ALLOCATING PROPERTY TAX REVENUE IN CALIFORNIA: LIVING WITH PROPOSITION 13

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California voters approved Proposition 13 over 20 years ago, limiting the rate at which property is taxed to 1 percent, limiting increases in assessments, and giving state government the authority to allocate local property tax revenues. Prior to the passage of Proposition 13 in 1978, local governments were able to adjust property tax rates annually to accommodate changes in costs of and demands for services. Under Proposition 13, the state determines the allocation of the property tax collected among the local entities in each county. The enabling legislation passed in 1978 and 1979 sets the share of the revenues allocated to each local jurisdiction based on the proportion of countywide property tax revenues it received prior to Proposition 13 implementation. This allocation scheme was designed to reflect local jurisdiction obligations and priorities at the time. Much has changed since then, and the constraints on local governments have led to many unintended consequences.

State and local officials, stakeholders, and political observers generally agree that the current revenue allocation system that is based on preferences, income levels, property values, and cost structures from the 1970s is unfair, outdated, inflexible, and may lead to inefficient land-use decisions. Considerable variation exists among jurisdictions in the share of property taxes received and the amount of property taxes received per capita or per dollar of assessed valuation. While many factors contribute to these variations, including differences in the assessed value of property, service responsibilities, and the extent of redevelopment areas, two local governments that are identical today with respect to these factors could still receive very different amounts of property taxes because of the static allocation formulas established in the 1970s.

Local governments' loss of property tax revenues and control over their primary revenue source may lead to inefficient resource allocation decisions, resulting in the depletion of open space, growth in low-paying retail jobs at the expense of other industry, and a shortage of housing. Local governments have few options available to finance increases in the demand for services. Since 1978, they have been unable to increase the property tax rate, and since passage of Proposition 218 in 1996, they cannot increase property-related fees and assessments without the approval of a majority of property owners.[1] This has led to increased competition for sales tax revenues that may have influenced land use decisions by encouraging retail growth and development, as opposed to other land uses such as residential or manufacturing.

The California legislature responded to growing criticism of the property tax allocation system in 1999 by passing AB 676, which declared that California's system for allocating property taxes is "seriously flawed." The legislative intent of AB 676 was to facilitate revision of the property tax system that would increase taxpayer knowledge of the allocation of property taxes, provide greater local control over property tax allocation, and give local governments greater fiscal incentives to approve developments other than retail. The statute directed the Legislative Analyst's Office (LAO) to develop alternatives for restructuring the property tax allocation system. The LAO's February 2000 report, highlights five alternative reforms, ranging from property tax allocations based on set but uniform property tax shares for all jurisdictions statewide to a shift in authority to allocate property taxes from the state to counties. The LAO stopped short, however, of making specific recommendations as to allocation rules.

In this paper we explore alternative strategies for allocating property tax revenues among the local governments in a county. We identify allocation rules that are flexible with respect to local demand and cost conditions and yet are not overly

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complex. Before describing our methodology, we explain how property tax revenue is allocated in California.

PROPERTY TAX REVENUE ALLOCATION

Following the passage of Proposition 13 in 1978, the legislature had to develop a system to divide up the property tax revenues collected within each county to all of its cities, school districts, and special districts. The necessary implementing legislation came in two steps: Senate Bill 154 (SB 154), which was passed shortly after voters approved Proposition 13, followed by Assembly Bill 8 (AB 8) a year later. In combination, they present us with a remarkably complex revenue allocation system.[2]

SB 154 provided a temporary solution. It specified that county property tax revenues for 1978-79 were to be allocated to local agencies (cities, special districts, school districts, and the county) on the basis of their average share of countywide property taxes, exclusive of taxes collected for debt retirement, over the previous three fiscal years. This formula resulted in a redistribution of property tax revenues among local governments from what had previously been low-tax areas to high-tax areas. In addition, SB154 provided (1) state assistance in the form of block grants to local governments to replace a portion of lost property tax revenues and (2) state assumption of the costs of several state-mandated health and welfare programs.

Because SB 154 pooled all property tax revenue at the county level, revenues from new construction were distributed countywide. As a result, fast-growing jurisdictions were shortchanged, causing fear that local governments would be reluctant to approve new development, thus creating a "no-growth" atmosphere. In response to this concern, the legislature revised the allocation of property taxes when it passed AB 8 in 1979, allowing the property tax revenues generated due to growth in assessed valuations to be allocated to local governments on a situs basis; that is, given to the jurisdiction(s) in which the property is located. Under AB 8, each local jurisdiction receives a "base" allocation equal to the property tax revenues it received in the prior year plus an "increment" equal to its share of any growth in property tax within its boundaries. In addition, AB 8 made permanent the SB 154 "bailout," or the vast majority of it, by shifting property tax revenues from school districts to cities, counties, and special districts.

SB 154 and AB 8 continue to form the foundation for the allocation of property tax revenues; however, subsequent decisions by the legislature and voters have altered the rules somewhat. The legislature has gradually increased the share of property taxes going to certain cities that levied no property tax or a low property tax, or were not incorporated as cities prior to Proposition 13. Also, in response to budget deficits in the 1992-1994 recession, the state shifted property tax revenues from counties, cities, and special districts to schools via the Education Revenue Augmentation Fund (ERAF), thereby easing the pressure on the State General Fund.

CREATING A BENCHMARK FOR REVENUE ALLOCATION BASED ON DEMAND AND COST FACTORS

To meet the growing demand for and rising cost of services since passage of Proposition 13, local governments have raised fees and charges and increased their reliance on the local sales tax. Many of these alternative revenue sources require voter approval and, therefore, expenditure patterns, which reflect these other revenue sources, as well as property taxes, are likely to be a better reflection of current local costs and demand. Thus, as a benchmark for revenue allocation, we propose utilizing predicted expenditure values derived from an econometric model that explains expenditure as a function of demand and cost factors. Our analysis will show that such factors explain much of the variation in local government expenditures. Therefore, we believe that our approach can provide a clear and compelling benchmark for assessing local costs and demands that prevail today.

Allocation of property tax revenue in California occurs within counties, not across counties at the statewide level. Having estimated predicted expenditure values, we then need a mechanism for using those values to allocate revenue between cities and the county, as well as among cities.[3] It is not the primary objective of our econometric model to observe the contribution of specific demand or cost factors to expenditure, nor to obtain predicted expenditure values per se. Rather, our objective is to determine each jurisdiction's share of county revenue, using predicted expenditure values as a basis for this allocation.

We consider two methods of determining jurisdictions' revenue shares, the countywide and situs approaches. These methods differ dramatically in

the allocation principles on which they are based. The first approach treats all revenue in the county as belonging to a countywide pool, thus allowing revenue to cross jurisdictional boundaries. The second treats revenue as belonging to the jurisdictions in which it was raised, mirroring the conventional structure of the property tax in other states. The current revenue allocation system contains elements that reflect both of these allocation principles.

Revenue allocation based on predicted values from an econometric model would probably look too much like a "black box" to both policy makers and voters and may result in undesirable incentives. We propose a simpler rule, based on assessed value and population as an allocation mechanism. The parameters of this rule are derived from a regression of our predicted expenditure shares on population and assessed value shares. A system based on this rule would result in property tax revenue allocations that more closely reflect current cost and demand conditions and that would be responsive to changes in such conditions. This rule could provide a starting point for county-level negotiations seeking to devise a rule more suitable to local circumstances.

FINDING PREDICTED EXPENDITURE VALUES

We estimate standard reduced-form models to explain per capita operating expenditure as a function of both cost and demand variables, taking into consideration a standard array of factors that have been found to influence spending, as well as some that reflect particular features of California's governmental structure.[4] Separate results are obtained for city and county governments since they provide different types of services and the characteristics of the population served may be quite different, giving rise to differences in the demand for and costs of providing the same service.

We use a logarithmic functional form, which is the norm in the literature on state and local spending. We use annual data for fiscal 1992-1998.[5] Because of our specific policy context, we omit some variables that one might otherwise expect to find in a model of government spending. For example, we do not include a tax price variable. Proposition 13's limit on the growth of assessed value and the current mechanism for allocating revenue among governments make observation of a conventional tax price variable difficult if not impossible. Our model does not include fixed effects or year effects, as neither can serve as a practical basis for allocation of tax revenue. We do include county dummy variables in the city model to capture unobservable differences across counties, and variables, such as the unemployment rate and per capita income, to account for business cycle effects that would have been picked up by year effects.

Table 1 presents our Ordinary Least Squares (OLS) regression results for counties and cities.[6] The estimated coefficients from both models are consistent with theoretical expectations and with findings of other empirical studies. They provide a good foundation for predicting expenditure that reflects jurisdictions' demand and cost factors.

Several variables in our model are observed at the county level rather than at the city level. These include income and characteristics of the population, such as percentage minority and percentage over age 65. These variables affect the division of revenue between cities and the county, but not among cities. The positive income coefficient in the cities equation does not mean that high-income cities receive more revenue than low-income cities. Rather, it means that cities in high-income counties receive more as a group, relative to the county government, than in low-income counties.[7]

ALTERNATIVE REVENUE ALLOCATION METHODS

Our two ways of using predicted expenditures as the basis for allocating property tax revenue reflect the two very different approaches seen in SB 154 and AB 8. The countywide approach assigns revenue to each jurisdiction in proportion to its predicted expenditure based on our econometric model. All county revenue, less the school districts' share, is allocated among the cities and the county. Similar to SB 154, it is possible for revenue raised in one jurisdiction to be allocated to another under our countywide approach. Unlike SB 154, our approach allocates revenue according to recent predicted expenditure rather than to revenue patterns from the 1970s. Therefore, it is responsive to demographic and economic change.

In contrast, the situs approach allocates all revenue paid by a particular property owner among governments that have jurisdiction over that property. The revenue raised from property in a city, therefore, will be divided between that city's government and the county government. Predicted

Table 1
Dependent Variable: Log of Real, per Capita Operating Expenditures

Model:	*City*	*County*
Log of population	–0.976***	0.0173
	(0.179)	(0.0205)
Log of population squared	0.0419***	
	(0.0082)	
Log of population density	0.0958***	–0.0136
	(0.0324)	(0.0176)
Percent increase in population	–0.0011	–0.0048
	(0.0023)	(0.0042)
Log of per capita income	0.531***	0.142
	(0.172)	(0.099)
Log of per capita assessed value	0.678***	0.255***
	(0.062)	(0.054)
Log of per capita new housing permits	0.0049	0.0087
	(0.0192)	(0.0311)
Log of per capita assessed value in redevelopment districts	0.0167***	0.0046
	(0.0053)	(0.0050)
Percentage of population in unincorporated areas	0.0097*	0.0038***
	(0.0058)	(0.0007)
Percentage of workers in agriculture	–0.0057	–0.0018
	(0.0114)	(0.0029)
Percentage of population minority	0.0192***	–0.0004
	(0.0062)	(0.0016)
Percentage of population seniors	0.0016	–0.0110***
	(0.0246)	(0.0040)
Crime rate	0.2271***	0.0131
	(0.0475)	(0.0145)
Crime rate squared	–0.0199***	
	(0.0062)	
Unemployment rate	0.0160**	0.0062
	(0.0074)	(0.0054)
Log off per capita federal aid	0.0187***	0.128***
	(0.0034)	(0.045)
Log of per capita state aid	0.219***	0.515***
	(0.049)	(0.093)
Charter city dummy variable	0.289***	
	(0.050)	
Central city dummy variable	0.0871	
	(0.0735)	
Constant	–4.31*	–1.32
	(2.40)	(0.99)
R-squared	0.56	0.88
# places / # obs	366 / 2493	56 / 392

The City model also includes a full set of county dummies.
*denotes 10 percent significance; **denotes 5 percent significance; ***denotes 1 percent significance.
Panel-corrected standard errors are in parentheses.

expenditure from the city and county models will be used to determine the division of revenue between cities and counties in each case. For this purpose, predicted county expenditure is attributed to cities and the unincorporated area in proportion to the assessed value of each.[8]

For each city, we have the predicted city expenditure and a share of the predicted county expenditure. The situs approach divides revenue from each city between the city and the county in proportion to the city's expenditure and its county share. All revenue generated in unincorporated areas of a county, other than school share, goes to the county government.

Special Districts and Redevelopment Agencies

Special districts and redevelopment agencies also receive property tax allocations, and any allocation reform must include these entities.[9] Most special districts serve either the unincorporated areas of counties or the entire county; few are associated with cities.[10] Therefore, we include special district expenditure with county expenditure. We view special districts as an alternative to direct provision of services by the county government. All allocation plans that we consider distribute revenue destined for special districts to their county government. Subsequent allocation to special districts is then left to negotiation between them. We also assume that the allocation of a redevelopment agency's property tax revenue is divided evenly between the city government that formed the agency and the county government. Cities and counties are obligated to allocate revenue to their redevelopment agencies out of their own revenue allocations.

Countywide and Situs Revenue Allocations

Revenue allocations resulting from our countywide (CW model) and situs (Situs model) approaches for selected cities and counties, averaged over the sample years (1992-1998) can be found in Table 2. Statewide, 66 percent of cities and 11 percent of county governments would gain revenue if it were distributed in accordance with our countywide approach.[11] Under our situs approach, 56 percent of cities and 50 percent of counties would experience an increase in revenue. It is not surprising that counties fare better as a group under the situs approach, as they would receive all revenue from unincorporated areas as well as a substantial portion of revenue from cities.

If the current allocation system favors cities with particular characteristics, such as large population or high income, then cities with those characteristics might be expected to lose under reform. To investigate this possibility, we examine the correlation between percentage changes in revenue under both the situs and countywide approaches and several city characteristics. Revenue changes generated by our predicted expenditure shares for cities are *not* correlated with characteristics such as population, per capita personal income, per capita assessed value, or being a central city, under either approach. In no case is the correlation between percentage revenue change and any of these factors greater than 0.1 in absolute value. Therefore, cities that would gain under our approach are as likely to be large as small, or high-income as low-income.

For county governments, there is some correlation between projected revenue changes and these factors. Percentage revenue change for county governments under the countywide and situs approaches has correlation in the range of –.25 to –.37 with per capita income and per capita assessed value. Thus, county governments in lower income and in lower assessed value counties should have somewhat larger percentage revenue increases on average according to our model. Correlation between percentage revenue changes and population is in the range of –0.10 to –0.15, so smaller county governments should have slightly larger revenue increases according to our model.

A Simple Rule

Simplicity facilitates citizen understanding of the distribution of property taxes. The current system is not well understood even by experts in the field. Revenue allocations are based on several complex factors, including SB 154 base revenue, AB 8 factors, ERAF, and redevelopment agencies.

Revenue allocation based on predicted values from an econometric model may also be difficult to explain to voters and may give rise to local incentives, some of which may be undesirable. For example, based on our estimated expenditure model, counties would have an incentive to encourage population growth in unincorporated areas and to discourage the growth of their senior population to increase their estimated expenditures per capita and thus, their share of countywide property tax revenues. Similarly, cities would have an incentive to discourage population growth, increase

Table 2
Property Tax Revenue ($, average for 1992-1998)

City	*Actual*	*CW model*	*Situs model*	*Simple Rule*
Anaheim	22,800,000	31,800,000	24,800,000	25,800,000
Bakersfield	15,600,000	27,600,000	17,400,000	19,400,000
Chula Vista	9,855,844	11,600,000	10,500,000	12,300,000
Fremont	24,300,000	22,500,000	28,800,000	34,700,000
Fresno	29,700,000	34,500,000	27,400,000	27,400,000
Garden Grove	8,850,734	8,503,683	7,617,940	11,300,000
Glendale	15,300,000	17,900,000	21,200,000	25,700,000
Huntington Beach	18,600,000	18,600,000	16,800,000	18,300,000
Long Beach	43,500,000	58,700,000	53,500,000	52,900,000
Los Angeles	429,000,000	759,000,000	560,000,000	457,000,000
Modesto	6,469,032	7,592,881	6,346,077	8,013,406
Oakland	52,200,000	85,800,000	57,600,000	51,000,000
Oceanside	12,000,000	8,212,021	8,633,837	12,000,000
Oxnard	10,700,000	13,600,000	11,400,000	16,200,000
Riverside	13,400,000	22,400,000	17,400,000	20,500,000
Sacramento	44,900,000	49,900,000	35,900,000	38,700,000
San Bernardino	12,400,000	17,200,000	11,900,000	14,600,000
San Diego	117,000,000	139,000,000	116,000,000	108,000,000
San Jose	94,300,000	145,000,000	116,000,000	109,000,000
Santa Ana	23,100,000	25,600,000	17,400,000	21,900,000
Stockton	13,300,000	23,800,000	17,700,000	18,800,000
Stanislaus County				
County	27,200,000	27,500,000	29,100,000	25,400,000
Ceres	1,161,029	799,770	752,587	1,291,084
Hughson	72,054	100,126	86,878	137,585
Modesto	6,469,032	7,592,881	6,346,077	8,013,406
Newman	402,810	217,578	182,219	244,133
Oakdale	1,027,474	624,761	575,051	739,431
Patterson	257,477	318,212	267,305	390,217
Riverbank	532,684	375,934	359,303	598,847
Turlock	2,008,443	1,664,335	1,550,575	2,282,061
Waterford	171,517	130,035	123,637	242,482
San Diego County				
County	262,000,000	273,000,000	293,000,000	278,000,000
Carlsbad	11,000,000	6,400,018	7,452,551	8,700,278
Chula Vista	9,855,844	11,500,000	10,500,000	12,300,000
Coronado	7,674,481	2,139,029	2,552,058	3,143,358
Del Mar	1,118,592	1,176,404	1,186,177	922,549
El Cajon	4,689,093	4,992,397	4,928,682	6,858,467
Encinitas	9,677,865	3,115,874	3,948,627	6,080,807
Escondido	7,280,462	6,942,086	7,168,365	9,625,165
Imperial Beach	1,308,836	1,128,263	1,034,337	1,761,821
La Mesa	3,087,561	2,803,613	3,013,510	4,425,898
Lemon Grove	1,311,532	1,199,407	1,160,256	1,730,324
National City	3,321,129	2,592,344	2,278,673	3,466,767
Oceanside	12,000,000	8,212,021	8,633,837	12,000,000
Poway	8,882,740	2,422,659	3,027,023	4,648,070
San Diego	117,000,000	139,000,000	116,000,000	108,000,000
San Marcos	4,709,283	3,355,415	3,444,957	4,249,429
Santee	5,046,603	2,119,782	2,380,082	4,073,683
Solana Beach	2,052,028	1,435,723	1,654,508	1,803,691
Vista	5,694,979	4,492,926	4,732,827	6,507,161

population density, expand redevelopment agencies, increase the minority proportion of their population, and allow an increase in their crime rate.

To avoid these potential problems, we propose a simple revenue allocation rule based on assessed value and population. Unlike SB 154 and AB 8, this rule would automatically adjust revenue allocations as jurisdictions' shares of assessed value and population in a county change, providing flexibility over time and better reflecting local demand and cost conditions. In addition, it would represent a significant improvement in the state's ability to explain tax allocation.

We are able to explain most of the variation in revenue shares derived from our econometric model based on assessed value and population. Moreover, assessed value is the situs-based allocation factor used for property taxes in most places, and population has been proposed as an allocation factor for sales taxes and other revenue. Further, assessed value and population are observable for all jurisdictions in the state, and their use in a revenue allocation formula would not create incentives with undesirable consequences compared with other possible factors. Although they distribute more revenue to jurisdictions that grow fast relative to other jurisdictions in the same county, they reward all types of assessed value similarly, rather than favoring any category, such as retail property. In specifying this rule, we first determine the share of revenue that goes to the county. The remainder is allocated among cities on the basis of assessed value and population.[12]

We develop our simple formula by regressing the countywide shares computed from predicted expenditures on the jurisdiction's share of assessed value and the share of population within the county (Table 3).[13] We do this separately for city and county governments. Our simple rule has parameters that are as close as possible to the estimated parameters in those regressions, given several constraints. The revenue shares received by all jurisdictions within a county must add to one. Therefore, the coefficient for assessed value must be equal in the county and city share equations. Similarly, the coefficient for population must be equal in both equations. The coefficients in the county equations must sum to one so that a county with no cities gets 100 percent of county revenue. Finally, we constrained the city constant to be zero so that no jurisdictions would receive negative shares. Given these considerations, our simple allocation rule is:

- County share = .50 + .25(unincorporated area's share of county assessed value) + .25(unincorporated area's share of county population)
- City share = .25(city's share of county assessed value) + .25(city's share of county population)

The revenue allocations resulting from this rule for selected cities and counties, averaged over the sample years (1992-1998), can be found in Table 2. To evaluate this rule, we consider the correlation between the resulting revenue and actual rev-

Table 3
Regressions Used to Form Simple Rule Based on Assessed Value and Population, Using Countywide Shares

Dependent variable: Share of predicted expenditure determined using the countywide approach

Variable	*Cities*	*Counties*
Constant	–0.004	0.51
	(–4.69)	(37.2)
Share of assessed value	0.32	0.20
	(4.83)	(2.93)
Share of population	0.26	0.26
	(4.63)	(3.78)
Number of observations	3273	392
R–squared	.92	.87

t–statistics computed with panel–corrected standard errors are in parentheses

enue, as well as the revenues projected by our countywide and situs approaches to implementing our econometric model. Correlations of the total revenue received under alternative approaches are over 0.98 in every case because larger cities get more revenue regardless of the allocation approach. Revenue from the simple rule is slightly more highly correlated with revenue from both the predicted expenditure-based situs and countywide approaches than it is with actual revenue, both for counties and cities. This result suggests that allocations based on the simple rule better reflect demand and cost factors than do current allocations.

We also examine correlations of per capita revenue and effective tax rates (revenue per dollar of assessed value) to gain a better understanding of the implications of the simple rule. These are presented in Table 4, first for cities and then for counties. For counties, correlation is greater than 0.93 in every case. The simple rule revenue is more highly correlated with the econometric model results (both countywide and situs) than with actual revenue. For the counties, then, the simple rule produces allocations that match the revenue based on predicted expenditure shares better than they match current revenue allocations.

Turning to cities, we see much more variation in the correlation coefficients, but the same patterns emerge as in the case of counties. Again, the revenue allocations generated by the simple rule are more highly correlated with the revenue based on predicted expenditure shares than with actual revenues, indicating that the simple rule would move us closer to an allocation reflecting demand and cost. Although including population as an allocation factor departs from a situs-based approach, revenue produced by this rule is very highly correlated with revenue allocations generated by the situs version of the econometric model (0.95 for revenue per capita and 0.82 for revenue per dollar of assessed value). Including population along with

Table 4

Correlation of Actual and Projected Revenue per Capita for Cities

	Actual	*CW Model*	*Situs model*	*Simple Rule*
Actual	1.00			
CW model	0.68	1.00		
Situs model	0.74	0.94	1.00	
AV&POP	0.71	0.85	0.95	1.00

Correlation of Actual and Projected Revenue per Capita for Counties

	Actual	*CW Model*	*Situs model*	*Simple Rule*
Actual	1.000			
CW model	0.982	1.000		
Situs model	0.988	0.997	1.000	
AV&POP	0.986	0.992	0.996	1.000

Correlation of Actual and Projected Revenue per $ of Assessed Value for Cities

	Actual	*CW Model*	*Situs model*	*Simple Rule*
Actual	1.00			
CW model	0.22	1.00		
Situs model	0.54	0.69	1.00	
AV&POP	0.64	0.39	0.82	1.00

Correlation of Actual and Projected Revenue per $ of Assessed Value for Counties

	Actual	*CW Model*	*Situs model*	*Simple Rule*
Actual	1.000			
CW model	0.929	1.000		
Situs model	0.952	0.988	1.000	
AV&POP	0.946	0.963	0.980	1.000

assessed value as an allocation factor, therefore, appears to be consistent with the revenue allocations implied by a situs-based approach that accounts for local demand and cost factors. We conclude that the simple rule serves well as a revenue allocation mechanism that reflects demand and cost.

Reform of the property tax allocation mechanism would be much easier to implement if it did not result in significant revenue losses in many jurisdictions. Our simple rule would result in a revenue gain for 82 percent of cities, but for only 15 percent of counties. These results are very sensitive to the assignment of redevelopment agency revenue. In particular, if cities were entirely responsible for the redevelopment agencies within their borders, then our simple rule would result in revenue gains for 56 percent of cities and 61 percent of counties.

One approach to making such a reform possible would be to enlarge the pool of revenue available. An obvious way to do this in California would be to abolish the Education Revenue Augmentation Fund (ERAF), thereby restoring the school and non-school shares of property taxes to their pre-1992 levels. If the simple rule were coupled with abolishing ERAF, 90 percent of cities and all but one county (Mono County) would gain revenue. Of course, the state would have to find another source of school funding to replace lost ERAF revenue, but doing so would improve the state-local fiscal relationship.

CONCLUSIONS

Each California local government's share of county property taxes, under current allocation rules, is based on revenue patterns from the 1970s. Government leaders, community advocates, and academics agree that allocations to local jurisdictions should reflect current community service demand and costs.

There is no shortage of reform proposals. Since existing proposals do not incorporate specific rule changes, however, they are difficult to evaluate and compare. Our objective in this study is to inform the policy discussion regarding reform and to provide a benchmark against which both current allocation practices and proposed reforms can be judged. We develop a very simple revenue allocation rule, based on assessed value and population, that would result in an allocation of property tax revenue that, on average, closely reflects cost and demand conditions and is responsive to changes in such conditions. Furthermore, such an approach is easy to explain and adapt, easily accommodates boundary changes and new city formation, and is neutral with respect to land use in that it would not provide an incentive for jurisdictions to favor retail property growth over other types of growth.

Any reform involving a reallocation of property tax revenue will result in revenue losses for some cities and counties. Our findings reveal no significant patterns to city winners or losers under our simple rule. The cities that would gain the most under our approach are as likely to be large as small, or high income as low income. In contrast, there is some correlation between projected revenues for counties and these factors. County governments in lower income, lower assessed value counties would receive somewhat larger percentage revenue increases under our approach.

A rule, such as our simple rule, can serve several purposes. First, it can guide efforts to replace the existing, exceedingly complex property tax allocation system while maintaining state control. It can inform consideration of more far-reaching reforms that might allow local control of property tax allocation. Specifically, our rule can provide the basis for local negotiations, assisting each county in devising its own allocation formula. Finally, a rule like the one developed here can provide a benchmark for the allocation of other types of revenue to local governments based on cost and demand factors.

Notes

[1] Proposition 218 limits the authority of local governments to impose taxes and property-related assessments, fees, and charges; requires that a majority of voters approve increases in general taxes; and requires that a two-thirds majority of voters approve special taxes.

[2] See McCarty et al. (2001), Appendix B for a detailed numerical example of the current revenue allocation system.

[3] Our primary focus is on allocation among city and county governments. School expenditure is equalized across the state, so local school expenditure does not reflect demand and cost conditions in the way that municipal expenditures do. Our econometric approach therefore is not applicable to California schools. We assume that school districts continue to receive the percentage of county revenue that they actually received in each year, however, our approach could easily accommodate other possible allocations of revenue to school districts.

[4] Pack (1998) defends the use of reduced form spending equations, "The mixed findings of the economics literature that has tried to estimate structural relationships, and the complexity and ambiguity of the sociological literature on this subject suggest that for now this is the most productive approach." (p. 2006)

[5] See McCarty et al. (2001) for data definitions and sources (Appendix C) and descriptive statistics (Tables 1 and 2).

[6] We report panel-corrected standard errors that allow for the fact that observations are not independent; they assume that observations are independent across locale but do not assume that the different observations for each locale are independent.

[7] Differences across counties in the split between city and county governments may reflect differences in service provision. For example, high-income counties are likely to have relatively low welfare expenditure. Welfare services are provided by county rather than by city governments. The income coefficient is positive and significant in the city equation but is insignificant in the county equation. This suggests that cities in high-income counties will receive a greater share of county revenue as a group than cities in low-income counties, presumably because the county government in high-income counties experiences less demand for welfare related expenditure.

[8] We allocate predicted county expenditure among cities in proportion to assessed value rather than according to another factor, such as population, to preserve the situs-based aspect of this approach.

[9] Redevelopment agencies issue bonds to finance redevelopment in "blighted" areas, or redevelopment districts, under the premise that the redevelopment will generate enough additional property tax revenue to service the bonds. A redevelopment agency receives the property tax revenues generated by incremental increases in property values within the redevelopment district.

[10] California classifies special districts as enterprise or non-enterprise. Enterprise districts rely primarily on user-fees for funding, while non-enterprise districts generally do not. Also, enterprise districts receive only small allocations of property tax revenue. We have excluded enterprise districts from our study.

[11] If all redevelopment revenue were assigned wholly to cities, then 50 percent of cities and 46 percent of counties would gain revenue under our countywide approach.

[12] Smith (1991, p.91) advocates a very similar two-step approach, using only assessed value in the second step, on the grounds that it would avoid non-situs-based allocation, which he views as unconstitutional. We also developed rules using assessed value and population separately, but combining these factors generates revenue allocations more closely aligned with local demand and costs as estimated by our econometric model.

[13] Using shares from the "situs" approach as the independent variable in these regressions does not alter our simple rule.

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