

SHIFTS IN THE EMPLOYMENT STATUS OF PROPRIETORS, 1960-1975

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This paper presents a demographic analysis of the self-employed from 1960 to 1975. The first section describes briefly the work of the Small Business Administration, Office of Advocacy, in developing a small business data base. As part of this effort, our office can now provide demographic data on basic trends in self-employment as derived from Social Security's one percent Continuous Work History Sample. The second section deals with self-employed survival rates and relative earnings levels, and explores several hypotheses using the longitudinal information found in the Continuous Work History Sample.

The Office of Advocacy of the Small Business Administration has been involved in a project to create a small business data base. Its purpose is to assess the impact on small business of a variety of public policies. For the most part this data base is drawn from commercially available data. It places no additional reporting or paperwork burden on the business community, permits the maintenance of confidentiality, and provides policy relevant data.

Congressional and executive interest has been substantial. P.L. 94-305, which created the Office of Advocacy, called for a new program of economic research and analysis of small business issues. More recently, in P.L. 96-302, Congress reaffirmed its desire for a small business mailing list, a small business data base, and called for an annual Presidential Report to the Congress on the state of small business.

The legislative mandate for the small business data base specifically identified several objectives:

1. Provide data describing the current conditions of small business.
2. Provide current data over time to identify trends.
3. Provide data for policy analysis.

Congress has not specified the priorities among these objectives and has left the sources and the specific content of the data base undefined. However, Congress separately defined and budgeted for the mailing list (indicative) effort and for the external data base activity. The legislative history clearly indicates that no additional data collection burden be placed on small business.

Given the redundant data collection system that the decentralized statistical system imposes on small business, this seems perfectly reasonable.

Our efforts to date have focused on four major areas:

First, we have created a mailing list of all business firms and establishments. Basically

this was accomplished by matching the 4.5 million Duns Market Identifier (DMI) file with the Market Data Retrieval file (a yellow page listing). The Office of Advocacy now has a mailing list of more than 8 million businesses.

Many methodological issues concerning this mailing list need to be addressed. These include methods of updating, purging firms no longer in business, and adding new firms, as well as establishing methods to evaluate coverage and data quality. Additional efforts involve developing business mailing lists for statistical and research purposes.

The second project, which has now spanned more than three years, involves organizing the Duns Market Identifier file into a useful tool for economic analysis¹, to create the U.S. Establishment and Enterprise microdata file. USEEM contains employment and sales statistics on about 4.5 million businesses.

The USEEM files have been edited, cleaned, and reformatted, and are the centerpiece for the small business data base development effort. The 1976, 1978, 1980 and 1982 files have been developed. The longitudinal file is being worked on currently and will be completed by the end of this year. This will provide six years of current and comparable data².

The third project is the work with the DUNS Financial Statement (FINSTAT) data. This file contains about 150,000 financial statements for 1975, but for the past several years the number has increased to 800,000 per year. To preserve the confidentiality of cooperating companies, all identifying information has been removed by Dun and Bradstreet (D&B).

It should be emphasized that the DMI and the FINSTAT files are longitudinal. This is a primary and necessary requirement in order to deal with policy relevant research. Although the FINSTAT file includes many major U.S. corporations, approximately 95 percent of the firms have fewer than 100 employees, and 74 percent have fewer than 20 employees. By comparing these data with other sources we are beginning to resolve the question, how well do these data represent the small business community?

Finally, we are making a major effort to have data available on small business from the various statistical and administrative agencies of the Federal government. Together with IRS, for example, we are trying to link the business Statistics of Income files for partnerships, proprietorships, and corporations with the tax reports of employment and payrolls from the IRS Form 941. Other projects include organizing the Corporate Source Books in machine-readable form, and examining disclosure and confidentiality issues, particularly as they relate to business data from these IRS sources.

In this connection, the Office of Advocacy and the Bureau of Economic Analysis (BEA) began a project to make use of the Social Security Administration (SSA) data on the self-employed. Among the several files produced under the Continuous Work History Sample program of SSA, two are of major importance: a one percent annual self employment file (1960 forward) and a one percent employee-employer file (1957 forward). SSA has made these files available to BEA. These data show the following characteristics of the covered social security work force: age, sex, race, wages, self-employed earnings, and industry and geography of employment.

The self-employed files contain data for the farm and nonfarm self-employed individuals who file Schedule SE, IRS Form 1040. During the 1960-75 period, they contained between 59,000 and 69,000 records annually. Requirements for filing the SE include self-employment earnings of \$400 or more a year, and not having Social Security covered wages which exceed the taxable Social Security maximum. Because the same one percent social security numbers are selected for inclusion in the sample each year, the annual files can be integrated into a longitudinal data base.

A major problem in using these data arises because of the uneven geographical and industrial coding during the period. Table 1 shows the total number of unclassified workers for the 1960-75 period by state and industry. Over time, there has been a substantial and continuous deterioration in the number of records coded by geography and industry. (The program was transferred to Social Security from IRS in 1968, probably accounting for much of the increase in unclassified in that year.) In 1975, the latest file available, 6.6 percent of records were unclassified by state and 21.3 percent by industry.

Table 1
Unclassified Self-Employed Workers, 1960-75

Year	Total Workers	Unclassified State	Percent of Total	Unclassified Industry	Percent of Total
1960	68,433	909	1.3	3,410	5.0
1961	67,412	292	.4	1,444	2.1
1962	66,162	355	.5	1,496	2.3
1963	64,326	3	.0	1,572	2.4
1964	63,455	320	.5	2,044	3.2
1965	63,688	361	.6	2,398	3.8
1966	63,995	496	.8	2,477	3.9
1967	62,579	317	.5	2,622	4.2
1968	63,590	2,594	4.1	5,640	8.9
1969	62,207	796	1.3	7,237	11.6
1970	60,590	583	1.0	6,862	11.3
1971	59,985	1,249	2.1	8,960	14.9
1972	62,233	1,050	1.7	7,998	12.9
1973	68,244	4,043	5.9	8,913	13.1
1974	67,733	2,404	3.5	9,474	14.0
1975	68,460	4,511	6.6	14,557	21.3

A strategy to input missing data items is shown in Table 2. Essentially, if prior or subsequent acceptable data were available and adequately coded, they were imputed. The state of work

from the employee-employer file was used if this was not possible. Tests of the fully coded records indicated that there was little correlation between industry of salaried employment and industry of self-employment. All other records were "hot decked," that is, similar records by sex, race, age, and income were used to randomly assign industry and geographic codes to the remaining unclassified records.

Table 2
Self-Employment Longitudinal Imputation

CASE	1965	1966	1967	1968	1969	1967 Imputed
A		Retail	Uncl	Retail		Retail
B1		Retail	Uncl	Uncl		Retail
B2		Not Working	Uncl	Retail		Retail
C	Retail	Uncl	Uncl	Uncl	Not Working	Retail
D		N.Y. Ret	N.Y. Uncl	Pa. Wholesale		Retail
E	N.Y. Ret	N.Y. Uncl	N.Y. Uncl	Pa. Uncl	Pa. Wholesale	Retail

The industrial distribution of the self-employed for the 1960-75 period is shown in Table 3. The number of self-employed farmers continued to decline during the period, following the historical trend. (The number of self-employed farmers is not a problem for industrial classification because farmers file on IRS Schedule F, Form 1040 while the nonfarm self-employed are required to file a Schedule C.) During the period, farm returns dropped from 2.04 million to 1.25 million.

Table 3
Industrial Distribution of SE Files, 1960-75

Year	Agriculture	Min- ing	Con- struction	Manu- fact.	Trans. Comm.	Whole- sale	Ret.	Fin. Ins. & Real Estate	Serv.
1960	31.4	.3	9.0	2.5	3.0	4.0	20.6	4.3	24.9
1961	31.9	.3	9.3	2.4	2.9	4.1	19.9	4.4	24.8
1962	31.0	.3	9.3	2.4	3.0	4.1	19.9	4.5	25.5
1963	30.0	.3	9.4	2.4	3.1	3.9	19.8	4.8	26.3
1964	29.0	.3	9.4	2.4	3.0	3.9	20.0	5.0	27.0
1965	28.0	.3	9.0	2.3	3.1	3.6	19.6	4.9	29.2
1966	27.6	.3	9.0	2.3	3.1	3.6	19.4	4.9	29.8
1967	26.8	.3	8.9	2.2	3.1	3.5	19.5	5.1	30.6
1968	23.8	.3	10.2	1.8	3.2	2.5	20.2	5.5	32.5
1969	23.9	.3	11.0	1.6	3.0	2.0	20.0	5.4	32.8
1970	23.3	.2	11.0	1.5	3.2	2.1	20.2	5.4	33.0
1971	20.5	.2	11.1	1.8	3.4	2.4	21.0	6.4	33.2
1972	22.6	.2	11.0	2.0	3.0	1.5	20.0	6.5	33.2
1973	23.0	.3	11.2	1.7	3.3	1.5	19.5	6.5	33.0
1974	21.8	.3	11.5	2.0	3.6	2.0	18.7	6.6	33.5
1975	19.8	.3	11.5	2.1	3.7	2.0	18.5	7.0	35.1

Note: Allocations for unclassified are made for the nonfarm sector.

Because the total number of self-employed remains virtually unchanged during this period, it is fairly easy to see how the other major self-employment sectors fared. The finance, insurance and real estate industry was the leading gainer, followed by services. Somewhat smaller gains were evident in construction, and

transportation, communication and public utilities. Some small losses were noted in retail trade and manufacturing, while significant declines were evident in wholesale trade.

Table 4 provides several broad indicators of the demographic characteristics of the self-employed during the 1960-75 period. Overall the average age of the self-employed is between 47 and 49 years. Average income more than doubled between 1960 and 1975, increasing from \$4,240 to \$9,980. The number of self-employed white males declined during the period by almost 3 million (about 800,000 due to the decline in farms). Although there were some increases in the number of blacks, both male and female, the largest gains in self-employment occurred among white females.

Table 4
Demographic Characteristics of Self-Employed Workers,
1960-75

Year	Workers	Average Age	Average Income	White Males	Black Males	White Females	Black Females
1960	68,433	47	4,240	58,637	1,152	8,344	300
1961	67,412	49	4,384	57,714	1,085	8,324	289
1962	66,162	49	4,647	57,450	1,046	8,379	287
1963	64,526	49	4,806	54,850	1,064	8,311	301
1964	63,455	49	5,189	53,802	1,077	8,265	311
1965	63,688	49	6,116	53,827	1,106	8,439	316
1966	63,995	49	6,579	53,996	1,128	8,529	342
1967	62,579	49	6,942	52,942	1,129	8,600	358
1968	63,590	49	7,238	54,074	1,216	7,969	331
1969	62,207	49	7,628	52,740	1,207	7,924	336
1970	60,590	49	7,954	51,309	1,137	7,834	310
1971	59,985	48	8,219	50,301	1,094	8,271	319
1972	62,233	48	8,580	51,969	1,117	8,852	295
1973	68,244	47	9,392	56,732	1,252	9,885	375
1974	67,733	47	9,977	55,679	1,233	10,457	364
1975	68,460	47	9,980	55,710	1,247	11,137	366

The Continuous Work History Sample represents a rich collection of data regarding the self-employed. It is particularly useful because it allows us to examine changes in wage patterns and labor force participation over time and it provides some basic evidence regarding changes in employment patterns among the self-employed. This paper explores several relatively simple economic hypotheses which should indicate the range of possibilities open to examination through use of the file.

As mentioned previously, work on the Small Business Data Base has utilized Dun & Bradstreet files to examine the dynamics of change in small business employment and sales over the past decade. The microdata, i.e., the data on individual firms contained in the Dun & Bradstreet files, make it possible to examine the birth and death rate of firms and the change in employment in firms over time. The Continuous Work History Sample can be used for analysis of similar changes among the self-employed. For example, beginning with a population in 1960 the file can be used to show whether an individual remained self-employed, in the same industry or a different industry, whether an individual shifts from total self-employment to a combination of self-employment and wage and salary employment, whether an individual moves from self-employment to wage and salary employment only, or whether

an individual leaves the labor market or moves to employment not covered under the Social Security System.

We attempted to analyze three time periods over the fifteen-year period covered by the sample. The initial cut identified a population of 47,106 individuals, all of whom were self-employed in 1960. This population was then followed for the period from 1961 through 1964. A similar sample was selected for individuals self-employed in 1965 and in 1970. The information presented in this paper relates to the two population samples isolated in 1960 and in 1970.

For each of the two year groups identified for the analysis, the population was followed for a four-year period, the locus of employment and the nature of earnings being tracked. Similar breakouts were prepared by sex, race, and age for appropriate subgroups of the initial two populations. Breakouts of the population have been developed by race and sex, but not by race and age or sex and age.

The primary interest of the Office of Economic Research and the SBA is in the behavior of business firms. Interest in self-employed individuals, therefore, is a derived demand, because a self-employed individual, employing no others represents the smallest of small businesses. Table 5 examines the degree to which a self-employed individual may be called successful through maintenance of self-employment over a five-year period. Of the self-employed individuals identified in 1960,

Table 5
Number of Self-Employed Individuals
Same Industry or Different Industry
1960-1964 and 1970-1974
as a Percent of 1960 or 1970 Number of Self-Employed

Status	1961	1962	1963	1964	1971	1972	1973	1974
Self-employed Same industry	65.7	57.9	51.9	46.8	43.7	37.7	33.9	30.0
Self-employed Different industry	5.5	6.7	7.3	8.1	23.9	22.4	23.2	22.0
Total	71.2	64.6	59.2	54.9	67.6	60.1	57.1	52.0
Decrease in self-employed Same industry from previous year	-34.3	-7.8	-6.0	-5.1	56.3	-6.0	-3.8	-3.9
Change to self-employed Different industry from previous year	5.5	1.2	0.6	0.8	23.9	-1.5	0.8	-1.2
Change to self-employed plus wage & salary from previous year	10.5	-2.0	-0.9	-1.0	10.6	-1.4	-0.7	-0.8
Change to wage & salary only from previous year	8.1	4.0	3.2	2.4	9.7	4.1	2.6	2.0
Change to not employed from previous year	10.3	4.5	3.1	2.9	12.0	4.8	1.2	3.9

¹Not employed includes individuals not working, and individuals working but no longer reporting under Social Security e.g., Federal employees.

71.2 percent continued to be self-employed in 1961 in the same industry and 5.5 percent were reported in a different industry. By the end of 1964 the survivability rate had fallen to 46.8%. The percentages for 1970 to 1974 are similar with a 1971 survival rate of 67.6% and a decline to 52.0% by 1974. There is an anomaly in the numbers in that the proportion of self-employed individuals reported as changing industries is very high in the 1970 to 1974 period compared with the 1960 to 1964 period. There is no immediate explanation for this problem. A glance at the first two rows of Table 6 which shows income changes over the two time periods, might explain the shift from self-employment in the same industry to self-employment in a different industry. Clearly, the income statistics do not show any income incentive associated with the apparent shift in self-employment patterns.

The bottom two-thirds of Table 5 show the decrease in self-employment in the same industry on a year-to-year basis and indicates the distribution of the shifting population among the alternative categories of self-employment and wage and salary employment to which shifts could occur. During the 1960 to 1964 period movements out of self-employment were relatively evenly spread among the alternative categories. The data for 1970 to 1974 are approximately the same, with the exception of the previously identified anomaly concerning the shift from self-employment in the same industry to self-employment in a different industry. The data appear to indicate that if an individual self-employed in year one survives as self-employed through year two, there is a high probability the individual will maintain self-employment over time.

Slightly over 10% of the self-employed individuals being followed shifted to a combination of self-employment plus wage and salary income in 1961 or 1971. However, the number employed in this category then fell during the remainder of the three years for which they were followed. Other categories of employment showed more or less steady but small increases in the number of individuals shifting towards that type of employment. In Table 6 an examination of the rate of growth of income of individuals working as a combination of self-employed plus wage and salary work shows that this group is relatively successful compared with other groups. It may be that those individuals who have successful opportunities to combine self-employment plus wage and salary work represent a very successful sub-group in the population who have opportunity to move in a number of different directions on a routine basis. One way to examine this is to tag the records of such individuals in 1960 who moved to a combination type of employment in 1961 and then track individual records during the following three to four years to see what shifts out of combination employment occur. We hope to explore this question further in a later paper.

The pattern of income changes illustrated in Table 6 holds no major surprises. A priori, we

would expect that individuals who are self-employed and remain self-employed in the same industry will show larger gains in income over time than individuals who shift to other categories of employment. This hypothesis appears to be consistent with the data. It is interesting to note that those individuals who are successfully engaged in a combination type of employment, combining significant income from both self-employment and wage and salary work do relatively well compared with other groups, while those individuals who shift from self-employment to wage and salary only show significant decreases in income over time.

Another conclusion from Table 6 is that self-employed individuals or individuals employed partly on a self-employed basis and partly on a wage and salary basis do better on average than typical wage and salary workers in the economy. Even self-employed individuals who switch to wage and salary work during the 1960 to 1964 period do better after two years than do typical wage and salary workers in the economy. Previously, self-employed individuals who work as wage and salary workers clearly do better than typical non-agricultural workers when we compare earnings over the four-year time periods shown in Table 6.

Table 6
Total Income, 1960-1964 and 1970-1974
Expressed as a Percent of 1960 or 1970
Self-Employed Income

Status	1960	1961	1962	1963	1964	1970	1971	1972	1973	1974
Self-employed Same industry	100	118	129	135	147	100	131	141	161	167
Self-employed Different industry		105	111	117	127		108	118	123	142
Self-employed plus wage & salary		107	117	122	133		113	124	135	159
Wage & salary only		69	89	99	108		76	105	131	113
Average wage & salary ¹	83	85	88	91	94	69	74	79	85	89

¹Data derived from the average gross weekly earnings for total private nonagricultural industries, in current dollars. Data were provided by the Department of Labor, Bureau of Labor Statistics.

DIFFERENCES BY RACE AND SEX

Table 7 shows differences between the income of self-employed individuals broken out by race and sex as compared with average wage and salary income for all private non-agricultural workers in the economy in the years 1960 through 1964 and 1970 through 1974. For each class of self-employed individuals the average wage and salary income is calculated as a percent of the average earnings for that class. For example, average wage and salary earnings of private non-agricultural workers in 1960 are 83% of average earnings for all self employed individuals. For black females the proportion is reversed with the average wage and salary income for all private non-agricultural workers

Table 7
Self-Employed Income and Average Wage and Salary
Income 1960-1964 and 1970-1974 as a Percent of
Sex and Race Groups Average Income 1960 and 1970

Status	Self-Employed, Same Industry									
	1960	1961	1962	1963	1964	1970	1971	1972	1973	1974
Total Self-employed	100 ¹	118	129	135	147	100 ¹	131	141	161	167
Average wage & salary as a percent of average self-employed income ²	83	85	88	91	94	69	74	79	85	89
White male	100	119	128	135	146	100	128	137	156	161
Average wage & salary as a percent of average white male self-employed income	75	77	80	82	85	62	66	71	76	81
Black male	100	113	127	128	137	100	119	133	151	163
Average wage & salary as a percent of average black male self-employed income	161	165	172	177	182	129	137	147	156	166
White female	100	113	121	126	136	100	123	125	140	145
Average wage & salary as a percent of average white female self-employed income	162	166	172	177	183	162	172	185	196	209
Black female	100	119	117	134	144	100	116	127	121	128
Average wage & salary as a percent of average black female self-employed income	307	314	327	337	347	244	259	279	296	315

¹Average self-employed earnings for 1960 were \$5,054; average self-employed earnings for 1970 were \$8,943.

²Data derived from the average gross weekly earnings for workers in private nonagricultural industries, in current dollars. Original data were provided by the Department of Labor, Bureau of Labor Statistics.

being 307% of average self-employed black female earnings.

The increase in income for all self-employed workers over the 1960 to 1964 and 1970 to 1974 periods clearly outstrips the increase for wage and salary workers during those periods. Similarly, changes in white male self-employed income clearly exceed changes in wage and salary income for those years.

Table 8 compares individuals by race and sex who maintained their self-employment status over time with individuals who shifted from self-employment in 1960 or 1970 to wage and salary work only in later years. In almost all cases, self-employed individuals who shift to wage and salary work lose significantly during the initial shift but do relatively better in later time periods.

SELF-EMPLOYMENT BY AGE

Individuals who were self-employed in 1960, when categorized by age, exhibit characteristics that are in line with our expectations. For example, the top half of Table 9 shows that retention rates of individuals in self-employment are very low for people less than 20 years old. Retention rates increase significantly as we move to the 20-29 category and move up again in the 30-49 and 50-59 age groups. For those individuals 60 or more, the proportion remaining self-employed falls more significantly over time, which is consistent with normal work patterns in the economy. These observations are consistent across all age groups for both 1960 to 1964 and 1970 to 1974. The bottom section of

Table 8
Average Wage & Salary Income, 1960-1964 and 1970-1974
Expressed as a Percent of Total Self-Employed Income,
by Sex and Race Groups

Status	1960=100				1970=100			
	1961	1962	1963	1964	1971	1972	1973	1974
Total Self-employed same industry	118	129	135	147	131	141	161	167
Wage & salary only	69	89	99	108	76	105	131	113
White male Self-employed same industry	119	128	135	146	128	137	156	161
Wage & salary only	68	87	98	106	74	103	129	110
Black male Self-employed same industry	113	127	128	137	119	133	151	163
Wage & salary only	85	122	129	145	105	132	146	158
White female Self-employed same industry	113	121	126	136	123	125	140	145
Wage & salary only	78	89	95	103	92	112	127	129
Black female Self-employed same industry	119	117	134	144	116	127	121	128
Wage & salary only	149	183	168	163	145	118	149	176

Table 9 shows the number of individuals who supplement their self-employed earnings with significant wage and salary earnings. For all groups, as time progresses, the proportion of individuals choosing to earn income through wage and salary work to supplement their self-employed earnings tends to fall. This is true even though supplemental earnings tend to hold up well for those who continue some outside wage and salary work.

Table 9
Percent of Self-Employed Individuals,
By Age of Employment, Remaining Self-Employed in the
Same Industry or in a Different Industry
1960-1964 and 1970-1974

Status	1960-100				1970-100			
	1961	1962	1963	1964	1971	1972	1973	1974
Age								
Less than 20								
Total	34.9	22.9	18.1	18.1	35.7	21.4	22.8	15.0
Same industry	31.3	20.5	16.9	15.7	19.3	11.4	10.7	10.7
Different industry	3.6	2.4	1.2	2.4	16.4	10.0	12.1	4.3
20-29								
Total	54.4	47.8	43.7	43.0	49.1	43.4	41.8	37.3
Same industry	48.9	42.2	37.4	35.3	30.6	25.9	21.9	18.8
Different industry	5.5	5.6	6.3	7.7	18.5	17.5	19.9	18.5
30-49								
Total	71.0	65.9	61.8	58.8	68.0	61.8	60.3	56.6
Same industry	65.7	59.1	54.2	49.9	43.7	38.6	35.4	32.8
Different industry	5.3	6.8	7.6	8.9	24.3	23.2	24.9	23.8
50-59								
Total	76.0	70.8	65.7	61.5	72.8	66.5	63.6	58.8
Same industry	70.2	63.5	57.7	52.9	47.4	41.5	38.3	33.6
Different industry	5.8	7.3	8.0	8.6	25.4	25.0	25.3	25.2
60 and over								
Total	70.7	59.0	49.6	42.0	67.9	56.2	49.5	40.8
Same industry	65.2	53.0	43.7	36.0	44.6	36.2	30.7	24.7
Different industry	5.5	6.0	5.9	6.0	23.3	20.0	18.8	16.1

Table 9B
Percent of Self-Employed Individuals,
By Age of Employment, who
Supplement their Earnings with
Wage & Salary Employment

Age	1961	1962	1963	1964	1971	1972	1973	1974
Less than 20	19.3	15.7	19.3	7.2	18.6	17.1	15.7	13.6
20-29	18.7	14.6	12.2	9.6	17.9	14.7	13.1	12.6
30-49	12.0	10.0	9.0	8.2	11.9	10.5	9.9	9.2
50-59	9.0	7.8	7.2	6.1	9.7	8.8	8.4	7.3
60 and over	6.3	4.3	3.6	2.8	6.5	5.0	4.1	3.2

CONCLUSIONS

The primary purpose of this paper was to introduce the reader to an important, relatively rich, and relatively unknown data set. The various findings discussed above are meant to be

illustrative of the types of analysis that can be made with the file, but none of the subjects is covered in sufficient depth to totally exhaust the possible universe of findings. It is anticipated that the Office of Economic Research at the Small Business Administration will be working more extensively with this file in the future. Other researchers interested in self-employment may find it useful to explore the data.

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The views expressed are the authors and do not reflect the official position of the Small Business Administration.

FOOTNOTES

¹The firms included are neither a random sample nor a census of all firms in the universe. Thus, it has been necessary to validate or "benchmark" the files against appropriate sources to be sure that the information drawn from the files accurately reflects small business in total.

²The files are not assembled by statistically rigorous methods of data collection, but instead rely on voluntary cooperation of respondents. Many firms provide limited data, and errors arise from a variety of sources. The raw files are "dirty"; some individual establishment records contain missing or obviously incorrect data on one or more items. These records must be located, cleaned, edited, and reconciled.