

## B. Statistical Methods

To estimate the application and rejection rates within a given area, the agency population is needed and was determined as follows: The stratification classification of the county was based on the size of the largest city within the county. If cities within a county conducted their own background checks, their populations were subtracted from the county population. If a municipal agency provided services for other selected municipalities, then populations for those municipalities were added to the populations of the reporting municipality. If an agency participating in the study relied upon other jurisdictions to conduct background checks, they were replaced by those other jurisdictions.

State and local checking agencies were stratified by size of the population served: State agencies that serve an entire State population; local agencies that serve a population greater than 100,000; local agencies that serve a population between 10,000 and 100,000; and local agencies that serve a population of less than 10,000. Population size was based on 2000 Census Bureau information. The population categories were chosen to be consistent with those used by the FBI when conducting similar studies.

The number of agencies in the survey is shown by population category:

| <u>Population served</u> | <u>Number of agencies</u> |               |
|--------------------------|---------------------------|---------------|
|                          | <u>Population</u>         | <u>Sample</u> |
| Total                    | 2,950                     | 799           |
| Statewide                | 27                        | 27            |
| Over 100,000             | 113                       | 46            |
| 10,000 to 100,000        | 1,150                     | 405           |
| Under 10,000             | 1,660                     | 321           |

In some States one statewide agency conducts background checks for purchase and another agency (or division within an agency) issues ATF-approved permits. Care will be taken not to count State populations twice in the estimation process. This situation of dual agencies conducting background checks does not occur among local agencies.

Based on data provided by both sets of agencies, national estimates will be developed using population weighting factors. When an agency does not provide data for all months, a simple linear extrapolation or interpolation will be used to generate a 12-month total.

Agencies with rejection rates over four standard deviations above the average standard rejection rate are classified as outliers and their data will not be used for projection of estimates. In addition, rejection rates that can not be determined with sufficient accuracy will not be used. The estimates will not include U.S. Territories or the District of Columbia.

The accuracy of the estimates depends on two types of errors: nonsampling and sampling. In this study, nonsampling error may occur from the following: nonresponse; differences in the methods checking agencies use to process, code, store, and retrieve their information; differences in interpretation of the survey questions; and activities that delay personnel from completing the survey.

In any sample survey, the full extent of nonsampling error is never known. However, steps will be taken to minimize the potential for error. Extensive telephone follow-ups will be made to encourage responses, answer questions about misunderstood requests, and generally assist in assembling the information in a useable form. Extensive verification of the data will ensure the accuracy of the numbers. Agencies providing data will be asked to review and revise their reports, and various quality checks will be performed in the course of receiving and processing the data.

BJS anticipates a response rate of 85% or better. This estimate is based on a response rate of 85.4% obtained for the most recent administration of the survey (2005). BJS has conducted non-response analyses to determine which groups are most prone to non-response. The group of agencies serving populations of over 100,000 had the lowest response rate in the most recent administration. Ongoing outreach efforts by the data contractor are aimed at improving response among agencies in this and all other strata. Response rates have improved over time (i.e., across survey administrations) with agencies in all strata.

For information on statistical methodology, conducting the survey, and analyzing the data, contact:

Matthew J. Hickman, Ph.D.  
Bureau of Justice Statistics  
810 Seventh St., NW  
Washington, DC 20531  
(202) 353-1631

### **C. Attachments**

1. Copy of the survey form
2. Copy of the regulatory authority (42 U.S.C. 3732)