# U.S. Sole Proprietorships: A Gender Comparison, 1985-2000 

A Working Paper by Dr. Ying Lowrey<br>Small Business Administration Office of Advocacy<br>2005. [59] pages

## Purpose

Using the 1985-2000 U.S. sole proprietorship database, tabulated by the Statistics of Income (SOI) Division of the Internal Revenue Service for Office of Advocacy of U.S. Small Business Administration (SBA), this study attempts to answer the following research questions: What are the growth patterns of male and female sole proprietorships? Is there any earning differential along gender lines? Is there any industrial gender segregation among business owners? The dataset provides unique information about U.S. sole proprietorship in terms of business size and owner's marital status within 10 industrial classifications, six broad industry categories, and the 10 most populous states. For a shorter version of the study, please visit
http://www.irs.gov/pub/irs-soi/00solprop.pdf.

## Overall Findings

Between 1985 and 2000, female-owned sole proprietorships grew at a faster rate than those owned by men. Business earnings and activities are different among male and female business owners.

## Highlights

- About 73 percent of total U.S. firms operated as sole proprietorships in 1997. More than half of the total proprietors were "moonlighters" in 1999.
- Female-owned sole proprietorships grew much faster than their male-owned counterparts in terms of number of businesses, gross receipts, and net income. The growth rate of net income for all proprietors was higher than that of the number of businesses and gross receipts. The shares of femaleowned sole proprietorships' receipts and net income in total were significantly smaller than their share of
the number of businesses.
- A higher proportion of male than female sole proprietors operate larger businesses; but a higher proportion of total gross receipts are more evenly distributed among medium-sized women-owned sole proprietorships.
- A higher proportion of female than male sole proprietors were not married. More and more female business owners became heads of households with dependents between 1985 and 2000.
- Gender segregation seemed to exist in the ten industrial classifications: "carpentering and floor contractor" and "miscellaneous special trade contractors" were dominated by male-operated sole proprietorships, while "beauty shops" and "child day care" were dominated by women. This segregation created a unique opportunity for sole proprietors' businesses to grow in their counterpart's territory.
- There was nearly the same proportion of male businesses as female businesses engaged in the same industry. Nearly two thirds of female sole proprietors were in the services industry. The highest growth for female businesses was in transportation, communications, and utilities; for male businesses it was in agricultural services, forestry, and fishing.
- Sole proprietorships have been more and more concentrated in large states since 1985. By 2000, about 55 percent of U.S. sole proprietorships were concentrated in the 10 most populous states, accounting for 63 percent of business receipts and 59 percent of net income. Among these 10, Florida was the most nurturing state for sole proprietorship business growth, followed by New York and North Carolina.


## Scope and Methodology

The 1985-2000 sole proprietorship data were compiled from tables provided to the Office of Advocacy
of the U.S. Small Business Administration (SBA) by the Statistics of Income Division (SOI) of the Internal Revenue Service under an interagency agreement.

The data were estimated from samples of individual tax returns with Schedule C's, the tax form used to report activity from a nonfarm sole proprietorship. SOI tabulates information from a stratified random sample of returns with Schedule C's each year and publishes an article about them in the summer issue of the Statistics of Income Bulletin. SOI tables provide detail by gender on the number of sole proprietorships, the size of the businesses, aggregate business receipts, and net income. These tables include:

- All sole proprietorships, sorted into 6 broad industry categories;
- All sole proprietorships, sorted into 7 gross receipts classes;
- All sole proprietorships, sorted into 7 net income classes;
- All sole proprietorships, sorted into 4 filing (marital) statuses;
- Sole proprietorships in the 10 most populous States; and
- Sole proprietorships engaged in the 10 major industrial activities.

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

## For More Information

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

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$+$etween 1985 and 2000, female-owned sole proprietorships grew at a faster rate than those owned by men. Their numbers increased at an average annual rate of 4.1 percent compared with just 2.2 percent for male-owned sole proprietorships. The business receipts of these female-owned businesses grew at more than twice the rate of businesses owned by men, and the profits increased at an average annual rate of 6.9 percent compared with a 3.9-percent growth rate for maleowned businesses. Despite this greater growth, for 2000, women sole proprietors comprised a minority, owning 37.4 percent of these businesses. The receipts and net income from these female-owned businesses represented an even smaller share of sole proprietorship totals for 2000.

Using the 1985-2000 U.S. sole proprietorship datasets, tabulated for the Small Business Administration (SBA) by the Statistics of Income (SOI) Division of the Internal Revenue Service, this article attempts to answer several research questions. What are the growth patterns of male and female sole proprietorships? Is there gender segregation among business owners? This article first discusses the role of sole proprietorships in the U.S. economy and gives descriptions of sole proprietorship business size, owner's marital status, 10 major business activities, 6 broad industries, and the 10 most populous States. It then summarizes major findings from the dataset in the conclusion.

## SoleProprietorshipBasics

A sole proprietorship is an unincorporated business with a single owner--the most common legal form of ownership for new businesses [1]. For tax purposes, the business's income, assets, and liabilities belong directly to the business owner [2]. The tax liability is determined by the business owner's individual tax rate. No separate tax schedule applies. Simplicity is the advantage of this legal form of ownership.

Sole proprietorships are comparatively great in number and small in size. Most U.S. firms (72.6

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percent in 1997)--and an even larger percentage of female-owned businesses (84.8 percent)--operate as sole proprietorships (see Figure A). Most are small: the average dollar value of U.S. sole proprietorship gross receipts in $1997(\$ 58,000)$ was lower than that of all other legal forms of organization. For example, it was about 1 percent of the average gross receipts of corporations and just more than 11 percent of those of partnerships. The average receipts for sole proprietorships owned by women were even lower at about $\$ 31,000$.

More than 50 percent of sole proprietors simultaneously earned salaries and wages along with their business incomes in 1999 (see Figure B). The majority of these individuals' combined earned incomes were comprised of their salaries. While male sole proprietors, who also had salaries, earned an average of $\$ 43,022$ in salary and wages and $\$ 7,863$ in sole proprietorship net income in 1999, their female counterparts made about half of these two figures: $\$ 21,830$ and $\$ 3,905$, respectively. For those without salaries and wages, female sole proprietors earned an average of $\$ 11,927$ net income, about 48.6 percent as much as their male counterparts.

## SoleProprietorshipGrowth

Figure C shows growth rates and gender makeup for nonfarm sole proprietorships. While the total number of sole proprietorship businesses increased by 49.4 percent between 1985 and 2000, the growth for female sole proprietorships ( 81.5 percent) was more than twice that of male sole proprietorships (38.9 percent). Over the same time period, business receipts for female-owned sole proprietorships grew about three times more than those reported by sole proprietorships owned by men ( 76.4 percent compared with 25.2 percent). For female-owned sole proprietorships, net income reported for 2000 was more than 166 percent of that for 1985. In comparison, taxable profits for male-owned sole proprietorships went up by 73.1 percent over the same time period. (Growth rates are calculated using constant dollars.)

In terms of annual growth, female nonfarm sole proprietorships outperformed the other two groups (male businesses and male and female jointly-owned businesses): their business numbers grew 4.08 percent annually on average, gross receipts by 3.96 percent, and net income by 6.92 percent. The growth

## U.S. Sole Proprietorships: A Gender Comparison, 1985-2000



Legal Forms of Organization: Number and Percent of Firms, and Average Receipts, by Gender, 1997
[Money amounts are in thousands of dollars]

| Legal form of organization | All U.S. firms |  |  | Women-owned firms |  |  | Men-owned firms and other firms ${ }^{1}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Firms |  | Average receipts | Firms |  | Average receipts | Firms |  | Average receipts |
|  | Number | Percent |  | Number | Percent |  | Number | Percent |  |
| U.S. Total........................... | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|  | 20,821,934 | 100.0 | 891 | 5,417,034 | 100.0 | 151 | 15,404,900 | 100.0 | 1,151 |
| C corporations.. | 2,390,478 | 11.5 | 5,811 | 314,659 | 5.8 | 1,166 | 2,075,819 | 13.5 | 6,516 |
| Subchapter S corporations.... | 1,979,425 | 9.5 | 1,504 | 335,619 | 6.2 | 814 | 1,643,806 | 10.7 | 1,645 |
| Sole proprietorships........... | 15,122,882 | 72.6 | 58 | 4,595,571 | 84.8 | 31 | 10,527,311 | 68.3 | 69 |
| Partnerships............ | 1,226,455 | 5.9 | 507 | 166,027 | 3.1 | 191 | 1,060,428 | 6.9 | 556 |
| Other ${ }^{2}$. | 102,694 | 0.5 | 1,853 | 5,176 | 0.1 | 1,029 | 97,518 | 0.6 | 1,897 |

1 "Other firms" include equally men/women-owned, and publicly held, foreign-owned, and nonprofit firms.
2 "Other" includes cooperatives, receiverships, estates, and businesses classified as unknown legal forms of organization.
NOTES: Receipts are average business receipts per firm in 1997. Because of differences in data sources and definitions, figures in this table differ from those based on Internal Revenue Service data. For a detailed explanation of differences, see the Appendix.

SOURCE: Survey of Women-Owned Business Enterprises, 1997.

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Nonfarm Sole Proprietors With and Without Salaries and Wages and With Schedule C Net Income or Loss, by Gender, Tax Year 1999
[Money amounts are in thousands of dollars, except as noted]

| Gender | All sole proprietors |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of sole proprietors |  | Salaries and wages |  | Schedule C net income/loss |  |
|  | (1) |  | (2) |  | (3) |  |
| Total.......................................... | 18,596,656 |  | 329,677,806 |  | 240,395,320 |  |
| Male <br> Female | $\begin{array}{r} 11,482,121 \\ 7,114,535 \\ \hline \end{array}$ |  | $\begin{array}{r} 249,841,272 \\ 79,836,534 \\ \hline \end{array}$ |  | $\begin{array}{r} 184,876,821 \\ 55,518,499 \end{array}$ |  |
| Gender | Sole proprietors with salaries and wages |  |  |  |  |  |
|  | Number of sole proprietors | Percent in all sole proprietors | Salaries and wages | Schedule C net income/loss | Average salaries and wages (whole dollars) | Average Schedule C net income/loss (whole dollars) |
| Total | (4) | (5) | (6) | (7) | (8) | (9) |
|  | 9,464,539 | 50.89 | 329,677,806 | 59,947,540 | 34,833 | 6,334 |
| Male........................................... | 5,807,339 | 50.58 | 249,841,272 | 45,664,773 | 43,022 | $\begin{aligned} & 7,863 \\ & 3,905 \end{aligned}$ |
| Female....................................... | 3,657,200 | 51.40 | 79,836,534 | 14,282,767 | $\begin{array}{r} 21,830 \\ 50.74 \\ \hline \hline \end{array}$ |  |
| Female as percent ratio of male-operated sole proprietors.................................................................................. |  |  |  |  |  | 49.67 |
| Gender | Sole proprietors without salaries and wages |  |  |  |  |  |
|  | Number of sole proprietors | Percent in all sole proprietors | Salaries and wages | Schedule C net income/loss | Average salaries and wages (whole dollars) | Average Schedule <br> C net income/loss (whole dollars) |
| Total........................................... | (10) | (11) | (12) | (13) | (14) | (15) |
|  | 9,132,117 | $\begin{aligned} & 49.11 \\ & 49.42 \\ & 48.60 \end{aligned}$ | -- | $180,447,780$$139,212,048$$41,235,731$ | N/AN/AN/A | 19,760 |
| Male.......................................... | 5,674,782 |  |  |  |  | $\begin{aligned} & 24,532 \\ & 11,927 \end{aligned}$ |
| Female...................................... | 3,457,336 |  |  |  |  |  |
| Female as percent ratio of male-operated sole proprietors....................................................................... |  |  |  |  |  | 48.62 |

N/A--Not applicable.
NOTE: Schedule C is entitled Profit or Loss from Business (Sole Proprietorship), and Form W-2 is entitled Wage and Tax Statement.
SOURCE: U.S. Department of the Treasury, Internal Revenue Service, Statistics of Income Division. The data are collected from Schedules C matched with Forms W-2 based on Tax Year 1999.


## Percentage Growth Rate and Gender Makeup of Nonfarm Sole Proprietors: Number of Businesses, Gross Receipts, and Net Income, Tax Years 1985-2000

| Item | Total | Male | Female | Male and female |
| :---: | :---: | :---: | :---: | :---: |
| Number of businesses. <br> Gross receipts. <br> Net income. | (1) | (2) | (3) | (4) |
|  | Overall growth rate of 1985-2000 (percent) |  |  |  |
|  | 49.37 | 38.86 | 81.54 | -39.91 |
|  | 29.71 | 25.18 | 76.39 | -24.72 |
|  | 87.03 | 73.12 | 166.35 | 14.30 |
| Average annual growth rate (percent) |  |  |  |  |
| Number of businesses.. | 2.72 | 2.22 | 4.08 | -1.93 |
| Gross receipts.......................................................... | 1.79 | 1.55 | 3.96 | 0.17 |
| Net income....... | 4.40 | 3.88 | 6.92 | 12.32 |
|  | Average annual makeup (percent) |  |  |  |
| Number of businesses... | 100.00 | 64.00 | 34.00 | 2.00 |
| Gross receipts.... | 100.00 | 81.00 | 15.00 | 3.00 |
| Net income............................................................... | 100.00 | 80.00 | 19.00 | 1.00 |

NOTE: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP).
rates for male-owned sole proprietorships for number of businesses and net income were only a little more than half of those reported for female-owned businesses, while the annual growth rate for receipts was only about 39 percent of that shown by females. Despite the decline of male and female jointlyowned businesses by nearly 2 percent (1.93) annually, business receipts for these sole proprietorships grew 0.17 percent on average, and net income grew 12.32 percent.

Because of the comparative increased growth in female-owned businesses in relation to male-owned or jointly-owned businesses, the proportion of femaleowned businesses grew, from less than 31 percent of the total number of sole proprietorships in 1985 to more than 37 percent in 2000. At the same time, the percentage of male sole proprietorships and male and female joint sole proprietorships declined. In 1985, the share of male sole proprietorships was 65.9 percent, and for male and female joint sole proprietorships, 3.3 percent. These shares of total sole proprietorship businesses declined to 61.3 percent and 1.3 percent for 2000, respectively.

## BusinessSize

For this article, the principal measure of sole proprietorships' income was gross receipts, with seven categories ranging from under $\$ 5,000$ to \$200,000 and over [3].

For 1985 through 2000, an average of 29.2 percent of male sole proprietorships had annual sales below $\$ 5,000$ in 1996 dollars and accounted for 0.8 percent, on average, of all male sole proprietorship gross receipts (see Figures D and E). More female sole proprietorships--41.0 percent on average--were in this size group and accounted for about 3.3 percent of all female sole proprietorships' receipts. An average of 7.7 percent of male sole proprietorships made more than $\$ 200,000$ in sales annually and accounted for 59.2 percent of their gross receipts each year. These figures for large-receipt female sole proprietorships were just 3.0 percent and 35.0 percent, respectively.

Medium-sized firms (with receipts of \$25,000 and under $\$ 200,000$ ) accounted for 45.4 percent of total gross receipts for female sole proprietorships (see Figure F). By contrast, business receipts were less evenly distributed among male sole proprietorships, with medium-sized businesses reporting 34.3 percent of total receipts for male sole proprietors.

Figure G shows that, between 1985 and 2000, the smallest sole proprietorships (receipts under $\$ 5,000$ ) made about $\$ 1,700$ in annual average gross receipts (for both men and women). Disparities appear among the larger businesses. For example, among the group earning $\$ 200,000$ and over, while female sole proprietorships made an average of

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Average Percentage of Nonfarm Sole Proprietorships and Gross Receipts, by Size of Gross Receipts and by Gender, Tax Years 1985-2000

| Gender, item | Size of gross receipts |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under \$5,000 | $\begin{gathered} \$ 5,000 \text { under } \\ \$ 10,000 \end{gathered}$ | $\begin{gathered} \$ 10,000 \text { under } \\ \$ 25,000 \end{gathered}$ | $\begin{gathered} \$ 25,000 \text { under } \\ \$ 50,000 \end{gathered}$ | $\begin{gathered} \$ 50,000 \text { under } \\ \$ 100,000 \end{gathered}$ | $\begin{array}{\|c} \$ 100,000 \text { under } \\ \$ 200,000 \end{array}$ | \$200,000 and over |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|  | Percentages |  |  |  |  |  |  |
| All businesses: |  |  |  |  |  |  |  |
| Number...... | 33.29 | 13.26 | 18.42 | 12.57 | 9.72 | 6.56 | 6.18 |
| Gross receipts..... | 1.21 | 1.80 | 5.49 | 7.99 | 12.08 | 15.79 | 55.65 |
| Male-operated businesses: |  |  |  |  |  |  |  |
| Number... | 29.16 | 12.14 | 18.39 | 13.69 | 11.12 | 7.78 | 7.72 |
| Gross receipts.. | 0.83 | 1.31 | 4.42 | 7.14 | 11.46 | 15.66 | 59.19 |
| Female-operated businesses: |  |  |  |  |  |  |  |
| Number........... | 41.01 | 15.68 | 18.68 | 10.51 | 6.97 | 4.11 | 3.04 |
| Gross receipts.. | 3.31 | 4.63 | 11.62 | 13.02 | 15.80 | 16.58 | 35.04 |
| Male and female-operated businesses: |  |  |  |  |  |  |  |
| Number....................................... | 33.04 | 8.34 | 15.36 | 12.22 | 11.58 | 9.21 | 10.24 |
| Gross receipts.. | 0.64 | 0.76 | 3.22 | 5.40 | 10.15 | 15.40 | 64.42 |

NOTE: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP). The sum of each row may not add to 100 percent because of rounding.

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## Average Percentage of Nonfarm Sole Proprietorships, by Gender and Size of Gross Receipts, Tax Years 1985-2000



NOTE: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP).

## U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

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Average Percentage of Gross Receipts of Nonfarm Sole Proprietorships, by Gender and Size of Gross Receipts, Tax Years 1985-2000


NOTE: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP).

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Nonfarm Sole Proprietorships: Average, Standard Deviation, and Coefficient of Variation of Gross Receipts per Sole Proprietorship, by Size of Gross Receipts and Gender, Tax Years 1985-2000
[Money amounts are in whole dollars]

| Item | Size of gross receipts |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Under \$5,000 | $\begin{gathered} \$ 5,000 \text { under } \\ \$ 10,000 \end{gathered}$ | $\begin{gathered} \$ 10,000 \text { under } \\ \$ 25,000 \end{gathered}$ | $\begin{array}{\|c\|} \$ 25,000 \text { under } \\ \$ 50,000 \end{array}$ | $\begin{gathered} \$ 50,000 \text { under } \\ \$ 100,000 \end{gathered}$ | $\begin{gathered} \$ 100,000 \\ \text { under } \\ \$ 200,000 \\ \hline \end{gathered}$ | \$200,000 and over |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|  | All businesses |  |  |  |  |  |  |  |
| Average | 48,778 | 1,755 | 6,587 | 14,455 | 30,846 | 60,532 | 117,365 | 442,442 |
| Standard deviation | 4,051 | 51 | 99 | 156 | 398 | 875 | 1,455 | 35,559 |
| Coefficient of variation (percent)..... | 8.3 | 2.9 | 1.5 | 1.1 | 1.3 | 1.5 | 1.2 | 8.0 |
|  | Male-operated businesses |  |  |  |  |  |  |  |
| Average.. | 62,239 | 1,760 | 6,671 | 14,899 | 32,300 | 64,010 | 125,137 | 480,891 |
| Standard deviation.. | 4,534 | 72 | 96 | 179 | 348 | 745 | 1,853 | 43,045 |
| Coefficient of variation (percent)..... | 7.3 | 4.1 | 1.4 | 1.2 | 1.1 | 1.2 | 1.5 | 9.0 |
|  | Female-operated businesses |  |  |  |  |  |  |  |
| Average. | 21,919 | 1,767 | 6,463 | 13,597 | 27,145 | 49,710 | 88,782 | 254,472 |
| Standard deviation...................... | 1,144 | 59 | 125 | 238 | 821 | 1,845 | 4,001 | 23,583 |
| Coefficient of variation (percent)..... | 5.2 | 3.3 | 1.9 | 1.8 | 3.0 | 3.7 | 4.5 | 9.3 |
|  | Male and female-operated businesses |  |  |  |  |  |  |  |
| Average..................................... | 72,487 | 1,381 | 6,576 | 14,983 | 31,769 | 63,036 | 121,828 | 455,662 |
| Standard deviation........................ | 8,576 | 245 | 409 | 982 | 2,797 | 3,338 | 9,025 | 33,319 |
| Coefficient of variation (percent)..... | 11.8 | 17.7 | 6.2 | 6.6 | 8.8 | 5.3 | 7.4 | 7.3 |

NOTES: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP). Standard Deviation (SD) is a measure of how widely values are dispersed from the average value. It can be used here as an indicator of the consistency of the data in each size group between 1985 and 2000 . A smaller SD indicates the data are more consistent. Coefficient of variation is the ratio of the standard deviation to the average expressed as a percent, used in this table to measure the relative variability of the gross receipts per sole proprietorship in each size group. A smaller coefficient of variation implies the variable is relatively more consistent.

## U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

\$254,472 in annual gross receipts, male sole proprietorships made nearly double that amount, with an average of $\$ 480,891$. The coefficients of variation in the table indicate that not only did men earn higher business receipts, but also earned them more consistently than women.

Figure H demonstrates that female sole proprietorships grew faster than those of their male counterparts at all levels of business receipts during 1985-2000. For example, female businesses earning $\$ 200,000$ or higher gross sales grew on average 2.45 percent in number and 4.16 percent in receipts per year between 1985 and 2000, while the number of male sole proprietors in the same category dropped 0.10 percent, and gross sales grew on average merely 1.75 percent per year during the same period.

## Owner'sMbritalstatus

Taxpayers claim one of five marital status categories on their tax returns. Joint returns of married couples accounted for, on average, 73.1 percent of the tax returns of male sole proprietorships, and 64.8 percent of female sole proprietorships between 1985 and 2000 (see Figure I) [4]. The remaining sole proprietorship returns were filed by single men (21.6 percent) and single women (22.8 percent); head of
household, 3.6 percent for male sole proprietorships and 10.9 percent for female sole proprietorships; and married persons who chose to file separately from their spouses, 1.6 percent for male sole proprietorships and 1.5 percent for female sole proprietorships.

The percentage of male sole proprietors who were married and filed their income tax returns jointly with their spouses declined from 78 percent in 1985 to 69 percent in 2000. These two figures for female sole proprietors were 70 percent and 59 percent, respectively [5]. The share of gross receipts earned by married proprietors also dropped over this period from 85 percent to 77 percent for men, and from 70 percent to 62 percent for women. The net income shares declined from 85 percent to 79 percent for married men, and from 67 percent to 59 percent for married women.

The share of male sole proprietors filing as unmarried heads of household with dependents increased from 2 percent to 6 percent between 1985 and 2000, with concomitant growth in their receipts (from 2 percent to 4 percent) and net incomes (also 2 percent to 4 percent). Unmarried female sole proprietors with dependents grew in number from 8 percent in 1985 to 15 percent in 2000 . Their gross

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Average Annual Growth Rate of Number of Nonfarm Sole Proprietorships and Gross Receipts, by Size of Gross Receipts and Gender, Tax Years 1985-2000
$\xlongequal{\text { [Money amounts are in whole dollars] }}$

| Item | Size of gross receipts |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Under \$5,000 | $\begin{array}{\|c\|} \$ 5,000 \text { under } \\ \$ 10,000 \end{array}$ | $\begin{gathered} \hline \$ 10,000 \\ \text { under } \\ \$ 25,000 \\ \hline \end{gathered}$ | \$25,000 under \$50,000 | $\begin{gathered} \hline \$ 50,000 \\ \text { under } \\ \$ 100,000 \\ \hline \end{gathered}$ | $\begin{gathered} \$ 100,000 \\ \text { under } \\ \$ 200,000 \\ \hline \end{gathered}$ | $\begin{gathered} \$ 200,000 \text { and } \\ \text { over } \end{gathered}$ |
| Number of proprietorships. <br> Gross receipts. | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|  | All businesses |  |  |  |  |  |  |  |
|  | 2.72 | 3.80 | 2.97 | 2.88 | 2.84 | 1.65 | 0.97 | 0.11 |
|  | 1.79 | 3.05 | 2.85 | 2.88 | 2.79 | 1.60 | 1.14 | 1.80 |
| Number of proprietorships. Gross receipts. | Male-operated businesses |  |  |  |  |  |  |  |
|  | 2.22 | 3.51 | 2.58 | 2.32 | 2.71 | 1.22 | 0.51 | -0.10 |
|  | 1.55 | 2.36 | 2.45 | 2.30 | 2.59 | 1.28 | 0.68 | 1.75 |
| Number of proprietorships. $\qquad$ Gross receipts $\qquad$ | Female-operated businesses |  |  |  |  |  |  |  |
|  | 4.08 | 4.59 | 3.96 | 4.31 | 3.82 | 3.83 | 3.08 | 2.45 |
|  | 3.96 | 4.40 | 3.83 | 4.53 | 4.16 | 3.93 | 3.92 | 4.16 |
| Number of proprietorships Gross receipts. | Male and female-operated businesses |  |  |  |  |  |  |  |
|  | -1.93 | -2.29 | 5.54 | -0.75 | 0.71 | 3.48 | 3.72 | -0.23 |
|  | 0.17 | -2.30 | 4.87 | -1.21 | -0.07 | 4.04 | 2.86 | 0.77 |

NOTE: All figures are estimates based on samples and on 1996 Overall Implicit Price Deflator/Inflator for Gross Domestic Product (GDP).

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## Average Percentage of Male and Female Nonfarm Sole Proprietors, by Filing Status and Gender, Tax Years 1985-2000


receipts grew from 9 percent to 12 percent and their net incomes from 11 percent to 16 percent.

Figure J shows average business gross receipts and net incomes for sole proprietorships, by marital status. Female sole proprietors as heads of household had business receipts less than half as much as their male counterparts with the same filing status; female average net income was little more than $\$ 7,000$, nearly $\$ 3,000$ less than that of their male counterparts.

## MajorBusinessActivities

Figure K shows the distribution of male and femaleowned sole proprietorships across major business activities. These activities have the most businesses among sole proprietors over the years of this study and cover a disproportionate share of female businesses ( 51.9 percent) compared with male sole proprietorships ( 28.4 percent).

Figure K also shows gender segregation in most of these business activities, with carpentering and floor contractor and miscellaneous special trade contractors dominated by men, while beauty shops and child day care are dominated by women. The


Nonfarm Sole Proprietors: Average Gross Receipts and Net Income, by Filing Status and Gender, Tax Year 2000
[Money amounts are in whole dollars]

| Gender | Single | Married filing jointly/widow | Married filing separately | Head of household |
| :---: | :---: | :---: | :---: | :---: |
| Male. <br> Female | (1) | (2) | (3) | (4) |
|  | Gross receipts |  |  |  |
|  | 49,837 | 74,387 | 85,253 | 45,539 |
|  | 22,646 | 25,298 | 36,469 | 20,410 |
|  | Net income |  |  |  |
| Male... | 8,796 | 15,316 | 15,341 | 9,778 |
| $\underline{\text { Female............... }}$ | 6,080 | 6,544 | 10,432 | 7,011 |

most concentrated activity for women (19.8 percent) was door-to-door sales, followed by child day care (16.8 percent), other business services (14.9 percent), miscellaneous personal services (13.7 per-
U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

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## Average Percentage of Nonfarm Sole Proprietors, by Gender and Ten Major Business Activities, Tax Years 1985-2000


cent), real estate agents and brokers (13.5 percent), and beauty shops (11.6 percent).

Figure L shows that, for Tax Year 2000, female real estate agents and brokers constituted the business activity where female sole proprietors were most competitive with their male counterparts in receiving the highest average net income. Women in this business activity had the highest average net income ( $\$ 20,286$ ) in all the major business activities; they were also comparatively close to profits reported by their male counterparts (representing 81.7 percent of men's average net income in the same business activity $(\$ 24,844)$ ). Of these ten major activities, janitorial and related services were the only businesses where women made ( 0.6 percent) more average annual net income than men. Female average income for this business activity was just $\$ 5,780$, however. Males in the consulting and research group
yielded the highest average net income $(\$ 27,397)$ of these ten major activities. Women in this same business activity made 49.2 percent as much as their male counterparts. For Tax Year 2000, women were most engaged in door-to-door sales and made the least average net income (\$328) of these ten activities, about 7.3 percent as much as their male counterparts.

Figure L also shows that the most profitable sole proprietorship (net income as a percentage of gross receipts) for both men and women was consulting and research, with men earning 57.4 percent (in profits) of their gross receipts in Tax Year 2000, and women earning 54.7 percent. Women also showed profitability rates of over 50 percent for real estate agents and brokers and janitorial and related services.

In the most gender-segregated businesses, such as carpentering and floor contractor, female sole proprietorships grew 31.8 percent annually from

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## Nonfarm Sole Proprietorships: Average Selected Gross Receipts and Net Income, by Gender and Ten Major Business Activities, Tax Year 2000

| Item | Major business activity |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Carpentering and floor contractors | Miscellaneous specialty trade contractors | Sales by door-to-door, etc. | Real estate agents and brokers | Beauty shops | Miscellaneous personal services | Janitorial and related services to buildings | Other business services | Child day care | Consulting and research |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|  | Gross receipts |  |  |  |  |  |  |  |  |  |
| Male. | 47,177 | 52,640 | 21,548 | 53,000 | 38,177 | 23,012 | 22,520 | 31,496 | 9,371 | 47,723 |
| Female. | 37,594 | 60,280 | 9,462 | 39,426 | 22,173 | 13,589 | 10,689 | 24,243 | 11,632 | 24,655 |
| Ratio ${ }^{1 .}$ | 79.7 | 114.5 | 43.9 | 74.4 | 58.1 | 59.1 | 47.5 | 77.0 | 124.1 | 51.7 |
|  | Net income |  |  |  |  |  |  |  |  |  |
| Male.. | 12,538 | 8,533 | 4,470 | 24,844 | 11,421 | 6,789 | 5,746 | 10,091 | 4,338 | 27,397 |
| Female.. | 4,918 | 6,213 | 328 | 20,286 | 7,851 | 3,510 | 5,780 | 9,195 | 4,063 | 13,476 |
| Ratio ${ }^{1}$. | 39.2 | 72.8 | 7.3 | 81.7 | 68.7 | 51.7 | 100.6 | 91.1 | 93.7 | 49.2 |
|  | Net income as percent of gross receipts |  |  |  |  |  |  |  |  |  |
| Male.. | 26.6 | 16.2 | 20.7 | 46.9 | 29.9 | 29.5 | 25.5 | 32.0 | 46.3 | 57.4 |
| Female. | 13.1 | 10.3 | 3.5 | 51.5 | 35.4 | 25.8 | 54.1 | 37.9 | 34.9 | 54.7 |

${ }^{1}$ Ratio: Female's amount as a percentage of male's amount.

3,001 businesses to 13,626 businesses between 1985 and 2000, reaching a high of 24,401 businesses in 1994, while male child day care businesses grew 30 percent annually from 21,969 businesses in 1989 (the first year data were available) to 62,525 businessess in 2000 (see Figure M).

## SixBroadIndustrial Sectors

From 1985 through 2000, the average percentages of total receipts for male sole proprietorships by industrial sector were: 33.7 percent in services; 30.3 percent in wholesale and retail trade; 7.9 percent in finance, insurance, and real estate; 20.3 percent in mining, construction, and manufacturing; 5.2 percent in transportation, communications, and utilities; and 2.6 percent in agriculture, forestry, and fishing (see Figure N).

In the same period, the average percentages of receipts for female sole proprietorships were: 46.6 percent in services; 30.3 percent in wholesale and retail trade; 11.6 percent in finance, insurance, and real estate; 6.8 percent in mining, construction, and manufacturing; 3.1 percent in transportation, communications, and utilities; and 1.6 percent in agriculture, forestry, and fishing.

On average, in Tax Year 2000, male sole proprietorships reported gross receipts of $\$ 120,402$ in
finance, insurance, and real estate and $\$ 113,191$ in wholesale and retail trade. Female sole proprietorships earned only about 35.2 percent and 24.0 percent, respectively, of the average receipts reported by their male counterparts for these industrial sectors. Finance, insurance, and real estate was the sector with the highest average net incomes for both male and female sole proprietorships and offered women a relatively comparable net income $(\$ 16,623)$ to that of their male counterparts ( $\$ 21,785$ )(see Figure O).

The services industrial sector ( 33.4 percent) was the most profitable sector (net income as a percentage of gross receipts) for male sole proprietorships, followed by finance, insurance, and real estate (18.1 percent). These two sectors were also most profitable for women, with 39.2 percent in finance, insurance, and real estate and 37.1 percent in services (see Figure O).

Figure P shows the increase in number of sole proprietorships in every broad industrial sector (or combination of sectors) from 1985 through 2000. Female sole proprietorships grew faster than those of their male counterparts in nearly every industrial sector, except agriculture, forestry, and fishing, where male sole proprietorships grew the most, 8.4 percent per year on average. The fastest growing
U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

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Average Percentage Annual Growth Rate in Number of Nonfarm Sole Proprietorships, by Gender and Ten Major Business Activities, Tax Years 1985-2000


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Nonfarm Sole Proprietorships: Average Percentage of Gross Receipts, by Gender and Six Broad Industries, Tax Years 1985-2000


Nonfarm Sole Proprietorships：Average Gross Receipts and Net Income，by Gender and Six Broad Industries，Tax Year 2000

| Item | Broad industry |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Agriculture，forestry， and fishing | Mining， construction，and manufacturing | Transportation， communications， and electric | Wholesale and retail trade | Finance，insurance， and real estate | Services |
|  | （1） | （2） | （3） | （4） | （5） | （6） |
|  | Gross receipts |  |  |  |  |  |
| Male． | 51，993 | 67，202 | 57，150 | 113，191 | 120，402 | 46，502 |
| Female．． | 24，306 | 44，381 | 28，933 | 27，145 | 42，433 | 19，104 |
| Ratio ${ }^{1}$ ． | 46.7 | 66.0 | 50.6 | 24.0 | 35.2 | 41.1 |
|  | Net income |  |  |  |  |  |
| Male．． | 8，124 | 11，519 | 8，488 | 8，907 | 21，785 | 15，555 |
| Female．．． | 1，363 | 5，860 | 5，235 | 1，705 | 16，623 | 7，082 |
| Ratio ${ }^{1}$ ． | 16.8 | 50.9 | 61.7 | 19.1 | 76.3 | 45.5 |
|  | Net income as percent of gross receipts |  |  |  |  |  |
| Male． | 15.6 | 17.1 | 14.9 | 7.9 | 18.1 | 33.4 |
| Female．．．．．．．．．．．． | 5.6 | 13.2 | 18.1 | 6.3 | 39.2 | 37.1 |

${ }^{1}$ Ratio：Female＇s amount as a percentage of male＇s amount．
female sector was transportation，communications， and electric（ 9.2 percent）．

Figure Q shows the relative share of number of businesses，gross receipts，and net income by gender for each of the broad industrial sectors．For 2000， this table shows male domination in almost every industry for both business receipts and net income． In the wholesale and retail trade，for example，busi－ ness receipts for female sole proprietorships were only 17.6 percent compared to 77.7 percent for male sole proprietors，with the rest going to jointly－owned businesses．In the same industrial sector，women had just 15.0 percent of net income，while men had 82.7 percent．

## The TenMost Populous States

Sole proprietorships in the 10 most populous States consisted of an average 53.2 percent of the U．S．total between 1985 and 2000 （see Figure R）［6］．Net earned income from these States was above 57.2 percent in 1985 and remained around 58.6 percent in 2000．Gross receipts from businesses in these States， however，increased from 40.5 percent of the national total in 1985 to 62.6 percent in 2000.

In 2000，of the ten most populous States，Califor－
nia sole proprietorships had the highest average receipts（ $\$ 90,902$ for men and $\$ 35,796$ for women）． New Jersey was the best State for average net income for men（ $\$ 18,711$ ），while California was the best State for women（ $\$ 8,765$ ）．Female－owned sole proprietorships from New York offered women 57.1 percent of male sole proprietorship average net income per business，while the average amount of female sole proprietorship net income was lower in the nine other large States（see Figure S）．

Profitability in terms of net income as a percent of gross receipts varied across the 10 States，but women had a higher rate in each State，compared to ratios for men．New York was the most profitable State for women（ 34.9 percent），followed by New Jersey（ 32.9 percent）and Illinois（ 31.7 percent）．The most profitable State for men was Illinois（25．1 per－ cent），followed by New York（24．4 percent）and Michigan（23．2 percent）．

Growth in sole proprietorships varied widely from State to State，and from year to year within States from 1985 through 2000．Figure T offers a quick glance at the average annual growth pattern，by gender，for sole proprietorships．Florida was the fastest growing State for both male and female sole
U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

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Nonfarm Sole Proprietorships: Average Percentage Annual Growth Rate, by Gender and Six Broad Industries, Tax Years 1985-2000


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Nonfarm Sole Proprietorships: Percentage of Businesses, Gross Receipts, and Net Income, by Gender and Six Broad Industries, Tax Year 2000

| Item | Broad industry |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Agriculture, forestry, and fishing | Mining, construction, and manufacturing | Transportation, communications, and electric | Wholesale and retail trade | Finance, insurance, and real estate | Services |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
|  | Number of businesses |  |  |  |  |  |
| Male. | 82.1 | 88.9 | 83.8 | 50.2 | 59.4 | 54.2 |
| Female. | 16.8 | 9.9 | 15.3 | 47.5 | 38.9 | 44.7 |
|  | Gross receipts |  |  |  |  |  |
| Male.. | 89.2 | 91.7 | 89.9 | 77.7 | 79.8 | 73.4 |
| Female. | 8.5 | 6.7 | 8.3 | 17.6 | 18.4 | 24.9 |
|  | Net income |  |  |  |  |  |
| Male.... | 96.3 | 93.3 | 89.1 | 82.7 | 66.3 | 72.1 |
| Female. | 3.3 | 5.3 | 10.1 | 15.0 | 33.1 | 27.1 |

NOTE: The sum of male and female sole proprietorships in each industry (in terms of business number, gross receipts, and net income) is less than 100 percent since a small percentage are "male and female-operated sole proprietorships," which are not included in this figure.

Nonfarm Sole Proprietorships: Percentage of Businesses, Gross Receipts, and Net Income in the 10 Most Populous States, by Gender, Tax Years 1985-2000

| Year | Number |  |  |  | Gross receipts |  |  |  | Net income |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Male | Female | Male and female | Total | Male | Female | Male and female | Total | Male | Female | Male and female |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 1985. | 53.0 | 54.1 | 51.2 | 47.5 | 40.5 | 40.9 | 39.3 | 35.9 | 57.2 | 57.7 | 56.1 | 46.3 |
| 1986... | 52.1 | 52.9 | 50.7 | 49.4 | 39.9 | 40.1 | 40.2 | 36.6 | 54.6 | 55.2 | 54.8 | 34.3 |
| 1987. | 52.6 | 52.9 | 51.9 | 54.4 | 41.6 | 41.9 | 42.3 | 33.6 | 56.7 | 56.7 | 57.4 | 49.1 |
| 1988........... | 53.5 | 54.0 | 53.2 | 47.3 | 44.9 | 44.8 | 47.8 | 38.7 | 58.2 | 58.1 | 59.7 | 51.6 |
| 1989.. | 53.1 | 53.0 | 53.2 | 52.0 | 46.9 | 47.1 | 47.4 | 41.4 | 58.4 | 57.7 | 61.2 | 68.0 |
| 1990... | 52.9 | 52.6 | 53.4 | 54.0 | 47.5 | 47.2 | 48.4 | 55.2 | 57.9 | 57.3 | 60.8 | 62.2 |
| 1991........... | 53.7 | 53.9 | 53.4 | 51.2 | 50.4 | 50.1 | 51.4 | 52.5 | 57.8 | 57.2 | 60.3 | 64.2 |
| 1992.. | 54.0 | 54.4 | 53.0 | 57.0 | 51.0 | 50.4 | 52.1 | 62.0 | 57.2 | 57.2 | 57.6 | 53.3 |
| 1993. | 52.7 | 53.2 | 51.4 | 59.3 | 51.4 | 50.9 | 52.5 | 58.1 | 56.0 | 55.8 | 57.0 | 58.3 |
| 1994. | 53.7 | 54.8 | 51.7 | 53.3 | 52.9 | 52.4 | 54.0 | 62.7 | 55.9 | 55.8 | 56.1 | 65.1 |
| 1995. | 52.0 | 52.9 | 50.5 | 49.8 | 54.2 | 53.8 | 55.2 | 59.9 | 55.8 | 55.0 | 58.7 | 70.0 |
| 1996........... | 52.1 | 52.6 | 51.3 | 48.8 | 56.2 | 55.5 | 58.8 | 60.2 | 57.2 | 56.5 | 59.8 | 63.9 |
| 1997.... | 52.9 | 53.5 | 52.0 | 52.3 | 57.8 | 57.4 | 59.0 | 62.9 | 58.1 | 58.3 | 57.2 | 65.4 |
| 1998........ | 53.9 | 54.7 | 52.4 | 60.5 | 59.2 | 59.0 | 59.5 | 62.6 | 57.4 | 57.8 | 56.0 | 60.9 |
| 1999.... | 54.4 | 54.4 | 54.1 | 59.9 | 60.7 | 60.6 | 60.1 | 68.7 | 57.7 | 57.7 | 57.0 | 72.7 |
| 2000........... | 54.6 | 54.5 | 54.6 | 60.9 | 62.6 | 62.5 | 61.6 | 72.9 | 58.6 | 58.7 | 57.6 | 68.3 |
| Average....... | 53.2 | 53.6 | 52.4 | 53.6 | 51.1 | 50.9 | 51.9 | 54.0 | 57.2 | 57.0 | 58.0 | 59.6 |

NOTE: The ten States are California, Florida, Illinois, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, and Texas.
proprietorships ( 4.49 percent for men and 6.72 percent for women). Once again, the growth of female sole proprietorships overshadowed that of men in all 10 States. Female businesses grew at an average annual rate of over 5 percent in Florida ( 6.72 percent), New Jersey (6.29 percent), and Ohio ( 5.36 percent).

## Summary

Growth of female sole proprietorships, in business number, gross receipts, and business net income, was more than double that of their male counterparts from 1985 through 2000. Women made up an average of 34 percent of total sole proprietorships and accounted for 15 percent of total business receipts and 19 percent of business net income during this period.

A higher proportion of male sole proprietorships operated larger businesses between 1985 and 2000; business earnings were more evenly distributed among various business sizes for female sole proprietorships than for male sole proprietorships.

Business was still male-dominated from 1985 through 2000, but there were nearly the same number
of female businesses as male businesses engaged in wholesale and retail trade and services in 2000.

More than half of total sole proprietorships were in the 10 most populous States. Florida showed the largest growth in sole proprietorships, followed by New York and North Carolina. New York was the most competitive State for women, with 57.1 percent of male sole proprietorship average net income per business.

More female sole proprietors were single than male sole proprietors in 1985 and 2000. In 2000, some 14.7 percent of women operated their businesses as head of household with dependents, while male sole proprietors in this category were only 5.5 percent.

## NoteandReferences

[1] The identification of a single owner is what allows researchers to assign a gender to the sole proprietorship's operation.
[2] Note that, for purposes of comparisons with other legal forms of organization, the data used are taken from the Census Bureau's Survey of

U．S．Sole Proprietorships：A Gender Comparison，1985－2000

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Nonfarm Sole Proprietorships in the 10 Most Populous States：Average Gross Receipts and Net Income，by Gender，Tax Year 2000

| Gender | California | Florida | Illinois | Michigan | New Jersey | New York | North Carolina | Ohio | Pennsylvania | Texas |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | （1） | （2） | （3） | （4） | （5） | （6） | （7） | （8） | （9） | （10） |
|  | Gross receipts |  |  |  |  |  |  |  |  |  |
| Male． | 90，902 | 53，069 | 58，419 | 50，728 | 86，385 | 61，039 | 63，082 | 55，754 | 75，884 | 82，613 |
| Female． | 35，796 | 18，806 | 18，342 | 19，694 | 22，456 | 24，412 | 24，683 | 19，023 | 25，127 | 23，544 |
| Ratio ${ }^{1}$ ． | 39.4 | 35.4 | 31.4 | 38.8 | 26.0 | 40.0 | 39.1 | 34.1 | 33.1 | 28.5 |
|  | Net income |  |  |  |  |  |  |  |  |  |
| Male．． | 17，993 | 10，201 | 14，640 | 11，780 | 18，711 | 14，913 | 11，007 | 12，669 | 15，530 | 13，242 |
| Female．．． | 8，765 | 5，804 | 5，810 | 5，353 | 7，388 | 8，521 | 5，338 | 5，697 | 6，082 | 5，710 |
| Ratio ${ }^{1 .}$ | 48.7 | 56.9 | 39.7 | 45.4 | 39.5 | 57.1 | 48.5 | 45.0 | 39.2 | 43.1 |
|  | Net income as percent of gross receipts |  |  |  |  |  |  |  |  |  |
| Male．．．．． | 19.8 | 19.2 | 25.1 | 23.2 | 21.7 | 24.4 | 17.4 | 22.7 | 20.5 | 16.0 |
| Female．． | 24.5 | 30.9 | 31.7 | 27.2 | 32.9 | 34.9 | 21.6 | 29.9 | 24.2 | 24.3 |

${ }^{1}$ Ratio：Female＇s amount as percentage of male＇s amount．

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Nonfarm Sole Proprietorships in the 10 Most Populous States：Average Percentage Annual Growth Rate，by Gender，Tax Years 1985－2000


U.S. Sole Proprietorships: A Gender Comparison, 1985-2000

Women-Owned Business Enterprises. The numbers and shares differ somewhat from Internal Revenue Service data used elsewhere in this article, due to differences in definitions. See the Appendix for a more detailed description.
[3] "Gross receipts" is a measure of gross sales or receipts to the business before expenses or deductions; net income reflects total business income less expenses.
[4] This filing status also includes a small number of widows and widowers, who may use this status for 2 years after their spouses pass away.
[5] Reasons for changing patterns in the marital status of female sole proprietors require further study.
[6] The analysis was limited to 10 States because of concerns about the accuracy of samplebased estimates for less populous States.

## Appendix

Background Information, Data Sources, and Limitations
The 1985-2000 sole proprietorship data were compiled from tables provided to the Office of Advocacy of the U.S. Small Business Administration (SBA) by the Statistics of Income Division (SOI) of the Internal Revenue Service under an interagency agreement. The data were estimated from samples of individual tax returns with Schedule C's, the tax form used to report activity from a nonfarm sole proprietorship. SOI tabulates information from a stratified random sample of returns with Schedule C's each year and publishes an article about them in the summer issue of the Statistics of Income Bulletin [A1]. SOI tables provide detail by gender on the number of sole proprietorships, the size of the businesses, aggregate business receipts, and net income. These tables include:
$\square$ All sole proprietorships, sorted into six broad industry categories [A2];
$\square$ All sole proprietorships, sorted into seven gross receipts classes;
$\square$ All sole proprietorships, sorted into seven net income classes;
$\square$ All sole proprietorships, sorted into four filing (marital) statuses;
$\square$ Sole proprietorships in the 10 most populous States; and
$\square \quad$ Sole proprietorships engaged in the 10 major industrial activities.

Gender, seemingly a simple identification, in fact required a multistep procedure. For single returns and joint returns with only one name and Social Security number (SSN) on the Schedule C, the proprietorship was assigned a gender based on the Social Security Administration's gender code for that SSN. However, several hundred thousand joint returns contain both spouses' names, even though the instructions for Schedule C indicate that only the proprietor's name should be listed. The SOI Division then checked these returns for a Schedule SE, on which a selfemployed individual reports earnings to calculate selfemployment tax for Social Security and Medicare. If only one spouse listed self-employment income, the Schedule C was assigned to that spouse. If both spouses (or neither) filed Schedule SE's, the Schedule C was left in the "jointly operated" category [A3]. This procedure, for instance, left about 300,000 sole proprietorships classified as jointly operated in 1998 [A4]. In the future, the gender information should be more accurate, as the "corrected sex" code from the Social Security Administration DM1 file will be used.

Unless otherwise noted, the data source for all tables in this report is the SOI Division, compiled by the Office of Advocacy, U.S. Small Business Administration. Because of differences in sampling methods, this set of data is not comparable with other data, such as those in the Census Survey of WomenOwned Business Enterprises.

Several measures were used in this report to analyze the dynamics of sole proprietorships. Net income and gross receipts per sole proprietorship business were calculated, and these can be used to explore the pattern of business earnings.

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The 1985-1997 industrial data were coded using the older Standard Industrial Classification (SIC) system. Beginning in 1998, SOI began using the newer North American Industrial Classification System (NAICS). It is hoped that future studies will convert historical data into NAICS codes to permit comparability in analysis of historical industrial trends.

Despite limitations, it is believed that sole proprietorships data allow researchers to draw important inferences about changes over time in number, size, receipts and net income, major business activities, industrial and regional concentrations, and growth patterns in small businesses [A5].

## Comparison with 1997 SWOBE

The Census Bureau surveys women-owned businesses as part of the economic census conducted every 5 years. The 1997 Survey of Women-Owned Business Enterprises (SWOBE), released in March 2001, covered nonfarm sole proprietorships with at least $\$ 1,000$ in receipts in 1997, as well as other forms of ownership (see Figure A). The Census Bureau estimated there were 15.1 million such businesses, of which 4.6 million ( 30 percent) were women-owned. An IRS tabulation of 1997 Schedule C's by gender for the Office of Advocacy showed a total of 19.2 million, of which 7.0 million ( 36 percent) were female-operated. The IRS did not tabulate receipts below $\$ 1,000$ but did tabulate receipts below $\$ 5,000$. Even after omitting those businesses, the IRS estimated that there were 12.6 million sole proprietorships, of which 4.0 million ( 32 percent) were female-operated.

These estimates differ by surprisingly large amounts with respect to total, women's total, and women's percentage. A Census Bureau employee stated that even including the sole proprietorships with less than $\$ 1,000$ in receipts produced a total of only 17.1 million businesses, not the 19.2 million estimated by the IRS.

The Census Bureau also reported receipts for sole proprietorships: $\$ 872$ billion in total, of which $\$ 142$ billion (16 percent) were for female-owned sole proprietorships. Inclusion of firms with less than \$1,000 in receipts would have made little difference in these totals or percentages. The IRS reported a nearly identical total of $\$ 870$ billion, of which $\$ 154$ billion (18 percent) were for female-owned sole
proprietorships. Here, the gap between the numbers reported by the two sources was much less than for the number of proprietorships.

Notes andReferences
[A1] See, for instance, Kevin Pierce and Michael Parisi, "Sole Proprietorship Returns, 2002," Statistics of Income Bulletin, Summer 2004, http://www.irs.gov/pub/irs-soi/02solp.pdf. This article explains the sampling methodology and other information pertinent to the tables provided to the Office of Advocacy.
[A2] Data by gender for these industry groups has been published in past editions of The State of Small Business: A Report of the President. However, the classification by gender was not based on the Social Security Administration's records of gender. The published figures overstate the number of "male and female jointly operated businesses" and apparently understate the percentage of female-operated businesses.
[A3] The industry was identified by SIC code. Spouses who jointly own an unincorporated business should file a partnership information return with the IRS, then report the income or loss as partnership income on their personal tax returns, even though all the income remains with the couple and is reported on the same personal return. Understandably, many couples instead report such income as sole proprietorship income (whether by design or mistake). A recommendation of the IRS National Taxpayer Advocate and bills introduced in the 107th Congress would legalize this "do-it-yourself" simplification.
[A4] To create the data file, researchers coded every return based on the name of the proprietor. An obvious male name was coded with a value of 1 . An obvious female name was coded with a value of 2 . If both male and female proprietors' names appear on a Schedule C filed as a joint return and it could not be determined that the Schedule C was for only one of the taxpayers, it was coded with a value of 3 . Also, if the sex of the proprietor could not

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be determined, the return was coded with a value of 3 .
[A5] Kenneth Simonson, chief economist, Associated General Contractors of America, analyzed the

1998 sole proprietorship data during his tenure as chief economic advisor in the Office of Advocacy. His unpublished writings are partially presented in this Appendix.

Source: IRS, Statistics of Income Spring Bulletin, Publication 1136, June 2005.

