B. Statistical Methods

To estimate the application and rejection rates within a given area, the agency population was 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 were conducting 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 served an entire State population; local agencies that served a population greater than 100,000; local agencies that served a population between 10,000 and 100,000; and local agencies that served 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.

All agencies serving a population greater than 100,000 are asked to contribute data. The number of agencies in the survey is shown by population category:

Population served	Number of agencies
Total	683
Statewide	28
Over 100,000	36
10,000 to 100,000	338
Under 10,000	281

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

Based on data provided by both sets of agencies, national estimates are developed using population weighting factors. When an agency does not provide data for all months, a simple linear extrapolation or interpolation is 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 are not used for projection of estimates. In addition, rejection rates that can not be determined with sufficient accuracy are not used. The estimates do 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 are taken to minimize the potential for error. Extensive telephone follow-ups were 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 ensured the accuracy of the numbers. Agencies providing data are asked to review and revise their reports, and various quality checks are performed in receiving and processing the data.

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

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C. Attachments

1. Copy of the survey form

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