

Evaluating Veteran Business Owner Data

a research report of



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SMALL BUSINESS RESEARCH SUMMARY

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Evaluating Veteran Business Owner Data

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Purpose

Veteran business owners as a group have received increasing attention in recent years, particularly since enactment of the Veterans Entrepreneurship and Small Business Development Act of 1999, P.L. 106-50. This legislation included provisions calling for the development of more information about businesses owned by veterans and by service-disabled veterans and about the role they play in the Nation's economy. Unfortunately, data available for these groups of entrepreneurs are limited. The last authoritative Census Bureau data on veteran-owned firms dates from 1992. Currently, there are some lists of businesses that include veteran status; however, their information is thought to be incomplete, and at best they include data on only a small fraction of all veteran-owned businesses.

The purpose of this study is to examine currently available data sources on veteran business ownership, to compare the quality of major data sources, to review existing literature on veteran business ownership, and to make recommendations. Policymakers need good data in order to make informed decisions on how best to serve veteran entrepreneurs. This study attempts to advance this purpose.

Overall Findings

- At the macroeconomic level, the Census Bureau's 1992 Characteristics of Business Owners (CBO) is the most authoritative source available on veteran-owned firms, although it is now seriously dated.
- The Bureau's pending 2002 Survey of Business Owners and Self-Employed-Persons (SBO) will

provide a fresh and comprehensive picture of veteran-owned businesses and veteran business owners. It will also provide important first-time data on firms owned by service-disabled veterans. SBO data is expected in 2005.

- At the microeconomic level, among private-sector business listing databases, those maintained by Dun & Bradstreet (D&B) and Austin-Tetra, Inc. included the largest number of veteran-owned businesses.
- Most veteran-owned businesses are so small that they do not appear in any listing or directory.
- Most veteran-owned businesses are self-declared. Since FY 2001, there have been markers in the Federal Procurement Data System to identify contracts to firms owned by veterans and by service-disabled veterans. However, the reported data is spotty and is probably inaccurate.
- Efforts need to be made to improve the data quality on identified veteran-owned businesses (especially verification that they are in fact veteran-owned) and to capture true veteran-owned businesses that are not yet identified in any source.
- Veteran-owned businesses must do a better job of identifying their status as veteran-owned or service-disabled veteran-owned.
- More publicity, education, and incentives may be required to encourage veteran-owned businesses to identify themselves as such.
- Business surveys conducted by both government agencies and private sector organizations should include identifiers for veteran status and service-disabled veteran status in their survey instruments.

Highlights

- The number of veteran-owned businesses identified in various business listing databases (about 100,000 in the largest of these) was much lower than commonly used estimates of the actual number of veteran-owned businesses based on Census Bureau data (from 4.2 to 5.5 million).

- The share of firms identified as veteran-owned among all U.S. firms in the 2004 D&B database, 0.53 percent, was much lower than the 1992 Census estimate of 24.2 percent veteran ownership.

- Reasons for this disparity may have included the exclusion of certain classes of firms from one dataset or the other, methodological differences in how the data was collected, purpose and use-related biases in the D&B database, the age differential in the underlying datasets, and other causes.

- Comparison of veteran business data in the Census and D&B datasets is of limited value. Macroeconomic analysis is not the purpose of the D&B dataset; conclusions on the characteristics of all veteran-owned firms should not be inferred from its data.

Scope and Methodology

This project includes detailed analyses of 1992 Census data, including distributions by ethnicity and gender of all firm owners and veteran, non-veteran, Vietnam-veteran and disabled-veteran owners. Additional analyses compare data on all firms with data on veteran-owned firms in both the Census and D&B datasets by: 1) major industry group; 2) firm size by receipts; 3) firm size by number of employees; and 4) firm organization type. An identification, crossmatch and distribution analysis was also conducted of veteran-owned firms registered in the Federal Procurement Data System, the DoD's Central Contract Registration (CCR) System, SBA's PRO-Net database, and the D&B dataset.

This report was peer-reviewed consistent with Advocacy's data quality guidelines. More information on this process can be obtained by contacting the Director of Economic Research at advocacy@sba.gov or (202) 205-6533.

Ordering Information

The full text of this report and summaries of other studies performed under contract to the U.S. Small Business Administration's Office of Advocacy are available at www.sba.gov/advo/research. Copies are also available from:

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Foreword

This Advocacy research product is the result of a collaborative effort between several Advocacy contractors and Advocacy's own research staff. Originally begun under Advocacy contract SBAHQ-02-M-0508 to Jack Faucett Associates, Inc. (JFA) in Bethesda, Maryland, the final product now also includes work conducted by JFA subcontractor Eagle Eye Publishers, Inc. of Fairfax, Virginia; Waldman Associates of Arlington, Virginia; and Waldman subcontractor REDA International, Inc. of Wheaton, Maryland. In addition to editing the final product, Advocacy staff provided additional material to complement information and analysis supplied by the various contractors. Advocacy's Project Director for this effort was Joseph Sobota.

Chapter 1, Review of Veteran-Owned Business Data Sources, includes information on both government and non-government data sources. The information on government sources was developed by Advocacy, while that on non-government sources came from JFA. Chapter 2, Comparison of D&B and Census Data, was also a collaborative effort between Advocacy and JFA, with Advocacy incorporating Dun and Bradstreet data supplied by JFA into distributional and other analyses of Census data. Chapter 3, Comparison of D&B and Government Procurement Data Files, was provided by Eagle Eye Publishers, which specializes in the analysis of procurement data. Chapter 4, Accuracy Assessment of Veteran Status Reported in D&B Records, is based on data collected by Waldman Associates and REDA International in connection with another Advocacy research project which resulted in a November, 2004 study entitled *Entrepreneurship and Business Ownership in the Veteran Population*. Chapter 5 includes a summary and recommendations. The Appendix of this study includes a literature review conducted by JFA. Documentation of sources and extensive footnoting throughout the report was provided by Advocacy pursuant to government-wide data quality requirements.

Executive Summary

Veteran business owners as a group have received increasing attention in recent years, particularly since enactment of the Veterans Entrepreneurship and Small Business Development Act of 1999.¹ This legislation included provisions calling for the development of more information about businesses owned by veterans and by service-disabled veterans and about the role they play in the Nation's economy. Unfortunately, data available for these groups of entrepreneurs are limited. Currently, there are some lists of businesses that include veteran status; however, their information is thought to be incomplete, and at best they include data on only a small fraction of all veteran-owned businesses. The purpose of this study is to examine currently available data sources on veteran business ownership, to compare the quality of major data sources, to review existing literature on veteran business ownership, and to make recommendations. This study's findings include:

- The number of veteran-owned businesses identified in various business listing databases (about 100,000 in even the largest of these listings) was much lower than commonly used estimates of the actual number of veteran-owned businesses based on Census Bureau data (from 4.2 to 5.5 million).²
- Databases maintained by Dun & Bradstreet (D&B) and Austin-Tetra, Inc. included the largest number of veteran-owned business. In February, 2003, the D&B database included 84,983 records on veteran-owned businesses, of which 71,215 were unique. In April, 2004, the D&B database included records on 100,152 veteran-owned firms. Austin-Tetra's database included about 78,000 firms in late 2002.
- A survey of businesses from one sample of firms listed in the D&B database as veteran-owned disclosed that from 15 to 31 percent were not veteran-owned.
- The percentage of firms identified as veteran-owned among all U.S. firms listed in the 2004 D&B database, 0.53 percent, was much lower than the 1992 Census estimate that approximately 24.2 percent of all firms were veteran-owned.
- Reasons for this disparity may have included the exclusion of certain classes of firms from one dataset or the other, methodological differences in how the data was collected, purpose and use-related biases in the D&B database, the age differential in the underlying datasets, possible errors and duplication of entries in the D&B database, and other causes.
- Comparison of veteran business ownership data in the CBO and D&B datasets is of limited value. Macroeconomic analysis is not the primary purpose of the D&B

¹ Public Law 106-50; August 17, 1999.

² Sources and limitations of these and other statistics in this summary are discussed in the main report.

database, and it is very difficult to infer information on the characteristics of all veteran-owned firms from its data.

- Although it is interesting to compare differences *within* the D&B dataset between veteran-owned firms and its universe of all U.S. firms, even this type of analysis is of limited value in that the proportion of D&B firms identified as veteran-owned, 0.53 percent, is almost certainly understated by a large factor.
- Some studies have found veterans (an estimated 25.6 million in 2002) to be disadvantaged in terms of earnings, but such findings have been inconsistent.³

This report is divided into five chapters and an Appendix. Chapter 1 reviews sources of data on veteran-owned businesses, including the Census Bureau's 1992 *Characteristics of Business Owners* (CBO) report (part of the agency's Economic Census of that year), the Dun and Bradstreet and Austin-Tetra commercial business data files, the Department of Defense's Central Contractor Registration (CCR) System (including the former SBA PRO-Net procurement database which has been integrated into the CCR), and a number of smaller veteran business listings. Chapter 2 compares data from Dun & Bradstreet and the 1992 CBO. In Chapter 3, the CCR/PRO-Net, Eagle Eye Federal Prime Contracts (FPC), and D&B databases are matched together to ascertain the quality and coverage of the data files and the extent to which firms listed in each database are included or missed in the others. Chapter 4 assesses the accuracy of veteran identification in the D&B data using a survey conducted in connection with another research project for SBA's Office of Advocacy. Chapter 5 concludes with the findings of this study and makes recommendations. An Appendix reviews literature on veteran-owned businesses.

For the purposes of this study, firm records from D&B, CCR/PRO-Net, and the Federal Procurement Data System have been merged. These records need to be regularly updated and verified to ascertain their quality and currency. Cooperation among the various data collection agencies and more efforts to encourage veteran owners to register, to identify themselves as veteran-owned, and to periodically update their information will improve the quality of information available.

³ Population estimate by the Department of Veteran Affairs. For additional information, including state-by-state data, see <http://www.va.gov/vetdata/demographics/index.htm>. Studies are discussed in the Appendix.

1 Review of Veteran-Owned Business Data Sources

It has been estimated that there are about 4.2 to 5.5 million veteran-owned businesses in the United States.⁴ The total veteran population in the United States is estimated to be approximately 25.6 million.⁵ This can be compared to the approximately 22.6 million small businesses in the United States in FY 2001.⁶ Among veteran-owned businesses, it can be estimated that between 310,000 and 410,000 are owned by disabled veterans.⁷ These estimates will change with time as the demographics of the veteran population change and as new businesses are created, die, are acquired or merge with other firms.

The major data source analyzed in Chapter 2 of this study is the Dun and Bradstreet business database, which will be compared to the Census Bureau's 1992 *Characteristics of Business Ownership* (CBO) survey. Another important federal agency database which is publicly accessible is the Department of Defense's Central Contractor Registration (CCR) database, into which the Small Business Administration's former PRO-Net database has now been integrated. In addition, smaller veteran business databases and listings maintained by state agencies, veteran organizations, and private-sector vendors are reviewed.

⁴ The Census Bureau's 1992 *Characteristics of Business Owners* (CBO), part of its Economic Census of that year, found that 24.2 percent of all business owners identified themselves as veterans (p. 62). Because Census also estimated the total number of businesses in that year to be 17.3 million, the total number of veteran-owned businesses was estimated to be approximately 4.2 million. (The CBO report with this data can be accessed at: <http://www.census.gov/prod/3/97pubs/cbo-9201.pdf>.) Subsequent estimates of the number of veteran-owned businesses often have been based on the use of this 24.2 percent factor against current estimates of the total business population, resulting in estimates as high as 5.5 million (24.2 percent of the Census Bureau's 2001 estimate of 22.6 million businesses). The further from the base year of 1992 these estimates are, the less likely they are to be accurate, because of probable variations in the percentage of veteran business owners from the 24.2 percent level reported in the base year. Indeed, cross-tabulations of Census Bureau Current Population Survey (CPS) data indicate a steady downward trend through the 1990s in both the percentage and number of self-employed veterans, probably due to the aging of the veteran population. Because nonemployer firms comprise approximately 75 percent of all businesses, the downward trend in self-employed veterans suggests a similar trend for the larger group of all businesses, employer firms and nonemployer firms alike. We will have much better and more current data when the results of the Census Bureau's 2002 Survey of Business Owners and Self-Employed Persons (SBO) become available. The first data from this very important effort are expected in 2005.

⁵ As of September 30, 2002 according to the Department of Veteran Affairs. For further information, see <http://www.va.gov/vetdata/demographics/index.htm>.

⁶ This figure includes 5,657,774 employer firms (<http://www.census.gov/epcd/susb/2001/us/US--.HTM>) and 16,979,498 nonemployer firms (<http://www.census.gov/epcd/nonemployer/2001/us/US000.HTM>).

⁷ This estimate relies on the same methodology used above to estimate the total number of veteran-owned firms, except that the CBO ownership percentage for disabled veterans in the 1992 base year is 1.8 percent. The same limitations apply to this estimate as those outlined in the footnote above for all veteran-owned firms.

1.1 Census Bureau: Characteristics of Business Owners (CBO)

<http://www.census.gov/csd/cbo/>

1992 Economic Census: Characteristics of Business Owners (CBO) - overview

The U.S. Census Bureau's 1992 *Characteristic of Business Owners (CBO)*, part of the agency's 1992 Economic Census, provided data on selected economic, demographic, and sociological characteristics of business owners, self-employed persons, and their businesses.⁸ The data was collected through survey instruments mailed to scientifically-selected samples of firms filing various types of business tax returns. The data obtained was also combined with administrative records and data obtained in other components of the 1992 Economic Census. Owner characteristics such as ethnicity and gender, and business characteristics including industry type, firm size by both sales receipts and number of employees, and legal form of organization, were collected for individual proprietorships, partnerships, and subchapter S corporations. The 1992 CBO reported on almost 17.3 million firms, with sales receipts of \$3.3 trillion.

Approximately 62 percent of the 78,134 CBO firm questionnaires (Forms CBO-1 and CBO-2), and approximately 59 percent of the 116,557 CBO owner questionnaires (Forms CBO-1 and CBO-3) were returned.⁹ Respondents' questionnaires were re-weighted to compensate for those that were not returned, taking into account the sampling frame, industry division, legal form of organization, and receipts size class; and assuming that nonrespondents in each of the categories possessed the same characteristics as the respondents. This re-weighting procedure caused nonrespondents with certain characteristics to be disproportionately underrepresented in the resulting CBO estimates.

Analysis of CBO veterans data

Veterans in general.

Veteran ownership among all businesses. Forms CBO-1 and CBO-3 asked the veteran status of the business owner as of December 31, 1992. If the owner was a veteran, he or she was asked if they were a disabled veteran, if they had served six months or more active duty, and if any of this duty was during the Vietnam era (defined as between August 5, 1964 and May 7, 1975).¹⁰ Among all business owners, 24.2 percent reported themselves to be veterans, and 21.7 percent reported 6 or more months in active duty. Also, 7.4 percent of all business owners reported themselves to have served 6 months or more in active duty with at least some service during the Vietnam era, and 1.8 percent of all business owners reported themselves to be disabled veterans.¹¹

⁸ U.S. Census Bureau, *1992 Economic Census: Characteristics of Business Owners (CBO)*. See <http://www.census.gov/prod/3/97pubs/cbo-9201.pdf>.

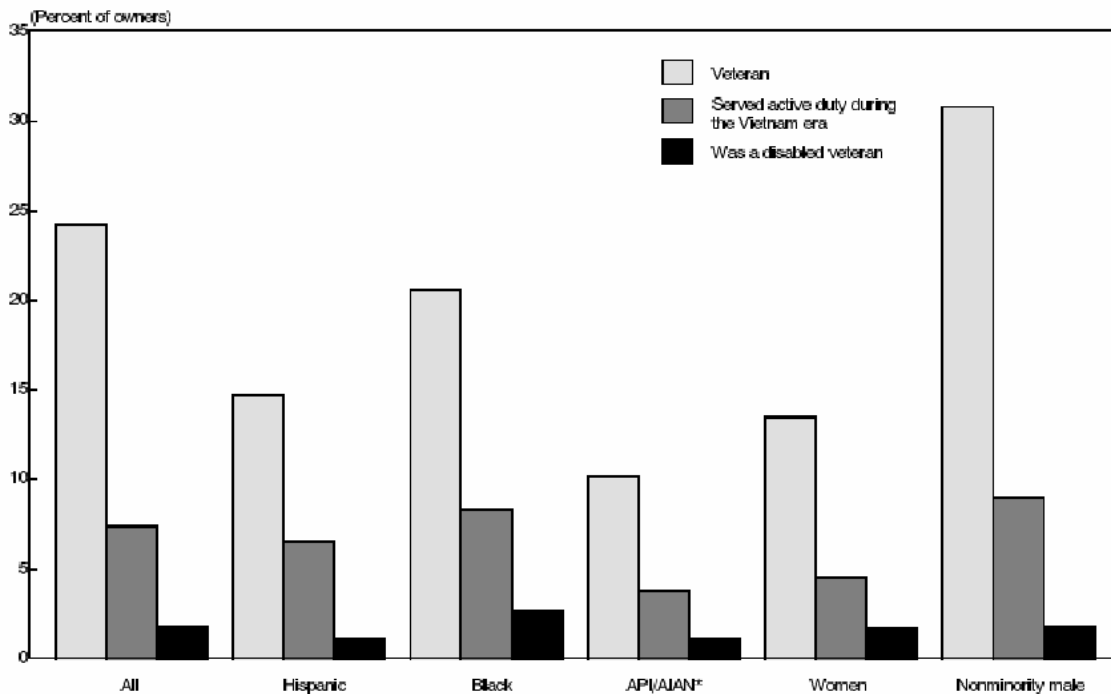
⁹ *Ibid.*, p. VI.

¹⁰ *Ibid.*, p. C-3 (CBO-1) and p. C-26 (CBO-3).

¹¹ *Ibid.*, pp. 62-63, Table 7a, Veteran Status of Business Owner by Industry Division: 1992.

The 1992 CBO also reported the veteran status of business owners within various socio-economic subgroups, including Hispanic-Americans, Black-Americans, other ethnic minorities, women, and non-minority males. As noted above, 24.2 percent of all business owners identified themselves as veterans; however, there were differing percentages of veteran business ownership among the various subgroups. The highest percentage of veteran business ownership was in the subgroup comprised of non-minority males, with 30.8 percent of all non-minority male business owners reporting themselves to be veterans. Among all Black-American business owners, 20.6 percent reported veteran status, while veteran business ownership among Hispanic business owners was 14.7 percent. Veteran business owners comprised 13.5 percent of all women-owned businesses, and 10.2 percent of all firms owned by other ethnic minority groups. These statistics from the 1992 CBO are displayed in Exhibit 1 below.¹²

Exhibit 1. Veteran firm ownership shares in 1992 Characteristics of Business Owners (CBO).



*API/AIAN, referred to as Other minority in the text/publication tables, includes Asians, Pacific Islanders, American Indians, and Alaska Natives. Source: U.S. Bureau of the Census, Characteristics of Business Owners, CBO92-1.

Ownership distributions among all veteran-owned businesses. We can also derive from the CBO data what proportion each of the subgroups represented in the universe of all veteran business owners. For example, Vietnam-era veterans comprised 34.1 percent of all veteran business owners with comparable active duty service (6 months or more), and disabled veterans comprised 7.4 percent of all veteran business owners.¹³

¹² Ibid., p. 10, Figure 2, Veteran Status of Owner: 1992.

¹³ Ibid., pp. 62-63, Table 7a, Veteran Status of Business Owner by Industry Division: 1992.

Similarly, the largest subgroup of veteran business owners was that comprised of non-minority males, representing 74.6 percent of all veteran business owners. Women owned 19.0 percent of veteran-owned business. Firms owned by Black-Americans comprised 3.1 percent of all veteran-owned businesses; Hispanic-Americans owned 2.7 percent of all veteran-owned businesses; and other ethnic minorities owned 1.5 percent of all veteran-owned businesses.¹⁴

Exhibit 2 below displays these veteran subgroup ownership shares and the CBO data from which they were derived. Also displayed for purposes of comparison are the relative shares of business ownership by the various CBO socio-economic subgroups in the general business population, without regard to veteran status.¹⁵

Exhibit 2. Firm ownership shares by socio-economic group: all firms and veteran firms compared.

Socio-economic group	Total # of firms	% of veteran firms	# of veteran firms	Vet firms: cohort % share	All firms: cohort % share
All firms	17,253,143	24.2	4,175,000	100.0	100.0
Hispanic-owned firms	771,708	14.7	113,000	2.7	4.5
Black-owned firms	620,912	20.6	128,000	3.1	3.6
Other minority-owned firms	606,426	10.2	62,000	1.5	3.5
Women-owned firms	5,888,883	13.5	795,000	19.0	34.1
Non-minority male-owned firms	10,114,456	30.8	3,115,000	74.6	58.6
Total of all socio-economic groups	18,002,385	n/a	4,213,000	100.9	104.3
Groups total less all firms (i.e., double count)	749,242	n/a	38,000	0.9	4.3

Exhibit 2 shows that non-minority males owned 74.6 percent of all veteran-owned businesses, a greater share than the 58.6 percent of all firms owned by this group. However, the proportion of businesses owned by members of each of the other socio-economic subgroups was lower among veterans than in the universe of all business owners. Women owned 34.1 percent of all firms, but only 19.0 percent of all veteran-owned firms. Hispanic-Americans owned 4.5 percent of all firms, but 2.7 percent of veteran-owned firms; Black-Americans owned 3.6 percent of all firms, but 3.1 percent of veteran-owned firms; and members of other ethnic minority groups owned 3.5 percent of all firms, but 1.5 percent of veteran-owned firms.

These differences are even more striking when veteran firm owners are compared to non-veteran owners, instead of to all business owners, as displayed in Exhibit 3.¹⁶

¹⁴ Ibid. Exhibit 2 and the next note explain the derivation of these cohort shares. The total of all group ownership shares exceeds 100 percent because of the inclusion of some firms in more than one group. Firms that were equally owned by members of two or more minority groups were included in the data for each minority group, but counted only once in the total levels. (Ibid., p. 7, Note 1.) Also, for tabulation purposes, women-owned firms sampled in the ethnic minority frames were also used in the estimates for the total number of women-owned businesses. (Ibid., p. V.) As shown in Exhibit 2, these duplicate counts amount to approximately 4.3 percent of all firms, but only 0.9 percent of firms owned by veterans.

¹⁵ The numbers of veteran-owned firms are rounded because the CBO's ownership factors are approximate. The shares are derived by dividing the number of firms in each subgroup by the total number of all firms.

¹⁶ The shares in Exhibit 3 are derived in the same manner as they were for Exhibit 2.

Exhibit 3. Socio-economic group firm ownership shares: veteran and non-veteran firms compared.

Socio-economic group	Total # of firms	% of non-veteran firms	# of non-veteran firms	Vet firms: cohort % share	Non-vets: cohort % share
All firms	17,253,143	68.5	11,818,000	100.0	100.0
Hispanic-owned firms	771,708	76.8	593,000	2.7	5.0
Black-owned firms	620,912	67.3	418,000	3.1	3.5
Other minority-owned firms	606,426	81.5	494,000	1.5	4.2
Women-owned firms	5,888,883	77.1	4,540,000	19.0	38.4
Non-minority male-owned firms	10,114,456	63.0	6,372,000	74.6	53.9
Total of all socio-economic groups	18,002,385	n/a	12,417,000	100.9	105.0
Groups total less all firms (i.e., double count)	749,242	n/a	599,000	0.9	5.0

Exhibit 3 again shows that non-minority males held a 74.6 percent share of all veteran-owned businesses, larger than their 53.9 percent share of all non-veteran firms. However, the ownership share held by each of the other socio-economic subgroups was lower among veterans firms than among non-veteran firms. Women owned 38.4 percent of non-veteran firms, but only 19.0 percent of all veteran-owned firms. Hispanic-Americans owned 5.0 percent of non-veteran firms, but 2.7 percent of veteran-owned firms; Black-Americans owned 3.5 percent of non-veteran firms, but 3.1 percent of veteran-owned firms; and members of other ethnic minority groups owned 4.2 percent of non-veteran firms, but 1.5 percent of veteran-owned firms.¹⁷

Vietnam-era veterans.

Vietnam veteran ownership among all businesses. As noted in Exhibit 1 above, 7.4 percent of all business owners reported Vietnam-era service. Among all non-minority male business owners, 9.0 percent identified themselves as Vietnam-era veterans. The percentage of all Black-American business owners with Vietnam-era service was 8.3 percent, while 6.5 percent of all Hispanic-American business owners reported Vietnam-era service. Vietnam-era veterans comprised 4.5 percent of all female business owners and 3.8 percent of all business owners belonging to ethnic minority groups other than Black-American or Hispanic-American.¹⁸

The 1992 CBO data indicated that Vietnam-era veterans comprised 34.1 percent of all veteran business owners with 6 months or more service. However, Vietnam-era veterans comprised 48.1 percent of all Hispanic-American veteran business owners with comparable service, 42.6 percent of all Black-American veteran business owners with such service, and 40.0 percent of all veteran business owners belonging to other ethnic minority groups with such service. Vietnam-era veterans represented 36.0 percent of all female veteran business owners with 6 months or more active duty, and 32.8 percent of all non-minority male veteran business owners with comparable service.¹⁹

¹⁷ The sum of businesses owned by veterans and businesses owned by non-veterans does not equal the total of all firms because approximately 7.4 percent of all firms did not report their veteran ownership status.

¹⁸ Ibid., pp. 62-63, Table 7a, Veteran Status of Business Owner by Industry Division: 1992.

¹⁹ Ibid. Percentages were derived by dividing in each cohort the Vietnam share by the total veteran share.

Ownership distributions among all businesses owned by Vietnam-era veterans. In Exhibit 3 above, we compared the distribution of ownership shares for each socio-economic subgroup within the larger groups of all veteran business owners and all non-veteran business owners. Similarly, we can also derive from the CBO data a distribution of the shares belonging to each of these socio-economic cohorts within the universe of all Vietnam-era veteran business owners. Exhibit 4 below displays these shares, and for comparative purposes, the analogous cohort shares within the larger group of all veteran-owned businesses. Exhibit 4 also displays the numbers of firms owned by Vietnam-era veterans in each cohort, as derived from the CBO data.²⁰

Exhibit 4. Socio-economic group ownership shares: Vietnam veterans and all veterans compared.

Socio-economic group	Total # of firms	% of Vietnam vet firms	# of Vietnam vet firms	Vietnam vet firms: % share	All vet firms: % share
All firms	17,253,143	7.4	1,277,000	100.0	100.0
Hispanic-owned firms	771,708	6.5	50,000	3.9	2.7
Black-owned firms	620,912	8.3	52,000	4.1	3.1
Other minority-owned firms	606,426	3.8	23,000	1.8	1.5
Women-owned firms	5,888,883	4.5	265,000	20.8	19.0
Non-minority male-owned firms	10,114,456	9.0	910,000	71.3	74.6
Total of all socio-economic groups	18,002,385	n/a	1,300,000	101.8	100.9
Groups total less all firms (i.e., double count)	749,242	n/a	23,000	1.8	0.9

Exhibit 4 shows that the firm ownership shares for both non-minority males and women were similar within both the universe of all veteran-owned firms and that of firms owned by Vietnam-era veterans. Non-minority males owned 74.6 percent of all veteran-owned firms and 71.3 percent of all firms owned by Vietnam-era veterans; women owned 19.0 percent of all veteran-owned firms and 20.8 percent of all firms owned by Vietnam-era veterans. However, the proportion of businesses owned by members of each of the ethnic minority subgroups, though relatively small compared to non-minority males and women, was higher among Vietnam-era veterans than among all veterans in these subgroups. Black-Americans owned 4.1 percent of all firms owned by Vietnam-era veterans, but 3.1 percent of all veteran-owned firms; Hispanic-Americans owned 3.9 percent of all firms owned by Vietnam-era veterans, but 2.7 percent of all veteran-owned firms; and members of other ethnic minority groups owned 1.8 percent of all firms owned by Vietnam-era veterans, compared to 1.5 percent of all veteran-owned firms.

Disabled veterans.

Disabled veteran ownership among all businesses. The 1992 CBO also includes data on disabled veterans, and an analysis of this data, analogous to that above for Vietnam-era veteran data, follows. As noted earlier, we find that 1.8 percent of all business owners reported themselves to be disabled veterans. The percentage of all Black-American business owners who identified themselves as disabled veterans was 2.7 percent, while

²⁰ The numbers of veteran-owned firms are rounded because the CBO's ownership factors are approximate. The shares are derived by dividing the number of firms in each subgroup by the number of all firms.

1.8 percent of all non-minority male business owners identified themselves as disabled veterans. Disabled veterans comprised 1.7 percent of all female business owners and 1.1 percent of all Hispanic business owners. Among all business owners belonging to ethnic minority groups other than Black-American or Hispanic-American, 1.1 percent identified themselves as disabled veterans.²¹

The 1992 CBO data indicated that disabled veterans comprised 7.4 percent of all veteran business owners. Disabled veterans comprised 13.1 percent of all Black-American veteran business owners, 12.6 percent of all female veteran business owners, and 10.8 percent of all veteran business owners belonging to ethnic minority groups other than Black-Americans or Hispanic Americans. Disabled veterans comprised 7.5 percent of all Hispanic-American veteran business owners, while 5.8 percent of non-minority male veteran business owners were disabled.²²

Ownership distributions among all businesses owned by disabled veterans. In Exhibit 4 above, we compared the distribution of ownership shares for each socio-economic subgroup within the larger groups of all veteran business owners and all Vietnam-era veteran business owners. Similarly, we can also derive from the CBO data a distribution of the shares belonging to of each of these socio-economic cohorts within the universe of all disabled business owners. Exhibit 5 below displays these shares, and for comparative purposes, the analogous cohort shares within the larger group of all veteran-owned businesses. Exhibit 5 also displays the numbers of firms owned by disabled veterans in each cohort, as derived from the CBO data.²³

Exhibit 5. Firm ownership shares by socio-economic group: disabled and all veterans compared.

Socio-economic group	Total # of firms	% of disabled vet firms	# of disabled vet firms	Disabled vet firms: % share	All vet firms: % share
All firms	17,253,143	1.8	311,000	100.0	100.0
Hispanic-owned firms	771,708	1.1	8,000	2.6	2.7
Black-owned firms	620,912	2.7	17,000	5.5	3.1
Other minority-owned firms	606,426	1.1	7,000	2.3	1.5
Women-owned firms	5,888,883	1.7	100,000	32.2	19.0
Non-minority male-owned firms	10,114,456	1.8	182,000	58.5	74.6
Total of all socio-economic groups	18,002,385	n/a	314,000	101.0	100.9
Group total less all firms (i.e., double count)	749,242	n/a	3,000	1.0	0.9

Exhibit 5 shows that non-minority males comprised 58.5 percent of all disabled veteran business owners, lower than their 74.6 percent share of all veteran firms. On the other hand, 32.2 percent of disabled veteran business owners were women, a larger share than the 19.0 percent share of all veteran firms owned by women.

²¹ Ibid.

²² Ibid. Percentages were derived by dividing in each cohort the disabled share by the total veteran share.

²³ The numbers of veteran-owned firms are rounded because the CBO's ownership factors are approximate. The shares are derived by dividing the number of firms in each subgroup by the number of all firms.

As in the preceding analyses, the proportion of businesses owned by members of each of the three CBO ethnic minority subgroups was lower than that owned by non-minority males and women. The share of firms owned by Hispanic-Americans was about the same for disabled veterans at 2.6 percent as the 2.7 percent of all veteran business owners this group comprised. The share of disabled veteran firms owned by Black-Americans was 5.5 percent, somewhat greater than the 3.1 percent share this group held of all veteran business owners. Similarly, the share of disabled veteran firms owned by other ethnic minority groups was 2.3 percent, greater than the 1.5 percent share this group represented of all veteran business owners.

Comparison of all veteran subgroups

For the purposes of comparison, Exhibit 6 below displays the total number of firms owned by veterans, non-veterans, Vietnam-era veterans, and disabled veterans, in addition to the universe of all firms from which these four groups were derived. This data was presented separately for the various groups in Exhibits 2-5 above.²⁴

Exhibit 6. All firms and firms owned by all veterans, nonveterans, Vietnam & disabled veterans.

Socio-economic group	Total # of firms	# of veteran firms	# of non-veteran firms	# of Vietnam vet firms	# of disabled vet firms
All firms	17,253,143	4,175,000	11,818,000	1,277,000	311,000
Hispanic-owned firms	771,708	113,000	593,000	50,000	8,000
Black-owned firms	620,912	128,000	418,000	52,000	17,000
Other minority-owned firms	606,426	62,000	494,000	23,000	7,000
Women-owned firms	5,888,883	795,000	4,540,000	265,000	100,000
Non-minority male-owned firms	10,114,456	3,115,000	6,372,000	910,000	182,000
Total of all socio-economic groups	18,002,385	4,213,000	12,417,000	1,300,000	314,000
Group total less all firms (i.e., double count)	749,242	38,000	599,000	23,000	3,000

Also for the purposes of comparison, Exhibit 7 below displays the percentage ownership share distributions for the various CBO socio-economic subgroups within each of the five major groups displayed in Exhibit 6 above; namely, all firms, all veteran firms, all non-veteran firms, all Vietnam-era veteran firms, and all disabled veteran firms. These shares were previously presented separately for the various groups in Exhibits 2-5 above.²⁵

²⁴ As previously noted, the sum of businesses owned by veterans and businesses owned by non-veterans does not equal the total of all CBO firms because approximately 7.4 percent of all firms in this dataset did not report their veteran ownership status.

²⁵ As previously noted, the shares are derived by dividing the number of firms in each subgroup by the number of all firms. The total of ownership shares exceeds 100 percent because of the inclusion of some firms in more than one group. Firms that were equally owned by members of two or more minority groups were included in the data for each minority group, but counted only once in the total levels. (Ibid., p. 7, Note 1.) Also, for tabulation purposes, women-owned firms sampled in the ethnic minority frames were also used in the estimates for the total number of women-owned businesses. (Ibid., p. V.) As shown in Exhibit 7, these duplicate counts amount to approximately 4.3 percent of all firms, 0.9 percent of all firms owned by veterans, 5.0 percent of firms owned by nonveterans, 1.8 percent of firms owned by Vietnam-era veterans, and 1.0 percent of firms owned by disabled veterans.

Exhibit 7. Percentage ownership shares by socio-economic subgroups in all major firm groups.

Socio-economic group	All firms: cohort % share	All vet firms: % share	Non-vet firms: % share	Vietnam vet firms: % share	Disabled vet firms: % share
All firms	100.0	100.0	100.0	100.0	100.0
Hispanic-owned firms	4.5	2.7	5.0	3.9	2.6
Black-owned firms	3.6	3.1	3.5	4.1	5.5
Other minority-owned firms	3.5	1.5	4.2	1.8	2.3
Women-owned firms	34.1	19.0	38.4	20.8	32.2
Non-minority male-owned firms	58.6	74.6	53.9	71.3	58.5
Total of all socio-economic groups	104.3	100.9	105.0	101.8	101.0
Group total less all firms (i.e., double count)	4.3	0.9	5.0	1.8	1.0

Comparisons of the distribution of business ownership shares among all firms and among businesses owned by veterans, Vietnam-era veterans, disabled veterans and nonveterans help us to understand the relative positions of the various cohorts within these groups. However, caution should be exercised in using this data to infer a perceived advantage or disadvantage (in terms of business ownership share) in belonging to any particular group, an advantage similar to the “veteran premium” discussed in some prior veterans studies.²⁶ Before such conclusions could be drawn, additional research would be needed to relate the CBO business ownership data to demographic data on the general population in 1992.

For example, while the CBO data shows that women owned 19.0 percent of all veteran-owned firms, less than half the 38.4 percent share of all nonveteran firms owned by women, this does not necessarily imply that women veterans were at a disadvantage with respect to owning a business. It may simply reflect the fact that women comprised a smaller proportion of the veteran population than of the nonveteran population. Statistical adjustments would be necessary to compensate for demographic differences of this type before we could reach any conclusions about an advantage or disadvantage in belonging to one of the groups we have been examining.

CBO - sources

The CBO data used in the foregoing analyses can be found in four tables in the previously referenced Bureau of the Census publication, *1992 Economic Census: Characteristics of Business Owners*, which can also be accessed at the Census website.²⁷ These tables include data on all business owners and on business owners belonging to five socio-economic subgroups within the total. Additional tabulations characterize business owners who are veterans (both those with 6 months or more active duty service, and those with less than 6 months active duty service), Vietnam-era veterans, and disabled veterans. Data on each of these major classes is then further tabulated, both within its total universe and within the socio-economic subgroups, by industry division, firm size by receipts, firm size by number of employees, and legal form of organization.

²⁶ See Appendix for a review of past studies.

²⁷ <http://www.census.gov/prod/3/97pubs/cbo-9201.pdf>.

Ownership by industry division. The industry group table uses the major industry two-digit codes of the SIC classification system and excludes agricultural production and railroad transportation. It thus provides data on the following nine major industry groups: agricultural services, forestry, fishing, and mining; construction; manufacturing; transportation, communications, and utilities; wholesale trade; retail trade; finance, insurance, and real estate; services; and industries not classified.²⁸

Ownership by size of receipts. The receipts size table employs nine breakpoints and ten classes, including firms with receipts: under \$5,000; \$5,000 to \$9,999; \$10,000 to \$24,999; \$25,000 to 49,999; \$50,000 to \$99,999; \$100,000 to \$199,999; \$200,000 to \$249,999; \$250,000 to \$499,999; \$500,000 to \$999,999; and over \$1,000,000.²⁹

Ownership by number of employees. The employment size table presents data for both firms with no paid employees and firms with any number of paid employees. The latter group is broken into in seven classes with six breakpoints: 1-4 employees; 5-9 employees; 10-19 employees; 20-49 employees; 50-99 employees; 100 employees or more; and a special category for firms which have a payroll, but report no employees. About 82 percent of businesses reported no paid employees.³⁰

Ownership by firm legal organization. The legal forms of organization table identifies businesses organized as individual proprietorships (approximately 14.599 million), partnerships (approximately 1.090 million), and subchapter S corporations (approximately 1.564 million), for a total of approximately 17.253 million firms.³¹ This survey universe includes all businesses in these three forms, but does not include C corporations, approximately 2.033 million in 1992.³²

Data availability. The data outlined above is available from the Census Bureau on CD-ROM.³³ Disc 1j of the 1992 Economic Census report series includes the *Characteristics of Business Owners* survey data, including that used in the veterans tabulations found in the printed or on-line versions of the CBO report. In addition, special tabulations of data collected in the 1992 CBO may be obtained from the Census Bureau, depending on availability of time and personnel, on diskette, computer tape, or in tabular form. The data obtained through special tabulations are in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, type of business, or other data for individual firms) as govern the use of survey data in regular publications. Special tabulations are prepared on a cost basis. Based on the questionnaire and survey for which data is requested, additional information may be available including: owner's education, how and when the business was established/acquired, owner's work and management experience, source of funding and insurance, types of

²⁸ Op. cit., pp. 62-63, Table 7a, Veteran Status of Business Owner by Industry Division: 1992.

²⁹ Ibid., pp. 64-65, Table 7b, Veteran Status of Business Owner by Receipts Size of Firm: 1992.

³⁰ Ibid., pp. 66-67, Table 7c, Veteran Status of Business Owner by Employment Size of Firm: 1992.

³¹ Ibid., p. 68, Table 7d, Veteran Status of Business Owner by Legal Form of Organization of Firm: 1992.

³² http://www.census.gov/csd/mwb/1992/www/c_corp.htm .

³³ See <http://www.census.gov/csd/cbo/> for additional information.

products or services accounting for at least ten percent of the firms' sales, geographic and demographic customer information, profitability and factors affecting it, employee composition, retirement and health plans offered, franchise or home business markers, the language used in conducting transactions, exports, and other data elements.

CBO - limitations

Because the Bureau of the Census is prohibited by law from publishing any statistics that disclose information reported by individual companies or their establishments, the 1992 CBO data does not provide a listing of businesses owned by veterans. Only aggregate numbers and percentage estimates of businesses owned by veterans are available to researchers. However, these estimates, derived from large scientifically-selected samples with a high degree of statistical accuracy, can be compared with data obtained from other databases to estimate the level of accuracy of data on veteran-owned firms in those databases.

2002 Survey of Business Owners and Self-Employed Persons (SBO) - overview

Although the Census Bureau did collect information on firms owned by minorities and women as part of its 1997 Economic Census, no information was collected on veteran business ownership in that year.³⁴ Accordingly, the 1992 CBO data are the most recent Census Bureau data available on veteran business ownership as this study was being prepared. However, the Census Bureau's pending *2002 Survey of Business Owners and Self-Employed Persons* (SBO) does include questions on veteran status and, for the first time, on whether responding veteran business owners have a service-connected disability.³⁵

The 2002 SBO will provide data describing the composition of U.S. businesses by up to three owners' gender, ethnicity, age, education level, veteran status, disability status, primary function in the business, and hours worked weekly in the business. Businesses will be identified as to age, type of legal organization, whether they are family- and/or home-based, whether they are operated as franchises, by types of customers and workers, and by sources of financing for expansion, capital improvements, or start-up.

The 2002 SBO is a revised version of 1997 Economic Census Surveys of Minority- and Women-Owned Business Enterprises (SMOBE/SWOBE), with additional demographic information on business owners, including the new questions on owners' veteran and service-connected disability status. The new survey also allows for multiple owner and multiple race reporting, as well as conversion from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS) by sector (two-digit NAICS) at the national and state levels.

³⁴ Additional information on the 1997 Economic Census Surveys of Minority- and Women-Owned Business Enterprises (SMOBE/SWOBE) can be accessed at <http://www.census.gov/csd/sbo>.

³⁵ U.S. Census Bureau. *2002 Survey of Business Owners and Self-Employed Persons (SBO)*. Revised September 2003. <http://www.census.gov/csd/sbo>.

In comparison with the *1992 Characteristics of Business Owners* (CBO), the 2002 SBO survey provides for a more detailed ownership classification. The SBO-1 survey instrument, which is being used by businesses filing partnership or corporation tax returns, includes 11 business ownership classifications. The SBO-2 survey instrument, which is being used by those filing a 2002 IRS Form 1040 with a Schedule C, "Profit or Loss From Business," has 5 business ownership classifications; including those of sole proprietorship or self-employed, husband and wife jointly owned, independent contractor, estate or trust, and other.

The 2002 SBO questionnaire does not inquire as to industry type, employment size and sale receipts information. The Census Bureau will combine 2002 SBO survey data with data from other Economic Census programs and with administrative records to produce comprehensive data on receipts, employment, payroll, kind of business and location by the ethnicity and gender of business owners. Tabulations by veteran ownership status should also be available. The first SBO reports are scheduled to be released in mid-2005.

SBO – potential limitations

Census Bureau surveys reach very large numbers of business owners, yet the results of these surveys are highly aggregated, with the result that they do not answer more specific questions about smaller groups of firms or about individual businesses. This is largely the result of legal restrictions requiring the confidentiality of any information which could be linked to specific firms. Also, each survey is designed to answer particular policy questions and to minimize the time burden imposed on survey respondents.

With respect to the anticipated SBO data, and to veteran business ownership data in particular, a difficulty could arise in discriminating between "veteran business owners" and a "veteran-owned business" which is usually defined as being one which is at least 51 percent owned by a veteran or veterans. The SBO asks the veteran status of up to three business owners, not whether the business is at least 51 percent owned by a veteran or veterans. This is much less likely to be a problem in businesses with simple ownership structures and a limited number of owners. However, businesses with more complex ownership structures and/or with many owners could conceivably report some veteran ownership, without having actually met the 51 percent threshold ownership test. Because the Census Bureau found that 75.0 percent of all businesses were non-employer firms in 2001,³⁶ and because Census also found that among employer firms in the same year 60.1 percent had four or fewer employees,³⁷ it seems unlikely that such a "veteran owner vs. veteran-owned" anomaly would be severe.

The 2002 SBO promises to provide the most current and comprehensive data on veteran business ownership since the 1992 CBO. It will also provide this information on firms owned by veterans with service-connected disabilities for the first time. The cross-tabulations possible between the survey's various data elements should provide extremely important knowledge on the role of veteran-owned businesses in the Nation's economy.

³⁶ <http://www.census.gov/epcd/nonemployer/2001/us/US000.HTM>

³⁷ <http://www.census.gov/epcd/susb/2001/us/US--.HTM>

1.2 *Dun & Bradstreet*

<http://www.dnb.com/us/>

The Dun & Bradstreet (D&B) database provides information on approximately 83 million businesses worldwide, including about 18 million U.S. businesses, both publicly and privately owned. Each of these businesses is assigned and identified with a unique nine-digit code called a D-U-N-S (Data Universal Numbering System) number. To register itself in the D&B database, a company must provide its contact information, legal and ownership structure, type of business, industry classification (8-digit Standard Industrial Classification, or SIC, code), its size by number of employees, annual sales or revenue, the geographic area it serves, and other market information. D&B collects data on whether the business is owned by a veteran and, if so, on whether the owner is a Vietnam veteran or a disabled veteran of any war. D&B also collects data on the gender and minority status of business owners.

Although D&B has provided business information to make credit, marketing, and purchasing decisions since 1841, it was not until 1997 that the company started to facilitate the identification of businesses owned by individuals belonging to ethnic minority groups, women and veterans. Information on such companies is collected through government and private certifying agencies and is supplemented by electronic data feeds from the Internet, listed firms' own websites and call centers. D&B now touts its compilation as the largest database of U.S. minority-owned businesses, providing information on businesses owned by women, ethnic minorities and veterans.

In August, 2002, the total number of veteran-owned businesses in the D&B database was approximately 90,000, with approximately 79,000 of these being unique after adjustments were made to eliminate duplicate records. By April, 2004, the number of veteran-owned firms reported by D&B had grown to over 100,000. For the purposes of this study, JFA purchased from D&B the following data elements from all identified veteran records: legal company name, owner, address, phone number, type of business, year established, revenue, and number of employees. Exhibit 8 lists the most common selectors (data fields) which are available in the D&B database.

Exhibit 8. Most common selectors in the D&B database.

Company Name	Tradestyle	ERISA
Newly Formed Business	Sales Trends	Address
Telephone Numbers	Employee Trends	Contact Names
DUNS Numbers	Sales Volume	Latitude
Employee Size	Longitude	SIC Code
Executive Age	FIPS codes	GEO Codes
Fleet Information	Corporate Status	UCC Data
Territory Covered	Seminar Attendees	Year Started
Own/Rent Facility	Cottage Industry	Import
Accounting Firm Relationship	Banking Relationship	Export
Minority Owned Business	Public Filings	Public
Modeling & Demand Estimators	Credit Score	Private
Franchise Businesses	Small Business	WEFA Data
Fortune 1000 Business	Number of Phone Lines	Gas Usage
Monthly Long Distance	Asset Based Lending	Square Footage
Work Force Propensity	Number of Copiers	Number of PCs
Copies Made Per Month	Credit Rating	PAYDEX
Blue Collar vs. White Collar	Financial Stress	Net Worth
Women Owned Business	Bankruptcy	Suite
ISO 9000 Certified Business	URL Address	Lien
Leasing History	Foreign Owned	Judgment
Propensity to Buy Office Equipment	Corporate Linkage	PNR Data

The D&B database is one of the two largest commercial databases with listings of individual veteran-owned businesses. D&B information on business owners and business addresses could be used to match information which is available from smaller and less complete databases.

1.3 Austin-Tetra, Inc.

<http://www.austintetra.com>

Established in 1993, Austin-Tetra, Inc. offers comprehensive supplier information to major corporations, government agencies and other users. The firm specializes in helping clients to achieve supplier diversification objectives and meet Federal subcontracting plan requirements. Austin-Tetra's database includes business information on more than 50 million businesses worldwide, including more than 20 million in the United States and 2 million Minority, Women, Disabled, Disadvantaged, Veteran or Disabled Veteran Business Enterprises (MWDBEs). The database is used by Austin-Tetra's clients to identify, classify, analyze, diversify and optimize supplier roles; to leverage purchasing power; to track and report supplier expenditures; to reduce spending; and to make better-informed procurement decisions. In late 2002, slightly over 78,000 firms in Austin-Tetra's database were reported to be owned by veterans or disabled-veterans.

Austin-Tetra reports that it uses more than 300 different seed data sources, in addition to its own online supplier registration portal and suppliers' intake portals which it manages for its clients. Its primary data sources include: infoUSA, Experian, Bertelsmann AG and LexisNexis. Secondary sources include: government registries, financial statements, trade directories, business journals, trade payment histories, telephone directories, diversity certification agencies, online company registrations, and direct correspondence.

Austin-Tetra reports that it works with about 300 certification agencies (both public and private, including federal, state, county, and city agencies; water and school districts; and port, airport, and transit authorities), collecting approximately 220 data elements in seven categories:

- 1) A-T number (Austin-Tetra Universal Supplier Identification Number);
- 2) Business demographic information;
- 3) Parent/child company linkage up to four levels, with Headquarters/Branch Code and Subsidiary and Ultimate Parent AT Number and Name;
- 4) Financial and size information, including number of employees by firm and establishment, sales volume and related information;
- 5) Industry information including SIC, NAIC, and UNSPSC code formats;
- 6) Credit and risk information, including public filings; and
- 7) Socio-economic classifications/certifications, including Federal forms 294 and 295 supplier reporting categories, with the following status identification markers: MBE, WBE, MWBE, SBA Small Disadvantaged, SBA HUBZone, Disadvantaged Business, Veteran, Disabled Veteran, SBA 8 (a), Disabled, SBE, LBE, Government Entity, NonProfit Entity, Historically Black College/Univ., MWBE Certified or Classified, NMSDC Certified, California PUC Certified, and Texas GSC HUB Certified.

The Austin-Tetra database arguably includes the most detailed information on the socio-economic classifications and certifications of its listed firms, including their certification numbers and expiration dates. The company reports that the content of its database is validated with over 20 million calls to businesses each year which are made by seed sources to verify the correctness of information. In addition, the company's research analysts sample source information and monitor error rates to isolate and resolve quality issues. The information from various sources is compared to deliver a comprehensive profile of a business and leverage the information available in the market. Sources which the company uses are updated on a monthly or quarterly basis and ranked according to a multi-dimensional matrix to account for data aging, differences in source quality across geographies, data elements, and other factors. The matrix attempts to ensure a combination of electronic and human intervention to correct any data conflicts.

Austin-Tetra claims a 99.9 percent accuracy rate in matching correct information to the correct company, using a five-tier electronic and human validation process. Each match is confirmed by computer algorithm and at least two expert data assurance analysts.

The Austin-Tetra database is well-suited for procurement purposes, though many companies in the database may not do businesses with government agencies. Contracting officers can use a web-based search engine for a list of suppliers that match their particular goals. Any U.S. business enterprise is eligible to register without a fee in Austin-Tetra's Supplier Sourcing Service Directory. Its Supplier Registration Service is designed to help buyers and sellers to find out about each other and become business partners. To participate in the service, a business enters its information via email. There are ten sections to be completed prior to submitting a supplier registration: Company Contacts, Company Ownership, Company Size, General Business Information, Specialized Business Information, Products and Services, Products and Service Descriptions, Experience, Other Certifications and Licenses, and Business Strengths.

Austin-Tetra competes with Dun and Bradstreet as a supplier database, with a similar number of U.S. records, but more depth in the fields relating to socio-economic classifications and certifications. Austin-Tetra does not, however, provide the same level of business credit information as Dun and Bradstreet. Neither is the provision of business data for macroeconomic analysis a primary market for Austin-Tetra. However, it does provide supplier data standardization and cleaning services for its clients to enable them to scrub their own supplier data, standardize data formats, correct data entry inconsistencies, identify duplicates, and add missing data elements.

1.4 SBA: Procurement Marketing and Access Network

<http://pro-net.sba.gov/>

As this study began, the Small Business Administration's Procurement Marketing and Access Network, or PRO-Net, was a discrete database established through a cooperative effort among SBA's Offices of Government Contracting, Advocacy, Women's Business Ownership, Field Operations, Marketing & Customer Service, the agency's Chief Information Officer, and the National Women's Business Council. In 2004, PRO-Net was integrated into the Department of Defense's Central Contract Registration (CCR) System which is described in the next section of this chapter. The following information is presented here to document the functionality and dimensions of PRO-Net's dataset which continues to be available through the newer and current CCR. The search capability previously available through SBA's PRO-Net has now become the Dynamic Small Business Search function in CCR.

PRO-Net was an Internet-based database of procurement information on nearly 200,000 small businesses, including disadvantaged, 8(a), women-owned and veteran-owned

firms.³⁸ It employed a search engine that allowed contracting officers in Federal and state government agencies, as well as prime and other contractors, to locate small business contractors or subcontractors for partnership opportunities. PRO-Net was open to any firm that qualified as a small business under SBA's published size standards.³⁹ Business profiles in the PRO-Net system included data from SBA files and other available databases, plus additional business and marketing information on individual firms provided by the firms themselves. Businesses on the system were responsible for updating their profiles and keeping information current.

PRO-Net profiles were structured as executive business summaries, containing contact information and fields designed to meet the needs of contracting officers. Companies could also link their website to their PRO-Net profile. The PRO-Net database search engine was user-friendly and allowed the user to check ownership criteria of prospective offerers or vendors, including the business owner's identification as a veteran, service-disabled veteran, or Vietnam-era veteran, in addition to gender and ethnic minority status. Searchable data elements on businesses in PRO-Net included: company/trade name, business type, SIC/NAIC code, keywords, location, contact information, size, construction/service bonding level, small/disadvantaged business certification, quality assurance standards, capability, DUNS number, etc. Additional data elements included legal structure, year established, minority code (e.g., African-American, Hispanic-American), current principals, references, and other narrative information. Search results were presented in a table format with company name, address, city, state, zip code, telephone, and email; and included both main offices and branches. Site visitors could save email addresses in a text format to send out electronic solicitations. SBA's PRO-Net listed over 25,000 veteran-owned businesses in its nearly 200,000 entries.

PRO-Net and the DoD Contractor Registration (CCR) system

The integration of the PRO-Net and CCR databases began on January 1, 2004, and has created one portal for entering and searching small business sources. This integration assists small businesses with marketing their goods and services to the federal government and is part of an effort to streamline federal acquisition by creating common integrated business processes for buyers and sellers in the federal marketplace. Registration in CCR is now a requirement for most federal contracts. CCR has assumed all of PRO-Net's search capabilities and functions. Small businesses now no longer need to manually register in both PRO-Net and CCR.

PRO-Net limitations

With respect to identifying veteran-owned firms, one problem associated with the PRO-Net database was that it only included information on registered small businesses, and those firms which did register were primarily interested in contracting opportunities. The system was not designed to answer macroeconomic questions about the population of all

³⁸ As of August, 2002.

³⁹ 13 C.F.R. 121. For full CFR part, see <http://www.sba.gov/library/cfrs/13cfr121.pdf>. For specific sections (2003 edition – text or PDF), see http://www.access.gpo.gov/nara/cfr/waisidx_03/13cfr121_03.html.

veteran-owned firms. Also, larger veteran-owned businesses (those not meeting SBA's definition of a small business) should not have been listed in the PRO-Net database.

1.5 DOD: Central Contractor Registration (CCR) System

<http://www.ccr.gov/>

The Central Contractor Registration (CCR) System has been the primary vendor database for the Department of Defense (DOD) and certain other Federal agencies including the National Aeronautics and Space Administration (NASA), the Department of Transportation (DOT), and the Department of the Treasury. Prospective vendors to these participating CCR agencies have been required to register in CCR to compete for or be awarded contracts, basic agreements, basic ordering agreements, or blanket purchase agreements. Vendors must also be registered in CCR to be paid.

Effective October 1, 2003, the Federal Acquisition Regulation (FAR) was modified to extend to the requirement for CCR registration to vendors to most other Federal agencies.⁴⁰ Vendors are required to complete a one-time registration to provide basic information relevant to procurement and financial transactions. Once registered, vendors must update or renew their registration annually to maintain active status.

The CCR collects, validates, stores and disseminates vendor information pertinent to business and financial transactions. CCR electronically shares the secure and encrypted data with the federal agencies' finance offices to facilitate paperless payments through electronic funds transfer (EFT). Additionally, CCR shares the data with several government procurement and electronic business systems. Any information provided in the registration may be shared with authorized government offices.

A D-U-N-S number is required to begin the registration. Other fields that may be entered during the registration include a CAGE code (The Commercial and Government Entity Code, a five character ID number used extensively within the Department of Defense and NASA), the firm's legal business name and any d/b/a name, U.S. Federal Taxpayer Identification Number (TIN), physical and mailing addresses, date business started, fiscal year end close date, average number of employees and annual revenue, company and highest employee security level, corporate website URL, type of organization, business types (including veteran owned and other small, minority, and disadvantaged business categories), NAICS/SIC, PSC, or FSC codes, financial information for payment purposes, and points of contacts. Once the registration is complete, a Trading Partner Identification Number (TPIN) is assigned.

A search in the CCR database can be limited to veteran owned businesses and/or service-disabled veteran owned businesses. Other search criteria include DUNS number/CAGE

⁴⁰ Federal Acquisition Circular 2001-16, October 1, 2003; <http://www.acqnet.gov/far/FAC/fac01016.pdf>.

code, legal business name/DBA, location address, and socio-economic factors such as whether the company is a certified 8(a) program participant, HUBZone firm, sheltered workshop, small business, small disadvantaged business, and/or a woman-owned business. Search results are shown in columnar format including these fields: INFO (to show further detail), DUNS, CAGE, Legal Business Name, City, ST, and CNTRY. This information, along with address, address type, and zip code can be saved in XML and SCV formats. The search function is designed for single inquiries only and excessive usage is subject to monitoring.

In addition to the search engine, a CD-ROM is available to provide vendor information managed within the CCR database. The CD-ROM allows users to cross-relate CAGE Codes and DUNS numbers, find CCR businesses in a particular geographic area, and identify registrants by the type of industry (e.g., mining, construction, etc.). The CCR CD-ROM is available by subscription to public users in a version which contains no proprietary information (such as TIN numbers). Certain qualified government contractors can also purchase CD-ROM versions with additional data.⁴¹

In October, 2003, there were over 260,000 active vendors registered in the CCR, of which 43,783 were unique veteran owned businesses located in the 50 states and other territories.⁴² Originally, the CCR database was largely focused on government contracting and procurement information of use to DOD, NASA, DOT, and the Treasury.⁴³ The integration of PRO-Net and CCR, and the new requirement that most agencies use this single portal for most contracts should result in a significant increase in the number of vendor registrations.

The CCR database may be shared by authorized government offices. State-disaggregated information from the CCR can be merged and matched with listings from other databases by business name, DUNS number and address.

CCR data elements

General Information

Current Registration Status:

DUNS:
DUNS PLUS4:
CAGE/NCAGE Code:
Legal Business Name:
Doing Business As (DBA):
Division Name:

⁴¹ Additional information can be accessed at <http://www.dlis.dla.mil/cdccb.asp>

⁴² Approximately 800 duplicate DUNS numbers are not counted in this figure. An earlier data run in April, 2003 included additional unique veteran-owned entities, with the total of these firms then being 48,115.

⁴³ According to the Federal Procurement Data System (FPDS), in FY 2002 these four Federal agencies accounted for about 65 percent of all Federal contracting dollars to veteran-owned small businesses.

Division Number:
Company URL:
Physical and Mailing Address (Lines 1&2, City, State, Zip/Postal Code, Country):
Mailing Name:
Business Start Date:

Corporate Information:

Sole Proprietorship?

Business Type (includes 8(a) Program Participant, Construction Firm, Municipality, American Indian Owned, Educational Institution, Nonprofit Organization, Historically Underutilized Business (HUB) Zone Firm, Emerging Small Business, Research Institution, Minority Owned Business, Foreign Supplier, S Corporation, Large Business, Historically Black College/University, Service Location, Small Business, Labor Surplus Area Firm, Sheltered Workshop (JWOD Supplier), Small Disadvantaged Business, Limited Liability Company, Tribal Government, Woman Owned Business, Manufacturer of Goods, Veteran Owned Business, Minority Institution, Service Disabled Veteran Owned).

Minority Owned Business Specific Types (includes Subcontinent Asian (Asian-Indian) American Owned, Asian-Pacific American Owned, Black American Owned, Hispanic American Owned, Native American Owned, and No Representation/None of the Above)

Goods / Services Code (includes North American Industry Classification System (NAICS), Standard Industrial Classification (SIC), Product Service Codes (PSC), and Federal Supply Classification (FSC))

Points of Contact (Primary and Alternate for Government, Past Performance, and E-Business)

CCR and PRO-Net integration

In January 2004, the U.S. Small Business Administration and the Department of Defense began the full integration of PRO-Net and CCR, the two key federal contractor databases, including their search capabilities. This linkage further simplified contracting processes for small businesses, allowing vendors to input information in both databases simultaneously. Through this single registration effort, a small business can now market its goods or services, furnish the information an agency would need to do business with it, and ensure that it receives timely payment for the work it performs.

In this integrated environment, the CCR relies on PRO-Net as the authoritative source on vendors who are certified in SBA's small business programs – for example, the 8(a) Business Development and HUBZone Empowerment Contracting Programs and those which have Small Disadvantaged Business status. This helps CCR to operate in a more cost-effective manner.

CCR database – potential data bias

Originally, the CCR database was largely focused on government contracting and procurement information for use by DOD, NASA, DOT, and the Treasury, which together accounted for about 65 percent of contracting dollars to veteran-owned business in FY 2002, as noted above. Veteran-owned firms doing business with other Federal agencies, or not seeking government business at all, were probably not well-represented in the original CCR database. With the integration of PRO-Net and CCR, and with the new requirement that most Federal agencies use this new single portal, the bias of data towards that generated by the original four CCR agencies should dissipate over time.

1.6 The Veterans Corporation Business Directory

<http://www.veteranscorp.org/>
http://www.tvcbusinessdirectory.com/search_main.php

Launched in March 2003, the Veterans Corporation Business Directory is a partnership between the National Veterans Business Development Corporation, often referred to as the Veterans Corporation, and the Office of Veterans Business Development at the U.S. Small Business Administration. The Veterans Corporation provides veterans and service-disabled veterans with access to capital, entrepreneurial education, an electronic marketplace, business networking and other services. A 501(c)(3) nonprofit corporation, the Veterans Corporation was created in 1999 by Public Law 106-50.⁴⁴ The corporation serves all veterans of the U.S. Armed Forces, as well as active members of the National Guard and Reserves, and transitioning military personnel, and seeks to link them with partners in private industry.

The Business Directory is an interactive directory of veteran-owned businesses. Registration is free, and in addition to veteran and service-disabled veteran business owners, it is also open to businesses owned by members of the Armed Forces Reserves and National Guard, and to military personnel planning their transition from active duty. As of February, 2004, more than 2,300 companies were listed in this directory. As a relatively new effort, the Business Directory is expected to grow and evolve in response to the demands of the veterans community. The Veterans Corporation originally invited eligible companies registered in the CCR and PRO-Net databases to register in its Business Directory, and also advertised to increase the new service's visibility.

Business Directory data elements

The Veterans Corporation Business Directory search engine includes the following data elements:

⁴⁴ Sec. 202, Public Law 106-50, August 17, 1999; 15 U.S.C. 657c.

General

Keyword Text
Government Contractor
Service-Disabled Veteran Owned Business
Activated Guard/Reserve

Owner/Business Information

Owner name
Military service (branch)
Conflict Era/Operation
Business Name
Business Type (industry)
City
State

Government Contracting Information

Type of Small Business (8(a) Program Participant, Alaska Native, American Indian-Owned, HUBZone, JWOD supplier, Service-Disabled Veteran-Owned, Small Business, Small Disadvantaged Business, Women-Owned)
Prior Government Experience
Level of Current Facility Clearance
Highest Level of Current Employee Clearance
Annual Gross Revenues
NAICS Code
NIGP Code

A search in the Business Directory produces a list of company records, including for each the company name, city, and state, contact name, number, email, two lines of company description, and buttons for more details and a map. Detailed business information is broken down into three sections: owner information, business profile, and government contracting information. Additional details in the profile includes address, fax, years in operation, number of employees, description/core competency, CAGE, DUNS, special qualifications, certifications, classifications, and the title of primary contacts.

1.7 The VETBIZ Registry

<http://vip.vetbiz.gov/default.asp>

<http://www.vetbiz.gov/vip/vip.htm>

The 2001 National Survey of Veterans,⁴⁵ conducted by the U.S. Department of Veterans Affairs, collected data on socio-demographic and economic characteristics, military

⁴⁵ Department of Veteran Affairs, Veteran Data and Information. *2001 National Survey of Veterans (NSV)*. <http://www.va.gov/vetdata/SurveyResults/index.htm>

background, health status, VA and nonVA benefit usage, anticipated burial plans, and information on VA benefits. The survey also asked whether the veteran respondent owned or operated a small business and if so, its Federal Employer Identification Number (EIN). The EIN numbers were given on a voluntary basis. According to the Project Officer for the survey, the response rates to the two questions relating to business ownership were too low to be statistically significant.

On April 29, 2003, the Office of Management and Budget issued a memorandum to all agencies regarding the participation of veterans in Federal contracting.⁴⁶ The memorandum encouraged agencies to focus contracting efforts on small businesses owned and operated by veterans, including service-disabled veterans. The memorandum further directed agencies to the VA's Center for Veterans Enterprise VETBIZ Vendor Information Pages (VIP) for assistance in locating veteran-owned small businesses.

The Veterans Online Business Registry (VETBIZ) is designed to enable veterans to electronically post information about their business enterprises to inform agencies, contracting officers, prime contractors and other businesses about their products, services and contact information; and to enable buyers to quickly locate veteran-owned businesses for placement on original source lists. As of September, 2004, there were approximately 5,300 business profiles registered in the database, of which approximately 2,400 were on firms owned by service-disabled veterans.

VETBIZ data elements

Information collected in the VETBIZ registry includes the following data elements:

Contact Information

- Name (4 fields)
- Daytime Phone
- Cell Phone
- Email

Veteran-Owned Small Business Information

- Business Name
- Business Address
- City
- State/Territory
- County
- Zip
- Web Site
- DUNS Identification Number
- NAICS Industry Code
- Year Business Established

⁴⁶ OMB Memorandum M-03-11, <http://www.whitehouse.gov/omb/memoranda/m03-11.html>.

Largest \$ Contract Completed to Date
Average Annual Revenue
PRO-Net ID #
CAGE Code #
Federal Certifications (SDB, 8(a), HUBZone, etc.)
Federal Contracts (references)
VA Contracts (references)
Veteran-Owned Small Business?
Service-Disabled Veteran-Owned Small Business?
Number of Employees
Number of Operating Locations
Geographical Limitations
Highest Level of Personal Clearance
Highest Level Facility Clearance
Capabilities Keywords

Of the various data fields, the following are mandatory: business name, email, DUNS number and NAICS codes of the business, and the first name, last name, city, state, county, and zip code of the contact and principal owner/business.

1.8 State of California Certified Disabled Veteran Business Enterprise Listing

<http://www.pd.dgs.ca.gov/smbus/default.htm>

The Procurement Division of the California's Department of General Services (DGS) maintains a Certified Disabled Veteran Business Enterprise (DVBE) database. The State of California has a DVBE participation goal of three percent of the state's overall annual contract dollars.⁴⁷ A certified DVBE is eligible for the state's three-percent DVBE Participation Program and is provided with business networking opportunities and listing in the state's database which is searchable on the Internet.

To be eligible for certification a business must be at least 51 percent owned by one or more disabled veterans; its daily business operations must be managed and controlled by one or more disabled veterans; and its home office must be located in the U.S. For certification purposes, a disabled veteran must be a veteran of the U.S. military, naval, or air services; have a service-connected disability of at least ten percent or more; and must be a California resident. The Office of Small Business and DVBE Certification (OSDC) within the California DGS manages the DVBE certification program.

A directory of California-certified DVBEs can be downloaded as a PDF or text file. In addition to a complete listing, these files can be limited to firms in the commodities,

⁴⁷ For additional information, see <http://www.pd.dgs.ca.gov/dvbe/default.htm>

construction, or services sectors.⁴⁸ The PDF file is updated monthly, and the text file is updated daily. The text file is a comma-delimited file which enables users to save it in various formats and then sort data by OSDC Reference Number, Firm Name, Address, City, State, Zip Code, Phone Number, Fax, Email, Home Page, Certification Expiration Date, SIC Code, and SIC Description. Firms are listed in each of the text files according to the SIC codes to which they are classified.

The California OSDC database can be searched using two query systems that enable contractors to find California certified small businesses and DVBES.⁴⁹ The Keyword Search Query, updated daily, allows contractors to find certified firms by business name, business type, certification type, keywords, city, zip code, service area, certification reference number, or SIC code. The search results can be saved to Excel and database compatible file format to allow customized lists and creation of mailing labels. The keyword search system is provided by an Application Service Provider (ASP) internet service that is coordinated daily with the Procurement Division's Certified Firm Database system. The results reflect the status of the previous business day certifications except for the mailing address, contact information, keywords, and service area data.

The Standard Query is a search tool that allows contractors to find certified businesses by certification type, the type of work or services performed and the performance location. A user can determine the real-time status of certified firms and the application status information of firms that are not yet certified. Firms can be searched by certification REF number, business name, certification type, business type, SIC code, and service area location. The list generated displays the business name, any d/b/a name, telephone, fax, address, email, website address, and DGS reference number of the firm. In addition, when clicking on the business name, additional information such as current certification status (includes certification type, business type, and from-to dates) and registered SIC codes are displayed.

As of September 2004, there were more than 1,000 Certified Disabled Veteran Business Enterprises (DVBES) listed in California's DVBE directory. By comparison, the integrated PRO-Net/CCR federal database listed approximately 650 service-disabled veteran-owned businesses in California at the same time. The number of businesses owned by disabled veterans in both databases seems small when we consider that it is estimated that approximately 2.4 million veterans reside in California (about 9.3 percent of all U.S. veterans), and that approximately 225,000 of these (9.4 percent) have disability ratings of 10 percent or greater.⁵⁰ However, it must be remembered that the firms listed in both databases belong to a limited subset of all California firms. First, the Bureau of the Census estimates that in 2001 there were approximately 2,817,000 total businesses in California.⁵¹ The separate Census CBO report, as noted in section 1.1 of this chapter, estimates that approximately 1.8 percent of all firms are

⁴⁸ http://www.osmb.dgs.ca.gov/bis_queries/dvbe_list.asp

⁴⁹ <http://www.pd.dgs.ca.gov/smbus/certinq.htm>

⁵⁰ As of September 30, 2002; <http://www.va.gov/vetdata/demographics/>.

⁵¹ 668,000 employer firms (see <http://www.census.gov/epcd/nonemployer/2001/ca/CA000.HTM>) and 2,149,000 nonemployer firms (see <http://www.census.gov/epcd/susb/2001/ca/CA--.HTM>).

owned by disabled veterans. With the stipulation that this 1992 estimate is somewhat dated, we can thus estimate that there are approximately 51,000 firms owned by disabled veterans in California, and that less than a third of these are employer firms. From this limited group of business owners, those who are listed in the California DGS database and/or in the federal CCR/PRO-Net database come from a still more limited subset, namely those who both know about the listing services, and who choose to appear in them, taking affirmative actions to do so. Most of these firms wish to do business with government agencies or other contractors. Many other businesses owned by otherwise eligible service-disabled veterans in California may not be interested in contracting opportunities, be in industries with limited contracting potential, or simply not know about these listing services.⁵²

1.9 DVBE.com

<http://www.dvbe.com/home2.php>

Another listing service for businesses owned by disabled veterans is DVBE.com, a site created by service-disabled veterans to assist veteran-owned businesses by profiling their companies. DVBE.com is owned and operated by Service Disabled Veteran Enterprises, LLC., a California corporation, and is intended to facilitate business opportunities with government entities and contractors. Site visitors can view company profiles of firms owned by disabled veterans which have registered in the database, or post a notice on DVBE.com's ad board to seek a DVBE to team with for bids or contracts.

In September 2004, there were 1,049 company profiles in the DVBE database. Of these, 525 were listed under the professional category; 254 were listed under the construction category; and 270 were listed under the commodities category. The database can be searched by keywords, category, state, city, zip, and NAICS code. Each profile contains company name, address, and phone, in addition to veteran name, veteran type, and email address. Optional information can include company fax, website, reference number, and certification agency. Company profiles can be submitted without a fee, and paid members may add information or enhancements which are also searchable in the database. For example, a firm can specify its veteran type, certifications, employer ID, DUNS number, SIC and/or NAICS code, number of employees, years in business, references, credit card acceptance policy, branch office information, etc.

Most of the companies listed in the DVBE.com database are located in California, though a few are located elsewhere. It is unclear whether all of the businesses listed are owned by service-disabled veterans; some labeled themselves as certified small businesses or certified disabled veteran business enterprises.

⁵² As noted at the beginning of this chapter, caution must be used when applying the 1992 CBO share estimate factors against more current aggregate business data. The further we get from the 1992 base year, the more likely are deviations in the factors. Such changes are also suggested in other data sources as noted before. We will have much more authoritative information when data from the 2002 Survey of Business Owners and Self-Employed Persons becomes available in 2005.

1.10 Veterans Yellow Pages

<http://www.vrna.org/YellowPages.lasso>

The Veterans Yellow Pages is an internet-based business listing, provided as a benefit of membership in the Veterans Resource Network Association (VRNA) which provides to its member veterans information through an interactive website, as well as discounts on products and services. For an annual fee, a member can post his/her page on the VRNA internet site. Site visitors can search registered businesses by type and keywords. As this report was being prepared, there were approximately 500 listings in the VRNA Yellow Pages. Companies have flexibility as to what information to display, although most businesses provide a description, their company address, phone, and whether or not they accept credit cards. Additionally, many businesses supply their email address, website address, discounts they offer to veterans, and hours of operation.

1.11 VetFriends Veterans Business Directory

<http://www.vetfriends.com/index.cfm>
<http://www.vetfriends.com/directory/index.cfm>

VetFriends.com is a website intended to connect veterans and military personnel with each other, their families and friends. Veteran-owned businesses can register their firms for posting on the VetFriends site's Veterans Business Directory. This listing is searchable by state and business type, and individual records can display varying amounts of information, depending on subscribers' subscription level. The basic service level will display company name, address, phone number, and fax number; the intermediate service level will display in addition a firm's website and email address; while the premium level will also include a company logo, coupon, and a brief description.

1.12 Veterans Business Network Business Directory

<http://www.veteransbusinessnetwork.com>

The Veterans Business Network (VBN) is a nationwide membership association of veteran business owners, executives and entrepreneurs intended to provide member-to-member sales and partnership opportunities. It hosts a business directory that listed more than 725 business profiles in September 2004. The directory can be searched by keyword, business category, business name, veteran's name or location. Listings include business number, address, phone number, fax, and links to a business profile, its email, and its website.

1.13 Comparison and Summary

Among these various sources, Dun and Bradstreet and Austin-Tetra had similar numbers of veteran-owned business listings in 2002, approximately 79,000 and 78,000, respectively. Austin-Tetra's data includes more comprehensive socio-economic classifications, but its emphasis is not in providing data for macroeconomic analysis. Austrin-Tetra does provide an on-line search engine to help contracting officers find suppliers matching specific criteria. For analytical purposes, Dun and Bradstreet has the most comprehensive database available on veteran-owned businesses, followed by the CCR/PRO-Net System, which also enjoys high visibility through website links from various veteran-associated agencies, associations, and organizations, in addition to its primary function as a government contracting resource. Although the Census Bureau's 1992 *Characteristics of Business Owners* (CBO) data is the most authoritative we have for macroeconomic analysis (at least until the 2005 release of its *Survey of Business Owners and Self-Employed Persons* (SBO) data), the CBO is seriously outdated and in a highly aggregated format which by law precludes access to information on individual firms. In addition, the CBO data does not report on C-corporations, including those owned by veterans.

The U.S. Department of Veteran Affairs Center for Veterans Enterprise (CVE) sponsors the Veterans Online Business Registry (VETBIZ), an Internet-based, searchable registry of veteran-owned firms which has grown rapidly since its inception in 2003, with more than 5,300 listings in September, 2004. The Veterans Corporation Business Directory, another Internet-based searchable database of veteran-owned firms, has also grown steadily, with more than 2,300 listings in February 2004.

The California Certified Disabled Veteran Business Enterprise (DVBE) listing is limited to service-disabled veteran-owned businesses (SDVBs) whose principal owners are California residents. Additional listings of SDVBs may be available from DVBE.com, although they are not necessarily certified by government agencies. In addition, the Association for Service Disabled Veterans (ASDV)⁵³ also provides DVBE certification. Authorized subscribers to its "SDVB Registered Business Report" can access information on "ASDV Clearinghouse Certified Businesses" through the ASDV website. ASDV also maintains a searchable directory of SDVBs that have been extensively examined by ASDV and are eligible for SDVB state and national benefits.

Smaller listings of veteran-owned firms (fewer than 1,000 entries) include the Veterans Yellow Pages sponsored by the Veterans Resource Network Association, the veterans business directory on the VetFriends.com website, and the business directory of the Veterans Business Network

⁵³ See <http://www.asdv.org> for additional information.

2 Comparison of D&B and Census Data

This chapter provides a comparison between the data on veteran-owned businesses reported by Dun & Bradstreet (D&B) and that reported by the U.S. Census Bureau's 1992 Economic Census *Characteristics of Business Owners* (CBO).⁵⁴ Data on the number of veteran-owned firms by SIC code, sales, number of employees and legal form of ownership are presented and compared for the two data sources.

The Census Bureau's CBO included four tables providing data on veteran-owned businesses. Each table provided data on the number of firms and the percentages that were veteran-owned. The first table provided this data for nine major industry groups;⁵⁵ the second table provided the data for ten sales size classes;⁵⁶ the third table for eight employee size classes;⁵⁷ and the last table for three legal ownership forms.⁵⁸ The data were provided for all businesses and separately for various socio-economic subgroups (Hispanic-owned businesses, Black-owned businesses, Women-owned businesses, etc.).

For the purposes of this study, D&B provided similar tabulations from their database of corporate information.⁵⁹ The information in D&B's database is compiled from thousands of different sources and each data element in the database is updated approximately every five to six months. Consequently, the database is a constantly evolving source of information. The information presented in this chapter is based on tabulations taken from D&B's database in April, 2004 and includes data on U.S. firms only. The D&B data does not include the socio-economic subgroup detail included in the CBO.

Significant discrepancies exist between the D&B and CBO data sources. Unfortunately, these discrepancies are difficult to reconcile due to the 12 year age difference in the two sources, and to the fact that they are not entirely consistent either in the way the information is organized or in the methodology used to collect data related to veteran-owned firms. Before we look at the actual data, a few remarks are in order on these inconsistencies and their implications for the comparison and interpretation of data from these two sources.

Differences between Census Bureau CBO and Dun & Bradstreet data.

There are categories and sub-categories of information in the D&B data that do not match the Census CBO data. For example, the 1992 CBO data does not include the legal form of ownership category "C Corporation," nor does it include information on the following

⁵⁴ U.S. Census Bureau, *1992 Economic Census: Characteristics of Business Owners* (CBO), <http://www.census.gov/prod/3/97pubs/cbo-9201.pdf>.

⁵⁵ Ibid., pp. 62-63, Table 7a, Veteran Status of Business Owner by Industry Division: 1992.

⁵⁶ Ibid., pp. 64-65, Table 7b, Veteran Status of Business Owner by Receipts Size of Firm: 1992.

⁵⁷ Ibid., pp. 66-67, Table 7c, Veteran Status of Business Owner by Employment Size of Firm: 1992.

⁵⁸ Ibid., p. 68, Table 7d, Veteran Status of Business Owner by Legal Form of Organization of Firm: 1992.

⁵⁹ This data was purchased from Dun & Bradstreet by Jack Faucett Associates expressly for this study.

Standard Industrial Classification (SIC) industry groups: 01, Agricultural Production-crops; 02, Agricultural Production – livestock; 40, Railroad Transportation; 43, U.S. Postal Service; 86, Membership Organizations; 88, Private Households; and 91-97, Public Administration.⁶⁰ Consequently, portions of the SIC code detail and ownership type detail provided in the D&B tables cannot be compared to the Census data.

The CBO data does not directly report on the number of businesses that are veteran-owned.⁶¹ Though the data is categorized by firm,⁶² it is obtained from surveys of business owners. Based on a firm’s IRS filing, business owners were sent different survey instruments. The owners of those businesses that filed an IRS form 1040, Schedule C (individual proprietorships or self-employed persons) were sent one survey instrument (CBO-1) that included questions about both the individual owner and the business.⁶³ This questionnaire included the question, “What was your veteran status as of December 31, 1992?” Those businesses that filed IRS Form 1065 (partnerships) or Form 1120S (subchapter S corporations) were each sent two survey instruments. One asked questions about the firm (CBO-2)⁶⁴ and did not include questions on the veteran status of the owners, and the other (CBO-3)⁶⁵ asked questions about the owners, including the question, “What was your veteran status as of December 31, 1992?” CBO-3 questionnaires could be mailed to as many as 10 owners.

While the CBO relied on survey responses from scientifically selected samples of firms identified through tax returns, D&B collects information on veteran-owned status from many different sources. These include: 1) direct responses from businesses to D&B interviews and surveys conducted in connection with the application for and maintenance of those firms’ DUNS numbers,⁶⁶ 2) listings of veteran-owned businesses obtained from government sources such as the Small Business Administration’s PRO-Net database,⁶⁷ and 3) listings of firms owned by veterans and service-disabled veterans obtained from non-governmental sources such as those reviewed in Chapter 1.

Two other differences in CBO and D&B data collection methods should be noted. First, it was mathematically possible that a given CBO respondent firm could have had multiple owners with some, but less than 51 percent, ownership by a veteran or veterans, yet still have been identified as veteran-owned. The effect of this possibility should be relatively minor, however, considering that nearly 85 percent of the businesses reported in the CBO

⁶⁰ Ibid., p VII.

⁶¹ The U.S. Census Bureau definition of veteran-owned was 51 percent ownership by a veteran or veterans.

⁶² In the CBO, a firm is a legal entity engaged in economic activity during any part of 1992 that filed an IRS Form 1040, Schedule C; IRS Form 1065; or IRS Form 1120S. A firm may operate one place of business or more. A firm contrasts with an establishment, which is a single physical location at which business is conducted. Most of the other surveys in the Census Bureau’s periodic Economic Censuses are conducted on the basis of establishments rather than firms.

⁶³ Op. cit., Appendix C, p. C-2; <http://www.census.gov/prod/3/97pubs/cbo-9201.pdf>.

⁶⁴ Ibid., p. C-14.

⁶⁵ Ibid., p. C-25.

⁶⁶ A D&B D-U-N-S number is a unique nine-digit sequence recognized as a common standard for identifying and tracking over 80 million businesses worldwide.

⁶⁷ PRO-Net is a database formerly maintained by SBA and now integrated with DOD’s Central Contractor Registration (CCR) database. See www.ccr.gov for more information.

were sole proprietorships.⁶⁸ Secondly, completion of the CBO questionnaire was required by law. However, there is no legal requirement for a business to obtain a DUNS number.

The U.S. Census Bureau is currently processing information collected as part of its 2002 *Survey of Business Owners and Self-Employed Persons* (SBO). Data from this survey will not be available until 2005. The SBO survey instruments included questions similar to those included in the 1992 CBO, including a question on veteran status. Those replying in the affirmative on being a veteran were further asked if they were “disabled as the result of injury incurred or aggravated during active military service.”⁶⁹ This was the first time Census has collected data on businesses owned by service-disabled veterans, a development expected to yield important new information for policymakers.

The SBO survey used two survey questionnaires, the SBO-1 for partnerships and corporations, and the SBO-2 designed for those filing Schedule Cs (business profit or loss forms) with their Form 1040s. SBO-1 recipients reported information on up to the three largest share owners of the business. SBO-2 recipients, typically sole proprietorships, reported on either one or two owners. Perhaps the most significant difference in the 2002 SBO sampling frame was the inclusion of C-corporations, a class not represented in the 1992 CBO. The Census Bureau’s 1997 Economic Census estimated that approximately 11.5 percent of all businesses were C-corporations in that year.⁷⁰

The rest of this chapter will be devoted to comparisons and analyses of firm data. For the purposes of this study, Dun and Bradstreet provided data in a format compatible with the organization of CBO data, with which it is compared. Firm data is presented in four separate tabulations for all firms in both the CBO and D&B datasets, and for those firms identified as veteran-owned in both sources. These tabulations include data by major industry SIC groups, sales receipts, number of employees, and firm legal structure. D&B further provided cross-tabulations of industry SIC groups with the other three data parameters (i.e., sales receipts, number of employees, and firm legal structure). Using the raw data from each source, we have also derived veteran ownership cohort distributions within each of the four major tabulations to better compare otherwise disparate data.

Firm data by major industry group

Our first table comparing Census and D&B data, Exhibit 9 below, shows by major SIC industry group the number both of all firms and of veteran-owned firms, as well as the proportion which the latter represents of the former. Although there were rough similarities in the total number of businesses in the CBO and D&B data and in many of their major industry cohorts, the proportions of veteran-owned firms in the D&B database (0.53 percent overall, and never more than 1.33 percent in any cohort) were significantly less than those reported in the Census CBO data (24.2 percent overall, and never less than 17.7 percent in any cohort). This was most likely due to an under-reporting of veteran

⁶⁸ The CBO reported that 14,599,295 firms out of a total of 17,253,143 (or 84.6 percent) were sole proprietorships in 1992. See op. cit., p. 68, Table 7d.

⁶⁹ See <http://help.econ.census.gov/BHS/SBO/index.html> for more information on the SBO.

⁷⁰ See <http://www.census.gov/epcd/www/smallbus.html#Legal> for detail.

ownership in the D&B file. In data provided in April 2004, D&B reported just over 100,000 veteran-owned firms, compared to the 4.175 million estimated in the 1992 Census CBO data.⁷¹

Exhibit 9. Firm data by major SIC industry group.⁷²

Industry	SIC	92 CBO # of Firms	04 D&B # of Firms	92 CBO # Vet Firms	04 D&B # Vet Firms	92 CBO % Vet Firms	04 D&B % Vet Firms
Agricultural services, forestry, fishing & mining	01 - 14	583,253	793,353	132,000	2,787	22.6%	0.35%
Construction	15 - 17	1,829,620	1,483,331	553,000	9,809	30.2%	0.66%
Manufacturing	20 - 39	517,714	816,964	127,000	10,839	24.6%	1.33%
Transportation, communications and utilities	40 - 49	698,903	725,499	175,000	4,375	25.1%	0.60%
Wholesale trade	50 - 51	538,339	844,948	144,000	11,183	26.8%	1.32%
Retail trade	52 - 59	2,478,045	3,047,770	444,000	14,661	17.9%	0.48%
Finance, insurance and real estate	60 - 67	1,941,029	1,570,950	617,000	5,147	31.8%	0.33%
Services	70 - 89	7,784,016	7,381,560	1,744,000	41,232	22.4%	0.56%
Public administration	91 - 97	N/A	243,452	N/A	14	N/A	0.01%
Industries not classified	99	882,224	2,039,338	156,000	105	17.7%	0.01%
ALL FIRMS		17,253,143	18,947,165	4,175,000	100,152	24.2%	0.53%

In the CBO data, the overall percentage of veteran-owned firms among all firms was 24.2 percent. The percentage of veteran-owned businesses was greatest in the Finance, Insurance and Real Estate sector, with 31.8 percent of all firms in this industry owned by veterans. This was followed by the Construction and Wholesale Trade cohorts with 30.2 percent and 26.8 percent veteran ownership, respectively. Excluding the Industries Not Classified group, veteran ownership was lowest, according to the CBO data, in the Retail Trade sector at 17.9 percent, in the Services sector at 22.4 percent, and in the Agricultural Services, Forestry, Fishing & Mining sector at 22.6 percent. In a middle range, the CBO reported veteran-owned firms represent of 24.6 percent of all Manufacturing firms, and 25.1 percent of all firms in the Transportation, Communications, and Utilities sector.

In the D&B data, the overall share of veteran-owned firms among all firms was 0.53 percent, a small fraction (2.2 percent) of the CBO estimated overall percentage of 24.2 percent. Excluding the Public Administration and Industries not Classified groups, the industry cohorts with the greatest percentage of veteran ownership were Manufacturing and Wholesale Trade, with 1.33 percent and 1.32 percent of all firms in those sectors owned by veterans, respectively. The lowest percentages of veteran business ownership in the D&B data were in the Finance, Insurance and Real Estate sector and in the Agricultural Services, Forestry, Fishing and Mining sector, with 0.33 percent and 0.35 percent of all firms in those industries owned by veterans, respectively. D&B reported a mid-range of veteran-ownership percentages of 0.48 percent in the Retail Trade sector; 0.56 percent in the Services sector; 0.60 percent in the Transportation, Communications and Utilities sector; and 0.66 percent in the Construction sector.

⁷¹ The current total number of veteran-owned firms may be higher now, as discussed in Chapter 1.

⁷² Source: U.S. Census 1992 CBO and Dun & Bradstreet data run in April, 2004. The CBO's estimated total of veteran-owned firms exceeds by approximately 83,000 the sum of its industry-specific estimates.

Distributions of firms by major industry group

Beyond the massive differences between the CBO and D&B data sources in their reported numbers and percentages of veteran-owned firms, there were also differences in the distribution of all veteran-owned firms by industry group. Exhibit 10 depicts the distributions among industry groups of all firms reported in the 1992 CBO and in the 2004 D&B data run used for this report, as well as the analogous distributions of veteran-owned firms reported in those two sources.

Exhibit 10. Distribution of firm ownership shares by major industry groups.⁷³

Industry	SIC	Share of all 92 CBO firms	Share of all 04 D&B firms	Share of 92 CBO vet firms	Share of 04 D&B vet firms
Agricultural services, forestry, fishing & mining	01 - 14	3.4%	4.2%	3.2%	2.8%
Construction	15 - 17	10.6%	7.8%	13.2%	9.8%
Manufacturing	20 - 39	3.0%	4.3%	3.0%	10.8%
Transportation, communications and utilities	40 - 49	4.1%	3.8%	4.2%	4.4%
Wholesale trade	50 - 51	3.1%	4.5%	3.4%	11.2%
Retail trade	52 - 59	14.4%	16.1%	10.6%	14.6%
Finance, insurance and real estate	60 - 67	11.3%	8.3%	14.8%	5.1%
Services	70 - 89	45.1%	39.0%	41.8%	41.2%
Public administration	91 - 97	N/A	1.3%	N/A	0.0%
Industries not classified	99	5.1%	10.8%	3.7%	0.1%
Undistributed		0.0%	0.0%	2.0%	0.0%
ALL FIRMS		100.0%	100.0%	100.0%	100.0%

Although the top four industry cohorts (excluding the Industries Not Classified group) in each data source had the same relative ranking among all firms (Services; Retail Trade; Finance, Insurance and Real Estate; and Construction, in that order), the rankings of veteran-owned firm cohorts differed. Both the CBO and D&B reported the Services sector as the largest industry group of veteran-owned firms, with 41.8 percent and 41.2 percent shares of all veteran-owned firms, respectively. However, the CBO next ranked Finance, Insurance and Real Estate at 14.8 percent; Construction at 13.2 percent; and Retail Trade at 10.6 percent of all veteran-owned firms; while D&B next ranked Retail Trade at 14.6 percent; Wholesale Trade at 11.2 percent; and Manufacturing at 10.8 percent of all veteran-owned firms. It is interesting to note that while the Wholesale Trade and Manufacturing sectors ranked relatively high in the D&B veteran firm distribution, these cohorts were among the lowest in the CBO data, at 3.4 and 3.0 percent, respectively. Conversely, the second-ranked CBO veteran cohort (Finance, Insurance and Real Estate at 14.8 percent) ranked a relatively low 5.1 percent of all veteran-owned firms in the D&B data.

⁷³ Distributions have been derived from the CBO and D&B data presented in Exhibit 9 by dividing the cohort populations in each class by the total population of that class. Cohort shares may not total to exactly 100 percent due to rounding. The undistributed category includes the difference between the CBO's estimated total of 4.175 million veteran-owned firms and the 4.092 million sum of its estimates for the individual major industry groups, i.e., 83,000 veteran-owned firms without cohort identification.

Firm data by sales receipts size

Exhibit 11 below compares by sales receipts the number and proportion of all firms and veteran-owned firms in both the CBO and D&B sources.⁷⁴

Exhibit 11. Firm data by sales receipts size groups.⁷⁵

Sales (\$)	92 CBO # of Firms	04 D&B # of Firms	92 CBO # Vet Firms	04 D&B # Vet Firms	92 CBO % Vet Firms	04 D&B % Vet Firms
0 - 49,999	12,692,715	7,819,312	2,962,000	22,825	23.3%	0.29%
50,000 - 99,999	1,615,940	3,594,781	412,000	15,092	25.5%	0.42%
100,000 - 249,000	1,499,790	3,811,485	396,000	20,645	26.4%	0.54%
250,000 - 499,999	682,583	1,663,437	169,000	13,148	24.8%	0.79%
500,000 - 999,999	372,078	890,013	89,000	10,722	23.9%	1.20%
1,000,000 +	390,037	1,168,137	100,000	17,720	25.7%	1.52%
Undistributed	0	0	47,000	0	N/A	N/A
ALL FIRMS	17,253,143	18,947,165	4,175,000	100,152	24.2%	0.53%

Reflecting the relatively low levels of veteran ownership reported in the D&B data overall, the percentage of veteran-ownership in each sales size category was significantly lower in the D&B data (ranging from 0.29 percent to 1.52 percent) than in the CBO data (ranging from 23.3 percent to 26.4 percent). Interestingly, the CBO data indicated that sales receipt size had little impact on the likelihood of veteran ownership. The percentage of veteran ownership was remarkably similar in all sales size cohorts in the CBO data. In the D&B data, on the other hand, a business with sales receipts of \$1 million or more was five times more likely to be veteran-owned than a business with receipts of less than \$50,000. In fact, there was a direct correlation between the firm sales size cohort and the percentage of veteran ownership in that cohort through the entire range of firm sizes.⁷⁶

It is apparent from the data displayed in Exhibit 11 that by far the majority of firms in both the CBO and D&B datasets were at the smaller end of the spectrum in terms of sales receipts. However, there were also notable differences in these two sources which are displayed in Exhibit 12 below.

⁷⁴ For the purposes of comparison, the four smallest CBO sales cohorts were combined into a single cohort equivalent to the smallest single D&B cohort (\$0 – \$49,999). Similarly, two other CBO cohorts were combined to create a \$100,000 – \$249,999 cohort comparable to a single D&B cohort of that sales range.

⁷⁵ Source: U.S. Census 1992 CBO and Dun & Bradstreet data run in April, 2004. The CBO's estimated total of veteran-owned firms exceeds by approximately 47,000 the sum of its sales cohort estimates.

⁷⁶ Although this statistical correlation is striking, care should be taken not to infer from it that veteran business ownership increases by the size of firm sales in the universe of all firms outside the D&B database. Indeed, the more authoritative CBO data does not support this view, but instead suggests that veteran ownership shares are similar throughout firm sales size cohorts. The D&B correlation may reflect other selection factors, such as the composition of its data file with respect to business size, more thorough data collection efforts for larger firms, industry group biases, etc. The 2002 SBO data should give current, definitive answers on this and other veteran ownership questions when it becomes available in 2005.

Distributions of firms by sales receipts

Exhibit 12 depicts the distributions among sales size cohorts of all firms reported in the 1992 CBO and in the 2004 D&B data run used for this report, as well as the analogous distributions of veteran-owned firms reported in those two sources.

Exhibit 12. Distribution of firm ownership shares by sales receipts size.⁷⁷

Sales (\$)	Share of all 92 CBO firms	Share of all 04 D&B firms	Share of 92 CBO vet firms	Share of 04 D&B vet firms
0 - 49,999	73.6%	41.3%	70.9%	22.8%
50,000 - 99,999	9.4%	19.0%	9.9%	15.1%
100,000 - 249,000	8.7%	20.1%	9.5%	20.6%
250,000 - 499,999	4.0%	8.8%	4.0%	13.1%
500,000 - 999,999	2.2%	4.7%	2.1%	10.7%
1,000,000 +	2.3%	6.2%	2.4%	17.7%
Undistributed	0.0%	0.0%	1.1%	0.0%
ALL FIRMS	100.0%	100.0%	100.0%	100.0%

Almost three-fourths of all firms reported in the CBO (73.6 percent) had receipts of under \$50,000, while less than half of the businesses reported in the D&B database (41.3 percent) had receipts in this range. The cohort distribution differential was even more striking for veteran-owned firms. Of those veteran-owned firms in the CBO, 70.9 percent had sales receipts of less than \$50,000, compared to 22.8 percent of the D&B veteran-owned businesses in this range.

At the other end of the range, 2.3 percent of CBO firms were reported as having receipts of \$1 million or more, while 6.2 percent of D&B firms had receipts in this range. Similarly, 4.5 percent of CBO firms had receipts of \$500,000 or more, while 10.9 percent of D&B firms were in this range. Again, the differences between the two datasets were even more striking for veteran-owned firms. The CBO reported that 2.4 percent of veteran-owned firms had receipts of \$1 million or more, and 4.5 percent had receipts of \$500,000 or more. However, D&B reported that 17.7 percent of its veteran-owned firms had receipts of \$1 million or more (more than 7 times the CBO level), and 28.4 percent had receipts of \$500,000 or more (more than 6 times the CBO level).

Another way of looking at this data is to note that the distributions by receipt size for all CBO firms and CBO veteran-owned firms were nearly identical in that dataset. However, the distribution of D&B veteran-owned firms shifted markedly upward in sales size, not only as compared to CBO firms, but also compared to all D&B firms.

⁷⁷ Distributions have been derived from the CBO and D&B data presented in Exhibit 11 by dividing the cohort populations in each class by the total population of that class. Cohort shares may not total to exactly 100 percent due to rounding. The undistributed category includes the difference between the CBO's estimated total of 4.175 million veteran-owned firms and the 4.128 million sum of its estimates for the individual major sales receipts cohorts, i.e., 47,000 veteran-owned firms without cohort identification.

Cross-tabulation of D&B veteran firm shares by SIC group and sales receipts

Exhibit 13 shows the percentage of veteran firm ownership in the D&B database by both SIC and sales size groups. The share of all veteran-owned businesses in the D&B database increased by sales size category up to the cohort of \$5-10 million in receipts, ranging from a low of 0.29 percent to a high of 1.74 percent. The veteran-owned share then dropped steadily, beginning in the \$10-25 million sales cohort. It is important to note that each of these shares was significantly below those reported in the Census CBO (and illustrated in Exhibit 11), which ranged from 23.3 to 26.4 percent.

Exhibit 13. Cross-tabulation of D&B veteran firm shares by SIC group and sales receipts size.⁷⁸

SALES SIC GROUP	<50K	50- 100K	100- 250K	250- 500K	500- 1,000K	1-5M	5-10M	10- 25M	25- 100M	>100M	Total
01 - 09	0.33%	0.25%	0.34%	0.52%	0.67%	0.86%	0.92%	0.92%	1.37%	0.00%	0.34%
10 - 14	0.27%	0.57%	0.53%	0.62%	0.76%	0.86%	0.95%	0.34%	0.00%	0.00%	0.52%
15 - 17	0.42%	0.29%	0.44%	0.91%	1.40%	1.81%	2.24%	2.31%	1.22%	0.66%	0.66%
20 - 39	0.66%	0.79%	1.11%	1.88%	2.31%	2.74%	2.38%	1.95%	0.89%	0.10%	1.33%
40 - 49	0.37%	0.52%	0.51%	0.82%	1.11%	1.49%	1.31%	1.32%	0.76%	0.06%	0.60%
50 - 51	1.33%	1.17%	0.74%	1.02%	1.70%	2.12%	2.40%	2.03%	1.33%	0.77%	1.32%
52 - 59	0.30%	0.53%	0.49%	0.65%	0.79%	0.95%	1.04%	0.85%	0.73%	0.56%	0.48%
60 - 67	0.37%	0.30%	0.24%	0.37%	0.55%	0.53%	0.40%	0.41%	0.25%	0.18%	0.33%
70 - 89	0.38%	0.42%	0.66%	0.79%	1.21%	1.42%	1.61%	1.24%	0.89%	0.16%	0.56%
91 - 97	0.01%	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%
99	0.00%	0.03%	0.10%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%
TOTAL	0.29%	0.42%	0.54%	0.79%	1.20%	1.56%	1.74%	1.47%	0.87%	0.00%	0.53%

The cross-tabulation shows that the greatest percentage of D&B veteran-owned firms in sales receipt categories of less than \$100,000 were in the Wholesale Trade group (SIC 50-51). The Manufacturing group (SIC 20-39) had the next largest share of firms in this sales range. In the categories of sales between \$100,000 and \$5 million, the relationship of these two groups reversed, and the Manufacturing group had the greatest percentage of veteran-owned firms with the Wholesale Trade group next. This relationship inverted again for the sales categories of \$5 million to \$25 million. Exhibit 13 also shows that, within the D&B dataset, the Construction group (SIC 15-17) had a larger than average veteran ownership share for all receipt categories between \$250,000 and \$100 million.

Firm data by number of employees

Exhibit 14 below compares all firms and all veteran-owned firms in both the CBO and D&B datasets by number of employees. Not unlike the comparisons between the two datasets presented in Exhibit 11 (firm ownership by sales receipts size), the percentage of veteran firm ownership by employee size cohort varied from a high of 26.9 percent to a low of 22.2 percent in the CBO data, but was much lower in the D&B data, ranging from a high of 1.27 percent to a low of 0.41 percent.

⁷⁸ Data supplied by Dun & Bradstreet, based on April, 2004 data run.

Exhibit 14. Firm data by number of employees.⁷⁹

# of Employees	92 CBO # of Firms	04 D&B # of Firms	92 CBO # Vet Firms	04 D&B # Vet Firms	92 CBO % Vet Firms	04 D&B % Vet Firms
0 - 4	16,270,098	15,860,661	3,927,000	64,503	24.1%	0.41%
5 - 9	503,808	1,447,061	123,000	15,922	24.5%	1.10%
10 - 19	256,110	792,554	57,000	9,847	22.2%	1.24%
20 - 49	144,734	517,864	36,000	6,558	24.9%	1.27%
50 - 99	45,331	171,447	12,000	1,995	26.9%	1.16%
100 +	33,062	157,578	9,000	1,327	25.9%	0.84%
Undistributed	0	0	11,000	0	N/A	N/A
ALL FIRMS	17,253,143	18,947,165	4,175,000	100,152	24.2%	0.53%

Although the total number of firms in the D&B database was only about 9.8 percent larger than that in the CBO data, D&B reported on far more firms in all employment size cohorts except the smallest (0 – 4 employees). D&B data included 2.9 times as many firms in the 5 – 9 employee range, 3.1 times as many in the 10 – 19 employee range, 3.6 times as many in the 20 – 49 employee range, 3.8 times as many in the 50 – 99 employee range, and 4.8 times as many in the 100 employee or more range. The direct correlation between cohort employment size and the ratio of D&B to CBO cohort firm populations was reinforced by the same correlation in the data on firm size by sales receipts in Exhibit 11 above. Perhaps more importantly, the fact that D&B reported so many more larger firms in 2004 than the CBO estimated in 1992 indicates that further research is needed to determine whether this phenomenon is attributable to the age of the CBO data and subsequent growth in firm numbers, the CBO not including C corporations, double counting or other inaccuracies in the D&B data, or a combination of these and/or other factors. The Census 2002 SBO data, expected to be released in 2005, should help answer these and other questions on veteran-owned firms.

Exhibit 14 also shows that the percentage of veteran firm ownership in each CBO employee size cohort was very similar, just as it was in the various CBO firm sales size cohorts in Exhibit 11. In the D&B data, on the other hand, a business with 10 - 50 employees was three times more likely to be veteran-owned than a business with four or fewer employees. Firms with 100 or more employees were twice as likely to be veteran-owned than those with four or fewer employees.⁸⁰

It is further apparent from the data displayed in Exhibit 14 that, as in the case of sales size data in Exhibit 11, by far the most firms in both the CBO and D&B datasets were in the smallest cohort. However, there were also notable differences in these two sources which are displayed in Exhibit 15 below.

⁷⁹ Source: U.S. Census 1992 CBO and Dun & Bradstreet data run in April, 2004. The CBO's estimated total of veteran-owned firms exceeds by 11,000 the sum of its employee cohort estimates.

⁸⁰ Again, care should be taken in drawing any inferences from the differences in veteran ownership shares among the D&B employee number cohorts. The CBO data suggests that veteran ownership shares are similar throughout firm sales size cohorts. The Census Bureau's 2002 SBO data will give us much better information on this and other veteran ownership questions when it becomes available in 2005.

Distributions of firms by number of employees

Exhibit 15 depicts the distributions among employee number cohorts of all firms reported in the 1992 CBO and in the 2004 D&B data run used for this report, as well as the analogous distributions of veteran-owned firms reported in those two sources.

Exhibit 15. Distribution of firm ownership shares by employee number size. ⁸¹

# of Employees	Share of all 92 CBO firms	Share of all 04 D&B firms	Share of 92 CBO vet firms	Share of 04 D&B vet firms
0 - 4	94.3%	83.7%	94.1%	64.4%
5 - 9	2.9%	7.6%	2.9%	15.9%
10 - 19	1.5%	4.2%	1.4%	9.8%
20 - 49	0.8%	2.7%	0.9%	6.5%
50 - 99	0.3%	0.9%	0.3%	2.0%
100 +	0.2%	0.8%	0.2%	1.3%
Undistributed	0.0%	0.0%	0.3%	0.0%
ALL FIRMS	100.0%	100.0%	100.0%	100.0%

In the CBO, 94.3 percent of all firms had four or fewer employees, and 83.7 percent of all firms in the D&B database belonged to this cohort. The cohort distribution differential between CBO and D&B data was wider for veteran-owned firms, as was the case with the sales receipt data displayed in Exhibit 12. Of those veteran-owned firms in the CBO, 94.1 percent had four or fewer employees, nearly the same as the 94.1 percent of all firms which were in this cohort. However, in the D&B database, veteran-owned firms with four or fewer employees represented 64.1 percent of all veteran firms, nearly a third less than this cohort represented in the CBO data.

At the other end of the range, only 0.2 percent of CBO firms were reported as having 100 or more employees, while 0.8 percent of D&B firms had employment in this range. Similarly, 1.3 percent of CBO firms had 20 or more employees, while 4.4 percent of D&B firms were in this range. Again, the differences between the two datasets were even more striking for veteran-owned firms. The CBO reported that 0.2 percent of veteran-owned firms had 100 or more employees, and 1.4 percent had 20 or more employees. However, D&B reported that 1.3 percent of its veteran-owned firms had 100 or more employees (more than 6 times the CBO level), and 9.8 percent had 20 or more employees (more than 7 times the CBO level).

⁸¹ Distributions have been derived from the CBO and D&B data presented in Exhibit 14 by dividing the cohort populations in each class by the total population of that class. Cohort shares may not total to exactly 100 percent due to rounding. The undistributed category includes the difference between the CBO's estimated total of 4.175 million veteran-owned firms and the 4.164 million sum of its estimates for the individual major employee size cohorts, i.e., 11,000 veteran-owned firms without cohort identification.

Another way of looking at this data is to note that the distributions by number of employees for all CBO firms and CBO veteran-owned firms were nearly identical in that dataset. However, the distribution of D&B veteran-owned firms shifts markedly upward, not only as compared to CBO firms, but also compared to all D&B firms. This shift is very similar to that displayed in Exhibit 12 which showed firm size by sales receipts.

Cross-tabulation of D&B veteran firm shares by SIC group and employee numbers

Exhibit 16 shows the percentage of veteran firm ownership in the D&B database by both SIC and employee number groups. The proportion of veteran-owned businesses in the D&B database was within a relatively narrow range (1.04 to 1.28 percent) in all employment size groups from 5 to 250 employees. However, the proportion was much lower at both ends of the spectrum, being 0.41 percent in the 4 or fewer employee cohort (by far the largest group in terms of numbers, as shown in Exhibits 14 and 15) and 0.56 percent in the much smaller group of firms with 250 employees or more. It is again important to note that each of these shares was significantly below those reported in the Census CBO data (and illustrated in Exhibit 14), which ranged from 22.2 to 26.9 percent.

Exhibit 16. Cross-tabulation of D&B veteran firm shares by SIC group and employee numbers.⁸²

EMPLOYMENT SIC GROUP	0 - 4	5 - 9	10 - 14	15 - 19	20 - 49	50 - 99	100 - 249	250 +
01 - 09	0.29%	0.65%	0.70%	0.73%	0.89%	0.98%	0.71%	1.32%
10 - 14	0.43%	0.95%	0.69%	0.62%	0.76%	0.92%	0.39%	0.00%
15 - 17	0.42%	1.38%	1.68%	1.97%	1.94%	2.16%	1.52%	0.96%
20 - 39	0.88%	2.18%	2.36%	2.64%	2.72%	2.38%	1.68%	0.55%
40 - 49	0.46%	1.20%	1.48%	1.15%	1.28%	1.31%	1.22%	0.50%
50 - 51	1.06%	2.06%	2.21%	2.23%	2.30%	1.89%	1.71%	0.67%
52 - 59	0.42%	0.83%	0.78%	0.77%	0.64%	0.54%	0.52%	0.54%
60 - 67	0.30%	0.51%	0.59%	0.53%	0.41%	0.35%	0.29%	0.17%
70 - 89	0.47%	1.00%	1.09%	1.10%	1.08%	0.95%	1.01%	0.72%
91 - 97	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
99	0.01%	0.06%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	0.41%	1.10%	1.23%	1.28%	1.27%	1.16%	1.04%	0.56%

This cross-tabulation shows that three industry cohorts had consistently higher veteran ownership proportions across employment size groups than those for the composites of all veteran firms in the D&B database. In the Wholesale Trade cohort (SIC 50-51) and in the Construction cohort (SIC 15-17), veteran-owned firms comprised a larger share in all employee size groups than did the composites of all veteran-owned firms. Similarly, the Manufacturing cohort (SIC 20-39) had approximately twice the share of veteran-owned firms as the composites in all size groups below 100 employees and was also larger in the 100 – 249 employee group. On the other hand, the proportion of veteran-ownership was lower than the composite levels in all employee size groups in the Finance, Insurance and Real Estate cohort (SIC 60 – 67), and in all but the largest (250 +) employee size group in the Agricultural Services, Forestry, Fishing and Mining cohort (SIC 01 – 09).

⁸² Data supplied by Dun & Bradstreet, based on April, 2004 data run.

Firm data by legal form of organization

Exhibit 17 compares veteran ownership in the D&B database and the Census CBO, based on legal form of ownership. As in the case of cohort breakouts based on firm size, both by sales and by number of employees, the proportion of firms owned by veterans was remarkably similar in the CBO's three ownership categories: 23.8 percent of sole proprietorships, 26.4 percent of partnerships, and 23.9 percent of S corporations were owned by veterans, compared to an average of 24.2 percent veteran ownership for all CBO firms.

The D&B proportions of veteran ownership were also similar among the three categories which included the vast majority of firms on which it reported legal form of organization. Veteran-owned firms comprised 0.70 percent of sole proprietorships, 0.82 of partnerships, and 0.83 percent of C corporations in the D&B database. Veterans owned 3.74 percent of S corporations in the D&B database, but S corporations comprised a negligible share of the overall D&B universe.

Exhibit 17. Firm data by legal form or organization.⁸³

Legal Form of Organization	92 CBO # of Firms	04 D&B # of Firms	92 CBO # Vet Firms	04 D&B # Vet Firms	92 CBO % Vet Firms	04 D&B % Vet Firms
Proprietorships	14,599,295	4,891,872	3,475,000	34,117	23.8%	0.70%
Partnerships	1,089,578	656,074	288,000	5,363	26.4%	0.82%
C Corps	n/a	5,763,588	n/a	48,065	n/a	0.83%
S Corps	1,564,270	4,140	374,000	155	23.9%	3.74%
Undistributed	0	7,631,491	38,000	12,452	0.0%	0.16%
ALL FIRMS	17,253,143	18,947,165	4,175,000	100,152	24.2%	0.53%

It must be noted that D&B data on firm ownership type appeared to be incomplete, with only 11,315,674 of D&B's 18,947,165 total firms at the time of this data run (or approximately 60 percent) identified in one of its four ownership categories. This inconsistency and the fact that the CBO had no data on C corporations (which comprised more than 30 percent of all D&B firms and 51 percent of those D&B firms with ownership type identified) limit the usefulness of comparisons between the two sources on legal form of organization.

The data displayed in Exhibit 17 show us that by far the most firms in the CBO were sole proprietorships. However, this was not the case with firms in the D&B database, where the largest group identified was that comprised of C corporations. Exhibit 18 below provides additional information on firm distributions by legal form of organization.

⁸³ Source: U.S. Census 1992 CBO and Dun & Bradstreet data run in April, 2004. The CBO's estimated total of veteran-owned firms exceeds by 38,000 the sum of its cohort estimates for ownership types. In the D&B database, the legal form of organization was not supplied on more than 40 percent of all firms and more than 12 percent of all veteran-owned firms, with the result that firms without such identifiers were not distributed to any of the four ownership types, and are reported in an "undistributed" category.

Distributions of firms by legal form of organization

Exhibit 18 depicts the distributions among organization type cohorts of all firms reported in the 1992 CBO and in the 2004 D&B data run used for this report, as well as the analogous distributions of veteran-owned firms reported in those two sources. Interestingly, while the legal form of organization was not identified in 40.3 percent of all D&B firms, only 12.4 percent of D&B veteran-owned firms lacked this information.

The largest single group in the CBO dataset was that comprised of proprietorships, with an 84.6 percent share of all firms. The largest single cohort in the D&B data was that of C corporations, a cohort not included at all in the CBO data, with 30.4 percent of all firms (and 50.9 percent of all firms actually identified by legal form of organization). On the other hand, while S corporations comprised a significant 9.1 percent of all CBO firms, their share was negligible in the D&B database.

Exhibit 18. Distribution of firm ownership shares by legal form of organization.⁸⁴

Legal Form of Organization	Share of all 92 CBO firms	Share of all 04 D&B firms	Share of 92 CBO vet firms	Share of 04 D&B vet firms
Proprietorships	84.6%	25.8%	83.2%	34.1%
Partnerships	6.3%	3.5%	6.9%	5.4%
C Corps	n/a	30.4%	n/a	48.0%
S Corps	9.1%	0.0%	9.0%	0.2%
Undistributed	0.0%	40.3%	0.9%	12.4%
ALL FIRMS	100.0%	100.0%	100.0%	100.0%

This exhibit shows a striking differential between the CBO and D&B datasets in the proportion of all firms which belonged to the proprietorship cohort. In the CBO, 84.6 percent of all firms were proprietorships, but only 25.8 percent of all firms in the D&B database belonged to this cohort. The cohort distribution differential between CBO and D&B data was similar for veteran-owned firms. Of those veteran-owned firms in the CBO, 83.2 percent were proprietorships, much the same as the share of all CBO firms without regard to veteran status. In the D&B database, however, 34.1 percent of veteran-owned firms were proprietorships, a much lower share than that for CBO veteran-owned firms, but nearly a third more than this cohort represented among all D&B firms.

⁸⁴ Distributions have been derived from the CBO and D&B data presented in Exhibit 17 by dividing the cohort populations in each class by the total population of that class. Cohort shares may not total to exactly 100 percent due to rounding. The undistributed category includes the difference between the CBO's estimated total of 4.175 million veteran-owned firms and the 4.137 million sum of its estimates for the individual organization type cohorts, i.e., 38,000 veteran-owned firms without cohort identification. In the D&B database, the legal form of organization was not supplied on more than 40 percent of all firms and more than 12 percent of all veteran-owned firms, with the result that firms without such identifiers were not distributed to any of the four ownership types, and are reported in the "undistributed" category.

The proportion of CBO veteran-owned partnerships, 6.9 percent, was approximately the same as the share which this cohort represented among CBO firms, 6.3 percent. However, in the D&B data, the proportion of veteran-owned partnerships, 5.4 percent was more than half again as large as that for all D&B firms, 3.5 percent.⁸⁵

Cross-tabulation of D&B veteran firm shares by SIC group and organization type

Exhibit 19 shows the percentage of veteran firm ownership in the D&B database by both SIC and legal form of organization type. The proportion of all veteran-owned businesses in the D&B database was within a relatively narrow range (0.70 to 0.83 percent) for proprietorships, partnerships and C corporations, which together account for almost all of the D&B firms for which organization type is known. For the sake of completeness, data on S corporations has also been included; although there were only 155 veteran-owned S corps identified among the 100,152 D&B veteran-owned firms. It is again important to note that each of these shares was significantly below those reported in the Census CBO data (and illustrated in Exhibit 17), which ranged from 23.8 to 26.4 percent. We must also remember that more than 12 percent of all D&B veteran firms were not identified as to form of legal organization.

Exhibit 19. Cross-tabulation of D&B veteran firm shares by SIC group and organization type.⁸⁶

Legal Form	Proprietorship	Partnership	C-Corps	S-Corps
SIC GROUP				
01 - 09	0.35%	0.41%	0.50%	0.00%
10 - 14	0.69%	0.52%	0.65%	0.00%
15 - 17	0.57%	0.87%	1.07%	4.11%
20 - 39	1.05%	1.37%	1.93%	5.95%
40 - 49	0.71%	1.06%	0.92%	1.15%
50 - 51	1.14%	1.46%	1.72%	4.30%
52 - 59	0.69%	0.69%	0.66%	1.92%
60 - 67	0.50%	0.41%	0.39%	0.53%
70 - 89	0.78%	0.93%	0.74%	4.56%
91 - 97	0.00%	0.00%	0.00%	0.00%
99	0.03%	0.06%	0.00%	0.00%
Total	0.70%	0.82%	0.83%	3.74%

This cross-tabulation shows that two industry cohorts had consistently higher veteran ownership proportions across organization type groups than those for the composites of all firms in the D&B database. In both the Wholesale Trade cohort (SIC 50-51) and the Manufacturing cohort (SIC 20-39), veteran-owned firms comprised a larger share in all organization type groups than did the composites of all veteran-owned firms. On the other hand, the proportion of veteran-ownership was lower than the composite levels in all employee size groups in the Finance, Insurance and Real Estate cohort (SIC 60 – 67) and in the Agricultural Services, Forestry, Fishing and Mining cohort (SIC 01 – 09).

⁸⁵ Including the more than 40 percent in the undistributed cohort whose organization type is not identified.

⁸⁶ Data supplied by Dun & Bradstreet, based on April, 2004 data run.

Conclusion

We have seen in this chapter that there are great differences in veteran business ownership statistics between the Census Bureau's 1992 CBO data and the 2004 Dun & Bradstreet database, particularly in the total numbers of identified veteran-owned firms and in the relative proportions within each universe which these firms comprise. There are undoubtedly a variety of reasons for these differences, including classes of firms excluded from one dataset or the other,⁸⁷ methodological differences in how the data was collected, the age differential in the underlying datasets, possible errors and duplication of entries in the D&B database,⁸⁸ and other causes. Consequently, a comparison of data between the two datasets is of limited value.

It is important to remember that the CBO and D&B datasets have been constructed for very different purposes. The CBO data is based on carefully constructed surveys which were administered to very large and scientifically selected samples of businesses of all sizes. They were intended from the outset to be used for macroeconomic analysis and can be considered as authoritative for the sectors they cover. By contrast, the D&B data is assembled from many sources, is constantly evolving, and is primarily intended for the use of its commercial clients rather than for macroeconomic analysis. Its universe is not a scientifically constructed sampling frame, and various selection biases inevitably operate, reflecting market forces and the needs of D&B's clients.⁸⁹

Because of these problems, it is very difficult to infer information on the characteristics of all veteran-owned firms from data in the D&B database. Also, although it is interesting to compare differences *within* the D&B dataset between veteran-owned firms and its total universe of all firms, even this type of analysis is limited in that the proportion of D&B firms identified as veteran-owned (0.53 percent) is almost certainly greatly understated, as the CBO veteran-ownership proportion of 24.2 percent strongly suggests.

⁸⁷ Unlike D&B, the CBO excluded all C corporations (more than 11 percent of all businesses) and firms belonging to certain SIC classifications, while S corporations (which comprised about 9 percent of CBO firms) represented a negligible share of D&B firms.

⁸⁸ See Chapter 4 for a discussion on the error rate encountered in the D&B data.

⁸⁹ For example, Exhibit 12 shows that while 74 percent of all CBO firms had sales of less than \$50,000, 41 percent of firms in the D&B dataset were of this size. At the other end of the scale, about 2 percent of CBO firms had sales of \$1 million or more, while 6 percent of D&B firms were of this size.

3 Comparison of D&B and Government Procurement Data Files

In this chapter, the universe of D&B veteran-owned businesses will be matched with the following databases: the Department of Defense's Central Contractor Registry (CCR), the Small Business Administration's 2002 PRO-Net business file, and the Federal Prime Contracts (FPC) database of Eagle Eye Publishers, Inc.⁹⁰ Chapter 1 has already included descriptions of the D&B, CCR, and PRO-Net business databases. This chapter includes a description of the FPC database, the methodology used in the data matching process, and the results illustrated with tables and charts.

3.1 The FPC Database

The source of the FPC database is largely the Federal Procurement Data Center (FPDC), a branch of the U.S. General Services Administration (GSA). The core data elements collected in the FPC database describe various characteristics of contractual obligations made between the federal government and its prime contractors. Each time the government makes an obligation on a contract of at least \$25,000, a purchasing officer must complete either a DD-350 form (for defense agencies) or an SF-279 form (for civilian agencies). These forms describe the financial, competitive, statutory and other characteristics of the obligation. Smaller initial obligations can be made on an SF-279 or reported in bulk form on an SF-281.

Over the entire course of a contract's duration, a purchasing officer might fill out numerous DD-350 or SF-279 forms for a single contract. This is because the dollars in a single obligation may not represent the total value of a contract. In fact, there are about 500,000 annual contract obligations in the FPDC database spread over 170,000 to 200,000 contracts. This means that there are on average about 2.7 obligations per contract per year. Some small contracts have only one obligation, but some large contracts can have over 100. Each DD-350 or SF-279 report forms the basis of a separate record in the Individual Contract Action Report (ICAR) contracts database. A purchasing officer completes a separate procurement form every time there is an action, that is, a new obligation or de-obligation on the contract. Each action shows a unique combination of the following data elements: reporting agency, contract number, contract modification number, contracting office order number, contracting office code, action date, and amount of obligation (or de-obligation). Each time a new form is filled out a separate task has been documented.

⁹⁰ Eagle Eye Publishers, Inc., a leading federal procurement data analysis and market research firm located in Fairfax VA, was a subcontractor on this project and prepared the material in this chapter. For more information on Eagle Eye, see its website at <http://www.eagleeyeinc.com/>. Eagle Eye has also prepared a related economic research study for the Office of Advocacy entitled *Characteristics of Federal Government Procurement Spending With Veteran-Owned Businesses (FY 2000 – FY 2003 (3Q))*. The research summary for this report can be accessed at <http://www.sba.gov/advo/research/rs239.pdf>; the full report can be accessed at <http://www.sba.gov/advo/research/rs239tot.pdf>.

A prime contract is a legally binding agreement between the government and a contractor that commits the government to acquire products or services at an agreed price. Prime contract dollars in Eagle Eye's database are technically called "obligations." Obligations are the dollars the agency legally commits to be spent to acquire needed goods and services. Dollars can be obligated by agencies only after Congress provides appropriations. After money is authorized to be spent and the contracting activity selects a vendor, the contracting agency can obligate funds. Obligated funds are funds moved to a contractor's account by the federal buying activity responsible for the purchase. These obligated funds are used by contract officers to make payments to the contractor on an agreed payment schedule. Obligations are linked to, but do not necessarily match, contractor progress. Dollars are typically obligated in the year in which they are spent.

Eagle Eye's database contains only prime contract information. There is no detailed, systematically disclosed source of subcontract data available from the federal government.

Eagle Eye's database applications cover all Product Service Codes (PSCs) and all North American Industry Classification System (NAICS) codes applied to the 170,000+ prime contracts issued annually by federal agencies. PSCs represent the government's traditional market classification system and are also used in other government publications such as FedBizOpps, an Internet-based source of information on federal procurement opportunities.⁹¹ NAICS codes replaced the previous Standard Industrial Classification (SIC) codes in FY 2001 and are also used to describe the type of work performed on each contract transaction.

Eagle Eye's data includes contracts valued at \$25,000 or more. There is no upper limit to the value of contracts reported in FPC. Eagle Eye maintains data in-house going back to FY 1984. It publishes one- and five-year versions of databases on CD and one- and three-year's versions on the web. FPC Web Basic covers the most recent four fiscal quarters, while FPC Intermediate covers the two most recent complete fiscal years plus the current fiscal year-to-date.

Major cabinet-level and independent agencies with appropriations authority report prime contract actions to the GSA. Congress, the Government Accounting Office, the U.S. Court System, the Federal Aviation Administration, the Tennessee Valley Authority, the U.S. Postal Service, the Central Intelligence Agency, and the National Security Agency do not report contract data to the GSA.

Eagle Eye adds FAA and U.S. Postal Service contracts to its FPC CD Advanced database application to more fully report the extent of contracts being let by the federal government. Eagle Eye includes U.S. Postal Service contracts in a separate database application along with the GSA prime contract information. Searching and reporting functionality in the U.S. Postal Service database is nearly identical to the functionality of the GSA contract database.

⁹¹ See <http://www.fedbizopps.gov/> for additional information on FedBizOpps.

Purchase card purchases are not captured in the DD-350 and SF-279 form submissions. Purchase card dollars, which totaled about \$16.371 billion in FY 2001, are reported separately to the GSA in highly aggregated totals that make them only marginally useful for research purposes.

Noncredit card purchases under \$25,000 are also not included in any of Eagle Eye's current database applications. These purchases are collectively known by the government's Form 281 used to report them. Form 281 data is reported separately to the GSA in highly aggregated totals that are only marginally useful for research purposes. Form 281 purchases totaled \$15.141 billion in FY 2003.

Classified contract data is not reported in the database applications in a meaningful way. Some entries are clearly marked "Classified Domestic Contractor" and "Classified Foreign Contractor" in the company field, but information about these contracts has been altered to hide the true nature of the goods or services being purchased. Including these classified dollar totals for agency and other aggregations is useful to give a truer picture of agency spending, but these reports are not useful for detailed market research.

3.2 Data Processing Procedures for this Study

The databases used in this study are consolidated by normalizing their data structures, merging records, and purging duplicate and outdated records so that all active veteran-owned firms from these databases during the study period are included.

The major part of this database development originated with an electronic file in text format from Dun & Bradstreet containing 84,983 individual company records on firms identified as veteran-owned. Each record contained a DUNS number that identified the company's name, address, contact information and various administrative indicators.

Eagle Eye obtained this raw data file from Jack Faucett Associates, a prime contractor on this study, and imported the information into a Visual Foxpro database file. Following the data import, basic integrity and consistency checks on the file were performed. It was found that, out of a total of 84,983 total records, there were 13,768 duplicate records. These duplicates were all eliminated and the core file was reduced down to 71,126 unique DUNS numbers.

Three additional sources were added to this core file of veteran-owned business database:

- The Eagle Eye master vendor file, FY 1997 – FY 2003 (Quarter 2);
- The Department of Defense Central Contractor Registry (CCR) as of April, 2003
- The Department of Defense Central Contractor Registry (CCR) as of October, 2003
- The Small Business Administration's PRO-Net Database as of Spring, 2001
- The Small Business Administration's PRO-Net Database as of October, 2003

Any duplicate DUNS numbers were eliminated from all files before merging the D&B, Eagle Eye, PRO-Net and CCR veteran-owned company databases into a master VETCOMPS2 file. Into this file, fields were added to identify each record's source and a Y/N indicator of each record's common source files.

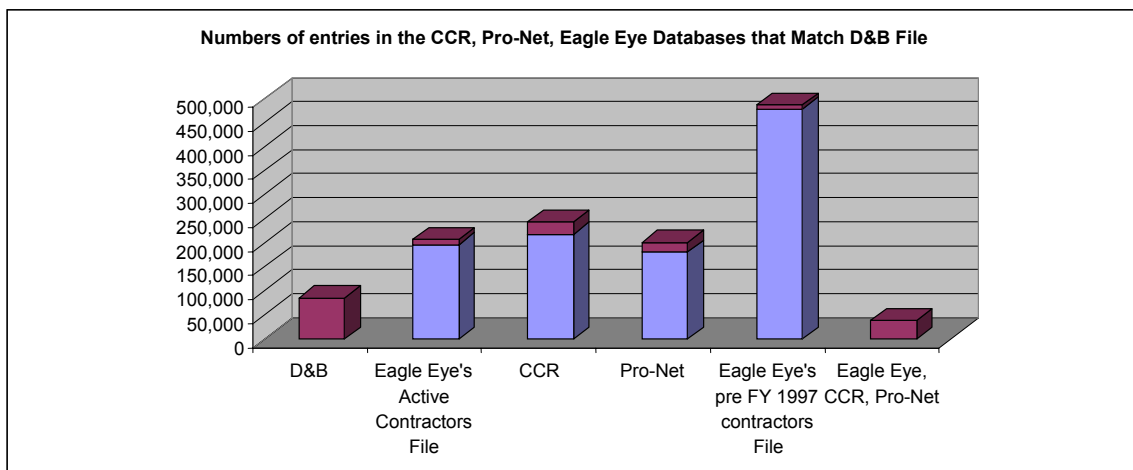
Two versions of the CCR and PRO-Net databases were included to provide the fullest possible coverage of veteran-owned companies over the FY 1997 – FY 2003 period. Companies that did not update their PRO-Net profiles annually were purged from the PRO-Net system; using both versions of the CCR and PRO-Net files enabled us to capture thousands of additional, older veteran-owned firms from the FY 1997 – FY 2001 period.

The Eagle Eye master company lookup file is used to generate matches between the D&B file and the active vendor file containing records of vendors that received prime contracts between FY 1997 and FY 2003 (Quarter 2).

3.3 Findings of the Data Match

Exhibit 20 illustrates that out of 84,983 veteran-owned companies in the original D&B business file, 11,285 of them matched with the Eagle Eye Active Contractors File FY 1997 – FY 2003 (Quarter 2), with 207,023 total entries; 25,340 of them matched with CCR, with 242,904 total entries; 20,843 of them matched with PRO-Net, with 200,344 total entries; 7,840 of them matched with the Eagle Eye pre-FY 1997 contractors file, with 485,629 total entries. With the exception of the pre-FY1997 contractors file, the D&B veteran-owned business file matched roughly five percent of the Eagle Eye active contractors and ten percent of all businesses listed in the CCR and Pro-Net databases. Combining all the CCR, PRO-Net, Eagle Eye Active Contractors, and pre-FY1997 databases, there were 38,471 veteran-owned businesses in the D&B database that matched at least one of these four databases.

Exhibit 20. Numbers of entries in government contractor databases that match D&B File.



After merging by DUNS number the veteran-owned businesses that were contained in the D&B, CCR, PRO-Net, and Eagle Eye's Procurement databases, there were 98,407 businesses listed in at least one of these databases. The 14,472 listings covered by Eagle Eye had contract dollar information available, leaving the remaining 83,935 (85 percent) with no procurement data (no awards since 2002). Likewise, 63,180 (89 percent) out of 71,215 veteran-owned businesses in the D&B database; 37,260 (77 percent) out of 48,115 veteran businesses in the CCR database; and 27,819 (79 percent) out of 35,386 veteran businesses in PRO-Net were not covered in the Federal Procurement Data System.

The combination of CCR, Eagle Eye, and PRO-Net data provided an additional 27,192 listings to the 71,215 listings in the D&B database. There were 23,550 listings in the CCR, 6,437 listings in the Eagle Eye file, and 10,722 listings in PRO-Net that were not covered in the D&B veteran-owned firm database. The following are counts of various combinations of these Y/N indicators of source file. This is a revised count as of 10/22/2003. Exhibits 21 and 22 tabulate the Merger (AND) and Union (OR) of different datasets.

Exhibit 21. Counts of Veteran-owned business (AND).

Counts of Veteran-Owned Businesses				
Merger of different data sets (AND)				
Eagle Eye	D&B	CCR	PRONET	Companies
x				14,472
x	x			8,035
x	x	x		7,061
x	x	x	x	5,255
x	x		x	5,749
x		x		10,855
x		x	x	6,850
x			x	7,567
	x			71,215
	x	x		24,565
	x	x	x	15,775
	x		x	24,664
		x		48,115
		x	x	25,275
			x	35,386

Exhibit 22. Counts of Veteran-owned business (OR).

Union of different data sets (OR)				
Eagle Eye	D&B	CCR	PRONET	Companies
x				14,472
x	x			77,652
x	x	x		97,408
x	x	x	x	98,407
x	x		x	86,556
x		x		51,732
x		x	x	61,126
x			x	42,291
	x			71,215
	x	x		94,765
	x	x	x	95,987
	x		x	81,937
		x		48,115
		x	x	58,226
			x	35,386

Undoubtedly, many firms in the PRO-Net file that matched the D&B veteran-owned company file no longer exist. Likewise, many firms in the Eagle Eye master company lookup file that were active during the earlier coverage years may have dropped out of the federal marketplace, merged with a larger firm or may simply no longer exist. This means that, in 2003, currently active veteran-owned federal vendors represented a smaller share of the total 98,407 companies identified in the table above as veteran-owned from the four sources used in this study. The number of then currently active veteran-owned contractors represented a smaller share still.

From FY 1997 to FY 2003 (Quarter 2), the total number of active, veteran-owned contractors totaled 14,472. Their year-by-year contract dollars are broken out by agency for Fiscal Years 2000 to FY 2003 (Quarter 2) in Exhibit 23 which shows only federal prime contract activity, not sub-contract, commercial or state and local activity. The GSA only began using the veteran-owned code in FY 2000. There was no spending data prior to FY 2000, and the FY 2000 data is spotty.

Exhibit 23. Veteran contract dollars by agency.

Agency	2000	2001	2002	2003	Grand Total
AID			1,000		1,000
CNCS				20	20
CPSC		488,000	508,000	306,587	1,302,587
DED		1,350,000	7,827,000		9,177,000
DHS				219,960	219,960
DOC		1,339,000	5,573,000		6,912,000
DOD	12,384,000	628,197,000	874,351,062	296,742,264	1,811,674,326
DOE		11,160,000	17,940,000		29,100,000
DOI		14,374,000	32,870,026	13,242,887	60,486,913
DOJ		10,243,000	10,108,483	2,061,917	22,413,400
DOL		6,851,000	7,256,000	2,409,955	16,516,955
DOT		32,358,000	35,129,000	2,775,668	70,262,668
EEOC		119,000			119,000
EOP		117,000			117,000
EPA		186,000	2,532,000	3,421,726	6,139,726
FEMA		3,257,000	4,017,000		7,274,000
FTC		972,000	652,000		1,624,000
GSA	587,000	62,321,000	106,862,343	23,642,656	193,412,999
HHS		50,301,000	57,412,000	25,268,485	132,981,485
HUD		7,131,658	4,815,375	2,755,034	14,702,067
ITC			205,000	16,633	221,633
NARA		122,000			122,000
NASA		16,251,000	39,688,000	17,318,564	73,257,564
NFAH			210,000	227,186	437,186
NRC		65,000	320,000		385,000
NSF		15,000	150,000		165,000
OPM		74,000	91,000	121,000	286,000
PEACE		390,000			390,000
RRB		878,000	520,000	98,300	1,496,300
SBA		602,000	591,000	119,000	1,312,000
SMITH		642,000			642,000
SSA		12,524,000	8,923,000	1,308,008	22,755,008
SSS		110,000			110,000
STATE	333,000	61,837,000	64,616,328	366	126,786,694
TREAS		33,255,000	43,518,000	32,898,920	109,671,920
USDA		15,664,000	32,907,218	6,998,483	55,569,701
USIA		1,091,000	1,519,000	64,618	2,674,618
USSAH		259,000			259,000
Grand Total	13,304,000	974,543,658	1,361,112,835	432,018,237	2,780,978,730

Exhibit 24 shows the distribution according to market area.

Exhibit 24. Veteran contract dollars by market.

Market	2000	2001	2002	2003	Grand Total
AGRICULTURAL MACHINERY & EQUIPMENT		71000	110000	7397	188397
AIRCRAFT & AIRFRAME STRUCTURAL COMP		7903000	11267000	2038997	21208997
AIRCRAFT COMPONENTS & ACCESSORIES		28145000	22690000	5085682	55920682
AIRCRAFT LAUNCH, LAND, GRD HANDL EQ		4941000	10665000	3010900	18616900
ALARM SIGNALS & SEC DETECTION SYS		1080000	2126000	10120	3216120
AMMUNITION AND EXPLOSIVES		442000	6643000	482448	7567448
ARCHITECT AND ENGINRNG SVCS - CONST		25336000	21695248	1359734	48390982
AUTO DATA PROC & TELECOMM SVCS		56658000	93342456	32052512	182052968
BEARINGS		461000	1325000	183600	1969600
BOOKS MAPS AND OTHER PUBLICATIONS		804000	207000		1011000
BRUSHES PAINTS SEALERS & ADHESIVES			578000	14002	592002
CHEMICALS & CHEMICAL PRODUCTS		101000	798000	152800	1051800
CLEANING EQ & SUPPLIES		26000	110000	23166	159166
CLOTH		136000	3626000	7116	3769116
CLOTHING		9421000	3861000	434633	13716633
COMM DETECTION & COHERENT RAD EQ		6730000	23860000	5293518	35883518
CONST MINING EXCAV & HWY MAINT EQ		1091000	1310000	130263	2531263
CONSTR OF STRUCTURES & FACILITIES	580000	123632000	189400192	17217379	330829571
CONTAINERS PACKAGING & PACKING SUPP		5113000	2734000	1297088	9144088
CONSTRUCTION & BUILDING MATERIALS		1322000	1690000	226053	3238053
EDUCATION AND TRAINING SERVICES		16168000	13429007	4595589	34192596
ELECT & ELECTRONIC EQ COMPONENTS		5494000	5474000	2251276	13219276
ELECTRIC WIRE & PWR & DISTRIB EQ		2332000	11043026	4113673	17488699
ENGINE ACCESSORIES		406000	686000	4973405	6065405
ENGINES TURBINES AND COMPONENTS		7287000	5061000	2524910	14872910
FABRICATED MATERIALS		302000	396000	177651	875651
FERTILIZER, FEED, SEED		1502000	81350	-1000	1582350
FIBER OPTIC MAT COMP ASSMBLY & ACCE		678000	173000	2432535	3283535
FIRE CONTROL EQUIPMENT		1102000	2576000	164284	3842284
FIRE FIGHTING RESCUE SAFETY EQ		1389000	4045614	90861	5525475
FOOD	31000	1100000	18036000	494283	19661283
FOOD PREPARATION & SERVING EQ		497000	218000	13041	728041
FUR STEAM PLNT DRYING EQ & NUC REAC		526000	985000	27900	1538900
FURNITURE		3208000	4630000	290583	8128583
GEN PURPOSE AUTO DATA PROCSSNG EQ		14805000	27976525	3307760	46089285
GRND EFFCT VEH MTR VEH TRLRS & CYCL		464000	1666000		2130000
GUIDED MISSILES		56000	1241000		1297000
HAND TOOLS		862000	642000	202424	1706424
HARDWARE & ABRASIVE		767000	3196000	199463	4162463
HOUSEHOLD & COMMERCIAL FURNS & APPL		1065000	637000	-299266	1402734
INSTALLATION OF EQUIPMENT		594000	4321000	406558	5321558
INSTRUMENTS & LABORATORY EQUIPMENT		5301000	8991000	2703662	16995662
JEWELRY & MISC ITEMS		3752000	7643699	476095	11871794
LEASE OR RENTAL OF EQUIPMENT		2709000	5772000	536201	9017201
LEASE OR RENTAL OF FACILITIES		3066000	2992909	1187154	7246063
LIGHTING FIXTURES & LAMPS		671000	1557000	14593	2242593
LIVE ANIMALS			5000		5000
LUMBER MILLWORK PLYWOOD AND VENEER		641000	47000	24466	712466
MAINT, REP OR ALT OF REAL PROPERTY	34000	238366000	226249747	27815996	492465743
MAINTENANCE & REPAIR SHOP EQ		4145000	2906000	588343	7639343
MAINTENANCE, REPAIR, & REBLDG OF EQ	116000	48973000	50605299	47145278	146839577
MATERIALS HANDLING EQUIPMENT		2031000	1283000	244841	3558841
MEASURING TOOLS		64000	204000	3910	271910
MECHANICAL POWER TRANSMISSION EQ		2330000	735000	5173737	8238737
MED, DENTAL & VET EQ & SUPPLIES		4578000	6709000	487019	11774019
MEDICAL SERVICES		18611000	52441052	3045454	74097506
METAL WORKING MACHINERY		602000	1096000	148222	1846222
METALS		90000	633000	38634	761634
METALS & MINERALS			540000		540000
MISC CRUDE PRODUCTS		31000			31000
MODIFICATION OF EQUIPMENT		238000	7739000		7977000
MUSIC INSTR PHNOGRPHS & HME-TYP RAD		87000	59000		146000
NATURAL RESOURCES MANAGEMENT		6903000	12064470	508580	19476050
NUCLEAR ORDNANCE		33000	51000		84000
OFF MCHNS TXT PROC SYS & VIS REC EQ		1015000	658000	69387	1742387
OFFICE SUPPLIES AND DEVICES		641000	6825275	673353	8139628
OILS		4923000	14238000	88562	19249562
OPERATION OF GOV-OWNED FACILITY		11338000	13975000	2244688	27557688
PHOTOGRAPHIC INSTRUMENT		365000	1026000	3219471	4610471
PHTGRPHC, MPPNG, PRNTNG & PUB SVCS		3459000	3449000	863176	7771176
PIPE, TUBE HOSE & FITTINGS		327000	469000	107729	903729
PLUMBING		3840000	2764000	31165	6635165
PREFABRICATED STRUCTURE & SCAFFOLD		4449000	3403000	107451	7959451
PROF, ADMIN & MGMT SUPPORT SVCS	-136000	146712658	256159309	114584114	517320081

4 Accuracy Assessment of Veteran Status Reported in D&B Records

The objective of this chapter is to assess the accuracy of the reported veteran-owned status of those firms in the D&B database so identified. For this purpose, this study uses survey results generated in the course of a study conducted by Waldman Associates (WA), an economic research contractor to SBA's Office of Advocacy.⁹²

Waldman Associates, under contract to SBA's Office of Advocacy, conducted a veterans business ownership survey in 2003 as part of an economic research study entitled "Entrepreneurship and Business Ownership in the Veteran Population."⁹³ Its purpose was to gather information concerning the utilization of government and other programs by small businesses owned by veterans and by service-disabled veterans, and to develop related data. WA conducted both a survey of current business owners and a residential survey to identify individuals planning to become business owners. Both survey populations were screened for veteran status and for service-connected disability status. This information collection was approved by OMB's Office of Information and Regulatory Affairs⁹⁴ pursuant to provisions of the Paperwork Reduction Act, as amended, and implementing regulations.⁹⁵ The Waldman Associates surveys were designed to generate data on the following:

- respondents' veteran status and service-disability status;
- respondents' demographic information, such as gender, age, education, marital status and number of dependents;
- respondents' entrepreneurship interest and plans;
- the types and characteristics of businesses that veterans own or wish to start;
- respondents' business ownership potential;
- obstacles and problems that veterans have encountered in starting or running a small business; and
- respondents' usage and satisfaction with government programs in general, small business programs in general, and with veteran small business programs in particular.

For the purposes of this study, we sought to test whether businesses listed in the D&B database as veteran-owned were indeed veteran-owned. Because the Waldman Associates study surveyed a sample of business owners selected from the D&B list of veteran-owned businesses, we were able to use information generated in the course of the WA study to answer this question.

⁹² Advocacy gratefully acknowledges the cooperation and assistance of Waldman Associates in Arlington, Virginia and, in particular, of its principal, Mr. Clifford Waldman, in sharing its then-unpublished research data for the purpose of completing this Chapter.

⁹³ For a research summary, see <http://www.sba.gov/advo/research/rs242.pdf>. For the full report, see <http://www.sba.gov/advo/research/rs242tot.pdf>.

⁹⁴ OMB Approval Number 3245-0340 (Expiration date: April 30, 2006).

⁹⁵ 44 U.S.C. 3501 et seq. and 5 C.F.R. 1320.

Screening questions were included in the WA business owners survey instrument to determine the eligibility of the potential respondents before their interviews began. Each of the respondents was asked the following screening questions before the full interview was conducted:

- Did you ever serve on active duty in the U.S. Armed Forces for purposes other than training or yearly summer camp in the National Guard or Military Reserves? (Yes or No)
- Is there anything that prevents you from qualifying for VA benefits? (Yes or No)

If the answer to Question 1 was no, or if the answer to Question 2 was yes, the interview was terminated.

Veteran status of successful contacts. As noted earlier in this study, the D&B database included approximately 71,000 unique listings of veteran-owned businesses in February, 2003. Waldman Associates used a random sample of 2,500 from the D&B list, stratified by firm size into two cohorts: 1,250 sample members were firms with 4 or fewer employees, and 1,250 sample members were firms with 5 to 500 employees. Of the 2,500 firms, WA successfully contacted 1,061. The balance were unreachable for one reason or another, including wrong numbers, bad names, no answer, unreturned phone calls, etc. Of the 1,061 sample members actually contacted, 742 were identified as veteran-owned; 132 were not owned by veterans; and the veteran ownership status could not be determined for 187 contacts. Put differently, of those businesses in the D&B veteran-owned business sample which were both successfully contacted and for which veteran status could actually be verified one way or the other, 874 in all, 85 percent were in fact veteran-owned, while 15 percent were not veteran-owned. If we also consider those businesses successfully contacted, but for which no veteran status determination could be made, then 70 percent of all 1,061 contacts were confirmed as veteran-owned, 12 percent were not veteran-owned, and the status of 18 percent could not be determined.

Veteran status of all sample members for which status is known. Apart from the 1,061 successful contacts, Waldman Associates found that, of the 2,500 D&B sample members, 186 listings had nonworking numbers and 15 listings were for businesses whose principals were deceased. These 201 sample members (or 8 percent of the full sample) also represent firms reported by D&B to be veteran-owned, but whose veteran status was found to be inaccurate in the WA screening process. Accordingly, another measure of the accuracy of D&B's veteran listings could be expressed by the share of all sample members for which a verification of nonveteran status could actually be made, whether through a successful actual contact (132) or through the identification of nonworking numbers or deceased status (201). Using this method, of those 1,075 businesses in the D&B veteran-owned business sample for which veteran status could actually be determined one way or the other, whether through actual contact (874 in all) or the discovery of bad listing information (201), 742 firms (or 69 percent) were in fact veteran-owned, while 333 companies (or 31 percent) were not veteran-owned.

5 Summary and Recommendations

The number of veteran-owned firms reported in the various databases reviewed in Chapter 1 was much lower than the estimated actual veteran-owned business population which is believed to be between 4.2 and 5.5 million. The largest number of veteran-owned firms was reported by Dun & Bradstreet with slightly more than 100,000. Other than several larger national databases related to federal contracting and business credit reporting, most veteran business directories had relatively few (< 6,000) businesses registered, and the veteran-owned status of these firms was not always certain. Furthermore, the information in the various databases was inconsistently updated, with the result that the current status of the businesses may not have been accurately reflected.

At the macroeconomic level, the Census Bureau's 1992 *Characteristics of Business Owners* (CBO) is the most authoritative source available on veteran-owned businesses, although it is now seriously dated. The Bureau's pending 2002 *Survey of Business Owners and Self-Employed-Persons* (SBO) will give us a fresh and comprehensive picture of veteran-owned businesses and veteran business owners, though no specific information on individual firms. It will also provide important first-time data on firms owned by service-disabled veterans. Data from this important project is expected in 2005.

At the microeconomic level, most veteran-owned businesses are so small that they do not show up in any directory. Business owners who seek government contracts now have the opportunity to identify their firms as veteran-owned in the government's CCR and VETBIZ databases, yet there is no special procurement preference for veteran-owned businesses unless they are owned and controlled by service-disabled veterans, one reason that many veteran-owned firms may not identify themselves as such.

In 2004, the Dun & Bradstreet database listed more than 100,000 veteran-owned businesses. However, as shown in the previous chapter, there is evidence that from 15 to 31 percent of those firms identified as veteran-owned businesses in the 2003 D&B listings were not veteran-owned. More importantly, the D&B database appears to capture only a fraction of the total veteran-owned business universe. Incentives are needed for these businesses and their owners to identify themselves as veteran-owned.

Efforts need to be made to improve the data quality on identified veteran-owned businesses (especially verification that they are in fact veteran-owned) and to capture true veteran-owned businesses that are not yet identified in any source. Currently, each database is independently maintained, verified, and updated. The federal government's CCR registry relies on both vendors and contracting officers for the accuracy and currency of its vendor records. In addition, vendors are required to renew their CCR registration at least once a year. D&B calls businesses to keep their information current. These calls, however, do not update all 200+ data fields. The verification and matching process undertaken by Austin-Tetra for records in its database appears more rigorous and could provide a model for improving data quality.

Most veteran-owned businesses are self-declared. Since FY 2001, there have been socioeconomic category markers in the Federal Procurement Data System to identify contracts to veteran-owned businesses and to firms owned by service-disabled veterans. However, the reported data has been spotty, and is probably inaccurate.⁹⁶ Outside of government contracting, some private sector companies also establish goals for supplier diversity. However, veteran status is usually not one of the criteria for diversification.

To improve the visibility of veteran-owned businesses, these firms must have clear opportunities to identify themselves as such in whatever databases their records appear. Even more importantly, veteran-owned businesses must benefit from identifying themselves as veteran-owned. Tools to accomplish these goals may include educating veteran-business owners on the completion of the representations and certifications (“reps and certs”) required in government contracting; the imposition of deadlines and calendars to remind these firms to update their information; and, most importantly, providing incentives to veteran-owned firms which would encourage them to make use of their veteran-owned business status.

Recommendations

- Veteran-owned businesses must do a better job of identifying their status as veteran-owned or service-disabled veteran-owned.
- More publicity, education, and incentives may be required to encourage veteran-owned businesses to identify themselves as such.
- For the purposes of learning more about businesses owned by veterans and by service-disabled veterans, and about the role they play in our economy at the macro level, business surveys conducted by both government agencies and private sector organizations should include identifiers for both veteran groups in their survey instruments, as the pending 2002 Census SBO has done.

⁹⁶ See *Characteristics of Federal Government Procurement Spending With Veteran-Owned Businesses (FY 2000 – FY 2003 (3Q))*. The research summary for this report can be accessed at <http://www.sba.gov/advo/research/rs239.pdf>; the full report can be accessed at <http://www.sba.gov/advo/research/rs239tot.pdf>.

Appendix: Literature Review

The sources of literature on veteran business entrepreneurship include a series of studies sponsored by SBA's Office of Advocacy which were completed between 1983 and 1986. Apart from these SBA-sponsored studies, our literature review identified other useful sources of information, including Census Bureau data and articles in academic journals.

SBA-sponsored studies.

Summary.

Although the veterans studies previously sponsored by SBA's Office of Advocacy are now approximately twenty years old, they can still provide some interesting insights, as well as benchmarks for the comparison of data generated in more recent and current studies. Although results varied from study to study, and inconsistent conclusions were reported, some general observations can be made. Veterans did not appear to be more or less entrepreneurial than nonveterans. Some, but not all, studies found veterans to be disadvantaged in terms of earnings. Contrary to more recent findings, one study found that veterans were less likely to be self-employed than the general public.⁹⁷ Because military training tended to provide veterans with occupational skills rather than financial or management skills, veterans were often able to earn more in wages than they could earn by running their own businesses. When veterans started a business, the enterprise tended to be small, often in partnership with other veterans. These firms tended to have high failure rates. Veteran-owned businesses were mostly in the retail sector or in fields linked with their owners' previous experience in the military.

Individual studies.

In a study conducted by Dun and Bradstreet and David Rothenburg to determine the financial and industrial characteristics of veteran-owned businesses, attempts were made to distinguish veteran-owned businesses from nonveteran-owned businesses.⁹⁸ The study found that there were no significant financial differences between veteran-owned and nonveteran-owned businesses.

⁹⁷ More recent U.S. Census Bureau *Current Population Survey* data has indicated that veterans are more likely to be self-employed than the general public. See: Fairlie, Robert; *Self-Employed Business Ownership Rates in the United States: 1979-2003*, 2004. See summary at <http://www.sba.gov/advo/research/rs243.pdf>. The complete study can be accessed at <http://www.sba.gov/advo/research/rs243tot.pdf>.

⁹⁸ Dun and Bradstreet and David Rothenburg, Inductive Inference, Inc., *Differences Between Veteran-Owned and NonVeteran-Owned Businesses*, 1985. Summary: <http://www.sba.gov/advo/research/rs44.pdf>; complete study: <http://www.sba.gov/advo/research/rs44tot.pdf>.

Lustarten and Saad studied veteran ownership of small businesses and how their financial success in terms of income compared with nonveteran business owners.⁹⁹ The study examined the adjustment of veterans to civilian life by looking at their annual earned income, comparing the self-employment and wage income of veterans and nonveterans. The study compared Vietnam-era veterans and nonveterans, holding constant the factors of age, education, job experience and other characteristics that affect income. Vietnam-era veterans were also compared to veterans of earlier wars, and the types of occupations and businesses chosen by all veterans were analyzed. In addition, the study examined subgroups of veterans, including women, minorities, and the disabled, to determine how they fared relative to subgroup members who were nonveterans.

The study's major findings indicated that self-employment was not particularly important for veterans. The rate of self-employment was lower for veterans than that for the general population, which was also low.¹⁰⁰ The only group of veterans that was more likely to be self-employed was that comprised of white males with graduate school education, a group which accounted for about ten percent of working veterans. Veterans seemed to have had greater financial success as wage earners than in being self-employed, especially in the case of Vietnam veterans. Veterans tended to work longer hours. Their choice of occupation often related to the job training they received in military service; for example, veterans were well-represented in the fields of aircraft parts manufacturing, air transportation, and detective and protective services. As business owners, veterans were often in industries with the smallest firm sizes, because military service taught them occupational skills (e.g., auto repair, aircraft piloting) rather than the business skills (e.g., finance, marketing) to manage a larger business.

A study by Mid-Atlantic Research, Inc., issued in three parts in 1984, 1985 and 1986, examined the relationship between military service, especially combat duty, and entrepreneurship.¹⁰¹ The study found that veterans were more likely than nonveterans to be entrepreneurs. Among those surveyed, 41.5 percent of the veterans owned and managed a business, while only 24.5 percent of the nonveterans owned and operated a business. While no causal relationship between veteran status and entrepreneurship was established, the study suggested a close positive association between veteran status and entrepreneurship. Many of the veterans surveyed indicated that military service tended to encourage entrepreneurship and create a greater likelihood of success in self-employment. Some respondents believed that "combat produced significant and

⁹⁹ Lustarten, Steve and Saad, Ali, *Financial Success and Business Ownership Among Vietnam and Other Veterans*, 1986. Research summary: <http://www.sba.gov/advo/research/rs36.pdf>; complete study: <http://www.sba.gov/advo/research/rs36tot.pdf>.

¹⁰⁰ As noted in the Summary above, more recent U.S. Census Bureau data now show that veterans are more likely to be self-employed than the general public. March, 2003 *Current Population Survey* data indicated that 13.7 percent of male veterans in the labor force were self-employed, compared to 9.8 percent of the . See Fairlie, Robert, op. cit.

¹⁰¹ Mid-Atlantic Research, Inc., *Profiling Entrepreneurial Veterans*, 1984-86. Research summary: <http://www.sba.gov/advo/research/rs70.pdf>; complete study, Volume 1: <http://www.sba.gov/advo/research/rs70v1.pdf>; complete study, Volume 2: <http://www.sba.gov/advo/research/rs70v2.pdf>; complete study, Volume 3: <http://www.sba.gov/advo/research/rs70v3.pdf>.

permanent, though subtle changes in veterans, by encouraging aggressiveness and an action-oriented outlook that facilitates entrepreneurial success.”

Another SBA-sponsored study focused on the entrepreneurship of Vietnam-era veterans.¹⁰² In it, Boren and his colleagues found that veteran-owned businesses tended to be small (92 percent had fewer than 20 employees, with a median of 1.5 employees), to be co-owned by or to employ other veterans, to be most likely in the service and retail sectors, to be more likely in the manufacturing sector than nonveteran-owned businesses, and to be new ventures. Factors that hindered Vietnam-era veterans in establishing small business ventures included: 1) a strong feeling of alienation that made it difficult to function effectively within basic social institutions; 2) physical disabilities and the psychological condition often diagnosed as post-traumatic stress syndrome; 3) the risks associated with starting a small business; and 4) relatively lower levels of education and/or the minority group status of a disproportionate number of Vietnam-era veterans. Veterans from less advantaged, disabled and minority groups tended to use the programs and services of the SBA, while other veteran groups used business-related services in the private sector. Disabled veterans were much more likely to encounter stronger entry barriers and to fail in starting and operating a business.

In *A Study of Department of Defense Procurement from Veterans*, Hiatt and Reniere discussed whether the procurement needs of the armed services could have been better met by veterans who had experience in these services and understood the problems associated with the delivery of goods and services to the military.¹⁰³ Evaluations of the quality of contract deliverables indicated that there were no differences between the work of firms owned by veterans and those owned by nonveterans. Contract officers believed that both groups provided products or services in a timely manner, of good quality, and for an acceptable price. Although veteran-owned businesses did not seem to outperform their counterparts in defense procurements, nearly 43 percent of all contracts were awarded to veteran-owned firms, and these contracts comprised 35 percent of all dollars awarded by the Department of Defense in Fiscal Years 1981 and 1982. Of those contracts awarded to veteran-owned firms, 15 percent went to those owned by Vietnam veterans.

Other studies

Apart from the SBA-sponsored studies referenced above which analyzed the characteristics of veteran-owned businesses, other socio-economic studies have examined the effects of war experiences on individuals. Some studies showed that the effects of military service were difficult to measure because veterans were both self-selected and screened by the military. Thus, simple comparisons of veterans and nonveterans often failed to clarify the effects of military experience. These biases could be compensated for

¹⁰² Boren, Jerry F., et al., *Vietnam-Era Veterans and Entrepreneurship*, 1985. Research summary: <http://www.sba.gov/advo/research/rs78.pdf>; complete study: <http://www.sba.gov/advo/research/rs78tot.pdf>.

¹⁰³ Hiatt, Robert L., and Reniere, Audrey, KCA Research, Inc., *A Study of Department of Defense Procurement from Veterans*, 1985. Research summary: <http://www.sba.gov/advo/research/rs68.pdf>; complete study: <http://www.sba.gov/advo/research/rs68tot.pdf>.

using various techniques. Joshua Angrist, a professor at the Massachusetts Institute of Technology's Department of Economics, conducted a series of studies to address this problem. Several of his studies are discussed below.

Self-selection is present when certain groups of the eligible population are more likely than others to choose service in the armed forces. For example, those with limited civilian opportunities may be more likely to serve in the military. As a result of self-selection, the earnings of veterans and nonveterans may not be directly comparable. Without adjusting for these differences, the civilian earnings of veterans may appear lower than they should, all other factors being equal.

Comparisons of veteran and nonveteran earnings in various studies lead to differing conclusions. Veterans may have earned more, less, or similar amounts as nonveterans, depending on the study. Earlier studies had suggested the existence of a veteran premium, while later studies (1990 and after) indicated not only the lack of such a veteran premium, but that veterans may not have been equally compensated compared to their nonveteran counterparts, even after additional veteran benefits were considered.

Military service may influence how an individual succeeds in the civilian labor market. In addition to providing education, training, and on-the-job experience, military service may contribute to the maturity, discipline and self-confidence of the individual. The post-service benefits of veteran status may include educational subsidies, job counseling, referral services and preferences in hiring and promotion. However, the skills that enabled an individual to succeed in military service may not be easily adapted and transferable to civilian workforce needs or demands. For example, combat experience may not be as useful as technician training in landing a civilian job. In addition, a veteran may become disabled as a result of his or her military service. Among disabled veterans, Vietnam veterans tend to have more severe disabilities. Even in the absence of a service-connected disability, veterans still lose years of civilian labor market experience.

Selectivity is not only an issue with respect to veteran vs. nonveteran status. It can also be a factor within subgroups of veterans. This selectivity issue was especially severe during the Vietnam era. The Vietnam War was unusual in several aspects: the armed forces population was relatively small compared to the draft age population; combat troops were fewer than support personnel; and the Vietnam War was unpopular and accompanied by considerable social and political upheaval. These factors combined to make the selection process inefficient, inconsistent, and discriminatory. Deferrals and exemptions were based on poor performance on physical or mental aptitude exams, school enrollment, fatherhood, hardship, and employment in selected occupations. Furthermore, those with higher education attainment were less likely to be sent to Vietnam, or to be assigned combat duty, but instead were often assigned to military occupational specialty (MOS) groups in which they could perform best.

The net effects of military experience on veterans' subsequent earnings remain controversial. Earlier studies found that military experience increased civilian earnings (the so-called "veteran premium"). Studies using data after 1970, however, showed that

military veterans were comparatively disadvantaged. Although the training received in the military increased their earnings potential, the overall military experience hurt their subsequent civilian earnings. Those who would have received fewer years of education, had it not been for their military service, benefited more (or suffered less) compared to those who failed to finish their higher education because they joined the armed forces.

Using data from the Department of Veterans Affairs' 1987 Survey of Veterans, Angrist estimated that veteran benefits increased schooling by 1.4 years, which implied six percent higher annual earnings.¹⁰⁴ The benefits were especially substantial when the veterans attended college or graduate school.

Cross-sectional comparisons showed that, on average, veterans of World War II earned more and had lower unemployment rates than nonveterans of the same age. In contrast, Vietnam-era veterans earned less and experienced more unemployment than comparable nonveterans in their age cohort.¹⁰⁵ One explanation for this differential treatment of World War II and Vietnam veterans relies on the public perception that the Vietnam War was controversial and unpopular, while World War II was widely supported. An alternative explanation attributes the differential to the skills which veterans learned while serving in the military. These two explanations suggest that the war experience itself made the difference, while another explanation focuses on the selection process for service rather than the military service itself – college-educated men from higher-income families often avoided the military service during the Vietnam period, while young men from lower-income backgrounds were either unable to avoid service or chose not to.¹⁰⁶ In contrast, nearly 75 percent of all men who were eligible served in the armed forces during World War II, and those who did not serve were often physically or otherwise unfit.

Using Social Security Administration records, another study by Angrist showed that the earnings of white Vietnam veterans were approximately fifteen percent less than their nonveteran counterparts.¹⁰⁷ The study suggested that even after accounting for selection factors, white Vietnam veterans suffered substantial earnings losses when they returned to the civilian labor market, while African-American Vietnam veterans may not have experienced losses in earnings. In addition, Angrist found that one contributing factor to the loss in earnings by Vietnam veterans appears to be less civilian job experience.

¹⁰⁴ Angrist, Joshua D., *The Effect of Veteran Benefits on Education and Earnings*, Industrial and Labor Relations Review, July 1993, pp. 637-52.

¹⁰⁵ Rosen, S. and Taubman, P., *Changes in Life Cycle Earnings: What Do Social Security Data Show?*, Journal of Human Resources, Summer 1982, pp. 321-38; Martindale, Melanie and Poston, Dudley, *Variations in Veteran/Nonveteran Earnings Patterns Among World War II, Korean, and Vietnam War Cohorts*, Armed Forces and Society, February 1979, pp. 219-42; De Tray, D. N., *Veteran Status as a Screening Device*, American Economic Review, March 1982, pp.133-42; Berger, M. C. and Hirsh, B. T., *The Civilian Earnings Experience of Vietnam-Era Veterans*, Journal of Human Resources, Fall 1983, pp. 455-79; and Cohany, S. R., *Labor Force Status of Vietnam- Era Veterans*, Monthly Labor Review, 1987, pp. 11-17.

¹⁰⁶ Cooper, V.I., *Military Manpower and All-Voluntary Force*, Report R-1450-ARPA, Santa Monica, RAND Corp., 1977.

¹⁰⁷ Angrist, Joshua D., *Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records*, American Economic Review, June 1990, pp.313-36.

In a study based on the Census Bureau's ongoing Current Population Survey (CPS) data, Cohany compared labor force activity and earnings of Vietnam-era veterans and their nonveteran counterparts in the fall of 1989.¹⁰⁸ The study found no significant difference in the earnings of Vietnam-era veterans and their nonveteran counterparts. However, Vietnam-era veterans who served in the actual war theater (defined as Vietnam, Cambodia, Laos, and the waters and airspace in and around these countries) earned significantly less than those who served outside the war zone. This last finding may have been due to a combination of factors: more individuals from racial minorities and fewer college graduates served in the war theater; those who served in the war theater reported more disabilities; and disabled veterans were more often found in clerical jobs (the U.S. Postal Service being a major employer of veterans) or employed by the Federal Government, which gives hiring preferences to veterans, especially those with service-related disabilities. The earnings difference was largest in managerial and professional positions, with non war zone veterans having an earnings "premium" of 30 percent.

In the fall of 1989, Vietnam veterans accounted for one quarter of the male labor force aged 35 to 54. In terms of educational attainments, Vietnam veterans were found less likely to be high school dropouts (7 percent compared with 20 percent of nonveterans), but more likely to have left school before earning a bachelor's degree. Vietnam veterans had a higher proportion of college education in the 1 to 3 year range, probably due to a special program which at least partially offset their education expenses. Minority Vietnam veterans were substantially better educated than their nonveteran peers. African-American veterans earned about a quarter more than African-American nonveterans.

Vietnam veterans were also found more likely to be employed by the Federal Government (9 percent versus 3 percent of nonveterans) and twice as likely to be in clerical jobs, including postal clerks and letter carriers for the U.S. Postal Service, a major employer of veterans. Because a relatively lower proportion of veterans had a bachelor's degree, veterans were less likely to be found in professional jobs.

If less civilian experience was the key contributing factor to lower earnings for veterans, the question arises why World War II veterans appear to have fared better than later veterans. Veterans of World War II were widely believed to earn more than nonveterans of the same age. This World War II veteran premium is often attributed to the subsidization of veterans' education and training and to preferences for veterans in hiring. Angrist and Krueger proposed an alternative explanation for the World War II veteran premium – men with higher earnings potential were more likely to have been selected for the armed forces during World War II.¹⁰⁹ Using data from the 1960, 1970, and 1980 Censuses, along with two microdata sets, and correcting for this selection bias, they concluded that World War II veterans earned no more than comparable nonveterans, and may have actually earned less.

¹⁰⁸ Cohany, Shron R., *The Vietnam-Era Cohort: Employment and Earnings*, Monthly Labor Review, June 1992.

¹⁰⁹ Angrist, Joshua D. and Krueger, Alan B., *Why do World War II Veterans Earn More Than Nonveterans?*, National Bureau and Economic Research Working Paper No. 2991, 1989 and *Journal of Labor Economics*, January 1994, pp. 74-97.

Another study conducted by Angrist showed that soldiers who served in the early 1980s were paid more than comparable civilians while in the military.¹¹⁰ Also, military service was associated with higher employment rates for these veterans after their service. However, military service led to only a modest long-term increase in the civilian earnings of nonwhite veterans, while actually reducing the civilian earnings of white veterans.

Conclusion

In summary, the literature seems to show that, despite the benefits of education, training, and favorable employment opportunities, veterans have been disadvantaged in terms of earnings compared to nonveterans, and that their loss of civilian experience may not have been compensated for by training in the armed services. Those who particularly benefited from military experience were those who gained education and training that they may not have otherwise received. Those who were later most successful largely owed their success to prior education and factors other than their military experience. The veterans who were most motivated to be entrepreneurs were those who were unable to secure employment or who made less money when employed.

¹¹⁰ Angrist, Joshua D., *Estimating the Labor Market Impact of Voluntary Military Service Using Social Security Data on Military Applicants*, *Econometrica*, March 1998, pp. 249-88.