

Home-based workers: data from the 1990 Census of Population

Data from the Public Use Microdata Sample of the 1990 Census of Population show that home-based workers are more likely than onsite workers to be self-employed, to live in rural areas, to work nonstandard hours, to be women, to be white, and to work in service industries and occupations

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As communication and computer technology continue to advance, the facility with which people can engage in paid work at home, rather than traveling to an office or factory, has become part of the folklore of the contemporary American economy. In a dramatic contrast to the changes stimulated by the industrial revolution, which drove workers out of the home and into the factory, the current technological revolution has created an opportunity for the return of market work to the home. Recent sample surveys conducted by Link Resources Corporation report that the number of people who do some of the work for their primary jobs at home grew, on average, 8.9 percent annually between 1989 and 1993; by the latter year, 33.0 percent of the adult work force engaged in some work at home.¹ A more reliable estimate from a special supplement to the May 1991 Current Population Survey (CPS) indicates that 18.3 percent of all nonfarm workers were “engaged in some work at home as part of their primary job.”²

Not all of the people who do some work at home, however, are home-based workers. Many of them, such as schoolteachers, are simply taking work home from the office to finish in the evenings and are not explicitly remunerated for that work. Indeed, according to William G. Deming,³ 60 percent of workers who do some work at home are not explicitly paid for it. Further, of the 40 percent who are compensated for their work at home (either as wage and salary workers or as self-employed workers), about half worked fewer than 8 hours per week at home, and only 14.5 percent worked 35 or more hours

at home. Thus, the CPS phrase “engaged in some work at home as part of [one’s] primary job” encompasses a wide variety of work styles.

Our objective in this article is to present a study of those workers whose primary place of employment is their own home—either as a paid employee or as a self-employed worker. More specifically, we seek to provide a detailed description of home-based workers in 1990, using the Public Use Microdata Sample (PUMS) of the 1990 Census of Population. Our description focuses on demographic and economic variables such as sex, age, race, marital status, family composition, class of worker, hours worked, wages, and industry and occupation of employment. Special attention is directed to how male and female home-based workers differ and to how home-based workers differ from other workers.

Why study home-based workers?

An up-to-date description—a “taxonomy”—of home-based workers is important for several reasons. First, although the actual number of home-based workers is not large at present, it has been growing since the early 1980s and is likely to continue to grow. Data from the U.S. Censuses of Population show that the number of home-based workers fell from 4.7 million in 1960 to 2.2 million in 1980, but then rose to 3.4 million in 1990.⁴ The growth is attributable in part to the steady advance in communications and computer technology. However, technological advance is not the only factor contributing to the growth of home-based work; the continued rise in women’s

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labor force participation and in two-career families and the increased popularity of small-business entrepreneurship are also trends that make this work style more attractive. In addition, the Clean Air Act, which requires employers in America's most polluted cities to reduce the commuting of their employees by 25 percent, is expected to increase the support of business management for telecommuting.⁵

Second, the coordination of workplace obligations with family responsibilities is a topic that has been much in the national consciousness as women spend a larger and larger proportion of their lifetimes in the labor market. Not only child care is at issue; increased longevity means that a growing proportion of families will have elderly disabled or frail relatives who require care. Although the most frequently proposed policy response is greater government involvement in the provision of day-care facilities for children and for the elderly, home-based work is a somewhat overlooked institutional arrangement that can help family members balance the conflicting demands of home and work.

Finally, better knowledge of the characteristics of home-based workers will help us evaluate the various arguments put forward in the longstanding and continuing controversy about the desirability of this form of work organization. From the early 1940s until January 1989, industrial homework was banned in seven industries.⁶ The bans were established in response to evidence that in these industries employers were routinely violating both minimum-wage and child labor laws with respect to home-based workers.⁷ The bans remained virtually unchanged until 1981, when the Reagan Administration initiated actions to rescind them. After a series of proposed rule changes and hearings, effective January 9, 1989, the bans were lifted in all of the remaining industries,⁸ except women's apparel and "unsafe" jewelry production. However, recent reports of an expansion in illegal home sewing of women's apparel by immigrant labor mean that this will continue to be a public policy issue.⁹ Further, the growth in clerical homework, especially using home computers, has caused the Service Employees International Union to call for the introduction of a ban on this type of homework.¹⁰ Homework using computers (telecommuting) also has been opposed by the Communication Workers of America.¹¹

The conflicting views about the desirability of home-based work arise from the two contradictory theories on which they are based.¹² The first depicts homeworkers as a relatively advantaged group of individuals who have chosen to work at home to gain flexibility and to better control their time. In this view, homework allows family members to care for children or elderly or disabled relatives, while at the same time participating in the labor market. Homework also facilitates the employment of the disabled, according to this theory. That these homeworkers must forgo fringe benefits is not considered important, because they typically receive such benefits

from their spouses' employers. The other theory portrays homeworkers as an exploited group, "forced to work for low wages, with few if any benefits, in substandard working conditions, [and] often relying on the supplementary labor of young children."¹³ One or the other of these two views underlies most of the arguments that have been advanced for or against home-based work. A detailed statistical description of home-based workers, such as this article presents, will permit a more dispassionate and objective evaluation of these theories.

Home-based workers in the 1991 CPS

The best source of recent data on home-based workers, aside from the 1990 Census of Population, is a special supplement to the CPS taken in May 1991.¹⁴ This supplement covers all nonfarm workers 16 years and older who did any work at home for their regular job.¹⁵ Under that criterion, 20 million nonfarm employees worked at home in 1991, 18.3 percent of those who worked. Most respondents in the sample who did work at home, however, had an onsite work location at which most of their work was done. To identify those in the sample most likely to be home-based workers, Deming compared hours worked at home with total hours worked. Workers for whom both of these figures were the same—that is, those who worked entirely at home—are likely to be home-based workers. Deming reported that 1.518 million workers worked entirely at home (either as wage and salary employees or as self-employed workers) and that the mean weekly number of hours they worked was 35.8. Sixty-seven percent of these workers were women, whereas for all workers, the proportion of women was substantially smaller, 46 percent.

The only other information available about persons who work entirely at home (home-based workers, for purposes of this discussion) is with regard to their industry and occupation. Industrial and occupational distributions of employment for home-based workers and all workers, computed from data in Deming, are shown in table 1. Consider first the industries in which these workers were employed. Slightly more than 70 percent of all home-based workers were involved in service industries, whereas the corresponding percentage for all workers was 35.1 percent. Among the various services the two groups worked in, the largest difference was with respect to personal services: about 21 percent of all home-based workers worked in personal services, whereas for all workers, the percentage was under 5.4 percent. (The latter figure, which is actually for the category of "all other services," includes personal service industries).¹⁶ By contrast, the proportions of home-based workers in manufacturing, retail trade, and "other industries" are substantially smaller than the corresponding proportions for all workers.

There are also differences between home-based workers

Table 1. Industrial and occupational structure of all workers and of persons who worked entirely at home, nonfarm only, May 1991

Characteristic	All workers		Persons who worked entirely at home	
	Number	Percent	Number	Percent
All industries	109,126	100.0	1,518	100.0
Manufacturing	19,731	18.1	121	8.0
Retail trade	18,054	16.5	117	7.7
Services	38,335	35.1	1,071	70.6
Business and repair services	7,104	6.5	225	14.8
Personal services	(¹)	(¹)	325	21.4
Professional services	25,350	23.2	469	30.9
Social services	(²)	(²)	230	15.2
Other services	5,881	5.4	52	3.4
Other industries	33,006	30.2	209	13.8
All occupations	109,126	100.0	1,518	100.0
Managerial and professional specialty	29,971	27.5	497	32.7
Executive, administrative, and managerial	14,384	13.2	210	13.8
Professional specialty	15,587	14.3	287	18.9
Technical, sales, and administrative support	34,554	31.7	341	22.5
Sales occupations	13,177	12.1	194	12.8
Administrative support, including clerical	17,786	16.3	140	9.2
Other technical, sales, and administrative support	3,591	3.3	7	.5
Service occupations	14,955	13.7	498	32.8
Personal service occupations	(²)	(²)	462	30.4
Other service occupations	(²)	(²)	36	2.4
Precision production, craft, and repair	12,608	11.6	112	7.4
Other occupations	17,038	15.6	70	4.6

¹ Included with "other services."

² Not available.

SOURCE: William G. Deming, "Work at home: data from the cps," *Monthly Labor Review*, February 1994, tables 2 and 4, pp. 16, 18.

and all workers in the occupational distributions, although these are not nearly as dramatic. The occupational category in which there is the largest difference is "service occupations": 13.7 percent of all employees fall into this category, whereas the corresponding percentage for home-based workers is 32.8 percent. Almost all of the home-based workers who were employed in service occupations were in personal service occupations (92.7 percent), while for all workers, this subcategory was not large enough to be shown separately. Given the nature of personal services (see footnote 7), it is likely that a large proportion of home-based workers in personal service occupations are self-employed small entrepreneurs. The other occupational category with a larger representation among home-based workers than onsite workers (32.7 percent versus 27.5 percent) is "managerial and professional specialty" occupations, another category in which there are likely to be a large number of self-employed small-business people.¹⁷ On the other hand, the "technical, sales, and administrative support" and "other occupation" categories have lower representations among home-based workers.

These differences between all workers and home-based

workers in the 1991 cps supplement, as reported by Deming, raise a number of questions: Are home-based workers primarily self-employed? What is the relation between the family composition of workers and whether they are home-based workers? How does the propensity to be a home-based worker differ by sex, race, marital status, number and age of children, and type of residence (urban versus rural)? Are home-based workers more likely to work part time? More generally, how do the hours and weeks worked by home-based workers compare with those of other workers? And how do their wages differ? These are the questions we address in our analysis of census data.¹⁸

Home-based workers in the 1990 census

The PUMS data. We use data from the 5-percent PUMS of housing units from the 1990 Census of Population of the United States and the persons who reside in those units. The data and sampling procedure are fully described by the Bureau of the Census.¹⁹

We include in our analysis all workers aged 25 to 55 years who do not live in group quarters, who are not in the Armed Forces, and who identify themselves as home-based workers. Identification as a home-based worker is based on answers to the journey-to-work question (no. 23A) in the Census of Population, which asked, "How did this person usually get to work last week?"²⁰ We define home-based workers as persons whose response to this question was that they "worked at home." Note that the survey question used to identify home-based workers in the Census of Population is likely to yield a somewhat different definition of home-based workers than would be obtained from the cps questionnaire. Note also that we exclude from our sample those whose response would have classified them as home-based workers during the week the census was taken, but who did not work in 1989 or whose earnings information for 1989 was not consistent with their reported class-of-worker status in 1990. On the other hand, we *include* farm workers. For all of these reasons, our results are not directly comparable with Deming's findings.

We focus on workers in the prime working years, 25 to 55,

so as not to confuse the work site decision with decisions regarding schooling and retirement: the majority of those in the 25- to 55-year age group will have completed their schooling and will not yet have entered retirement.

How do home-based workers differ from onsite workers?

To see how home-based workers differ from other workers, we present, in tables 2 and 3, a number of statistics pertaining to both groups of workers. Table 2 contains data on demographic and socioeconomic characteristics, and table 3 contains data on the occupation and industry of employment, of these workers. Because there are so many more onsite workers than home-based workers, the computations for onsite workers use a 0.04 subsample of the 5-percent PUMS, yielding a .2-percent sample from the entire population of onsite workers.²¹

The most significant difference between home-based and onsite workers is that home-based workers are much more likely to be self-employed: sixty-three percent of home-based workers fell into this category, whereas the corresponding percentage for onsite workers was 5.5 percent. This is true for both men and women: for men, the proportions that were self-employed were 62.9 percent for home-based workers and 7.3 percent for onsite workers, while for women, the corresponding proportions were 63.1 percent and 3.3 percent.

A second important difference pertains to the residence of the workers. The proportion of home-based workers who live in rural areas was 38.6 percent; the corresponding figure for onsite workers was 24.0 percent. Further, for home-based workers, about 30 percent of the rural residents were in farm areas, whereas for onsite workers, the proportion was much smaller, about 4 percent. This greater propensity of home-based workers to live in rural areas was exhibited for both men and women, although the tendency was much more pronounced for men: slightly more than 48 percent of male home-based workers lived in rural areas, while the corresponding proportion for male onsite workers was 24.5 percent. For women, the proportions living in rural areas were 32.0 percent and 23.3 percent, respectively. Thus, home-based workers—especially men—were much more likely than all other workers to be located in rural areas, both farm and nonfarm.

Differences between home-based and onsite workers with regard to sex, family structure, age, race, ethnicity, and the presence of a disability are also evident, though less striking than the preceding differences. Most important are sex-related differences. Women accounted for 59 percent of all home-based workers, but just 46 percent of onsite workers. Moreover, home-based women workers were much more likely to be married with a spouse present than were onsite women workers (80.4 percent versus 63.5 percent). In addition, 29.9 percent of married home-based women workers had children under the age of 6, compared with 15.1 percent

for married onsite women workers.²² More generally, women home-based workers had greater levels of fertility than did women onsite workers: the average number of children ever born for the former was 2.17, whereas it was 1.72 for the latter. For men, there was little difference in family structure: almost 69 percent of home-based men and 69.3 percent of onsite men were married with a spouse present. (Data on the number of children are not available for men.)²³ Home-based workers tended to be older than onsite workers; specifically, home-based workers were less likely than onsite workers to be 25 to 34 years old and more likely to be 45 to 55 years old. Blacks were less likely than whites to be represented among home-based workers: whereas 10.1 percent of onsite workers were black non-Hispanic, this group made up just 3.3 percent of home-based workers. Like blacks, Hispanic workers and workers classified as “other” with regard to race also were less likely than whites to be represented among home-based workers. Thus, while white non-Hispanic workers accounted for 79.0 percent of onsite workers, they made up 89.0 percent of home-based workers. Finally, home-based workers were almost twice as likely to be disabled as were onsite workers (5.5 percent versus 3.3 percent).

Also included in table 2 are data on educational attainment, family income, earnings, wages, and hours and weeks worked. Strikingly, there was little difference in the educational attainment between home-based and onsite workers, both for men and for women. Nor was there a large difference in family income or weeks worked. Average weekly hours worked were also approximately equal in the two groups, but this similarity is misleading: the distributions of hours worked by home-based and onsite workers reveal that, while about two-thirds of onsite workers worked between 35 and 45 hours per week, the proportion was closer to one-third for home-based workers. Thus, home-based workers were much more likely to choose nonstandard hours—either fewer than 35 hours or more than 45 hours per week—than were onsite workers. A partial explanation for this greater flexibility in scheduling on the part of home-based workers is the dramatically larger proportion of such workers that are self-employed and therefore have greater control over their work hours. This is evident in table 4, which shows the distribution of weekly hours worked for both self-employed and wage and salary home-based and onsite workers. The self-employed were less likely to work 35 to 45 hours per week than were wage and salary employees, regardless of whether the former were or were not home based. But even within each class-of-worker status, home-based workers still displayed greater flexibility in hours worked: in all cases shown, home-based workers were less likely than onsite workers to be in the 35- to 45-hours category and more likely to work either fewer than 35 hours or more than 45 hours.

The other notable difference between home-based and

Table 2. Socioeconomic characteristics of workers aged 25–55, by work site and sex, 1990

Characteristic	Home-based workers						Onsite workers					
	Total		Men		Women		Total		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	1,542,268	100.0	634,642	100.0	907,626	100.0	66,931,950	100.0	36,231,350	100.0	30,700,600	100.0
Age:												
25–34 years	482,850	31.3	170,061	26.8	312,789	34.5	26,024,875	38.9	14,304,651	39.5	11,720,224	38.2
35–44 years	577,230	37.4	237,685	37.5	339,545	37.4	23,916,925	35.7	12,835,151	35.4	11,081,774	36.1
45–55 years	482,188	31.2	226,896	35.7	255,292	28.1	16,990,148	25.4	9,091,551	25.0	7,898,597	25.7
Marital status:												
Married, spouse present	1,166,386	75.6	436,436	68.8	729,950	80.4	44,611,749	66.7	25,123,549	69.3	19,488,200	63.5
With children under 6 years	(¹)	(¹)	(¹)	(¹)	271,083	29.9	(¹)	(¹)	(¹)	(¹)	4,623,875	15.1
With children 6–17 years	(¹)	(¹)	(¹)	(¹)	390,816	43.1	(¹)	(¹)	(¹)	(¹)	9,211,899	30.0
Not married or married without a spouse present	375,882	24.4	198,206	31.2	177,676	19.6	22,320,199	33.3	11,107,800	30.7	11,212,399	36.5
With children under 6 years	(¹)	(¹)	(¹)	(¹)	14,373	1.6	(¹)	(¹)	(¹)	(¹)	876,324	2.9
With children 6–17 years	(¹)	(¹)	(¹)	(¹)	37,526	4.1	(¹)	(¹)	(¹)	(¹)	2,722,550	8.9
Number of children ever born	(¹)	(¹)	(¹)	(¹)	2.17	(¹)	(¹)	(¹)	(¹)	(¹)	1.72	(¹)
Standard deviation ..	...	...	...	...	(1.52)	...	...	...	...	...	(1.49)	...
Race or ethnic group:												
White, non-Hispanic ..	1,372,449	89.0	570,388	89.9	802,061	88.4	52,886,527	79.0	28,827,176	79.6	24,059,351	78.4
Black, non-Hispanic ..	50,785	3.3	19,138	3.0	31,647	3.5	6,792,275	10.1	3,191,826	8.8	3,600,449	11.7
Other race	42,162	2.7	16,055	2.5	26,107	2.9	2,369,474	3.5	1,276,100	3.5	1,093,374	3.6
Hispanic origin	76,872	5.0	29,061	4.6	47,811	5.3	4,883,675	7.3	2,936,250	8.1	1,947,425	6.3
Disabled	84,828	5.5	39,589	6.2	45,239	5.0	2,225,672	3.3	1,375,048	3.8	850,624	2.8
Residence:												
Urban	946,680	61.4	329,230	51.9	617,450	68.0	50,853,225	76.0	27,301,300	75.4	23,551,925	76.7
Rural	595,588	38.6	305,412	48.1	290,176	32.0	16,078,723	24.0	8,930,049	24.6	7,148,674	23.3
Farm	178,163	11.6	123,768	19.5	54,395	6.0	641,977	1.0	298,376	.8	343,601	1.1
Nonfarm	417,425	27.1	181,644	28.6	235,781	26.0	15,447,206	23.1	8,631,673	23.8	6,815,533	22.2
Immigrant	133,563	8.7	52,571	8.3	80,992	8.9	6,739,298	10.1	3,873,149	10.7	2,866,149	9.3
Highest level of education completed:												
Eighth grade or less ..	90,860	4.7	52,560	6.4	38,300	3.5	2,531,450	3.8	1,680,924	4.6	850,526	2.8
Some high school	172,140	8.9	75,900	9.2	96,240	8.8	6,656,473	9.9	3,929,474	10.8	2,726,999	8.9
High school degree ...	623,100	32.4	255,720	30.9	367,380	33.5	21,321,348	31.9	10,977,073	30.3	10,344,275	33.7
Some college	554,800	28.8	207,640	25.1	347,160	31.6	19,410,247	29.0	10,050,949	27.7	9,359,298	30.5
Bachelor's degree ...	330,580	17.2	149,900	18.1	180,160	16.5	11,102,025	16.6	6,151,876	17.0	4,950,149	16.1
More than bachelor's degree	106,400	5.5	56,180	6.8	50,220	4.6	3,958,524	5.9	2,084,824	5.8	1,873,700	6.1
Presence of person(s) older than 65 in household	193,500	10.0	74,920	9.0	118,580	10.8	3,455,726	5.2	1,848,900	5.1	1,606,826	5.2
Mean family income, 1989	\$47,359	...	\$42,457	...	\$50,787	...	\$46,688	...	\$47,083	...	\$46,222	...
Standard deviation (dollars)	(42,623)	...	(37,381)	...	(45,623)	...	(33,206)	...	(33,176)	...	(33,234)	...
Self-employed	1,229,860	63.9	541,080	65.4	688,780	62.7	3,658,647	5.5	2,630,899	7.3	1,027,748	3.3
Mean annual earnings, 1989 (dollars)	\$16,588	...	\$25,619	...	\$10,273	...	\$25,604	...	\$31,649	...	\$18,469	...
Standard deviation (dollars)	(21,985)	...	(27,318)	...	(14,234)	...	(21,516)	...	(24,701)	...	(13,970)	...
Mean hours worked per week, 1989	40.48	...	48.14	...	35.12	...	41.31	...	44.19	...	37.93	...
Standard deviation ..	(18.28)	...	(16.79)	...	(17.34)	...	(10.66)	...	(9.92)	...	(10.52)	...
Mean weeks worked, 1989	45.39	...	48.04	...	43.53	...	47.85	...	48.91	...	46.59	...
Standard deviation ..	(12.03)	...	(9.47)	...	(13.23)	...	(9.36)	...	(8.00)	...	(10.62)	...

onsite workers evident in table 2 has to do with annual and hourly earnings. For both men and women, the annual and hourly earnings of home-based workers were well below those of onsite workers. To abstract from the differences in annual earnings that arise from differences in the distribution of work hours, we focus here on hourly earnings only. Hourly earnings of home-based men and women workers were 85 percent and 75 percent, respectively, of their onsite counterparts. However, much caution must be exercised in drawing conclusions from these differences: as we have seen, home-based and onsite workers differ with regard to characteristics that are well known to be related to earnings—class of worker, part-time versus full-time status, and location of residence (urban or rural). An added complication arises because of the difficulties that exist in measuring earnings for the self-employed.

To get a better understanding of earnings differences between home-based and onsite workers, table 5 presents a comparison of hourly earnings of these workers by class of worker, location of residence, and weekly hours worked. In every case but one (men working fewer than 35 hours per week), the hourly earnings of home-based workers were below those of onsite workers. Further, in all of the comparisons shown, the ratio of hourly earnings of home-based to onsite workers was lower for women than for men; apparently, women “pay more” for home-based work than do men, perhaps because women are more likely to desire work flexibility in virtue of their child care responsibilities. Other cases in which the ratio of home-based to onsite earnings was especially low were for workers in rural farm areas and for those who worked 45 or more hours per week—both cases in which the home-based workers were

much more likely to be in farming occupations than were the onsite workers.²⁴

Differences in the occupational and industrial distributions between home-based and onsite workers shown in table 3 are similar to those reported from the CPS survey, with service industries and occupations relatively more highly represented among the home-based workers and manufacturing industries and occupations less so. An important difference between the industrial and occupational distributions presented in tables 1 and 3, however, is that the CPS data in table 1 are for nonfarm employment only, whereas the data from the Census of Population in table 3 include both farm and nonfarm employment. This affects the industrial and occupational distributions of home-based workers because, as previously noted, home-based workers were much more likely to live in farm areas. In particular, 13.8 percent of home-based workers (25.5 percent of men and 5.6 percent of women) were employed in farming occupations, while only 0.9 percent of onsite workers (1.4 percent of men and 0.3 percent of women) were in farming occupations. Similarly, 15.0 percent of home-based workers were employed in the farming industry, while only 1.2 percent of onsite workers were.

Comparing the occupational and industrial distributions of home-based and onsite workers by sex, we see that the aggregate differences in table 1 mask distinct sex-related patterns. Consider first occupation. For men, the most pronounced difference between home-based and onsite workers is that relatively more home-based workers were in farming occupations and relatively fewer in manufacturing occupations. For women, relatively more home-based workers were in service occupations, and relatively fewer were in managerial,

Table 2. Continued—Socioeconomic characteristics of workers aged 25–55, by work site and sex, 1990

Characteristic	Home-based workers						Onsite workers					
	Total		Men		Women		Total		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Weekly hours worked, 1989:												
Fewer than 35 hours . . .	716,701	37.2	321,680	38.9	395,039	36.0	7,827,276	11.7	1,540,276	4.3	6,287,000	20.5
35–45 hours	559,580	29.1	98,860	11.9	460,720	42.0	45,574,650	68.1	24,256,125	66.9	21,318,525	69.4
More than 45 hours . . .	649,306	33.7	407,100	49.2	242,206	22.1	13,530,025	20.2	10,434,951	28.8	3,095,074	10.1
Mean hourly wage, 1989 (dollars per hour) ²	\$9.86	...	\$12.66	...	\$7.91	...	\$12.88	...	\$14.84	...	\$10.57	...
Standard deviation (dollars per hour)	(15.09)	...	(16.85)	...	(13.38)	...	(11.13)	...	(12.31)	...	(9.03)	...

¹ Not available.

² Computed from annual earnings, weeks, and hours worked for 1989.

NOTE: The information in this table is computed from the 5-percent Public Use Microdata Sample (PUMS) of the 1990 Census of Population. Workers in group quarters, in institutions, in the military, or in school are excluded, as are those who reported that they were home based during the week the census

was taken, but did not work in 1989. Also excluded are workers whose information on earnings for 1989 was not consistent with their reported class-of-worker status (self-employed or employee) in 1990 and workers whose computed hourly earnings exceeded \$250. The data for home-based workers are from the full 5-percent sample; the data for onsite workers are based on a 0.04 subsample of the 5-percent sample (yielding a 0.002 sample of the onsite worker population).

Table 3. Occupational and industrial distributions of workers aged 25–55, by work site and sex, 1990

Occupation and industry	Home-based workers						Onsite workers					
	Total		Men		Women		Total		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Occupation												
All occupations	1,542,268	100.0	634,642	100.0	907,626	100.0	66,931,950	100.0	36,231,350	100.0	30,700,600	100.0
Managerial and professional specialty	403,528	26.2	189,034	29.8	214,494	23.6	19,047,598	28.5	9,481,574	26.2	9,566,024	31.2
Executive, administrative, and managerial	176,991	11.5	88,469	13.9	88,522	9.8	9,019,123	13.5	5,103,624	14.1	3,915,499	12.8
Professional specialty	226,537	14.7	100,565	15.8	125,972	13.9	10,028,474	15.0	4,377,949	12.1	5,650,525	18.4
Technical, sales, and administrative support	351,931	22.8	117,280	18.5	234,651	25.9	20,731,148	31.0	7,676,774	21.2	13,054,374	42.5
Sales occupations	190,354	12.3	102,453	16.2	87,901	9.7	9,587,184	14.3	5,289,100	14.6	4,298,084	14.0
Administrative support, including clerical	161,577	10.5	14,827	2.3	146,750	16.2	11,142,573	16.6	2,387,674	6.6	8,754,899	28.5
Service occupations	361,712	23.5	27,054	4.3	334,658	36.9	7,264,748	10.9	2,987,575	8.2	4,277,173	13.9
Personal service occupations	279,994	18.2	5,523	.8	274,471	30.2	902,223	1.3	163,874	.5	738,349	2.4
Precision production, craft, and repair	112,425	7.3	82,231	13.0	30,194	3.3	8,460,252	12.6	7,666,626	21.2	793,626	2.6
Operators, fabricators, and laborers	83,073	5.4	46,282	7.3	36,791	4.1	10,314,047	15.4	7,495,023	20.7	2,819,024	9.2
Farming occupations	212,644	13.8	162,191	25.5	50,453	5.6	611,765	.9	507,239	1.4	104,526	.3
Other occupations	16,955	1.1	10,570	1.7	6,385	.7	520,627	.8	434,776	1.2	85,851	.3
Industry												
All industries	1,542,268	100.0	634,642	100.0	907,626	100.0	66,931,950	100.0	36,231,350	100.0	30,700,600	100.0
Construction	47,810	3.1	19,674	3.1	28,136	3.1	4,295,802	6.4	3,909,051	10.8	386,751	1.3
Manufacturing	106,144	6.9	44,425	7.0	61,719	6.8	13,534,727	20.2	9,031,551	24.9	4,503,176	14.7
Transportation and public utilities	27,126	1.8	10,789	1.7	16,337	1.8	5,646,197	8.4	4,017,248	11.1	1,628,949	5.3
Wholesale trade	34,565	2.2	14,597	2.3	19,968	2.2	3,180,449	4.8	2,245,198	6.2	935,251	3.0
Retail trade	144,339	9.4	59,022	9.3	85,317	9.4	8,813,998	13.2	4,273,248	11.8	4,540,750	14.8
Finance, insurance, and real estate	72,848	4.7	31,097	4.9	41,751	4.6	4,800,925	7.2	1,806,125	5.0	2,994,800	9.8
Services	957,741	62.1	400,459	63.1	557,282	61.4	21,194,675	31.7	7,458,625	20.6	13,736,050	44.7
Business and repair services	141,002	9.1	71,621	11.3	69,381	7.6	3,062,924	4.6	1,920,475	5.3	1,142,449	3.7
Personal services	121,052	7.8	21,317	3.4	99,735	11.0	1,800,949	2.7	563,350	1.6	1,237,599	4.0
Professional services	493,997	32.0	99,200	15.6	394,797	43.5	15,600,348	23.3	4,578,425	12.6	11,021,923	35.9
Social services	7,301	.5	1,474	.2	5,827	.6	454,549	.7	104,274	.3	350,275	1.1
Farming industry	231,707	15.0	169,879	26.8	61,828	6.8	810,909	1.2	615,933	1.7	194,976	.6
Other industries	30,770	2.0	15,278	2.4	15,492	1.7	4,642,178	6.9	2,862,277	7.9	1,779,901	5.8

NOTE: The information in this table is computed from the 5-percent Public Use Microdata Sample (PUMS) of the 1990 Census of Population. Workers in group quarters, in institutions, in the military, or in school are excluded, as are those who reported that they were home based during the week the census was taken, but did not work in 1989. Also excluded are workers whose information on

earnings for 1989 was not consistent with their reported class-of-worker status (self-employed or employee) in 1990 and workers whose computed hourly earnings exceeded \$250. The data for home-based workers are from the full 5-percent sample; the data for onsite workers are based on a 0.04 subsample of the 5-percent sample (yielding a 0.002 sample of the onsite worker population).

sales, and clerical occupations. With regard to industry, home-based men were more likely than onsite men to be in farming and service industries and less likely to be in manufacturing and transportation. Home-based women were more likely to be in service industries and farming (61.7 percent were in services alone) and less likely to be in manufacturing and most other industries. Thus, overall, home-based workers were much more likely than onsite workers to be employed in farm and service industries and occupations, and less likely to be in manufacturing and sales industries and occupations.

IN SETTING OUT THE CONTROVERSY that surrounds home-based work, we have presented the two alternative views of this form of work organization. One portrays home-based work-

ers as an advantaged group with broad workplace flexibility; the other characterizes them as disadvantaged and exploited. The reality of home-based work is not so simple as either of these views would have it. The complex data we have presented in this article demonstrate that home-based workers are diverse in a wide variety of dimensions and that they can be accurately rendered only with a more nuanced picture.

Nonetheless, some broad patterns do emerge. First, and perhaps most important, 63.0 percent of home-based workers are self-employed. (By contrast, for onsite workers, the proportion is 5.5 percent.) Thus, for a large group of home-based workers, the issue of exploitation loses much of its potency. This finding also provides insight into one aspect of home-based work that may limit its expansion: the difficulty of

monitoring workers when they are not at a work site. It may be that one of the important ways that workers are able to arrange a home-based option for themselves, given this potential monitoring problem, is by becoming their own employer. Second, home-based workers are much less likely than are onsite workers to work standard hours (35 to 45 hours per week). Third, home-based workers are more likely to live in rural areas, both farm and nonfarm, than are all workers.²⁵ Fourth, home-based workers—especially women—are disproportionately represented in service industries and occupations, and male home-based workers are disproportionately represented in farming. Fifth, female home-based workers are more likely than are all female workers to have children under the age of 18 years. And finally, nonwhites and non-Hispanics are a smaller proportion of home-based workers than they are of the labor force at large, whereas for women, the converse is true.

If one focuses on the three characteristics that most clearly distinguish home-based workers from onsite workers—that home-based workers are much more likely to be self-employed, to work nonstandard hours, and to live in rural areas—one readily sees that they all point toward one unifying feature: home-based workers are workers who value labor force flexibility in all of its dimensions—with respect to the

Table 5. Average hourly earnings of home-based and onsite workers, by class of worker, location of household, and weekly hours worked, 1989¹

[In dollars]

Characteristic	Men			Women		
	Home-based workers	Onsite workers	Ratio	Home-based workers	Onsite workers	Ratio
Class of worker:						
Self-employed	12.15	15.46	0.786	7.29	11.02	0.662
Wage and salary ...	13.53	14.79	.915	8.97	10.55	.850
Location of household:						
Urban	15.25	15.36	.993	8.59	10.98	.782
Rural, farm	8.56	11.77	.727	5.25	8.92	.589
Rural, nonfarm	10.78	13.28	.812	6.75	9.23	.731
Weekly hours worked:						
Fewer than 35	20.38	17.57	1.160	9.96	10.60	.940
35 to 45	13.80	14.69	.939	7.27	10.58	.687
More than 45	9.76	14.77	.661	5.05	10.40	.486

¹ Computed from annual earnings, weeks, and hours worked for 1989.
NOTE: See table 4.

Table 4. Weekly hours worked by home-based and onsite workers, by class of worker and sex, 1989

[In percent]

Weekly hours worked	Men		Women	
	Home-based workers	Onsite workers	Home-based workers	Onsite workers
Self-employed workers				
All hours	100.0	100.0	100.0	100.0
Fewer than 35 hours	13.1	9.9	40.5	36.4
35 to 45 hours	35.4	42.2	34.1	37.3
More than 45 hours	51.5	47.9	25.4	26.3
Wage and salary workers				
All hours	100.0	100.0	100.0	100.0
Fewer than 35 hours	8.7	3.8	43.8	19.9
35 to 45 hours	52.4	68.9	40.4	70.6
More than 45 hours	38.9	27.3	15.8	9.5

NOTE: The information in this table is computed from the 5-percent Public Use Microdata Sample (PUMS) of the 1990 Census of Population. Workers in group quarters, in institutions, in the military, or in school are excluded, as are those who reported that they were home based during the week the census was taken, but did not work in 1989. Also excluded are workers whose information on earnings for 1989 was not consistent with their reported class-of-worker status (self-employed or employee) in 1990 and workers whose computed hourly earnings exceeded \$250. The data for home-based workers are from the full 5-percent sample; the data for onsite workers are based on a 0.04 subsample of the 5-percent sample (yielding a 0.002 sample of the onsite worker population).

work site, work hours, the type of employer, and the type of locale. It is not surprising, then, that workers most in need of this type of flexibility—women in general and especially those with young children at home, the disabled, and those living in rural areas (where commuting times to onsite work are likely to be longer than in urban areas)—have a greater representation among home-based workers than among onsite workers. Turning this argument around, one could say that the high rate of self-employment among home-based workers may well be a reflection of the desire for flexibility: people may choose self-employment as a way of getting the workplace flexibility they need and desire, and one important dimension of that flexibility is the ability to make one's home one's workplace.

But this flexibility appears to come at a cost: the average hourly wages of home-based workers of either sex are below those of onsite workers, even when one controls for class of worker, hours worked, or location of residence (urban or rural). Only in the cases of male urban workers and men who work fewer than 35 hours per week do the hourly earnings of home-based workers exceed those of their onsite counterparts. Future analyses must explore whether these differences persist when one controls for other important factors that affect wages.

The findings also raise a number of other issues that must be addressed in future work. The degree of overlap between home-based work and self-employment means that a joint analysis of both the work site decision and the self-employment decision is essential. A similar observation can be made

regarding the choice of work site and work hours. More generally, what is needed is a multidimensional analysis of the labor force participation of men and women, treating simultaneously decisions regarding self-employment, the work site, and hours. Only with such an analysis can we begin to understand how these various dimensions of workplace flexibility are related to each other and to other demographic and socioeconomic characteristics of workers. Further, in the context of this type of model, it may be possible to determine whether the reduced hourly earnings of home-based workers are a manifestation of their exploitation or a rational payment for their enhanced labor force flexibility. □

Footnotes

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¹ Link Resources Corporation, news release, "1993 Home Office Trend Fact Sheet." The data come from proprietary surveys taken by the company and are made available to the public only in the form of news releases. According to these releases, Link Resources' National Work-at-Home Survey is based on telephone surveys of 2,500 randomly selected U.S. households. The company defines a homemaker as a person aged 18 or older who performs "income-producing or job-related work at home part- or full-time—and/or uses one or more of the following for work at home: pc, modem, fax, multiple phone lines." Link Resources' estimate of the proportion of homemakers, thus defined, for 1991 was 31.2 percent, which is substantially higher than the proportion for 1991 reported in the Current Population Survey (CPS) special survey taken that year and published in 1994.

² William G. Deming, "Work at home: data from the CPS," *Monthly Labor Review*, February 1994, pp. 14–20.

³ *Ibid.*

⁴ The data for 1960 and 1980 come from Hillary Silver, "The Demand for Homework: Evidence from the U.S. Census," in Eileen Boris and Cynthia R. Daniels (eds.), *Homework: Historical and Contemporary Perspectives on Paid Labor at Home* (Urbana, IL, University of Illinois Press, 1989). The data for 1990 are from 1990 *Census of Population: Social and Economic Characteristics: United States* (U.S. Department of Commerce, Bureau of the Census, 1993), table 18, p. 18.

⁵ "Working at Home to Clear the Air," *The Wall Street Journal*, Oct. 19, 1992, p. B1.

⁶ The seven banned industries were women's apparel, jewelry manufacturing, knitted outerwear, gloves and mittens, button and buckle manufacturing, handkerchief manufacturing, and embroideries. The only exceptions were for workers who were disabled or too old to get to a place of business and workers who had to care for the disabled. In these exceptional cases, special certificates had to be obtained from the Department of Labor under Regulation 29 CFR, Part 530.

⁷ *Federal Register*, vol. 53, no. 213 (Nov. 10, 1988), pp. 45706–45727 (reprint, incorporating subsequent corrections printed in *Federal Register*, Nov. 17, 1988).

⁸ The ban on homework in one industry, knitted outerwear, had already been lifted effective Dec. 5, 1984. The revised Regulation 29 CFR, Parts 516 and 530, appears in the *Federal Register* (Nov. 10, 1988). Also included in that issue is a detailed review of all of the proposed rule changes, beginning with that of May 11, 1981, and a précis of all of the comments received at the various hearings conducted up until the promulgation of the 1989 rule.

⁹ "Spread of Illegal Home Sewing is Fueled by Immigrants," *The Wall Street Journal*, Mar. 15, 1994, p. B1.

¹⁰ See the letter submitted for the record by Jackie Ruft, executive director of District 925 of the Service Employees International Union, in U.S. House of Representatives, Subcommittee of the Committee on Government Operations, Hearing, "Pros and Cons of Home-Based Clerical Work," Feb. 26, 1986.

¹¹ "Union Resistance Could Slow the Growth of 'Telecommuting,'" *The Wall Street Journal*, Sept. 22, 1992, p. A1.

¹² Judith Gerson and Robert E. Kraut, "Clerical Work at Home or in the Office: The Difference it Makes," in Kathleen Christensen, ed., *The New Era of Home-Based Work* (Boulder, CO, Westview Press, 1988).

¹³ *Ibid.*, p. 50.

¹⁴ The results of this survey are in Deming, "Work at home."

¹⁵ There was also a special supplement to the CPS in May 1985 on the issue of work at home, but the relevant questions were worded differently from those in the 1991 survey, so the data are not comparable. (See Deming, "Work at home.")

¹⁶ Personal service industries include private households, hotels and motels, other lodging places, laundry and cleaning establishments, beauty shops, barber shops, funeral services, shoe repair shops, dressmaking shops, and miscellaneous services. (See *Census of Population and Housing, 1990: Public Use Microdata Sample Technical Documentation* (U. S. Department of Commerce, Bureau of the Census, 1992).)

¹⁷ The category of "managerial and professional specialty" occupations includes as a major subcategory "professional specialty" occupations, which include occupations such as engineer, architect, surveyor, mathematical and computer scientist, health diagnosing professional, assessing and treating professional, social worker, writer, and lawyer.

¹⁸ These questions could also be investigated with the CPS data used by Deming.

¹⁹ *Census of Population and Housing, 1990.*

²⁰ Persons who used more than one mode of transportation were requested to identify the one used for most of the distance traveled to work. The question pertains to the location at which the person worked most in the previous week. It is not possible to determine whether persons worked at more than one job.

²¹ Because home-based workers constitute between 2 percent and 3 percent of total employment, this differential sampling rate yields samples of home-based and onsite workers of the same order of magnitude. Note that in computing the means reported in the tables, we use the weights provided by the Census Bureau.

²² Interestingly, the proportion of workers with someone aged 65 or older in the household was only slightly larger for home-based workers than for onsite workers (5.5 percent versus 5.2 percent), suggesting that if having an elderly person in the household creates a need for home-based work, this effect is offset by the possibility that the elderly may facilitate onsite work by acting as baby-sitters.

²³ Information about the number of children ever born is obtained from question 20 in the Census of Population. This question is asked only of women. (See *Census of Population and Housing, 1990.*)

²⁴ For workers in rural farm areas, 88.9 percent of the home-based men and 61.4 percent of the home-based women were in farm occupations, whereas the corresponding percentages for onsite workers were 33.0 percent and 6.6 percent, respectively. For those who worked 45 or more hours per week, 37.1 percent of the home-based men and 8.4 percent of the home-based women were in farming occupations, compared with 2.3 percent of the home-based men and 0.7 percent of the home-based women for onsite workers.

²⁵ While some of these home-based rural workers are farmers, farming does not by any means account for all rural home-based workers: slightly more than 48 percent of all male home-based workers live in rural areas, but only 25.5 percent of male home-based workers report farmer as their occupation. For female home-based workers, 32.0 percent live in rural areas, but only 5.6 percent are in farming occupations.