on non-property-tax revenues of local government are highly variable; for a systematic review, see Martin, “Land, Power, and Property Tax Limitation,” p. 54.

²⁰ See, among other studies, Figlio, “Did the ‘Tax Revolt’ Reduce School Performance?”; Figlio, “Short-Term Effects of a 1990s-Era Property Tax Limit”; Shadbegian, “Did the Property Tax Revolt Affect Local Public Education?” For a good discussion of intergenerational equity issues raised by the racial diversity of pupil’s in California’s public schools, see Manuel Pastor, 2018. *State of Resistance: What California’s Dizzying Descent and Remarkable Resurgence Mean for America’s Future*, The New Press.

Some implications concerning reform or repeal of a commercial assessment cap can be drawn from the evidence reviewed and presented in this report. The simulations presented here compare the inequalities that exist after 40 years of a commercial assessment cap in California to the inequalities that we might expect in an alternative scenario in which no such cap had been implemented in 1978. This comparison does not tell us anything *directly* about the effects of a reform such as Schools and Communities First Initiative that would lift an *already-existing* commercial assessment cap. It does provide relevant evidence for some indirect inferences about the effects of such a reform. What the comparison does suggest is that a reform to repeal a commercial assessment cap would not increase income inequality among racial groups. A reform to lift the commercial assessment cap also might contribute to reducing or mitigating the future growth of income inequality among racial groups. If it is combined with robust civil rights enforcement, a reform to lift an existing commercial assessment cap could be part of a comprehensive agenda to mitigate economic inequalities among racial groups. It could also provide substantial additional funding for public education and other local public services.

Appendix

Table A. Results from a Poisson regression of household income on selected characteristics

	Coefficient	Robust (state- clustered) standard error
Coefficient for group membership indicator (reference group is White non-Hispanic)		
Black non-Hispanic	-0.325	0.014
Hispanic	-0.263	0.027
Other	-0.187	0.027
Coefficient for years after implementation of a commercial assessment cap, if respondent is...		
...White non-Hispanic	0.00148	0.00118
...Black non-Hispanic	0.000847	0.00125
...Hispanic	-0.000294	0.000797
...Other	0.00204	0.000837
Coefficient for years after implementation of any comprehensive limit on the growth of property taxes, if respondent is...		
...White non-Hispanic	-0.000291	0.000671
...Black non-Hispanic	-0.000069	0.000831
...Hispanic	-0.000408	0.000672
...Other	0.00130	0.000957
Ln(Age)	0.169	0.010
Householder is a woman? (Yes = 1)	-0.225	0.005
Highest educational credential is...		
...High school diploma	0.380	0.007
...four-year college degree or more	0.872	0.010
Ln(Persons in household)	0.501	0.006
Year- and state-specific intercepts omitted from table		

Notes: The model included year- and implicit state-specific intercepts, which are omitted from the presentation in this table. Data are from the Annual Social and Economic Supplement to the Current Population Survey for the years 1971 to 2019. The standard errors were computed with a Huber-White estimator that adjusts for the clustering of observations within states. The model is described in Equation 2.