

THE 1998 SURVEY OF SMALL BUSINESS FINANCES: SAMPLING AND LEVEL OF EFFORT ASSOCIATED WITH GAINING COOPERATION FROM MINORITY-OWNED BUSINESSES

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ABSTRACT

The 1998 Survey of Small Business Finances is the third survey in a series that collects financial data from businesses with fewer than 500 employees. The intent of the survey is to understand how small businesses finance themselves, what sort of access to credit they have, and the impacts of changes in financial organizations on access to credit for small businesses, particularly those that are minority owned.

Publicly available business lists generally do not include information on the race and ethnicity of business owners. When this information is available, generally it is available for only a small subsample of firms on the list and may be of questionable quality. In order to overcome this limitation for the 1998 Survey of Small Business Finances, a large sample of business firms selected from Dun & Bradstreet's business listings was first screened to identify minority ownership. After screening, a smaller second stage sample, stratified by minority ownership, was selected. In this paper we compare our minority classification results with the minority information available in the Dun & Bradstreet data and with our expectations from the Census Survey of Minority-Owned Business Enterprises.

The paper also examines the level of effort associated with collecting data from comparable firms across different strata.

Key Words: business survey, SMOBE, screening, stratified sample, response rate, calls per case, incentives

1. INTRODUCTION

The 1998 Survey of Small Business Finances (1998 SSBF) marks the third time the Federal Reserve Board has collected information on the state of small businesses in the United States. No other source provides information on the finances of small businesses such as income, expenses, assets, and liabilities. The intent of the survey is to understand how small businesses finance themselves, what sort of access to credit they have, and the impacts of changes in financial organizations on access to credit for small businesses, particularly those that are minority-owned.

There is no comprehensive, unduplicated list of minority-owned businesses from which to draw a sample. Therefore, NORC purchased a sample from Dun & Bradstreet sufficiently large to allow for an oversample of businesses that are minority-owned. NORC screened the sample to identify businesses that employ fewer than 500 workers, are for-profit, and are in non-agricultural and non-financial industries. The firms had to be in business in December of 1998 to be included in the study. The target population consists of enterprises, so the particular office included in the study had to be the headquarters or main decision-making branch of the business. Although the financial information collected pertained to 1998, the screening was conducted in the spring and summer of 1999.

Surveys of minority-owned businesses have unique challenges that require creative or costly sampling procedures. This paper compares 1998 SSBF minority results with two other data sources: the minority information that accompanied the sample provided by Dun & Bradstreet and the Survey of Minority-Owned Business Enterprises. Additionally, we examine the level of effort required to conduct a survey of businesses, particularly across the various minority groups and size classes.

2. IDENTIFYING AND SELECTING MINORITY-OWNED BUSINESSES

Due to the dynamic nature of the business world, no frame can accurately capture the complete set of enterprises at any one point in time. All potential frames will have some coverage and timeliness issues. Some potential frames may also have issues with accessibility or usability. Cox, et al. (1989) discuss some possibilities and the issues with each alternative. Both the 1988 and 1993 rounds of the survey used the Dun's Market Identifiers™ (DMI) file produced by the Dun & Bradstreet Corporation.

The DMI file is based on Dun & Bradstreet's credit rating services and business telephone listings. The file includes a business' telephone number, address, name of owner or chief executive, classification as headquarters/branch/division or parent/subsidiary/sole location, Standard Industrial Classification (SIC) code, revenues, and number of employees. By excluding branches, divisions, subsidiaries, and ineligible SIC codes, the sample from the DMI file can be targeted to the SSBF universe.

There are coverage and timeliness issues with the DMI file, in spite of daily updates. The businesses most likely to be missed are the very new and the very small, especially those that have not applied for credit. The new and small businesses are also the ones most likely to be missed by administrative records. Often these businesses are slow to file required documents and begin paying taxes, and sometimes they are exempt from a government regulation altogether. Sole proprietorships operated out of the home are probably the most difficult types of businesses to cover by any agency. Dun & Bradstreet claims that new firms are added to the list as soon as their sources know about them, which could be before opening or up to two years after opening. Removal of out-of-business companies can take up to two years, as well.

Through related services, Dun & Bradstreet now also offers minority status of the owner, when such information is provided by the business. Historically, D&B has relied on minority status as certified by government agencies. Certification provides very reliable information, but also incomplete information since minority businesses are not required to declare minority status and subject themselves to the certification process. Currently D&B obtains minority information from three general types of sources: 1) alliance organizations and other outside sources, 2) D&B questions during customer service call-ins, and 3) D&B validation calls to any new business in the file.

Minority-owned businesses may be under-counted either because they choose not to identify themselves as minority-owned, or because they are not in the DMI file. Traditionally, D&B's focus has been related to credit applications. It is possible that some small businesses that never apply for credit could be missing from the database, although we have no documentation to that effect. Some minority communities that have historically been discriminated against in credit applications may have developed alternative means of raising capital [Silverman (1998)]. Perhaps some of these minority enterprises are completely missing from the DMI file in larger proportions than non-minority enterprises.

Enterprises that do not volunteer their minority status in government registrations are also likely to be absent from other specialized lists of minority business such as Black Pages directories or the Small Business Administration's list of minority federal contractors. Exclusive use of specialized minority business lists for sampling minority-owned businesses may result in a biased sample.

Another approach that has been tried for targeting minority-owned businesses is to use the Census Bureau lists of common surnames for Hispanics and Asians [Price Waterhouse LLP (1996)]. Not all ethnic surnames can be included in lists of this sort, so some minority-owned enterprises would not be so identified. Conversely, an ethnic surname does not guarantee that the person belongs to that ethnic group. Word and Perkins (1996) determined that on a national basis, householders with one of the 639 heavily Hispanic surnames truly are Hispanic 94 percent of the time. The percentage is higher for males than for females because some women acquire their Hispanic surnames through marriage. The Asian surname list is really a collection of lists by nationality, and no useful surname list is possible for the African-American stratum. For the 1993 SSBF, the sample purchased from D&B was partitioned into Asian and non-Asian, Hispanic and non-Hispanic on the basis of owner surnames on the Census Bureau's surname lists. On a weighted basis, 39% of firms with an Asian surname were not Asian-owned, and 40% of Asian-owned firms were not so identified by the owner surname. 41% of firms with Hispanic surnames were not Hispanic-owned, and 53% of firms that were Hispanic-owned did not have owners with a surname on the Hispanic list.

In light of these difficulties, for the 1998 SSBF, we decided to purchase a very large stratified systematic sample from the D&B's DMI file. We screened the entire sample for minority ownership through an extensive calling operation. Once minority status was determined, we stratified by minority group and subsampled as needed for the main questionnaire. The four main racial/ethnic groups for SSBF were Hispanic, Asian, African-American, and Other. To be classified for a minority group, the firm had to be more than 50% owned by persons of that minority. Table 1 gives the weighted counts and percentages of eligible screener respondents by racial/ethnic group.

To plan future rounds of SSBF more efficiently, we compared the results of our screening operation with the minority information available from D&B and with our expectations from the Census Bureau’s Survey of Minority-Owned Business Enterprises (SMOBE), part of the 1992 Economic Census. The census showed that firms owned by African-Americans, Hispanic-Americans, and Asians/Pacific Islanders/Native Americans comprised 3.6 percent, 4.5 percent, and 3.5 percent of all firms, respectively, excluding C-corporations [Bureau of the Census (1996)]. The census percentage for Asians is probably high for our purposes due to the inclusion of Native Americans. SMOBE also excludes businesses in railroad transportation, while SSBF excludes depository and nondepository institutions, holding and investment offices, and public elementary and secondary schools. Both exclude agriculture, fishing, forestry, US Postal Service, membership organizations, and public administration. Finally, SMOBE samples tax filers, a substantial proportion of whom operate home-based businesses earning less than \$5,000 per year. Altogether, the very small and new firms missed by D&B account for less than 5% of total income and employment.

D&B’s minority information came in two forms. When we initially purchased the sample, we received a simple Y/N indicator for minority ownership. The indicator was “Y” if the firm was at least 51% owned by minorities, but not necessarily by the same minority. Several months later, we obtained a minority classification based on the predominant minority classification among an enterprise’s owners. If information was not available, the business was assumed to be non-minority. Table 1 compares the D&B minority type with the minority status we obtained through screening. For this analysis we combined D&B’s two categories “Asian” and “Indian/Subcontinent” into a single “Asian” classification. The D&B and screener responses in the table are based on completed, eligible screeners, with base weights adjusted for eligibility and screener nonresponse.

Table 1. Comparison of Estimates of Minority-Owned Enterprises						
Racial-Ethnic Group	1992 SMOBE Firms, Excluding C-Corps		Wtd D&B Firms By Minority Type		Wtd Firms by SSBF Screener Responses	
Hispanic/Latino	771,708	4.5%	119,031	2.2%	311,086	5.7%
Asian*	606,426	3.5%	103,882	1.9%	248,224	4.6%
Native American*			5,690	0.1%	50,070	0.9%
African-American	620,912	3.6%	13,912	0.3%	191,300	3.5%
Other	**15,254,097	**88.4%	5,170,588	95.5%	4,612,422	85.2%
Total	17,253,143		5,413,103		5,413,103	
<p>*SMOBE includes Native Americans with Asians and Pacific Islanders. **A firm with equal ownership in two or more minority groups may be double-counted in SMOBE minority-breakouts. The Other group, obtained by subtraction, may be understated.</p>						

SSBF shows a greater percentage of minority-owned businesses than SMOBE, especially among Hispanics and Asians. These results are reasonable given the population trends from 1992 to 1999. D&B, on the other hand, shows very small percentages of minority ownership, especially among African-Americans. The fact that the screener responses yielded higher minority percentages than the D&B minority information supports the hypothesis that not all minority-owned firms in the DMI file are identified as minority-owned. The SSBF percentage of African-American firms is close enough to the SMOBE percentage that it is difficult to tell whether the DMI file, on which the SSBF sample is based, is simply missing a relatively small number of African-American firms.

Table 2 compares the D&B minority types with the screener values for the cases that completed the screener and were eligible according to SSBF criteria. While the previous table addresses the issue of coverage, this table examines the accuracy of the minority information provided by D&B. While most of the owners who volunteered their minority status

to D&B provided the same information to the SSBF screener, many minority owners in the SSBF sample are not identified as minority by D&B.

D&B Categories	Screener Categories				Total
	Hispanic/Latino	Asian	African-American	Other	
Hispanic/Latino	66,653	2,989	1,815	47,575	311,086
Asian	3,195	84,191	259	16,267	248,224
African-American	557	0	11,505	1,850	191,301
Other	240,680	161,045	177,722	4,596,831	4,662,492
Total	119,031	103,882	13,912	5,176,278	5,413,103

Finally, we look at the internal consistency in the D&B minority information. Table 3 shows the values of the minority yes/no indicator variable and the minority type variable for all 39,240 records in the screener sample. The frequencies are unweighted.

D&B Minority Type	D&B Minority Indicator	
	Minority	Non-Minority and Unknown
Hispanic/Latino	808	11
Asian	426	198
African-American	98	11
Other and Unknown	91	37,597

The 220 cases classified into a minority group but not flagged as minority by the indicator is unsettling. It is not clear whether the discrepancies are due to D&B updates between the time we received the minority indicator and the time we received the minority type.

3. LEVEL OF EFFORT BY RACIAL/ETHNIC GROUP

NORC and FRB staff anticipated that minority firms would pose a greater challenge and require a greater level of effort than non-minority firms. To measure level of effort, we examine both the number of calls per completed case and the number of calls per case for each racial/ethnic group.

As Table 4 shows, African-American businesses required the greatest level of effort with an average of 24 calls per case and 18 calls per completed case compared to the overall average of 18 calls per case and 13 calls per completed case. The African-American stratum was the smallest; therefore, supervisors reassigned non-responders, even after they had refused several times, in an effort to get the number of completed interviews closer to our goal.

Table 4 shows that Hispanic-owned businesses also required a high level of effort with 21 calls per case and 14 calls per completed case. When we examine the total number of calls made by group in relation to the number of completes, we see that the Hispanic stratum required the greatest level of effort per completed case at 77 calls vs. an average of 52 per completed case. This is due to the lower response rate among Hispanic owners as shown in Table 5.

Table 4. Level of Effort by Race/Ethnicity							
Race/Ethnicity	Total Cases			Completed Cases			Total Number of Calls Per Completed Case
	Number of Cases	Number of Calls	Calls per Case	Number of Cases	Number of Calls	Calls per Case	
Hispanic	1,020	21,557	21	280	4,024	14	77
Asian	806	14,606	18	246	3,251	13	59
Afr. Amer.	618	15,106	24	250	4,439	18	60
Other	8,609	146,402	17	3,013	39,315	13	49
Overall	11,053	197,671	18	3,789	51,029	13	52

Table 5. Response Rates by Race/Ethnicity				
Race/Ethnicity	Number Selected	Number Ineligible	Number Complete	Response Rate
Hispanic	1,020	26	280	28.2%
Asian	806	21	246	31.3%
African American	618	23	250	42.0%
Other	8,609	229	3,013	36.0%
Overall	11,053	299	3,789	35.2%

Monetary incentives were not used during the first half of the field period. When it became apparent that we would not achieve our goal without additional intervention, NORC conducted a small scale experiment with a subset of cases that had already been worked by interviewers and a subset of cases that had not yet been released. The experiment showed that the incentive offered before the request for an interview was more effective. For all cases released after that point, we included a check for \$20.00 along with the materials sent in advance of the request for an interview. Table 6 shows that monetary incentives are an effective tool in gaining cooperation, especially among the minority groups. Comparing the incentive cases with those not receiving incentives, the response rates were 29% vs. 27% for Hispanic-owned businesses, 50% vs. 30% for Asian businesses, and 58% vs. 41% for African-American businesses. Furthermore, the incentives dramatically reduced the number of calls per completed case. Whether the respondent cooperated or not, the case was usually resolved with fewer calls when an incentive was offered.

Table 6. Response Rates by Race/Ethnicity: Effect of Incentives
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Race/ Ethnicity	Cases With No Incentive				Cases With Incentive			
	Number of Eligible	Number of Complete	Response Rate	Average Calls per Complete	Number of Eligible	Number of Complete	Response Rate	Average Calls per Complete
Hispanic	560	153	27%	18	434	127	29%	10
Asian	745	226	30%	14	40	20	50%	8
Afr. Amer.	552	225	41%	19	43	25	58%	10
Other	5,292	1,950	37%	15	3,088	1,063	34%	10
Overall	7,149	2,554	36%	15	3,605	1,235	34%	10

4. RECOMMENDATIONS

Business surveys require a level of effort greater than that of surveys of most other populations. Organizations planning to conduct a survey of businesses must be flexible in approach. For example, calls should be placed both during and outside normal business hours so that the interview can be conducted with the least impact on the business operation. Persistence is another key ingredient; many contacts are required before an interview is completed. The actual length of time over which contacts are made is another important factor. Additionally, if the sample targets minority owners, plan for an even greater level of effort for the minority-owned businesses.

The D&B minority information is not sufficiently complete and accurate for stratification by minority type. Therefore, when stratification by minority group is required, it is preferable to oversample and screen first.

The minority oversample model separating screening from interviewing may not be the best method to achieve minority representation. The time between screening and interviewing may negatively impact the rate of response. A “screen and go” procedure may yield better response rates.

The use of monetary incentives can increase the response rates of minority-owned businesses, but may decrease response rates for non-minority businesses. For all groups, incentives can reduce the number of calls needed.

5. REFERENCES

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