

Self-employment among older U.S. workers

The 1990s showed a downward trend in self-employment rates, however, the fact that self-employment rates rise at older ages and that the baby-boom cohort is approaching retirement suggests that demographics alone may halt or reverse that trend

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According to published and unpublished data from the Bureau of Labor Statistics, 14.4 million U. S. workers, or 10.5 percent of the workforce, were self-employed in incorporated or unincorporated businesses in 2002. Of those self-employed, middle aged or older workers constitute a disproportionate share because rates of self-employment rise with age. For example, in 2002, workers age 45 and older represented 38 percent of the workforce in total, but they made up 54 percent of the self-employed (in unincorporated businesses only). Some of these older workers have been self-employed for much or all of their working careers while others have made the transition to self-employment later in their careers, often as part of the transition to retirement.

Although self-employment is an important labor force phenomenon among individuals at older ages, there is a paucity of studies that examine the patterns of self-employment among older U.S. workers. The studies that do exist are largely confined to younger workers or analyses of the self-employed workforce as a whole, with only a few efforts that focus on how patterns may differ at older ages. With the leading edge of the baby-boom cohort reaching retirement years, the rising rates of self-employment with age suggest that it is important to have a solid understanding of who is self-employed at older ages and how patterns of self-employment may be changing over time.

This article helps to fill a gap in the research by focusing on self-employed workers age 50 and older. In particular, it describes the overall trend in rates of self-employment among the population as a whole and for those age 50 and older, and examines the characteristics of the self-employed, particularly those in middle-age and older and compares them with their wage and salary counterparts. It begins by reviewing trends in self-employment rates evident in published and unpublished data series. It also reviews prior studies of the characteristics of the self-employed, with a particular focus on analyses of older workers. Next it analyzes the trends in self-employment rates based on the Current Population Survey (CPS) for workers age 50 and older. This article examines trends using alternative definitions, as well as changes in the characteristics of older self-employed workers over time. It continues with a descriptive analysis using cross-sectional data from the 1998 Health and Retirement Study (HRS98) on workers age 51 and older, examining detailed characteristics of the self-employed in total and for subgroups and by whether they became self-employed before or after age 50.¹

This study relies on two primary sources of complementary data: cross-sectional time-series data from the annual CPS from

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1968 to 2002 and cross-sectional data from the Health and Retirement Study from 1998. Conducted by the Census Bureau, the CPS is a nationally representative survey of the U.S. noninstitutionalized civilian population and serves as the source of official statistics on self-employment. For this study, the CPS is used to provide information on trends in self-employment rates in general and for the population age 50 and older. The CPS provides data on demographic and employment characteristics of the self-employed over time. Beginning in 1992, the Health and Retirement Study has conducted biennial interviews with a nationally representative cohort of individuals born between 1931 and 1941 and their spouses.² Additional cohorts have been added over time so that starting with the 1998 survey wave (HRS98), the sample is representative of all cohorts born prior to 1947 and their spouses. The HRS98 data—with their more detailed information on economic and health status—provide an even richer portrait of self-employed workers age 51 and older than what is available using the CPS.

BLS data on self-employment

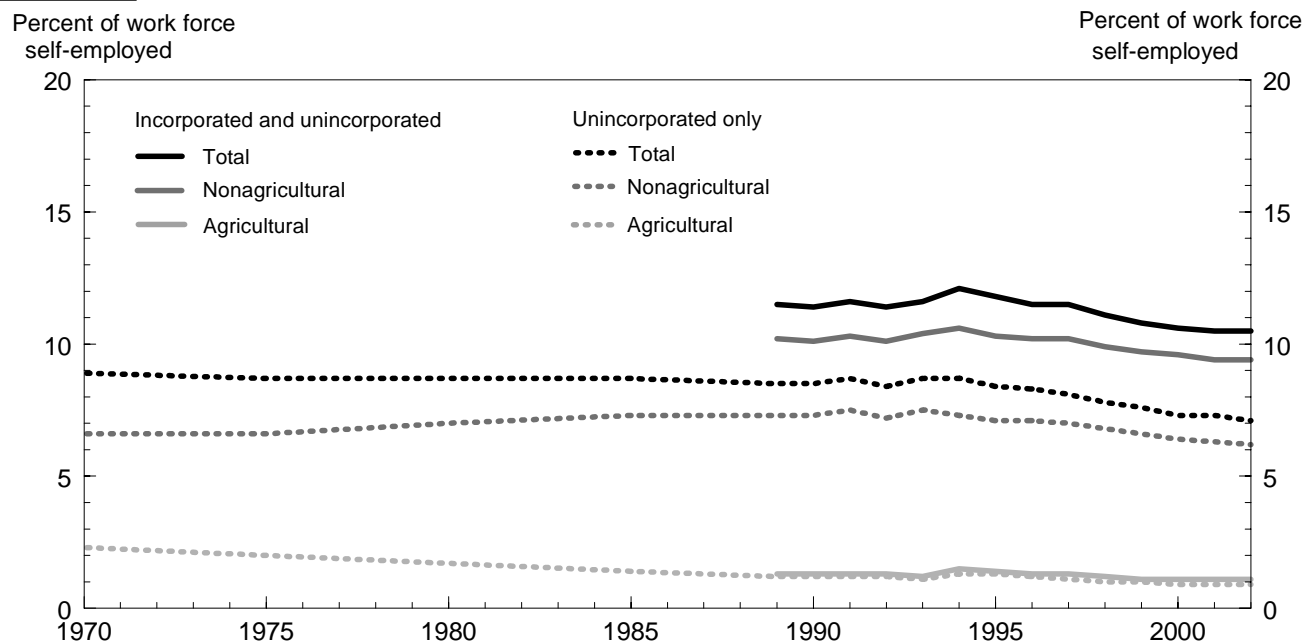
Employment data, analyzed and published by BLS through the monthly CPS, are the official source of data on self-employment in the United States. Each month, the CPS records the employment status and class of employment for

the civilian noninstitutional population age 16 and older. Individuals who report they are employed during the reference week are asked about their employment class for their main job: “Were you employed by a government, by a private company, a nonprofit organization, or were you self-employed (or working in a family business)?”³ If the answer is self-employed, respondents are further asked “Is this business incorporated?” Those who respond they are self-employed in an incorporated business, along with those who work for government, a private company or a nonprofit organization are all classified as wage and salary workers. The self-employed in incorporated businesses are considered to be wage and salary workers because legally they are employees of their own business.⁴ The self-employed are therefore defined only as those who report they work for themselves in an unincorporated business for their main job.

Chart 1 plots the trend in annual average self-employment rates in total and separately for the self-employed in the agricultural and nonagricultural sectors as tabulated by BLS for all workers age 16 and older. It shows the official series from 1970 onwards including only the self-employed in unincorporated business, as well as the series, available since 1989, that can be constructed from published and unpublished data for the incorporated and unincorporated self-employed.

In 2002, 14.4 million workers or 10.5 percent of the workforce

Chart 1. Trends in self-employment rate, 1970–2002



SOURCE: Published and unpublished household data from the CPS reported by BLS in table 580 of the 2001 edition of the *Statistical Abstract of the United States*, in table 12 on the Internet at: <http://www.bls.gov/cps/home.htm#empstat>, and in an unpublished tabulation provided by BLS staff.

Table 1. Self-employment rates by sex and age, 2002

Characteristic	Total employment			Agricultural employment			Nonagricultural employment		
	Total	Self-employed	Self-employed (percent)	Total	Self-employed	Self-employed (percent)	Total	Self-employed	Self-employed (percent)
All workers	136,485	9,756	7.1	3,340	1,266	37.9	133,145	8,490	6.4
Workers age 45 and older:									
45–54	31,281	2,728	8.7	631	306	48.5	30,650	2,422	7.9
55–64	15,674	1,736	11.1	426	265	62.2	15,248	1,471	9.6
65 and older	4,306	830	19.3	304	223	73.4	4,002	607	15.2
All men	72,904	6,068	8.3	2,474	944	38.2	70,430	5,124	7.3
Men age 45 and older:									
45–54	16,418	1,727	10.5	443	221	49.9	15,975	1,506	9.4
55–64	8,378	1,100	13.1	310	188	60.6	8,068	912	11.3
65 and older	2,455	569	23.2	227	169	74.4	2,228	400	18.0
All women	63,583	3,689	5.8	867	323	37.3	62,716	3,366	5.4
Women age 45 and older:									
45–54	14,864	1,001	6.7	189	85	45.0	14,675	916	6.2
55–64	7,296	637	8.7	115	77	67.0	7,181	560	7.8
65 and older	1,850	261	14.1	77	54	70.1	1,773	207	11.7

NOTE: Self-employed are those in unincorporated businesses only.

Statistics in *Employment and Earnings*, June 2003, table 15, p.205.

SOURCE: Household data from the CPS reported by Bureau of Labor

were self-employed in incorporated and unincorporated businesses. Of the total, 1.5 million were employed in the agricultural sector, while the remaining 12.9 million worked in nonagricultural industries. Nearly one in three or 4.6 million workers were in incorporated businesses, in contrast to unincorporated businesses. This is the segment of the self-employed workforce that is considered to be “wage and salary” workers in the official tabulations of self-employment by BLS.

Chart 1 illustrates that there has been a slight downward trend in self-employment rates since the 1994 peak of 14.9 million self-employed incorporated and unincorporated workers (or 12.1 percent of the workforce).⁵ This pattern is evident for both the agricultural and nonagricultural sectors, and for the broad and narrow definitions of self-employment. This recent decline reverses the prior slight upward trend in self-employment in the nonagricultural sector since the mid-1970s.⁶ Self-employment was an important source of net job creation in the 1980s, however, in the 1990s, self-employment did not contribute to net employment growth.⁷ At the same time, there has been an increase in the share of self-employment in incorporated business. In 1989, 25.6 percent of self-employed workers were incorporated, compared with 32.0 percent in 2002.

Self-employment rates are considerably higher in the agricultural sector, compared with the nonagricultural sector.⁸ The share of the agricultural workforce that was self-employed in unincorporated businesses, which stood at 52

percent in 1970, has steadily declined to 39 percent in 2001. The share of the nonagricultural workforce that is self-employed in unincorporated business also decreased from 7.5 percent in 1991 to 6.5 percent in 2001. Self-employment rates within both the nonagricultural and agricultural sectors are higher when workers in incorporated businesses are included (about a third of self-employed workers), but the downward trend is evident for the broader measure of self-employment as well.

Table 1 shows self-employment rates by age and sex in 2002 based on the official measure of self-employment (which excludes the self-employed in incorporated businesses).⁹ Among all workers, self-employment rates are higher for men than for women (8.3 percent versus 5.8 percent in total), and increase with age (a finding verified in a number of studies).¹⁰ At ages 45 to 54, 8.7 percent of all workers are self-employed compared with 11.1 percent for those ages 55 to 64 and 19.3 percent for those age 65 and older. These age patterns hold for both men and women, and are evident for both agricultural and nonagricultural employment. As a result, middle-aged and older workers are overrepresented among the self-employed.

Prior research

Detailed characteristics. Prior research has relied on data from the CPS and other sources to examine the characteristics of the self-employed workforce.¹¹ In addition to self-employ-

ment being more prevalent for men than women and increasing with age (as noted above), prior studies document that rates of self-employment typically increase with schooling levels (although rates can be relatively high for those with the least education), and that they are highest among currently married persons and lowest for the never married.¹² On average, self-employed men work more hours and weeks per year than their wage and salary counterparts. Blacks and Hispanics tend to be underrepresented among the self-employed, although there is tremendous variability in rates among detailed race and ethnic groups.¹³

As noted earlier, self-employment rates are higher in the agricultural sector, but they are also relatively high in construction as well. Rates are especially low in mining, manufacturing, and transportation and public utilities. The self-employed have lower rates of health insurance coverage through their own job, and higher rates of coverage through a spouse.¹⁴ The self-employed also make up to three-quarters of those who work at home for pay, a combination that is more prevalent among women.¹⁵

Overall, the self-employed tend to have higher rates of job satisfaction than their wage and salary counterparts.¹⁶ A comparison of various earnings measures shows, however, that the typical self-employed male has lower initial earnings and lower earnings growth, implying a 35-percent gap with his wage and salary counterpart after 10 years.¹⁷ After considering alternative explanations, Barton H. Hamilton concludes that the self-employed derive nonpecuniary benefits from self-employment, such as the opportunity to “be your own boss.”¹⁸

Patterns and distributions. A number of studies also document changes in patterns of self-employment in the United States over the past several decades.¹⁹ For example, Theresa Devine documents that the share of women in self-employment increased during the late 1970s and 1980s, from 23.7 percent in 1975 to 32.3 percent in 1990.²⁰ The increase in female self-employment rates is evident for most detailed race and ethnic groups identified in the decennial Census.²¹

According to Yannis Georgellis and Howard Wall, the broad industrial and occupation distribution of self-employed workers did not change much for men between 1987 and 1997, whereas the distribution for women changed more, with a tendency toward convergence with the patterns of male self-employment.²² At the same time, female self-employed workers on average earn less than their male counterparts, which is explained by several factors including their distribution across occupations and industries, smaller capital stocks, fewer hours of work, and lower levels of self-employment experience.²³

International comparisons. Cross-national comparisons of

self-employment rates show that the incidence of self-employment is higher in Canada than in the United States and lower in many other developed countries, compared with the United States. The gap in rates of self-employment in Canada and the United States has increased over the 1990s.²⁴ In Canada, between 1989 and 1997, the overall self-employment rate increased from 14 to 18 percent, while the U.S. rate remained fairly constant at about 10 percent through 1996.²⁵ Outside of Canada, rates of self-employment in most industrialized countries have been trending downward.²⁶ For example, among the OECD countries, only Portugal, New Zealand, and the United Kingdom show increases in self-employment rates in recent decades. A recent study of new entrepreneurial activity, defined as efforts at new business creation or expansion of an existing business, ranked the United States and Canada along with Israel as having the highest rates of entrepreneurship, compared with France, Japan, and Finland, which ranked the lowest.²⁷

Older entrepreneurs. Although the phenomenon of self-employment in general has received attention, relatively little research has been devoted to studying self-employment among those in middle and late life. As noted earlier, analyses of self-employment rates by age indicate higher rates of self-employment among mature and older workers compared with younger workers, even for those working past age 65.²⁸ As documented by Victor Fuchs using data from the Retirement History Survey, the increased prevalence of self-employment among men at older ages was due to shifts from wage and salary work into self-employment as well as differential propensity to retire by class of worker in the late 1960s and early 1970s.²⁹

Joseph Quinn notes that self-employment at older ages may be a form of partial retirement, with self-employment offering greater flexibility in hours and wages to accommodate tastes for leisure and the Social Security earnings test.³⁰ Although informative, these two studies rely upon the Retirement History Survey, which provides a perspective on the cohort of workers reaching retirement in the late 1960s and 1970s. These studies were also primarily interested in self-employment among older men.

Definitions of self-employment using the CPS

To analyze current rates of self-employment, detailed characteristics, and trends in self-employment among older workers, we rely on annual data from the March Annual Demographic File of the CPS from 1968 to 2002. The March CPS provides detailed demographic and labor market information for individuals in about 60,000 households.³¹ The CPS is the source of household data on employment and unemployment, as well as the primary source of data for the

trends in self-employment rates.³² Thus, it provides a baseline for identifying trends and describing the characteristics of middle-aged and older self-employed workers. Basic demographic information in the CPS includes age, sex, race, education, and marital status. For those who are employed in the reference week, there is information for the main job on class of worker (wage and salary versus self-employed), industry, occupation, and usual weekly hours.³³ Similar information on job characteristics is available for the longest job worked in the last calendar year. Wage and salary income, self-employment income, and income from other sources for the prior year are also available.

We discuss the comparability of data from the CPS over time because of changes in data collection methods. Most importantly, the CPS questionnaire first introduced the distinction between the self-employed in incorporated versus unincorporated business in 1967. In the published statistics from 1967 onward, the self-employed in incorporated business are counted as wage and salary workers, not as self-employed. Starting with the micro data files in either 1976 (for employment in the prior year) or 1989 (for current employment), we can separately identify the self-employed in incorporated business, and we can identify the broader group of self-employed (incorporated plus unincorporated) not identified in the published statistics after 1967. For the public use files between 1968 and 1975 or between 1968 and 1988, the code for self-employed in the reference week or in the prior year includes only those in unincorporated businesses.

The CPS also underwent a major redesign beginning in January 1994. Estimates from Marilyn E. Manser and Garnett Picot suggest that this revision increased the number of self-employed in total and their share of total employment due to the changes in questionnaire wording.³⁴ This affected the incidence of self-employment based on the reference week questions, and also likely affected the incidence of self-employment based on the longest job last year. (We discuss the implications of this change for our time series analysis in a later section.)

Other changes in the CPS over time may affect trends in self-employment rates. The CPS public use data files include two versions for the March 1988 file, one that used the same processing system as in 1987 and earlier years, and the other that used the new processing system implemented in 1989 and beyond. In the time series analyses (discussed later), we have generated results using both files and plotted one trend line from 1968 to 1988 and another from 1988 to 2002. In most cases, the impact on self-employment levels and rates is small. This suggests that our comparisons of the characteristics of the self-employment before and after this change in the processing system are not likely to be significantly affected.

Given the potential differences in definitions of self-employment based on the CPS, we analyze several alternatives and examine the comparability across definitions. In particular, as shown in exhibit 1, our first definition, C1, replicates the official definition by defining self-employment as those who are self-employed in unincorporated businesses in the reference week (that is, current employment) in

Exhibit 1. Self-employment definitions based on the CPS

Self-employment definition		March CPS survey years	Reference years
C1	Current employment in main job: self-employed in unincorporated business	1968–2002	1968–2002
C2	Current employment in main job: self-employed in incorporated or unincorporated business	1989–2002	1989–2002
C3	Longest job in calendar (last) year: self-employed in unincorporated business	1968–2002	1967–2001
C4	Longest job calendar (last) year: self-employed in incorporated or unincorporated business	1976–2002	1975–2001
C5	Employment calendar (last) year: self-employed in incorporated or unincorporated business in longest job last year or had any reported self-employment income in the last year	1976–2002	1975–2001

Table 2. Self-employment rates in 2001 for all workers and workers age 50 and older, based on alternative definitions in the CPS

[Numbers in thousands]

Self-employment definition	Self-employed age 50 and older		Self-employed age 16 and older		Percent of self-employed age 50 and older
	Number	Percent	Number	Percent	
C1 Currently self-employed in main job, unincorporated	3,866	12.0	9,759	7.2	39.6
C2 Currently self-employed in main job, unincorporated or incorporated	5,536	17.2	13,884	10.3	39.9
C3 Self-employed in longest job during calendar year, unincorporated	3,766	9.9	9,316	6.2	40.4
C4 Self-employed in longest job during calendar year, unincorporated	5,642	14.9	13,362	9.1	42.2
C5 Self-employed in longest job during calendar year, unincorporated or incorporated, or any self-employment income during calendar year	6,417	16.9	16,815	11.2	38.2

NOTES: Sample is civilian noninstitutionalized workers age 16 and older and civilian noninstitutionalized workers age 50 and older. See exhibit 1 for definitions of self-employment. Numbers and percentages have been calculated using CPS sampling weights.

SOURCE: Authors' calculations using March CPS from 2001 (C1-C2) and 2002 (C3-C5).

the main job. This definition can be calculated from 1968 to 2002. The C2 definition adds the self-employed in the reference week in incorporated businesses to C1 so it is a more inclusive definition. The difference between C2 and C1 is the number of incorporated self-employed. As seen in exhibit 1, C2 is only available starting in 1989, the first year the CPS public use file separately codes those who are self-employed during the reference week in an incorporated business.

The next two definitions, C3 and C4, parallel those for C1 and C2 for the longest job in the prior calendar year with C3 available for the longer time series (that is, for the March surveys from 1968 to 2002), and C4 available for the March surveys from 1976 onwards. Finally, definition C5 augments the group identified in C4 by adding in those who also report any self-employment income in the prior year. This would potentially identify workers who were self-employed at some time in the prior year but not necessarily on the longest job (for example, on a secondary job or a job held for a shorter part of the year). For C3 to C5, because the reference period is for the prior calendar year, we note in exhibit 1 that the reference year for employment is the year prior to the March survey year.

Table 2 shows the number of self-employed and rates of self-employment among workers age 50 and older in 2001 based on these alternative definitions.³⁵ For comparison, counts and rates are also calculated for all workers age 16 and older, and the share of the self-employed work force age 50 and older is shown in the last column. Regardless of the definition, rates of self-employment are higher among older workers, compared with the workforce as a whole and older workers make up approximately 38 percent to 42 percent of

the self-employed workforce. For example, in 2001, 5.5 million workers age 50 and older were self-employed in an unincorporated or incorporated business in their main job during the reference week (definition C2). This represents 17.2 percent of the age 50 older workforce. Based on the same definition, the self-employment rate of the workforce as a whole was 10.3 percent. Consequently, although those age 50 and older made up 24 percent of the workforce in 2001, they made up 40 percent of the self-employed in the same year.

For workers age 50 and older in 2001, 12.0 percent are self-employed based on definition C1 which replicates the official BLS definition. Including the self-employed in incorporated businesses adds another 1.7 million older self-employed workers and increases the rate of self-employment by 5.2 percentage points (definition C2). When self-employment is defined based on the longest job in the prior calendar year, the rate is always lower than it is for the current job (compared C3 versus C1 or C4 versus C2). For example, in 2001, definition C3, which is most comparable to C1, shows a smaller number of unincorporated self-employed age 50 and older in the longest job for the calendar year compared with the estimate based on the main job for the survey week (3.8 million versus 3.9 million), and the rate is lower as well (9.9 versus 12.0 percent). This is consistent with the expectation that a snapshot (or reference week) for the year will show a higher fraction in self-employment than would be the case when considering the longest job for the calendar year since the former group includes those who will be self-employed for a short spell.

Definition C5 potentially captures those with short spells of self-employment because it includes those who report any

Table 3. Trend in self-employment for workers age 50 and older, based on the CPS, using five alternative definitions, 1968–2002

[Numbers in thousands]

Year	Self-employment status in reference week				Self-employment status for calendar year					
	C1: Unincorporated		C2: C1 + incorporated		C3: Unincorporated		C4: C3 + incorporated		C5: C4 + any self-employed income	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1968	3,389	16.0	–	–	3,998	15.8	–	–	–	–
1969	3,401	15.6	–	–	3,747	14.7	–	–	–	–
1970	3,329	15.2	–	–	3,851	15.0	–	–	–	–
1971	3,304	15.2	–	–	3,708	14.3	–	–	–	–
1972	3,232	14.7	–	–	3,814	14.8	–	–	–	–
1973	3,211	14.7	–	–	3,678	14.1	–	–	–	–
1974	3,178	14.4	–	–	3,502	13.6	–	–	–	–
1975	3,079	14.4	–	–	3,198	12.8	3,730	14.9	4,495	17.9
1976	2,933	13.7	–	–	3,244	12.9	3,845	15.3	4,682	18.6
1977	2,983	13.9	–	–	3,341	13.0	4,024	15.7	4,932	19.3
1978	3,112	14.1	–	–	3,379	13.1	4,214	16.3	5,046	19.5
1979	3,148	14.0	–	–	3,382	13.1	4,269	16.5	4,851	18.7
1980	3,165	14.1	–	–	3,298	12.6	4,224	16.1	4,739	18.1
1981	3,173	14.0	–	–	3,345	12.9	4,310	16.6	4,869	18.8
1982	3,096	14.0	–	–	3,343	13.1	4,454	17.4	5,074	19.8
1983	3,119	14.4	–	–	3,232	12.7	4,268	16.7	4,834	19.0
1984	2,949	13.4	–	–	3,207	12.5	4,380	17.0	4,972	19.3
1985	3,015	13.6	–	–	3,276	12.7	4,422	17.2	5,041	19.6
1986	2,974	13.6	–	–	3,242	12.5	4,366	16.9	5,035	19.5
1987	2,978	13.4	–	–	3,510	13.4	4,719	18.1	5,274	20.2
1988	3,200	14.2	–	–	3,585	13.7	4,779	18.2	5,487	20.9
1988										
(revised)	3,201	14.1	4,367	19.3	3,581	13.3	4,887	18.2	5,698	21.2
1989	3,219	13.8	4,448	19.1	3,638	13.5	4,887	18.1	5,719	21.2
1990	3,331	14.2	4,539	19.4	3,742	13.7	4,901	17.9	5,710	20.9
1991	3,330	14.3	4,474	19.2	3,599	13.1	4,928	17.9	5,692	20.7
1992	3,300	13.9	4,641	19.6	3,704	13.2	5,138	18.3	5,885	21.0
1993	3,315	13.7	4,677	19.4	3,810	13.5	5,262	18.7	5,837	20.7
1994	3,581	14.7	5,054	20.7	3,660	12.7	5,082	17.7	5,778	20.1
1995	3,531	14.0	5,086	20.1	2,892	9.9	5,046	17.3	5,747	19.7
1996	3,669	14.3	4,986	19.4	2,833	9.2	5,591	18.1	6,383	20.6
1997	3,831	13.9	5,408	19.6	3,813	11.9	5,582	17.4	6,360	19.8
1998	3,619	12.7	5,323	18.6	3,914	11.8	5,491	16.5	6,203	18.7
1999	3,640	12.2	5,232	17.6	3,874	11.1	5,589	16.1	6,243	17.9
2000	3,827	12.2	5,550	17.8	3,968	11.1	5,561	15.6	6,489	18.2
2001	3,866	12.0	5,536	17.2	3,766	9.9	5,642	14.9	6,417	16.9
2002	3,722	11.0	5,567	16.4	–	–	–	–	–	–

NOTES: Sample is civilian noninstitutionalized workers age 50 and older. See exhibit 1 for definitions of self-employment. Numbers and percentages have been calculated using CPS sampling weights. Dash

indicates data not available.

SOURCE: Authors' calculations using March CPS from 1968 to 2002.

self-employment income even through their longest job for the year was in the wage and salary class. This definition results in the highest absolute size of the self-employed workforce age 50 and older although the rate in 2001 is slightly below that based on definition C2. A comparison of C4 versus C5 indicates that in 2001, 775,000 workers age 50 and older or 12 percent of those defined as self-employed using definition C5 were self-employed workers in a secondary job or in a part-year job of shorter duration than their longest wage and salary job.

Time trends based on the CPS

Given the relatively long time-series of micro data available in the CPS, it is particularly well suited for examining trends in self-employment for the subset of middle-aged and older workers. We begin by calculating the number and percent self-employed for all civilian workers age 50 and older from 1968 to 2002 using definitions C1 to C5.³⁶ Table 3 reports the weighted number of self-employed and the corresponding self-employment rate for the five definitions. The self-

employment rates for the five definitions are also plotted in chart 2.³⁷

A comparison over time for unincorporated self-employed workers on the main job (C1) and unincorporated plus incorporated workers on the main job (C2) shows the absolute size of the self-employed workforce age 50 and older peaked in 2001 and 2002 at 3.9 and 5.6 million workers, respectively although the rate of self-employment peaked for both measures in 1994 at 14.7 percent and 20.7 percent, respectively.³⁸ Consistent with the published data discussed in the data section, the share of self-employed older workers in incorporated businesses increased steadily over time from slightly more than 1 in 4 workers (26.7 percent) in 1988 to about 1 in 3 workers (33.1 percent) in 2002 (calculations based on C1 and C2).

As seen in chart 2, the 1968–2000 series for the unincorporated self-employed (C1) shows a fluctuating self-employment rate within a broader downward trend. From 1968 to about 1976 there was a decline (from 16.0 to 13.7 percent), followed by an increase to 1983 (reaching 14.4 percent). From 1983 to 1993, there was a slight downward trend again (from 14.4 to 13.7 percent), and then a sharper decline thereafter to the lowest level ever in 2002 at 11.0 percent. The more inclusive self-employment series (definition C2) mirrors this general pattern for the years it is available which indicates that the rate of self-employment in incorporated businesses remained fairly steady over this period, ranging from 5.2 percent in 1988 to 5.4 percent in 2002.

For C1 and C2 (and the difference between C2 and C1), there is evidence of a discrete increase in 1994 consistent with the impact of the CPS revisions to the monthly labor force questions implemented in that year. Manser and Picot cite a BLS study that compared CPS self-employment rates for the workforce as a whole using both old and new methods, which found that the net effect of the changes was to raise self-employment rates by about 6 percent.³⁹ For C1, assuming the 6 percent adjustment factor can be applied to the workforce age 50 and older, the level of self-employment in 1994 that would be consistent with prior years would be 3.4 million unincorporated self-employed workers (13.8 percent) versus the estimated level of 3.6 million workers (14.7 percent) shown in table 3 and chart 2.⁴⁰ By 2002, instead of 3.7 million workers (11.0 percent), the consistent series would be adjusted downward to 3.5 million workers (10.3 percent). Similar adjustments could be applied to C2. Thus, the decline over time would be even larger than what is shown in chart 2. To the extent that the revised procedures implemented in 1994 and later surveys do a better job at capturing the number of self-employed, the absolute and percent figures in table 3 prior to 1994 need to be adjusted upwards. Regardless, the basic point remains that a consistent self-employment series would show a steeper decline over time than the one evident in chart 2.

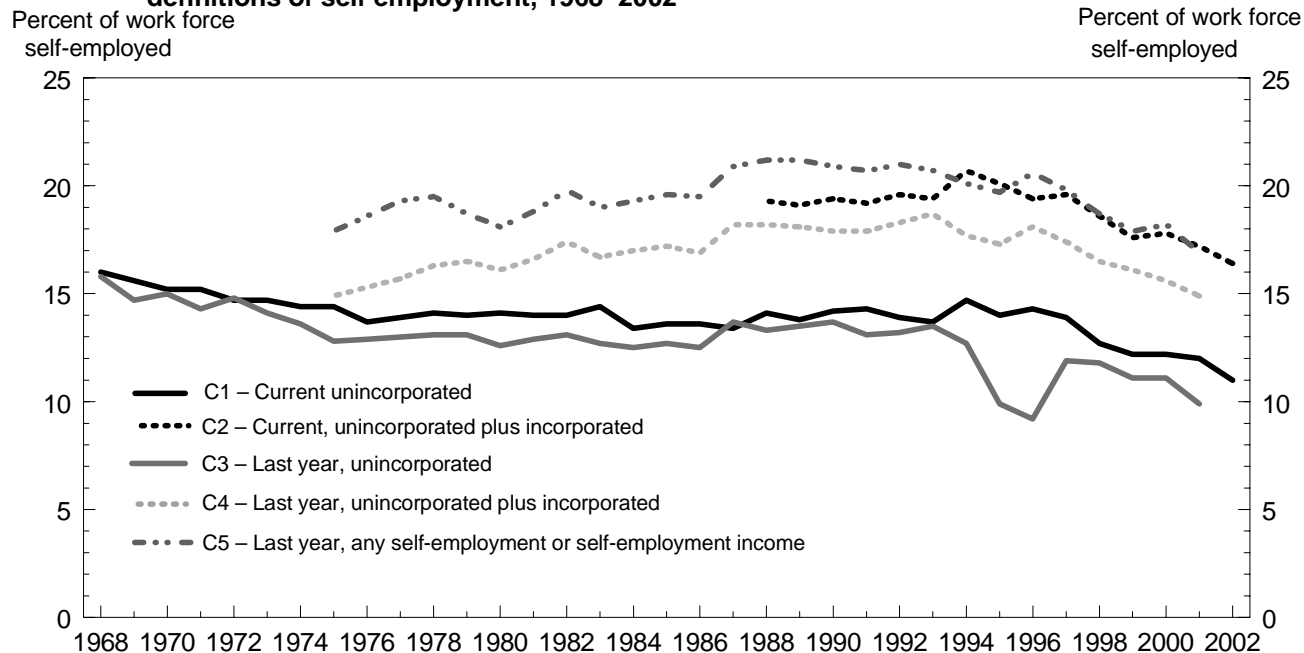
Table 3 and chart 2 also report the trends in the rate of self-employment based on employment in the entire calendar year. In all years where a comparison can be made, the rate of self-employment among older workers is always lower based on C3 than C1. The same is true for the comparison of C4 and C2 for the broader definition of self-employment. In all years that C5 is available, this definition results in the highest absolute size of the self-employed workforce age 50 and older although the self-employment rate is close to the broad definition based on reference week employment (C2), especially after 1994.

These three series based on employment in the calendar year (C3 to C5) do not show the discrete jump in 1994 associated with C1 and C2. Manser and Picott note that it is not known what the approximate adjustment factor should be for the self-employment series based on questions specific to the March Annual Demographic File about employment last year. At the same time, there is a noticeable dip in C3 in 1995 and 1996 (based on March survey years 1996 and 1997), but it is not evident in C4 and C5. This suggests there was some questionnaire or coding change for those two survey years that resulted in more self-employed workers being classified as incorporated self-employed than in the surrounding years. We have yet to ascertain the source of this discrepancy.

The longer time series available for the self-employed in the longest job for the calendar year (C3 and C4) provides an even more dramatic picture of the increase in the share of self-employment among older workers that is in incorporated versus unincorporated businesses. As seen in chart 2, the gap between the C3 and C4 series (lighter solid versus lighter dotted lines) widens at a faster rate between 1975 (when the C4 series begins) and 1984. Overall, between 1975 and 2001, the share of incorporated self-employed more than doubled, increasing from 14.3 percent to 33.3 percent. The increasing trend in incorporated self-employment means that the broader definition of self-employment in the calendar year (C4), which extend farther back in time than the counterpart for current employment (C2), shows a modest upward trend in self-employment rates from the mid-1970s to the mid-1990s, in contrast to the flatter trend line for the narrow definitions (C1 and C3) during this same period. Since the mid-1990s, when self-employment rates were falling for both definitions C2 and C4, the rates of self-employment in incorporated businesses remained fairly steady so the decline resulted from falling rates of unincorporated self-employment.

Thus, using the broader definition of self-employment, C4, reveals (1) an upward trend in self-employment rates from the mid-1970s to the mid-1990s for workers age 50 and older due to growth in the rate of self-employment in incorporated businesses; and (2) a downward trend in self-employment rates among older workers since the mid-1990s due to a

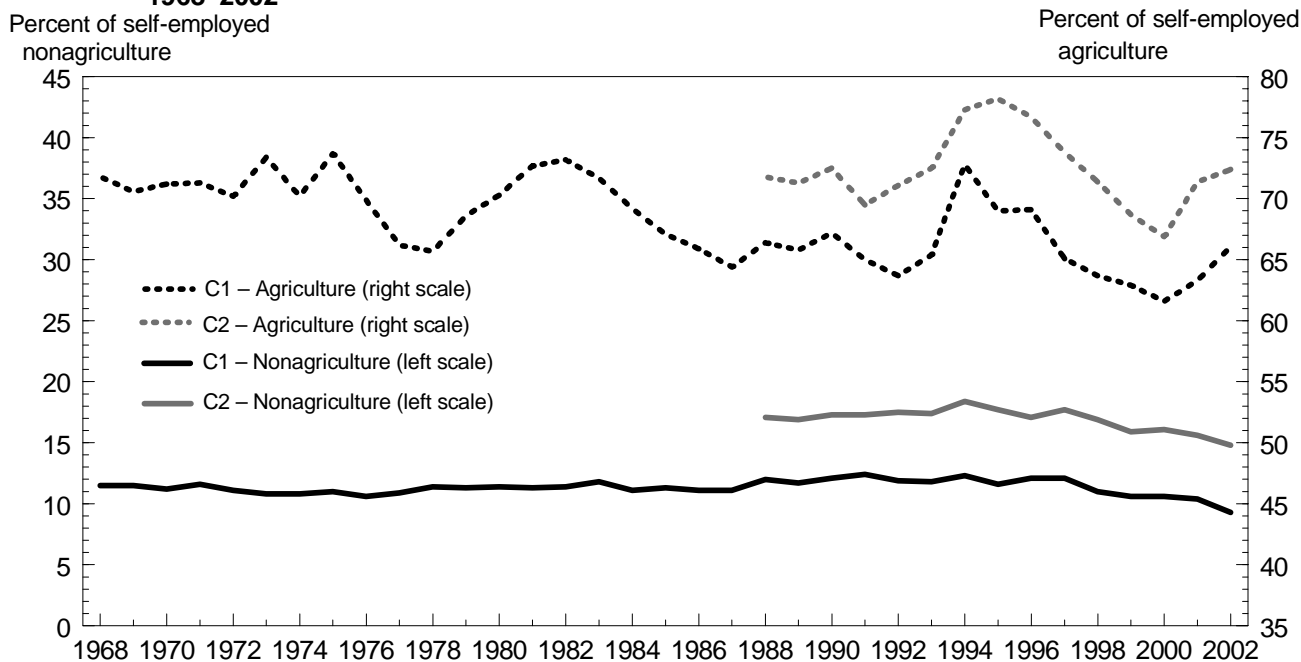
Chart 2. Trend in self-employment for workers age 50 and older, based on the CPS, using five definitions of self employment, 1968–2002



NOTE: Sample is civilian noninstitutionalized workers age 50 and older. See exhibit 1 for definitions of self-employment. Percentages have been calculated using CPS sampling weights.

SOURCE: Authors' calculations using March CPS from 1968 to 2002.

Chart 3. Trend in self-employment for workers age 50 and older, based on the CPS by sector, 1968–2002



NOTE: Sample is civilian noninstitutionalized workers age 50 and older. See exhibit 1 for definitions of self-employment. Percentages have been calculated using CPS sampling weights.

SOURCE: Authors' calculations using March CPS from 1968 to 2002.

declining rate of self-employment in unincorporated businesses.⁴¹ Over the entire period, the share of self-employment in incorporated business increased steadily, albeit at a slower rate during the 1990s. The similarity in trends for C2 and C4 (when they are available) suggests that definition C2 captures the trends in a broad definition of self-employment that includes both those self-employed in incorporated and unincorporated businesses. As we proceed, this will be our preferred definition although we continue to make some comparisons with C1 because this corresponds to the official definition of self-employment (and it is available for a longer time series).

We also limit our subsequent analysis of CPS data to workers age 50 and older in the nonagricultural sector. As noted in the data section, rates of self-employment are considerably higher in the agricultural sector, compared with the nonagricultural sector. Self-employed workers in the agriculture sector consist primarily of farmers or farm managers, as well as gardeners or those in forestry or fishery occupations. A small fraction represents other occupations providing services to farm businesses such as bookkeepers, truckdrivers, or even pilots. Given the potential differences between the agricultural and nonagricultural sectors, chart 3 plots the trends in the rates of self-employment using definitions C1 and C2 only for workers age 50 and older in the agricultural and nonagricultural sectors (on the right and left axes, respectively). As expected, rates of self-employment are higher by a factor of 5 to 6 in the agricultural sector, compared with the nonagricultural sector. For example, in 2002, 14.8 percent of all nonagricultural workers age 50 and older were self-employed in unincorporated or incorporated businesses (definition C2), compared with a 72.4-percent rate of self-employment among agricultural workers in the same age group.

Self-employment rates in agriculture for workers age 50 and older, evident in chart 3 show a long-term downward trend (one that would be even sharper with a correction for the discontinuity in the series in 1994), punctuated by cyclical swings. The pattern for C2 in the agriculture sector mirrors that for C1 when both series are available, indicating the time trends are largely due to changing rates of self-employment in unincorporated businesses.

The downward trend in self-employment in the nonagricultural sector, notable since the early- to mid-1990s, is less dramatic, in part, because the rate is lower. Again, the recent trend is due to falling rates of unincorporated self-employment accompanied by steady rates of incorporated self-employment (compare C1 and C2 in chart 3). Note that while agricultural unincorporated self-employment rates fell even during the 1970s and 1980s (definition C1 in chart 3), the rates were steady or increasing somewhat in the nonagricultural sector. Given the unusual patterns evident for the agricultural

sector, and its small share in the economy overall, the next section focuses on nonagricultural self-employment.

Characteristics based on the CPS

The CPS data provide an opportunity to determine how the characteristics of the self-employed age 50 and older have changed over time. We tabulate the basic characteristics of the self-employed (sex, age distribution, race and ethnicity, marital status, education, weekly hours, full- versus part-time status, occupation, industry, and incorporation status) for four points in time dated by the March survey year: 1969, 1979, 1990, and 2001. These years correspond with equivalent points in the business cycle (all peak years) and therefore provide a similar basis for comparison that controls to some extent for the state of the economy.

This analysis is based on our two preferred definitions of self-employment, specifically C2 and C1. Because the C2 time series is only available for our peak years for 1990 and 2001, we begin by considering the more narrow definition of self-employment, which can be examined for all four peak years. For the two points in time when both series are available, we can examine the sensitivity of the characteristics of the self-employed age 50 and older to the composition by incorporated versus unincorporated status. In addition to tabulating the distribution of the characteristics of older self-employed workers, we also generate the equivalent distribution for wage and salary workers in the same age group so the two groups of workers can be compared.⁴²

Tables 4 and 5 present our results, showing the characteristics of self-employed workers age 50 and older using definition C1 (table 4) or C2 (table 5). The characteristics for the wage and salary group corresponding to C1, labeled W1, is reported in table 4 and the characteristics for the wage and salary group W2, the counterpart to C2, is reported in table 5. Most characteristics are reported as percent distribution with the exception of hours, which is an average. The percent change for each characteristic from the available starting year to the ending year is also shown. Several patterns emerge from the characteristics tabulated in the two tables.

Patterns by gender. As of 2001, men are overrepresented among self-employed older workers (61 percent based on C1 and 65 percent based on C2) to an even greater extent than for wage and salary workers (52 percent for W1 and 51 percent for W2). The fact that the share of male workers is even higher using C2 than C1 indicates that men are even more dominant among the self-employed in incorporated businesses, compared with those in unincorporated businesses. Even so, there has been a substantial shift away from male dominance in the self-employed ranks. For example, table 4 shows that in 1969, 73 percent of the self-employed

Table 4. Characteristics of unincorporated self-employed workers and wage and salary workers age 50 and older in the CPS, selected years

[In percent, unless otherwise noted]

Characteristic	Self-employed workers age 50 and older (C1)					Wage and salary workers age 50 and older (W1)				
	1969	1979	1990	2001	Percent change	1969	1979	1990	2001	Percent change
Sample size (number)	1,657	1,571	1,620	1,407	—	12,929	12,255	11,925	12,588	—
Men	73.1	72.3	66.1	61.3	-16.1	60.8	57.8	54.0	51.8	-14.7
Age group										
50 to 54	27.5	32.6	31.6	35.9	30.7	37.4	37.5	37.9	44.4	18.7
55 to 59	27.0	25.4	26.9	25.6	-5.0	30.7	32.3	29.3	28.4	-7.6
60 to 64	21.5	19.6	20.3	16.1	-25.0	19.9	19.3	19.4	15.4	-22.7
65 to 69	12.8	11.1	11.7	10.6	-17.1	7.5	6.9	8.5	6.5	-13.6
70 and older	11.2	11.3	9.5	11.7	4.3	4.4	4.0	5.0	5.3	20.0
Race/ethnicity										
White non-Hispanic	—	93.0	88.4	84.0	-9.7	—	86.8	83.0	79.7	-8.2
Black non-Hispanic	—	4.0	4.2	6.8	70.5	—	8.7	9.3	9.5	9.3
Hispanic	—	1.8	4.4	5.1	182.4	—	3.0	5.0	7.1	137.8
Other	—	1.2	2.9	4.1	252.1	—	1.6	2.8	3.8	140.8
Marital status										
Married	80.7	80.2	77.0	75.5	-6.4	74.5	75.2	72.9	70.7	-5.1
Widowed .....	.9	1.5	1.9	1.3	37.8	2.1	2.2	2.2	2.0	-5.6
Divorced	10.5	8.6	7.5	4.8	-54.4	12.0	10.5	9.0	6.1	-48.9
Separated	3.0	5.7	9.9	12.8	328.0	4.8	6.4	11.2	15.3	221.2
Never married	4.9	4.0	3.6	5.6	14.2	6.6	5.7	4.7	5.9	-11.3
Education level										
Less than high school	45.5	32.1	20.6	11.6	-74.5	49.9	33.0	20.7	9.6	-80.8
High school	26.3	29.9	33.2	26.3	-2	29.4	37.0	38.1	33.0	12.3
Some college	12.6	16.2	19.0	27.2	115.9	10.3	14.9	18.3	26.0	152.8
College graduate and higher	15.6	21.8	27.2	34.9	124.3	10.4	15.0	22.9	31.4	201.7
Weekly hours (in hours)	44.0	40.9	39.2	38.3	-12.9	39.3	38.4	38.3	39.2	-.4
Full-time	66.9	64.4	59.4	59.1	-11.8	77.1	73.9	72.3	74.4	-3.6
Occupation										
Executive, administrative, managerial	45.9	32.3	17.4	20.6	-55.2	12.5	14.8	14.9	18.0	44.7
Professional specialty	15.3	16.2	16.1	18.1	18.6	9.6	11.8	14.3	17.5	82.8
Technicians and support .....	.4	.3	1.3	.8	104.0	1.7	1.3	2.3	3.0	75.8
Sales	6.7	14.5	26.0	23.3	246.5	7.7	8.2	11.2	10.9	41.3
Administrative support	1.3	2.7	3.6	4.8	279.7	14.5	17.0	17.6	15.7	8.5
Private household .....	.8	.9	.1	.0	-100.0	4.2	2.3	1.5	.9	-79.6
Protective service .....	.0	.2	.1	.4	—	1.6	1.8	1.9	1.8	13.6
Other service	9.7	9.2	12.3	11.3	17.2	10.2	11.5	11.0	9.4	-7.7
Farming, forestry, fisheries .....	.7	.3	0.6	.4	-37.3	.7	.6	.4	.4	-41.9
Precision production, craft, repair	14.3	17.1	16.4	14.2	-6	14.0	12.2	10.8	9.7	-30.8
Machine operators, assemblers, repairers	1.9	2.8	1.8	1.9	.2	14.6	11.5	6.9	5.5	-62.4
Transportation and material moving . Handlers, equipment cleaners, helpers, laborers	2.7	3.3	3.4	4.1	49.1	5.1	4.2	4.5	4.7	-7.1
.4	.2	.9	.2	-63.8	3.7	2.8	2.7	2.5	-31.4	
Industry										
Mining .....	.3	.4	.3	.3	-7	.9	.8	.5	.4	-50.3
Construction	10.8	13.4	12.0	11.2	3.5	5.2	5.2	5.1	4.9	-5.0
Manufacturing	4.9	4.3	5.4	3.7	-24.9	29.4	26.8	20.6	16.8	-42.8
Transportation, public utilities	3.2	3.5	3.6	4.5	42.9	7.0	6.7	6.9	7.8	12.0
Trade	33.6	30.7	24.9	19.6	-41.6	17.7	17.0	17.2	16.1	-8.7
Finance, insurance, real estate	6.0	9.8	10.4	11.8	95.4	4.6	6.1	7.3	6.8	46.4
Other services	41.2	37.9	43.4	49.0	18.7	27.9	30.1	36.1	40.5	45.1
Public administration .....	.0	.0	.0	.0	—	7.4	7.3	6.3	6.6	-10.4
Incorporated self-employed .....	.0	.0	.0	.0	—	—	—	—	—	—

NOTES: Sample is civilian noninstitutionalized workers age 50 and above who are either self-employed in an unincorporated business in their main job during the reference week (definition C1) or are wage and salary workers in their main job during the reference week (definition W1 which includes the self-employed in incorporated businesses). Dash indicates

data not available or percent change not applicable.

SOURCE: Authors' calculations using March CPS from 1969, 1979, 1990, and 2001.

age 50 and older were men, compared with 61 percent in 2001 (based on C1). This shift was especially pronounced between 1979 and 1990 when about half of the percentage point drop over the three decades covered by our data occurred. This pattern is also evident for the shorter time series available for definition C2 (from 1990 to 2001; table 5), although it is less dramatic than what occurred in the prior decade. This pattern is consistent with trends reported elsewhere in the literature as summarized earlier.

Comparisons by age. As already noted, the self-employed on average are older than their wage and salary counterparts and this is evident in the age distributions reported in tables 4 and 5. Table 4 shows that the self-employed age 50 and older became younger, with an increased share between 1969 and 2001 in the 50- to 54-year-old age group (based on C1). The same pattern is evident for wage and salary workers (based on W1) and for the short time series available for C2 and W2. (See table 5.) Thus, the shifting age composition among the self-employed mirrors the overall demographic shifts in the labor force over this period.

Race and ethnicity. Information on the combination of race and ethnicity is only available starting in the March 1976 CPS so the series begins with 1979 in tables 4 and 5. Using definitions C1 and C2 we find evidence, consistent with studies of the self-employed as a whole, that blacks and Hispanics are underrepresented among older self-employed workers, compared with wage and salary workers, whereas whites and those in the residual “other” category are overrepresented. As with gender, whites have an even greater share using C2 than C1, indicating they are even more likely to be among the incorporated self-employed. (See tables 4 and 5.) Over time, the share of minorities in the ranks of the self-employed has increased for workers age 50 and older, mirroring a pattern for the wage and salary workforce. The percent change in the minority group shares is somewhat more pronounced for the self-employed, in part because the rates started so low.

Marital status. As discussed in the literature, the self-employed as a whole are more likely to be married, compared with their wage and salary counterparts, and this pattern is evident for those age 50 and older as well. For example, in 2001, 76 percent of the self-employed in unincorporated businesses age 50 and older were married, a rate that increases to 79 percent for those in incorporated and unincorporated businesses (again indicating that self-employed workers in incorporated businesses are more likely to be married, compared with their unincorporated counterparts). Over time, there has been a decrease in the likelihood that the self-employed are married particularly based on C1 with the longer

time series. This change is more pronounced among all self-employed workers, compared with their wage and salary counterparts based on definition C1, but the reverse is true based on definition C2.

Educational attainment. In 2001, the self-employed age 50 and older—using either definition C1 or C2—had a higher proportion of college educated workers, compared with their wage and salary counterparts. The share was higher for C2 than C1 demonstrating that the incorporated self-employed are even more educated than those who are unincorporated. Over time, the composition of the workforce has shifted toward higher levels of educational attainment, a trend reflected in the pattern for both the self-employed and wage and salary workers age 50 and older. It is interesting to note that by 2001, the self-employed in unincorporated businesses had a higher share of high school dropouts than the comparable wage and salary group (11.6 versus 9.6 percent), whereas the reverse was true in 1969 (45.5 versus 49.9 percent). This pattern does not hold after accounting for workers in incorporated businesses.

Hours of work. Another stylized fact in the literature is that the self-employed tend to work more hours than wage and salary workers. Although this was true in 1969, using definition C1, when older self-employed workers worked an average of 4.7 more hours per week (44.0 versus 39.3 hours), by 2001 older self-employed workers reported on average 1 hour less per week than their wage and salary counterparts (38.3 versus 39.2 hours). This is a dramatic convergence in hours, all due to a steady decline in work hours for the self-employed, compared with almost no change for wage and salary workers. On average, older workers in incorporated businesses work more hours than those in unincorporated businesses so the average hours using definition C2 exceeds that based on C1. The shorter time series for C2 shows some convergence in hours between the self-employed and wage and salary workers, but the self-employed still work slightly more in 2001 (about 1 hour more per week).

Full time versus part time. Even though average hours for the self-employed tended to be higher, at least in the past, the fraction working full-time—defined as 35 or more hours per week—is lower, indicating a more bipolar distribution of workers reporting both low and high hours. In 2001, 59 percent of older self-employed workers in unincorporated businesses worked 35 or more hours per week, compared with 74 percent of wage and salary workers in the same age group. Self-employed workers in incorporated businesses report a higher propensity for full-time work. Overall, the rates of full-time employment, like average hours, have been declining over time for older workers, more sharply for the self-employed.

Table 5. Characteristics of unincorporated and incorporated self-employed workers and wage and salary workers age 50 and older based on the cps, 1990 and 2001

[In percent unless otherwise noted]

Characteristic	Self-employed workers age 50 and older in unincorporated and incorporated businesses (C2)			Wage and salary workers age 50 and older (W2)		
	1990	2001	Percent change	1990	2001	Percent change
Sample size (number)	2,312	2,103	—	11,233	11,892	—
Men	69.4	65.4	-5.9	52.6	50.5	-3.9
Age group						
50 to 54	32.2	36.1	12.0	38.1	44.8	17.6
55 to 59	25.7	26.1	1.8	29.7	28.5	-4.1
60 to 64	20.9	16.0	-23.7	19.2	15.4	-19.8
65 to 69	11.8	10.3	-13.0	8.2	6.3	-23.2
70 and older	9.4	11.5	23.2	4.7	5.0	5.1
Race/ethnicity						
White non-Hispanic	89.5	86.1	-3.8	82.4	79.0	-4.1
Black non-Hispanic	3.6	5.5	52.2	9.7	9.9	2.1
Hispanic	3.8	4.1	5.7	5.1	7.4	43.0
Other	3.0	4.3	42.0	2.7	3.7	35.3
Marital status						
Married	79.3	79.2	-.1	72.2	69.7	-3.4
Widowed	1.7	1.3	-25.4	2.3	2.0	-10.8
Divorced	6.8	4.2	-37.9	9.2	6.3	-31.5
Separated	8.7	10.9	24.6	11.6	15.8	36.5
Never married	3.4	4.4	28.7	4.8	6.1	28.2
Education level						
Less than high school	16.8	9.0	-46.0	21.5	9.9	-53.8
High school	32.7	25.9	-20.9	38.5	33.4	-13.1
Some college	19.8	25.8	30.3	18.1	26.2	44.8
College graduate and higher	30.8	39.3	27.8	21.9	30.4	38.6
Weekly hours (in hours)	40.6	40.0	-1.5	38.0	38.9	2.5
Full-time	64.1	64.4	.5	72.1	74.3	3.0
Occupation						
Executive, administrative, managerial	23.6	27.7	17.3	13.5	16.6	23.0
Professional specialty	15.5	16.8	8.1	14.3	17.7	23.4
Technicians and support	1.2	.6	-53.1	2.4	3.1	32.0
Sales	26.3	23.2	-11.8	10.2	10.2	-4
Administrative support	4.7	5.4	15.1	18.2	16.3	-10.7
Private household .....	.1	.0	-100.0	1.5	.9	-40.9
Protective service .....	.1	.3	171.3	2.0	1.9	-3.8
Other service	9.4	8.2	-12.3	11.5	9.9	-13.8
Farming, forestry, fisheries .....	.4	.4	-15.0	.4	.4	-4.9
Precision production, craft, repair ..	13.7	12.3	-9.6	11.0	9.8	-11.3
Machine operator, assemblers, repairers	1.4	1.5	7.7	7.3	5.8	-21.4
Transportation and material moving	2.9	3.3	12.5	4.7	4.9	3.6
Handlers, equipment cleaners, helpers, laborers .....	.7	.3	-50.3	2.9	2.6	-9.1
Industry						
Mining .....	.4	.3	-17.1	.5	.4	-14.8
Construction	11.6	11.4	-1.9	4.7	4.5	-4.1
Manufacturing	6.8	5.9	-13.0	21.2	17.2	-19.1
Transportation, public utilities	3.6	5.0	38.4	7.1	7.9	11.2
Trade	27.5	21.3	-22.4	16.2	15.6	-3.4
Finance, insurance, real estate	10.3	11.3	9.3	7.1	6.6	-7.6
Other services	39.8	44.7	12.5	36.4	40.8	11.9
Public administration .....	.0	.0	—	6.7	7.0	3.8
Incorporated self-employed	29.8	32.9	10.2	—	—	—

NOTES: Sample is civilian noninstitutionalized workers age 50 and older who are either self-employed in an unincorporated or incorporated business in their main job during the reference week (definition C2) or are wage and salary workers in their main job during the reference week (W2). Means and

percentage distributions have been calculated using cps sampling weights. Dash indicates data not available or percent change not applicable.

SOURCE: Authors' calculations using March cps from 1990 and 2001.

Occupation and industry. The occupational and industrial composition of the self-employed workforce age 50 and older differs from those in wage and salary employment in ways that are consistent with patterns reported elsewhere in the literature. In 2001, older self-employed workers were overrepresented in managerial and professional specialties, sales, other service occupations, and precision production, craft and repair occupations (which includes the construction trades). Industries underrepresented among the self-employed age 50 and older include mining, manufacturing, transportation and public utilities, and public administration. They are overrepresented in construction, trade, and other services. A comparison of the occupation distribution using definition C2 versus C1 shows an even higher fraction in the former group in executive and managerial positions, indicating the overrepresentation of this occupational group among the incorporated self-employed. The industrial composition is more similar for C1 and C2 than is the case for the occupational distribution. Over time, the occupational distribution shifted somewhat differently for the self-employed, compared with that for wage and salary workers. For example, the share in executive and managerial occupations declined for the self-employed (based on definition C1) at the same time that it increased among the wage and salary workforce. The reverse pattern holds for precision production, craft and repair occupations.

Incorporated status. The measure of incorporation status is only relevant for definition C2 (table 5) and shows, consistent with the time trends earlier discussed, that the share of total self-employment among older workers, that is, individuals in incorporated businesses, increased from 30 percent to 33 percent.

The Health and Retirement Study

Although the CPS has the advantage of a relatively long time series for examining patterns and trends in self-employment among older workers, the Health and Retirement Study provides extremely rich data on the cohort of older workers age 51 and older in 1998. These data can be used to supplement the portrait of older self-employed workers that we glean from the CPS, providing more detail on their health and economic status and job characteristics.

The Health and Retirement Study, when appropriately weighted, is a nationally representative, longitudinal survey of middle-aged and older Americans. The study is a biennial survey that began in 1992 with a sample of the noninstitutional population born between January 1, 1931 and December 31, 1941 and their spouses or partners, with oversamples of blacks, persons of Hispanic origin, and residents of Florida. Several other cohorts have been added to the Health and Retirement Study over time. In 1998, interviews that began in

1993 with the cohort born prior to January 1, 1924, known as the “AHEAD” (Assets and Health Dynamics of the Oldest Old) sample, were merged with the Health and Retirement Study. Two additional cohorts were added in 1998: the cohort born between January 1, 1924 and December 31, 1930 (known as the “Children of the Depression Era” or “CODA” sample), and the cohort born between January 1, 1942 and December 31, 1947 (known as the “War Babies” sample). For this analysis, we use the 1998 wave of the Health and Retirement Study (HRS98) as a cross-sectional survey, focusing on the sample of those age 51 and older in 1998 (that is, all cohorts born up through 1947).

Key demographic variables in the Health and Retirement Study are similar to those available in the CPS. In terms of employment outcomes, workers are asked whether they are currently self-employed in their main job, how long they have been self-employed (that is, tenure on the current job) and the employment status of a previous job lasting 5 years or more. Retired workers are asked about the employment status of previous jobs. The respondents’ answers are used to determine who is self-employed, and who transitioned into self-employment before and after age 50. Respondents in the Health and Retirement Study are also asked about jobs other than their main job and if the second job is in self-employment. Unlike in the CPS, in the Health and Retirement Study the distinction between incorporated and unincorporated self-employment is not made, although interviewers in the Health and Retirement Study are instructed to classify individuals who work in a business they own as self-employed.

The Health and Retirement Study is extremely rich in terms of a number of other characteristics available for the study population. This includes information about job characteristics, income and its sources, wealth from various sources (for example, pensions, Social Security, housing, and other financial assets),⁴³ health status, access to health insurance coverage, retirement expectations, and a similar array of characteristics for the respondent’s spouse. This information allows for a detailed analysis of the characteristics of the self-employed. Comparable data are also available for the wage and salary workforce as well.

There are several alternative definitions of self-employment that can be analyzed in the Health and Retirement Study. The appendix provides a comparison between the five definitions used for the CPS and four alternative definitions based on the Health and Retirement Study. This analysis shows that a definition of self-employment in the Health and Retirement Study, based on reported current self-employment in the primary job (defined as H1 in the appendix), is most comparable with the CPS definition that captures current self-employment in unincorporated and incorporated businesses (definition C2). Thus, using this definition, we find that 22.7 percent or 6.4 million workers age 51 and older

in 1998 were self-employed in their primary job. (See the appendix for a comparison of self-employment rates across the two surveys.)

Characteristics based on the HRS

The extremely rich data in the Health and Retirement Study allow us to go beyond the descriptive analysis that is possible using the characteristics available in the CPS. Using the HRS98 sample of workers age 51 and older and our preferred definition of self-employment in the Health and Retirement Study (those workers who state they are self-employed in their primary job in the reference week), we compare the characteristics of self-employed workers to wage and salary workers, and for the self-employed, we compare the characteristics of male and female workers. We also compare the characteristics of self-employed workers age 51 and older by whether they became self-employed before versus at or after age 50 based on retrospective employment information.⁴⁴ This allows us to contrast the characteristics of those who are more likely to be considered career self-employed versus those who made the transition to self-employment in later life. (As noted in the appendix table A1, 23 percent of workers age 51 and older are self-employed in their primary job, of these, 32 percent became self-employed at age 50 or older.)

Table 6 shows the demographic, income and wealth, health, employment, and spouse characteristics for the six groups: wage and salary workers, self-employed workers, male self-employed, female self-employed, self-employed before age 50, and self-employed at or after age 50.

Demographic characteristics. Consistent with the data in tables 4 and 5 for the CPS, the demographic characteristics reveal that, compared with wage and salary workers, self-employed workers (age 51 and older) are older, more likely to be white, male, married, and to have at least a college education. Thirty-five percent of the older self-employed workers are women, and the most striking differences between older female and male self-employed workers are their education levels and marital status. Self-employed women age 51 and older are 8 percentage points less likely to have some college education or more, and 3 percentage points more likely to be a high-school drop-out than self-employed men. They are also approximately 16 percentage points less likely to be married. Notably, nearly 16 percent of older female self-employed workers are widowed, compared with fewer than 4 percent for their self-employed male counterparts. Female self-employed workers are also younger than the men, and more racially diverse. Workers who become self-employed at age 50 or older are much older than workers self-employed before age 50, and are more likely to be female.

Income and wealth. Self-employed workers age 51 and older have higher household income and wealth than wage and salary workers. Mean household income for older self-employed workers is \$101,183, compared with \$66,191 for wage and salary workers, although at the medians, household income is more similar between the two groups: \$56,103 and \$50,200 respectively. The average capital income for the self-employed (income primarily from self-employment, other businesses, and assets) is more than six times that for wage and salary workers, while their financial wealth is more than three times the wealth of wage and salary workers. The gap in the wealth stock or income flow from the wealth stock is as large or larger at the median. Similar patterns exist when considering subcomponents of wealth, such as housing wealth or assets in IRA or Keogh accounts, or wealth less business assets. In each case, older self-employed workers have higher asset levels, although the gap is smaller when medians are considered compared with means. Some of the difference in the wealth measure reported in table 6 may be reduced after accounting for differences in pension wealth which is likely to be greater for wage and salary workers.

Older self-employed men have higher household income and wealth than self-employed women regardless of the income and wealth measure. Likewise, with one exception, workers who become self-employed at age 50 or older have consistently lower household income and wealth than workers who become self-employed before age 50. The one exception is assets in IRA or Keogh accounts which are higher at the mean and median for those who become self-employed at or after age 50. Such accounts are often the result of rolling over defined contribution pension plan balances from prior jobs, a course of action that may be more prevalent among those who become self-employed later in their career. The overall higher financial asset levels for the long-term self-employed may reflect greater wealth accumulation for career self-employed workers, compared with wage and salary workers who transition to self-employment later in their labor market careers. Alternatively, wealth may be lower for more recently self-employed workers because part of their accumulated wealth was invested in their business. We are not able to differentiate between these two explanations. Similar to wage and salary workers, workers who become self-employed at or after age 50 may also have higher pension wealth than those who were self-employed before age 50 so that the overall wealth levels available at retirement may be closer to that of workers who become self-employed before age 50.

Health status. As seen in table 6, the self-employed age 51 and older are drawn from both the very healthy and those who have a work-limiting disability. Approximately 57 percent of self-employed workers report being in excellent or very good health, compared with 53 percent of wage and salary

Table 6. Characteristics of self-employed in primary job in 1998 for workers age 51 and older based on Health and Retirement Study

[In percent, unless otherwise indicated]

Characteristic	Class of worker		Self-employed		Self-employed	
	Wage	Self-employed	Men	Women	Before age 50	At or after age 50
Sample size (number)	5,779	1,694	1,092	602	1,129	547
Men	50.3	65.1	100.0	0.0	68.3	58.6
Age group						
51 to 53	27.3	19.4	17.5	22.8	22.7	12.0
54 to 56	24.8	19.3	17.6	22.5	20.7	16.5
57 to 59	16.4	13.6	13.7	13.3	14.7	11.2
60 to 62	11.9	11.5	12.1	10.4	11.5	11.7
63 to 65	7.1	8.6	9.2	7.4	8.2	9.7
66 to 68	4.6	7.7	8.2	6.8	5.9	11.6
69 and older	7.9	20.0	21.6	16.9	16.4	27.3
Race						
White non-Hispanic	81.8	88.9	89.8	87.3	89.7	87.8
Black non-Hispanic	9.2	5.2	4.8	5.8	4.7	6.3
Hispanic	6.6	3.8	3.3	4.7	3.7	3.2
Other	2.3	2.2	2.2	2.2	1.9	2.7
Marital status						
Married	72.5	76.6	82.2	66.3	76.9	76.6
Widowed	7.9	7.6	3.4	15.5	9.1	6.9
Separated/divorced	16.0	12.6	11.0	15.5	12.0	13.0
Never married	3.6	3.1	3.3	2.8	2.1	3.6
Education						
High-school dropout	14.4	14.6	13.6	16.6	14.2	14.8
GED	4.4	3.1	3.1	3.3	3.3	2.9
High-school graduate	32.6	27.1	25.5	30.2	28.1	24.5
Some college	23.7	23.6	21.8	26.8	23.0	25.6
College graduate and higher	24.9	31.5	36.1	23.1	31.4	32.1
Income and wealth (in dollars)						
Total household income (mean)	\$66,191	\$101,183	\$108,123	\$88,246	\$114,736	\$70,759
Total household income (median)	50,200	56,103	60,532	46,732	60,532	48,022
Wage earnings (mean)	33,783	14,236	18,478	6,327	15,408	11,834
Wage earnings (median)	26,000	0	0	0	0	0
Household capital income (mean)	9,996	61,782	68,734	48,822	75,198	31,595
Household capital income (median)	500	27,221	32,144	17,000	33,997	12,112
Total financial wealth (mean)	238,857	740,765	786,403	655,686	888,370	409,990
Total financial wealth (median)	119,000	312,000	345,000	249,000	366,660	213,500
Housing wealth (mean)	80,006	148,360	163,438	120,251	164,586	112,652
Housing wealth (median)	60,000	86,000	90,000	80,000	90,000	75,000
IRA/Keogh account wealth (mean)	37,667	70,381	74,756	62,227	15,408	64,386
IRA/Keogh account wealth (median)	0	0	5,000	0	0	3,500
Total wealth less business assets (mean)	224,348	554,344	595,847	476,972	635,361	369,560
Total wealth less business assets (median)	116,000	248,200	267,000	205,000	267,800	194,000
Health status						
Excellent	19.2	25.4	24.6	26.9	25.5	25.2
Very good	34.0	31.2	32.2	29.3	30.8	32.8
Good	32.4	27.4	28.5	25.4	27.7	26.5
Fair	12.3	13.2	11.7	15.9	13.3	12.3
Poor	2.1	2.9	3.0	2.6	2.7	3.3
Health condition limits work	8.4	15.0	13.1	18.4	14.1	16.5
Activities of daily living (ADLS)						
0	95.2	95.0	95.5	94.0	95.2	94.6
1	3.4	3.9	3.7	4.4	3.5	4.9
2 or more	1.4	1.1	.8	1.6	1.3	.5
Job characteristics						
Covered by employer health insurance	67.4	34.3	37.2	27.9	40.6	17.6
Has pension on current job	60.6	12.4	15.4	8.3	14.7	7.5

Table 6. Continued—Characteristics of self-employed in primary job in 1998 for workers age 51 and older based on Health and Retirement Study

[In percent, unless otherwise indicated]

Characteristic	Class of worker		Self-employed		Self-employed	
	Wage	Self-employed	Men	Women	Before age 50	At or after age 50
Job characteristics (continued)						
Pension type on current job						
Defined benefit (DB) pension only	34.7	19.0	21.5	7.1	16.6	29.5
Defined contribution (DC) pension only	37.8	63.3	54.9	80.8	65.9	52.2
Both DB and DC pension	24.9	11.7	11.4	10.7	12.4	8.5
Doesn't know pension type	2.5	6.0	12.2	1.4	5.1	9.8
Had pension on previous job	49.1	48.4	54.9	35.9	44.4	55.7
Job requires a lot of physical effort						
All/almost all the time	17.8	18.3	18.8	17.4	19.0	17.0
Most of the time	14.8	16.1	17.5	13.5	16.1	16.0
Some of the time	30.3	27.6	27.6	27.6	29.1	23.8
None/almost none of time	37.1	38.1	36.2	41.5	35.8	43.2
Full-time on main job	74.3	53.5	59.5	42.2	59.0	41.2
Hold second job	10.8	10.8	11.7	9.2	11.7	9.2
Second job in same class	52.8	61.8	64.9	54.5	60.2	66.3
Retirement expectations (mean)						
Probability of working full-time after age 62 ...	47.0	56.0	63.0	47.0	57.0	54.0
Probability of working full-time after age 65 ...	26.0	42.0	48.0	32.0	43.0	38.0
Occupation						
Executive, administrative, managerial	15.8	16.4	19.5	10.7	16.8	16.0
Professional specialty	18.0	19.4	19.9	18.4	19.5	19.2
Sales	9.1	20.3	19.0	22.8	20.0	21.4
Administrative support	18.2	5.1	1.6	11.6	5.5	4.1
Private household .....	.9	2.9	.2	8.1	2.2	4.6
Protective service	2.2	.1	.1	.0	.0	.2
Other service	11.2	8.0	2.4	18.5	5.9	12.5
Farming, forestry, fisheries	1.4	9.1	13.0	1.9	11.1	4.5
Precision production, craft, repair	9.8	11.6	15.3	4.9	12.7	9.4
Operators, assemblers, repairers, laborers ...	13.4	7.0	9.1	3.1	6.5	8.3
Industry						
Agricultural	1.4	9.6	12.7	3.9	11.5	5.2
Mining and construction	4.3	9.8	14.1	1.8	11.1	6.9
Manufacturing	18.3	7.5	7.9	6.7	8.3	5.8
Transportation	7.7	3.3	3.9	2.3	3.3	3.5
Wholesale and retail trade	15.7	16.8	14.6	20.7	16.0	18.2
Finance, insurance, real estate	6.2	11.7	11.5	12.0	12.2	10.4
Business/repair services	6.1	12.8	14.6	9.3	11.1	16.9
Personal services	3.3	9.3	2.3	22.4	7.3	13.4
Entertainment	2.0	2.3	2.0	2.9	2.6	1.6
Professional services	29.3	16.5	15.9	17.7	16.2	17.4
Public administration	5.8	.5	.6	.3	.3	.9
Reason for leaving previous job						
No previous job	35.9	33.0	32.1	34.6	40.7	14.5
Business closed	10.9	7.2	7.7	6.3	7.5	6.7
Laid off/let go	9.2	7.9	8.1	7.6	5.5	13.4
Poor health/disabled	2.3	3.2	3.2	3.3	3.2	3.4
Family care	3.4	2.8	.6	7.0	2.9	2.6
Better job	13.9	14.2	16.3	10.2	16.2	10.1
Quit	10.1	11.5	10.5	13.3	11.3	12.1
Retired	9.4	16.1	18.4	11.8	8.8	32.9
Respondent's family moved	3.5	3.0	2.3	4.3	2.7	3.6
Sold business (own) .....	.4	.4	.3	.6	.5	.0
Other	1.0	.8	.6	1.1	.8	.8
Spouse characteristics						
Spouse age (mean)	57.0	58.0	57.0	60.0	57.0	60.0
Education						
High-school dropout	15.2	12.8	10.9	17.4	12.3	12.9
GED	4.8	2.7	2.6	2.9	2.1	4.2
High-school graduate	33.0	30.9	33.9	24.1	30.1	33.3
Some college	23.0	26.0	28.4	20.7	27.2	24.0
College graduate and higher	24.1	27.5	24.3	35.0	28.3	25.6

Table 6. Continued—Characteristics of self-employed in primary job in 1998 for workers age 51 and older based on Health and Retirement Study

[In percent, unless otherwise indicated]

Characteristic	Class of worker		Self-employed		Self-employed	
	Wage	Self-employed	Men	Women	Before age 50	At or after age 50
Spouse characteristics (continued)						
Health status						
Excellent	16.9	22.0	22.1	22.0	24.1	17.6
Very good	32.7	33.1	33.9	31.3	32.5	35.1
Good	31.2	27.8	27.3	29.0	27.1	29.8
Fair	13.9	12.9	13.4	11.9	12.8	12.4
Poor	5.3	4.2	3.4	5.9	3.6	5.1
Working for pay	66.2	64.2	59.7	74.7	66.3	60.1
Self-employed	9.5	26.9	20.5	41.6	29.4	21.5
Covered by employer health insurance	45.6	44.8	40.0	56.4	47.0	40.6
Has pension	58.0	43.4	43.5	43.1	43.0	43.3

NOTES: Sample is self-employed workers age 51 and older using definition H1 (See exhibit A-1). Means and percentages have been calculated using Health and Retirement Study sampling weights.

SOURCE: Authors' calculations using Health and Retirement Study 1998 (HRS98).

workers. The fraction reporting fair or poor health is also slightly higher for the self-employed. In addition, the self-employed are approximately 7 percentage points more likely to say that their health limits their work, compared with their wage and salary counterparts. The two groups have similar numbers of limitations with eating, bathing, dressing, getting out of bed, or walking across a room (measures of activities of daily living). Comparing self-employed women and men, we find more self-employed women report being in fair or poor health (a difference of 4 percentage points) and more report having a health condition that limits their work (a difference of 5 percentage points). The frequency of reporting limitations with activities of daily living is also slightly higher for female self-employed workers. Although the overall health status of self-employed workers before and after age 50 is similar, workers who become self-employed at age 50 or older are slightly more likely to have a health condition that limits their work.

Employment characteristics. Table 6 also compares the employment characteristics across older wage and salary workers and the various groups of older self-employed workers. In terms of employee benefits, health insurance and pension access is considerably different between the self-employed and wage and salary workers: 34 percent of the self-employed versus 67 percent of wage and salary workers have health insurance coverage, and 12 percent versus 61 percent respectively have pension coverage on the current job. At the same time, pension coverage on the prior job is almost identical for the two groups. Among those with pension coverage on the current job, the self-employed are more likely to participate in a defined contribution plan than a defined benefit plan. Among the self-employed, women have

lower health insurance coverage and lower pension coverage on both the current and prior job. Among those with pension coverage, defined contribution plans or both defined benefit and defined contribution plans are considerably more common for women than men (92 versus 66 percent). Although the more recently self-employed have lower health and pension coverage on the current job, they have higher pension coverage on the prior job. This suggests that pension coverage on a prior wage and salary job might facilitate the transition to self-employment later in life.

In terms of work effort, self-employed workers age 51 and older are only slightly more likely than wage and salary workers of the same age to have a job that requires a lot of physical effort all or most of the time. Among the self-employed, physical effort associated with the job is lower for women than men, and for those who become self-employed after age 50. It is striking to note that the self-employed are much more likely to report working part-time (less than 35 hours per week) on their main job, particularly self-employed women and workers who become self-employed at age 50 or older. At the same time, the self-employed are equally likely as wage and salary workers to hold a second job, although second jobs are somewhat more likely to be in the same class of employment for the self-employed (that is, a second wage and salary job for wage and salary workers, and a second self-employment job for the self-employed). Men and those self-employed before age 50 are somewhat more likely to have a second job but, among the self-employed with second jobs, the rates of self-employment are higher for men and those self-employed at or after age 50 than for those who become self-employed before age 50.

It may be the case that self-employed workers age 51 and older reduce hours rather than retire from the labor force or

wage and salary workers become self-employed in order to work part-time. Indeed, compared with wage and salary workers, self-employed workers have a higher probability of working full-time at age 62 and age 65—a measure of retirement expectations—particularly self-employed men and the longer term self-employed. This suggests that transitions to self-employment later in the career may be part of the retirement process.

Occupation and industry composition. With regards to occupation and industry, consistent with our earlier analysis of the CPS, older self-employed workers are more likely to have an occupation of farming and to be in the agricultural sector than wage and salary workers, particularly male workers who become self-employed before age 50. The occupation and industry distributions of male and female self-employed workers show a number of differences, with women more likely to be self-employed in clerical and other services occupations, and in the trade and personal services sectors. Those who become self-employed later in their career are more concentrated in segments of the services sector rather than in agriculture or mining/construction.

Employment history. The Health and Retirement Study asks respondents, age 51 and older, about the reason they departed from their prior job. The responses, tabulated in table 6, reveal that, compared with their wage and salary counterparts, self-employed workers are less likely to have left a prior job involuntarily (for example, due to layoffs, firings, or business closures) and more likely to have experienced a voluntary departure (quit or retired). Notably, 16 percent of self-employed workers retired from their previous job, compared with 9 percent of wage and salary workers. Among self-employed workers after age 50, the percentage rises to 33 percent. This group is also more likely than wage and salary workers to have been laid off. Self-employed men are more likely to report leaving a prior job for a better job or having had retired compared with self-employed women.

Spouses' characteristics. Finally, table 6 reports the characteristics of the spouses of the wage and salary and self-employed workers age 51 and older in terms of age, education, health and health insurance, and some employment characteristics. Spouses of the self-employed, like self-employed workers themselves, are more likely to be college educated and are healthier than spouses of wage and salary workers. Overall the spouses of self-employed workers are only slightly less likely to be working. Some self-employment is likely to be family-owned businesses: 27 percent of self-employed workers have spouses who are also self-employed, a rate that exceeds that for the spouses of wage and salary

workers. Despite the differential class of employment, spouses of the self-employed and of wage and salary workers are about equally likely to be covered by employer health insurance. At the same time, consistent with this differential, the spouse of a self-employed worker is less likely to have a pension than the spouse of a wage and salary worker.

Among older self-employed workers, the spouses of female workers are more polarized in their education distribution, with a higher fraction in both the lowest and highest education levels, but spousal health is quite similar. The husbands of self-employed women are more likely to be working, to be self-employed, and to be covered by employer health insurance than the wives of self-employed men. Rates of pension coverage are almost identical. The contrasts in the characteristics of the spouses of workers who become self-employed before and after age 50 are not as sharp. There is some indication that, compared with individuals who become self-employed before age 50, persons who become self-employed at or after age 50 have older spouses (expected given that the self-employed after age 50 are more likely to be women and are older themselves), have worse health, and are less likely to be working at all or to be self-employed.

Conclusions

Given the importance of self-employment at older ages—both relative to the ranks of the self-employed as a whole and relative to the wage and salary workforce at older ages—it is important to have a solid understanding of the characteristics of this segment of the workforce and how those characteristics may be changing over time. The aging of the workforce as the baby-boom cohort approaches retirement will almost certainly influence the size and characteristics of the self-employed workforce. Although the overall trend in self-employment rates has been downward in the past decade, the fact that self-employment rates rise at older ages and that the population is aging suggests that demographics alone may halt or reverse that trend. At the same time, we also know that a growing share of those who are self-employed do so through an incorporated business. The fact that this form of business organization is not officially tracked as a form of self-employment in U.S. labor force statistics may conceal changes in underlying rates of self-employment, particularly among older workers, where up to one-third are in incorporated businesses. Future research can help deepen our understanding of this important labor force phenomenon.

Our two data sources—cross-sectional time-series data from the CPS and cross-sectional data from the Health and Retirement Study—reveal that older self-employed workers exhibit many of the same characteristics found for the self-employed more generally. Among workers age 51 and older, self-employed workers, compared with their wage and salary

counterparts, are older; are more likely to be male, white, married, and college educated; and more likely to be healthier, but to have a health condition that limits work. Self-employed workers are also more likely to be working part-time and to have a family-business or a spouse who is also self-employed. The differences in the age distribution, health status, and work effort among older self-employed workers versus their wage and salary counterparts suggest that the self-employed at older ages are able to work longer even despite poorer health, and to work with more flexibility in hours. Thus, self-employed workers may be better able to accommodate their changing preferences for work versus leisure as they make the transition to retirement.

At the same time, older self-employed workers are financially better off than workers in the wage and salary

class as measured by household income and wealth, but are less likely to have a pension and health insurance on their current job. Those who become self-employed after age 50—about one third of older self-employed workers—also have lower levels of income and wealth and lower rates of pension and health coverage, compared with those who become self-employed earlier in their career. Women, whose share of self-employment among older workers has been growing over time, also exhibit lower income, asset, and employee benefit levels than their male counterparts who are self-employed. Future research could help identify the implications of self-employment for the retirement income security of older workers, especially self-employed women and older workers who make the transition to self-employment later in their careers. □

Notes

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¹ We recognize that our analysis of the CPS and the Health and Retirement Study uses slightly different age groups (50 and older from the CPS and 51 and older from the Health and Retirement Study), but the difference is not analytically significant. In the appendix, we compare the level and rate of self-employment for both data sources for workers in the same age cohort (that is, age 51 and older).

² F. Thomas Juster, and Richard Suzman, "An Overview of the Health and Retirement Study," *Journal of Human Resources*, 1995, pp. S7-S56.

³ The parenthetical phrase is asked only of households that responded to an earlier question that they run a family business as a way of identifying unpaid family workers.

⁴ This approach differs from that followed in many other countries (for example, Canada) where owners of incorporated businesses are also classified as self-employed. This latter approach is consistent with the 1993 International Classification of Status in Employment (ICSE-93) standards set by the International Labour Organization. The United States is one of only a handful of countries that deviates from the standard in the treatment of the self-employed. See Peter Elias, "Status in Employment: A World Survey of Practices and Problems," *ILO Bulletin of Labour Statistics*, No. 11-19, 2000.

⁵ The upward jump in self-employment rates between 1993 and 1994 evident in chart 1 across all the series (and especially the ones that include the incorporated self-employed) is due, in part, to changes in the CPS implemented in 1994. See Marilyn E. Manser and Garnett Picot, "The role of self-employment in U.S. and Canadian job growth," *Monthly Labor Review*, April 1999, pp. 10-25. This change in the series is discussed later in the text.

⁶ David M. Blau, "A Time-Series Analysis of Self-Employment in the United States," *The Journal of Political Economy*, June 1987, pp. 445-67.

⁷ Manser and Picot, "The role of self-employment," 1999, pp. 10-25.

⁸ The discussion that follows is based on tabulations using data from the sources cited in table 1.

⁹ Our analysis of CPS microdata allows us to look at self-employment rates for the older workforce using a definition that includes the self-employed in incorporated businesses.

¹⁰ See, for example, Theresa Devine, "Characteristics of self-employed women in the United States," *Monthly Labor Review*, March 1994, pp. 20-34; Manser and Picot, "The role of self-employment," 1999, pp. 10-25; Yannis Georgellis, and Howard J. Wall, "Who Are the Self-Employed?" *Federal Reserve Bank of St. Louis Review*, November/December 2000, pp. 15-23; and Steven Haider and D. Loughran, "Elderly Labor Supply: Work or Play?" RAND DRU-2582, Santa Monica, CA, 2001.

¹¹ Another strand of the self-employment literature considers the factors that lead individuals to choose self-employment over wage and salary work, as well as the determinants of transitions to self-employment. For a review of that literature, see Julie Zissimopoulos and Lynn A. Karoly, "Transitions to Self-Employment at Older Ages: The Role of Wealth, Health, Health Insurance, and Other Factors," paper presented at the 2003 annual meetings of the Population Association of America, April 2003.

¹² Devine, "Characteristics of self-employed women," 1994, pp. 20-34; John E. Bregger, "Measuring self-employment in the United States," *Monthly Labor Review*, January/February 1996, pp. 3-9; Robert W. Fairlie, *Ethnic and Racial Entrepreneurship: A Study of Historical and Contemporary Differences* (New York, Garland, 1996); Manser and Picot, "The role of self-employment," 1999, pp. 10-25; and Yannis and Wall, "Who Are the Self-Employed?" 2000, pp. 15-23.

¹³ Fairlie, *Ethnic and Racial Entrepreneurship: A Study of Historical and Contemporary Differences* (New York, Garland, 1996); Robert W. Fairlie and Bruce D. Meyer, "The Ethnic and Racial Character of Self-Employment," NBER Working Paper No. 4791 (National Bureau of Economic Research, 1994); and Robert W. Fairlie and Bruce D. Meyer, "Ethnic and Racial Self-Employment

Differences and Possible Explanations,” *Journal of Human Resources*, Autumn 1996, pp. 757–93.

¹⁴ Barton H. Hamilton, “Does Entrepreneurship Pay? An Empirical Analysis of the Returns of Self-Employment,” *The Journal of Political Economy*, June 2000, pp. 604–31.

¹⁵ William G. Deming, “Work at home: data from the CPS,” *Monthly Labor Review*, February 1994, pp. 14–20; and Linda N. Edwards, and Elizabeth Field-Hendrey, “Home-Based Work and Women’s Labor Force Decisions,” *Journal of Labor Economics*, January 2002, pp. 170–200.

¹⁶ David G. Blanchflower and Andrew J. Oswald, “What Makes an Entrepreneur?” *Journal of Labor Economics*, January 1998, pp. 26–60; and David G. Blanchflower, Andrew J. Oswald, and Alois Stulzer, “Latent Entrepreneurship across Nations,” *European Economic Review*, May 2001, pp. 680–691; and Greg Hundley, “Why and When are the Self-Employed More Satisfied with Their Work?” *Industrial Relations*, April 2001, pp. 293–316.

¹⁷ Hamilton, “Does Entrepreneurship Pay?” 2000, pp. 604–31.

¹⁸ Hamilton, “Does Entrepreneurship Pay?” 2000, pp. 604–31.

¹⁹ Devine, “Characteristics of self-employed women,” 1994, pp. 20–34; Fairlie and Meyer, “The Ethnic and Racial Character of Self-Employment,” 1994; Fairlie, *Ethnic and Racial Entrepreneurship*, 1996; Manser and Picot, “The role of self-employment,” 1999; and Georgellis and Wall, “Who Are the Self-Employed?” 2000, pp. 15–23.

²⁰ Devine, “Characteristics of Self-Employed Women,” 1994, pp. 20–34.

²¹ Fairlie and Meyer, “The Ethnic and Racial Character of Self-Employment,” 1994.

²² Georgellis, and Wall, “Who Are the Self-Employed?” 2000, pp. 15–23.

²³ Greg Hundley, “Why Women Earn Less Than Men in Self-Employment,” *Journal of Labor Research*, Fall 2001, pp. 817–29.

²⁴ Manser and Picot, “The role of self-employment,” 1999, pp. 10–25.

²⁵ Data presented earlier in chart 1 show that after 1996, the last year in the Manser and Picot (“The role of self-employment,” 1999, pp. 10–25) analysis, there was a decline in self-employment rates for the United States.

²⁶ David G. Blanchflower, “Self-Employment in OECD Countries,” *Labour Economics*, September 2000, pp. 471–506; and Yuji Genda, and Ryo Kambayashi, “Declining Self-Employment in Japan,” *Journal of the Japanese and International Economies*, March 2002, pp. 73–91.

²⁷ Robert W. Bednarzik, “The role of entrepreneurship in U.S. and European job growth,” *Monthly Labor Review*, July 2000, pp. 3–16.

²⁸ Haider and Loughran, “Elderly Labor Supply,” 2001, and Doreen Duchesne, “Seniors at Work,” *Perspectives on Labour and Income (Canada)*, Summer 2002, pp. 33–44.

²⁹ Victor R. Fuchs, “Self-Employment and Labor Force Participation of Older Males,” *Journal of Human Resources*, Summer 1982, 339–57.

³⁰ Joseph Quinn, “Labor Force Participation Patterns of Older Self-Employed Workers,” *Social Security Bulletin*, April 1980, pp. 17–28.

³¹ The sample size for the Annual Demographic File increased beginning with the March 2001 survey, although the public use file we use for March 2001 is based on the old sampling scheme. (For detail, see on the Internet: www.bls.census.gov/cps/ads/data_dissem_letterng.htm.) The sample for the March 2002 file is about 50 percent larger than that of the prior year. To minimize potential discontinuities in the data series, we expect to use the 2001 public use file for the sample that replicates what was used in earlier surveys.

³² Our estimates will not exactly replicate the published figures presented in the BLS data section because the official data are based on annual averages from the monthly CPS surveys. We rely on the March data for our analysis because the monthly surveys do not include the supplemental information available only in the March interview (for example, on employment in the prior year, and income and income sources in the prior year).

³³ For one-fourth of the sample starting in 1994, the CPS also provides information on the class of worker for secondary jobs, if any, held during the reference week.

³⁴ Manser and Picot, “The role of self-employment,” 1999, pp. 10–25.

³⁵ The last year of data available for all five series is 2001.

³⁶ In the case of definitions C1 and C2, those who report they are with a job but not at work (for example, they may be absent for reasons of illness or vacation) in the reference week are also counted as employed. These individuals do not report their weekly hours, so this information is missing for this part of the sample.

³⁷ As discussed earlier in the article, only definitions C1 and C3 (the self-employed in unincorporated businesses) are available for the full time series, whereas the other definitions can be calculated starting in 1975 (C4 and C5) or 1989 (C2), given the way class of worker is coded in the CPS public use files. In addition, series C3 to C5 end in 2001 because they are based on data for the prior calendar year.

³⁸ As discussed later in the article, this peak in 1994 may be an artifact of the change in the survey questionnaire in that year.

³⁹ Manser and Picot, “The role of self-employment,” 1999, pp. 10–25.

⁴⁰ Note that this adjustment means the change from 1993 to 1994 is from 13.7 to 13.8 percent versus 13.7 to 14.7 percent.

⁴¹ Although self-employment rates are lower on average for the workforce as a whole, compared with workers age 50 and older, a similar time series analysis for all workers age 16 and older shows the same general patterns for the entire workforce as what is observed for workers age 50 and older. For all workers, the pattern since the mid-1990s is one of decreasing rates of self-employment, due largely to a declining rate of self-employment in unincorporated businesses. From the mid-1970s to the mid-1990s, self-employment rates in unincorporated and incorporated businesses increased due to a growth in the latter form of business organization.

⁴² In addition to the self-employed and wage and salary workers, our sample of workers during the reference week includes those who report they work without pay in a family business. These workers are treated as a residual class of workers in official employment statistics and represent less than 1 percent of the workforce.

⁴³ Computation of Social Security wealth and pension wealth is available only for researchers with restricted data permission. These data are currently available for the original Health and Retirement Study cohort only rather than the full 1998 cross-section examined here.

⁴⁴ In particular, we rely on several sources of retrospective information. Individuals currently not working are asked about his or her last job and whether they were self-employed. These individuals

are also asked about jobs lasting 5 years or more in a job history segment and self-employment is identified for those prior “long” jobs. Health and Retirement Study respondents working at the time of the interview are also asked about employment status on previous jobs lasting 5 years or more. In addition, for the Health and Retirement Study 1931–41 birth cohort, we look prospectively over the panel from 1992 to 1998 to determine if there was other self-employment prior to when they are observed in 1998.

Appendix: Comparison of self-employment definitions in the CPS and Health and Retirement Study

This appendix provides a comparison of self-employment levels and rates based on alternative definitions of self-employment in the CPS and HRS. For the CPS, we use the same five measures of self-employment defined in exhibit 1. As with the CPS, we consider definitions in the Health and Retirement Study based on both employment in the reference week and in the prior year.

Exhibit A1 provides a summary of the four measures of self-employment we consider based on the Health and Retirement Study. Because the Health and Retirement Study distinguishes self-employment status for current employment for both a primary and secondary job, we define H1 as current self-employment in the primary job only and H2 as self-employment in the primary or secondary job. H1 is closest to C1 or possibly C2 depending on how the self-employed in incorporated businesses are classified in the Health and Retirement Study. The difference between H1 and H2 captures “moonlighters,” those who work in self-employment only as a secondary job, in addition to a main job in the wage and salary class. To account for the possibility that some Health

and Retirement Study respondents who are self-employed in an incorporated business would classify themselves as wage and salary workers, we also use information in the Health and Retirement Study about business ownership to potentially identify these individuals. Thus, definition H3 expands the group classified as self-employed in H2 by adding in those who report they own a business. H3 is therefore potentially equivalent to C2, the more expansive CPS definition of the self-employed. It is also possible, however, that H3 would overestimate the number of self-employed to the extent that individuals own businesses that they do not work in. Finally, H4 is based on reported self-employment income in the prior year, a definition that parallels C5 for the CPS. Again, however, if the self-employed in incorporated businesses report their labor income as wage and salary income, these definitions may not be equivalent.

Table A1 shows the weighted estimates for the number of self-employed workers and the self-employment rate for the Health and Retirement Study 1998 cross-section of civilian noninstitutionalized workers age 51 and older for each of the

Exhibit A1. Self-employment definitions based on the Health and Retirement Study	
Self-employment definition	Health and Retirement Study survey and reference years
H1. Current employment: self-employed in primary job	1992, 1994, 1996, 1998, 2000
H2. Current employment: self-employed in primary or secondary job	1992, 1994, 1996, 1998, 2000
H3. Current employment: self-employed in primary or secondary job; or current assets: own business(es)	1992, 1994, 1996, 1998, 2000
H4. Employment last year: any self-employment income	1992, 1994, 1996, 1998, 2000

Table A1. Self-employment rates in 1998 for workers age 51 and older based on alternative definitions in the Health and Retirement Study and the Current Population Survey

[Numbers in thousands]

Survey and definition of self-employed	Self-employed		Sample size
	Number	Percent	
Health and Retirement Study:			
H1 Currently self-employed in primary job	6,378	22.7	7,473
H2 Currently self-employed in primary or secondary job	7,484	26.4	7,535
H3 Currently self-employed in primary or secondary job or currently own business(es)	8,844	31.2	7,535
H4 Any self-employment income in last year	6,898	24.8	7,433
Current Population Survey:			
C1 Currently self-employed in main job, unincorporated	3,330	13.0	12,735
C2 Currently self-employed in main job, unincorporated or incorporated	4,908	19.1	12,735
C3 Self-employed in longest job during calendar year, unincorporated	3,533	12.2	14,383
C4 Self-employed in longest job during calendar year, unincorporated or incorporated	5,164	17.8	14,383
C5 Self-employed in longest job during calendar year, unincorporated or incorporated, or any self-employment income during calendar year	5,864	20.3	14,383

NOTES: Sample is all civilian noninstitutionalized workers age 51 and older. Numbers and percentages have been calculated using Health and Retirement Study (HRS) and CPS sampling weights.

SOURCE: Authors' calculations using HRS98 (H1-H4), March 1998 CPS (C1-C5).

four definitions. H1 provides the most narrow definition, with an estimated 22.7 percent of older workers (or 6.4 million) classified as self-employed in their primary job in 1998. H2 includes the self-employed in H1 plus workers who moonlight in self-employment through a secondary job, bringing the self-employment rate to 26.4 percent. Thus, about 4.3 percent of the older workforce or 1.1 million workers are estimated to moonlight in self-employment. Including individuals who report owning one or more businesses in definition H3 brings the self-employment rate up to 31.2 percent; more than 8 percentage points higher than the narrow definition H1. As noted earlier, this definition is likely to include some individuals who do not contribute labor to the business they own and might therefore not be considered self-employed according to traditional definitions of employment status. Finally, H4 provides an estimated self-employment rate of 24.8 percent, a result close to, but slightly less than that provided by H2.

Table A1 also provides weighted estimates of the number of self-employed and the self-employment rates for the CPS using a cohort of workers equivalent to that for the Health and Retirement Study. Specifically, the CPS sample consists of civilian noninstitutionalized workers age 51 and older in March 1998, with data on self-employment status in the March 1998 reference week for definitions C1 and C2 and for

calendar year 1997 for definitions C3 to C5. Definitions C1 and C3, which include only unincorporated workers, are considerably below those for the Health and Retirement Study. This suggests that the Health and Retirement Study base definition, H1, does include both self-employed in unincorporated and incorporated businesses. The C2 definition in the CPS for the reference week is conceptually the most equivalent to H1, and comes closest to matching the base Health and Retirement Study definition H1, but it is still lower by about 3.5 percentage points. The absolute size of the self-employed workforce according to C2 is also lower than H1 by almost 1.5 million workers. Definitions H2 to H4 in the Health and Retirement Study are clearly more expansive in defining older workers as self-employed than any of the CPS definitions. Although we might expect H4 and C5 to be comparable based on their definitions, C5 falls short of H4 by almost 6 percentage points and 1.1 million workers. Thus, the most comparable definitions between the two data sources are H1 for the Health and Retirement Study and C2 for the CPS. Both refer to self-employment for the survey reference week in the main or primary job, and capture individuals in both incorporated and unincorporated businesses.¹ Thus, in the analyses provided in the text, we rely on H1 as our preferred definition of self-employment in the Health and Retirement Study.

Note to the appendix

¹ For the characteristics that are common across the Health and Retirement Study and CPS, we have compared the distributions for the various measures of self-employment in the two surveys. A comparison across tables 5 and 6 shows similar distributions based on definitions C2 and H1. There is some indication that the CPS definition C2 generates a higher proportion of men, younger

workers within the age range, workers in the residual “other” race/ethnicity category, married workers, more educated workers, and individuals working full time. However, these differences are probably due in part to sampling errors. The occupational and industrial distributions may differ to some extent as well because of different coding schemes.

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