

The TACPA Program: A Review of Current Structure and Potential Alternatives

The State of California, in an effort to stimulate business development in economically-disadvantaged areas, created an economic preference process called the Target Area Contract Preference Act (TACPA, Ch. 323, Statutes of 1983). This program offers extra credit in the state contract bid evolution phase to qualifying firms that agree to locate in distressed areas.

Eligibility for TACPA preferences hinges on eight measures of local economic distress. However, the availability of these measures has changed. The Census Bureau no longer releases socioeconomic data for two of the eight criteria at the block-group level. This lack of data likely will threaten the integrity of the TACPA program unless changes are made to policy and procedure.

This *Briefly Stated* provides background information on the TACPA program, identifies potential problems with the current structure of the program, and presents an analysis of potential alternative eligibility rules aimed at overcoming the loss of two criteria indicators at the state-mandated block-group level.

BACKGROUND

The Department of General Services (DGS) purchases a wide variety of goods and services from private-sector firms. For large-scale purchases, DGS must put contracts for goods and services out to bid. Under TACPA, the state awards a five percent preference to California-based firms that meet key criteria and locate in economically-distressed urbanized areas. Additional workforce preferences may also apply.

Key Findings:

- Current statute, regulations, rules and guidelines do not clearly identify what data should be used when constructing TACPA indicators, nor do they provide guidance on how to determine eligibility when data on any of the eight criteria are unavailable at the block-group level.
- Survey data provided by the Census Bureau has inherent sampling error, missing data and missing measures. Creating and implementing rules, regulations and guidelines could clarify how the TACPA program ought to address these issues.
- CRB identified four potential strategies for approaching the data, each of which produces generally similar results.

DGS identifies these economically-distressed areas through a test of eight criteria specified in Government Code Section 4532(d). (See Table 1.) If the area meets five of the eight criteria, the bidder is awarded a contract preference.

CHANGES IN CENSUS BUREAU DATA

The U.S. Census Bureau used to administer a "long-form survey" to one out of six people, or 17 percent of the population, as part of the decennial census. The survey asked socioeconomic questions about employment, poverty and housing. CRB estimates that 4,289 block groups qualified for the TACPA program in 2000, based on the Census Bureau's last long-form survey data. (See Figure 1.)

After 2000, the Census Bureau transitioned away from the long-form survey and began collecting

Table 1. TACPA test criteria that define “distressed area”

1. The percentage of the block group's population over age 25 with less than a high school education was within the upper quartile of all block groups.
2. The unemployment rate of the block group was within the upper quartile of all block groups.
3. The per capita income of the block group was within the lower quartile of all block groups.
4. The percentage of the block group's households which were female-headed households in poverty with children present was within the upper quartile of all block groups.
- 5. The percentage of the block group's population over 65 who were in poverty was within the upper quartile of all block groups.***
6. The percentage of the block group's households with more than 1.01 persons per room was within the upper quartile of all block groups.
- 7. The percentage of the block group's population younger than 18 who were in poverty was within the upper quartile of all block groups.***
8. The percentage of the block group's population who were nonwhite or Hispanic was within the upper quartile of all block groups.

Source: CA Government Code Section 4532(d).

* The U.S. Census Bureau no longer provides these data at the block-group level.

socioeconomic data on an ongoing basis through the American Community Survey (ACS). This transition has created a major constraint for the TACPA program. With the ACS, the Census Bureau releases different data and uses a different schedule than it did with the long-form survey. Specifically, block-group level data are released once a year (rather than once every 10 years) and poverty percentages among those over 65 and under 18 are no longer published at the block-group level.

ADDITIONAL CONCERNS

In addition to the problems associated with the Census Bureau’s transition to the ACS, CRB identified a number of other issues with the current structure of the TACPA program.

AMBIGUITY IN TACPA WORDING

Current statute, regulations, rules and guidelines do not clearly identify which data should be used when constructing TACPA indicators. For example, Criteria 5 and 7 call for indicators of poverty among specific age groups. It is not clear whether the desired indicator is the poverty rate among individuals in the age groups or the percentage of the block group’s entire population that are in the specified age groups and in poverty. Additionally, the Census Bureau does not determine poverty for all individuals. Those living in institutionalized settings, military group quarters and college dormitories, and unrelated individuals under the age of 15 are not included in the poverty estimate.

DEALING WITH MISSING DATA

Current code lacks guidance on how to determine eligibility when data on some or all of the eight indicators are unavailable. In the long-form 2000 Census data, 126 block groups had “total populations” of 0. This meant that no long-form surveys were returned from individuals living in a particular block group. An additional 396 block groups had a subpopulation of 0 for at least one of the base categories used to construct the eight indicators. The existing code does not provide guidance on how the economic distress of these 522 block groups should be determined.

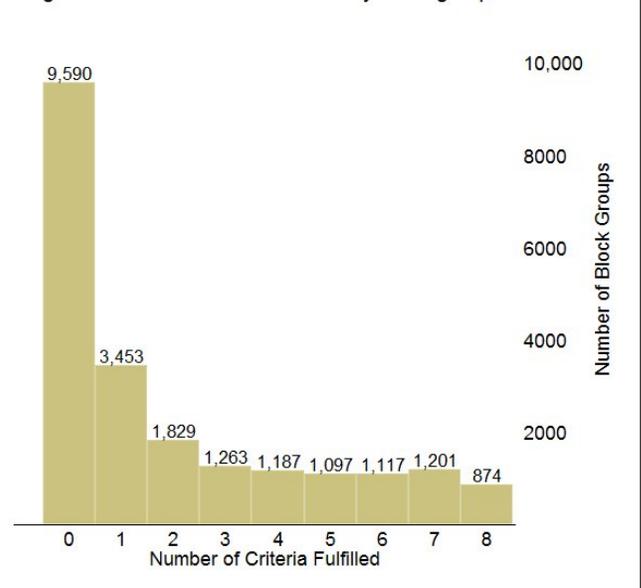
Missing data can be handled in a number of ways, but a simple approach might be to include all block groups in the analysis and assign values on missing indicators at the block-group level using data from the lowest

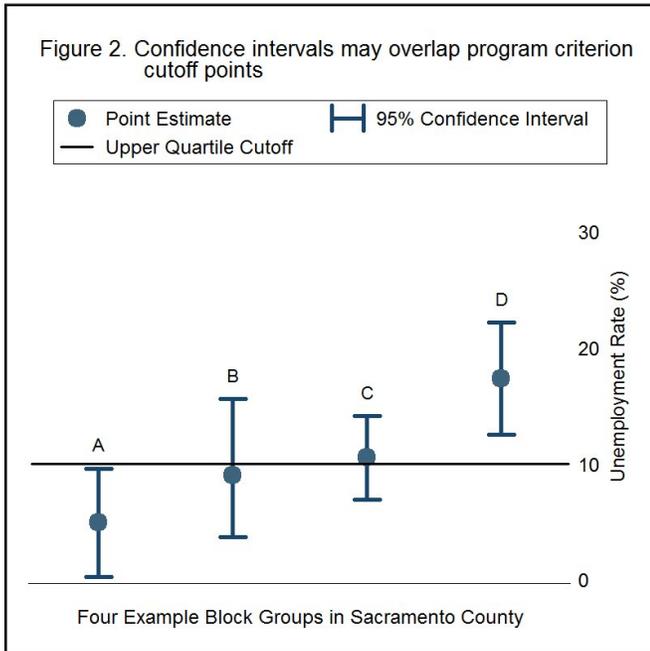
aggregate unit for which data are available (such as the census-tract level).

ADDRESSING SAMPLING ERROR

Whether from the long-form survey or the ACS, the data used to construct indicators of the eight criteria come from a sample of citizens and are subject to sampling error. “Sampling error is the difference between an estimate based on a sample and the corresponding value that would be obtained if the estimate were based on the entire population.”¹¹ Estimating sampling error in practice is difficult, but

Figure 1. TACPA criteria satisfied by block groups in 2000





CRB estimates that the standard errors associated with the criteria indicators available at the block-group level are 2.3 times larger, on average, in 2010 than they were in 2000.

Sampling error inflates the amount of missing data because the Census Bureau may fail to survey members of subpopulations focused on by TACPA, causing some block groups that could be eligible for the program to go unclassified. Even when data are not missing, block groups may be misclassified because the indicators of the eight criteria are estimates that contain a margin of error.

Figure 2 provides an example of sampling error and its effect on the unemployment indicator of four sample block groups located in Sacramento County. Block groups A and B do not qualify for TACPA on the unemployment indicator, as their point estimates lie below the cutoff for the definition of distressed. Block

groups C and D do qualify. But the 90 percent confidence intervals for B and C span the cutoff suggesting that their respective classifications are statistically tenuous.

ALTERNATIVES

CRB reviewed four alternatives to the present standard for determining eligibility. (See Table 2.) The premise for each is to work around the fact that two criteria dealing with poverty measures for residents over 65 and under 18 are no longer available at the block-group level. In one of the alternatives, we would eliminate the two poverty measures altogether and work with the remaining six. In the second alternative, we would replace the two age-specific poverty measures with one, general poverty measure. The third alternative would keep all eight criteria but move from the block-group level to the census-tract level. And finally, we looked at the possibility of using all eight criteria but substituting census-tract level data whenever a criteria's block-group level data are not available.

Each alternative has its advantages and disadvantages. For instance, whenever working with census-tract level data, we reduce the effects of sampling error because census tracts are, on average, three times larger than block groups. A disadvantage to the census-tract level determination is that any block groups that are significantly different than the rest of their census tract could be misclassified.

Such issues could be avoided by keeping the determination process at the block-group level. The disadvantage of this approach is the loss of information on the poverty rates of children and senior citizens within block groups. CRB used simulation analyses to identify the percentage of block groups whose predicted eligibility differed when applying a given alternative as opposed to the current TACPA rule. We

Table 2. Potential alternative TACPA eligibility rules

Decision Rule	Definition
5/6 at block-group level	Eliminate the two poverty criteria that are no longer available from the Census Bureau at the block-group level; "distressed" is defined as meeting five out of the six remaining criteria.
5/7 at block-group level	Replace the two unavailable age-specific poverty criteria with a general poverty criterion; "distressed" is defined as meeting five out of seven criteria.
5/8 at census-tract level	Move all eight criteria from the block group to the census-tract level; "distressed" is defined as meeting five out of eight criteria.
5/8 at lowest-available level	Move the two unavailable age-specific poverty criteria to the census-tract level and leave the remaining six at the block-group level; "distressed" is defined as meeting five out of eight criteria.

Table 3. Aggregate estimated misclassification rates

Decision Rule	Misclassification Rate	False Negative Rate	False Positive Rate
5/6 at block-group level	7-13%	7-11%	0-1%
5/7 at block-group level	4-10%	3-8%	1-3%
5/8 at census-tract level	8-11%	4-7%	4-5%
5/8 at lowest-available level	5-11%	3-7%	2-4%
Significance test at lowest-available level	19-24%	1-2%	18-22%

Note: Misclassification rate refers to the percentage of block groups that will likely be incorrectly classified as nondistressed (false negative) or distressed (false positive). Ranges reflect different assumptions regarding the degree of sampling error and its relationships across items.

used the 2000 long-form survey data as a baseline and explored a range of assumptions regarding the degree of sampling error and its relationship across items.²

Two results are worth noting. (See Table 3.) First, while the “5/7 at block-group level” rule has the lowest misclassification rate among the four alternatives, the difference is not large. Second, the misclassification rates of the four alternatives presented in Table 4 are similar in the aggregate but the sets of block groups that get misclassified are not consistent across rules. On average, the four alternative rules generate identical eligibility assignments for 80 percent of block groups. The remaining 20 percent, or 2,000 block groups, would be eligible under some rules but not others. So while the misclassification rate of the four rules is not significantly different, the list of TACPA-eligible block groups the four rules would produce could be considerably different.

CRB explored a more general change to the determination process that seeks to minimize the number of distressed block groups classified as ineligible for the TACPA program. The current rule and all alternatives considered up to this point ignore the fact that each indicator is subject to sampling error.

This approach starts from the assumption that block groups qualify on each criterion unless the 90 percent confidence interval associated with their indicator is below/above the quartile cutoff. Such an approach would reduce the number of block groups that are truly distressed but classified as ineligible for the TACPA program. However, the subsequent cost would be that a larger number of block groups that are *not* distressed would incorrectly be categorized as eligible and the overall misclassification rate would increase substantially.

For example, if we were to apply this significance testing approach to the “5/8 at Lowest Available Level” rule, less than 2 percent of block groups would be

mistakenly classified as ineligible even though they were distressed, but more than 20 percent could be incorrectly classified as eligible.

RECOMMENDATIONS

CRB recommends the following:

- By clearly specifying the population each criteria will be measured against, DGS can ensure that the appropriate data are used to construct indicators of each of the eight criteria.
- Simulations with the survey data suggest that more than five percent of block groups may be misclassified due to sampling error. Even if margin-of-error estimates are not used in the eligibility determination process, policy could be written that acknowledges the presence of sampling error.
- Existing code or regulations should be updated to include instructions on how often TACPA eligibility will be determined and how to do so when data on some or all of the indicators are unavailable.

REFERENCES

1. U.S. Census Bureau. 2011. *American Community Survey: Multiyear Accuracy of the Data*. American Community Survey Office, Washington, DC.
2. A more detailed summary of the statistical analysis is available at <http://www.library.ca.gov/crb/CRBReports.html>.

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