Home-Based Workers in the United States: 1997

Household Economic Studies

Efforts to describe the American economy of the last quarter century have generated terms such as post-industrial, serviceoriented, information-based, and more recently, a plethora of e-terminology. These terms capture not only technological advances, but also economic and social changes that have transformed our way of life both at work and at home. Were these changes also accompanied by a blurring of the line

between the workplace and home as many observers forecasted? One way to address this question is to look at the growth of home-based employment and the characteristics of people who work at home.

Since the mid-1980s, the U.S. Census Bureau has added work-at-home questions to several of its on-going surveys.¹ In addition, numerous proprietary studies have recently been conducted on homebased work.² However, because of the novelty and informality of the notion of home-based employment, reliable estimates of the size and composition of this workforce are difficult to obtain.

The data presented in this report are taken from a nationally representative survey containing items specifically aimed at estimating the number of people who work at

The Work Schedule Topical Module of the 1996 panel of the SIPP asked respondents which days they worked during a typical week last month. Respondents were then asked, "As part of the work schedule for that week, which days, if any, did [they] work only at home?" A copy of the topical module instrument can be found on the SIPP Web site at *www.sipp.census.gov/sipp/ modumain.htm*. For more information on the data collection, see the section "Source of the Data" at the end of this report.

> least 1 full day at home during a typical workweek. To assess the extent of homebased work, the Census Bureau administered a supplement in the fourth interview of the 1996 panel of the Survey of Income and Program Participation (SIPP). This supplement, fielded from April 1997 to July 1997, included the Work Schedule Topical Module.³ One of the goals of this module was to capture work done at home instead of at another location.

HOME-BASED WORKER ESTIMATES

The SIPP data reveal that during a typical week in the spring/summer of 1997, 9.3 million people (7 percent of the workers) put in at least 1 full workday at home.⁴

U.S. Department of Commerce

Economics and Statistics Administration

U.S. CENSUS BUREAU

Issued December 2001

P70-78

Current Population Reports

By Jeffrey J. Kuenzi and Clara A. Reschovsky

Demographic Programs



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¹ These efforts are nicely summarized in Joanne H. Pratt, *Counting the New Mobile Workforce*, U.S. Bureau of Transportation Statistics, 1997.

² For examples of these surveys, see Patricia L. Mokhtarian and Dennis K. Henderson, "Analyzing the Travel Behavior of Home-Based Workers in the 1991 CAL-TRANS Statewide Travel Survey," *Journal of Transportation Statistics*, October, 1998.

³ This supplement was first added to the 1993 panel — tables comparable to those in this report are available at *www.census.gov*, under the topic "work-ing at home."

⁴ The estimates in this report are based on responses from a sample of the population. As with all surveys, estimates may vary from the actual (population) values because of sampling variation or other factors. All statements made in this report have undergone statistical testing and meet U.S. Census Bureau standards for statistical accuracy.

Table 1. Home-Based Worker Estimates: 1960-2000

(Numbers in thousands)

Year	Decennial Census ¹		American Housing Survey ²		Characteristics of Business Owners ³		Survey of Income and Program Participation ⁴		Current Population Survey ⁵	
	Workers	Work at home	Workers	Work at home	Small busi- nesses	Home- based busi- nesses	Workers	Work at home	Workers	Work at home
1960	64,656	4,663								
1970	76,852	2,685								
1980	96,617	2,178								
1982	·	·			10,584	5,493				
1985					·	·			106,878	18,082
1987					12,093	6,156			·	·
1990	115,070	3,406								
1991									109,126	19,967
1992					17,253	8,557				
1993			103,741	3,139	·					
1995			107,959	2,963			125,925	10,886		
1997			116,469	3,611			132,692	9,260	120,960	21,478
1999			118,041	3,288						

... Data not collected.

¹The Decennial Census defines workers as those age 16 and over who were employed and at work in the previous week. This population includes those in the military and those in noninstitutional group quarters. Individuals working at home are those who reported "work at home" on a question about how they "usually" commute to work.

²The American Housing Survey defines workers as those age 14 and over who were employed and at work in the previous week. This population includes those in the military who live in private homes and only allows up to four workers in each household. Individuals working at home are those who reported "work at home" on a question about how they "usually" commute to work.

³The Characteristics of Business Owners supplement to the Economic Census defines small businesses as those who filed taxes under forms 1040, Schedule C (individual proprietorships); 1065 (partnerships); or 1120S (subchapter S corporations). Home-based businesses are those that the respondent operated out of their residence.

⁴The Survey of Income and Program Participation defines workers as those age 16 and over and, in the data presented here, were employed during the 4th month of the reference period. Individuals working at home worked at least 1 full day at home during a "typical" week of that month.

⁵The Current Population Survey defines workers as those with a job (and "at work" for 1991 and 1997) during the week including the 12th day of the interview month (May, in the case of the data presented here). Individuals working at home performed at least some of the tasks for their job at home.

Source: U.S. Census Bureau; 1960, 1970, 1980, 1990 Decennial Census; 1993, 1995, 1997, 1999 American Housing Survey; 1982, 1987, 1992 Characteristics of Business Owners; 1995, 1997 Survey of Income and Program Participation; 1985, 1991, 1997 March Current Population Survey.

Two other estimates are available from surveys fielded during roughly the same time-period: the May 1997 Supplement to the Current Population Survey (CPS) and the 1997 American Housing Survey (AHS) — fielded between May and November. The 1997 CPS estimated the number of people completing some work for their job at home at 21.5 million, while the 1997 AHS estimated the number of people who usually work at home at 3.6 million. The variation present in these three estimates derives mainly from the way in which respondents were queried about their work at home activities.

The SIPP asks respondents to indicate which days of the workweek they work at home (see textbox on previous page). Thus, to be regarded as an at-home worker by this instrument, a respondent must report having worked only at home on a given workday. Examples of individuals not counted as homebased workers by this survey include those who went to work late or left work early in order to work at home and those on a Monday to Friday schedule who occasionally worked at home over the weekend. In contrast, the CPS asks respondents to indicate whether they completed any work for their job while at home.

Those who did any tasks at home, however minor, were counted as having worked at home. The AHS estimates at-home workers using a third methodology. Here, respondents were asked how they usually get to work; with "work at home" listed along with several other means of transportation. Those who used several "means" of getting to work, either in the same week or in the same day, had to opt for the mode "most often" used or "which covered the longest distance." Clearly, the AHS provides the most conservative of the three estimates.

Table 1 shows levels and trends in home-based work activity as

Table 2.Work at Home Status of Employed People, Primary Job Only: 1997 and 1995

(Numbers in thousands, civilian noninstitutional population)

	Tet	tal	Work at home status						
Employed	Total		Nonhome workers ¹		Mixed workers ²		Home workers ³		
	1997	1995	1997	1995	1997	1995	1997	1995	
Number Percent	132,692 100.0	125,925 100.0	123,432 93.0	115,039 91.4	2,875 2.2	2,546 2.0	6,385 4.8	8,340 6.6	
Mean days worked per week Mean days worked at home	4.8 0.3	4.9 0.4	4.8 -	4.9 -	5.2 1.8	5.2 2.1	4.9 4.9	5.1 5.1	

- Represents zero or rounds to zero.

¹Nonhome workers are defined as those who did not work a full workday at home as part of their work schedule. ²Mixed workers are defined as those who worked at home at least 1 full day a week, but also worked other days in a location outside of their home.

³Home workers are defined as those who worked exclusively at home (i.e., every day they worked, they worked at home).

Source: U.S. Census Bureau, Survey of Income and Program Participation.

measured by five data sources. The decennial census long-form employs a measurement strategy that is very similar to the AHS. And, not surprisingly, the two data sources produce very similar estimates for at-home workers. Although the census and the AHS represent conservative estimates, they provide the most frequent and repeated measures of home-based employment.⁵

The census measured a decline in home-based employment from 1960 to 1980 — presumably a result of the fall in family farm employment and the consolidation of formerly home-based professional occupations (such as doctors and lawyers) into group practices.⁶ A strong resurgence in the number of home-based workers was captured in the 1990 census - 3.4 million compared with 2.2 million in 1980. The AHS estimated that the population who "usually" works at home fluctuated between 3.0 and 3.6 million during the 1990s.

Two other surveys found steady increases in home-based work activity during the last two decades. The Characteristics of Business Owners Survey estimated that the number of home-based businesses increased from 5.5 million in 1982 to 6.2 million in 1987 and to 8.6 million in 1992. As stated above, the 1997 CPS found that the number of people completing some work for their job at home was 21.5 million previous estimates from this survey were 18.0 million in 1985 and 20.0 million in 1991.

Estimates from the SIPP in Table 1 indicate a decline in the number of at-home workers from 10.9 million in 1995 to 9.3 in 1997. This decline may be due to the way 'primary' jobs were measured in the SIPP for the two interviews. The analysis in this report focuses on the 'primary', or the main job, held by individuals. These were much more directly defined in the 1997 than the 1995 SIPP. The 1995 data included some mix of both primary and secondary jobs, the latter, which have higher levels of selfemployment, and likely at-home workers. The drop measured in the SIPP between 1995 and 1997 should therefore be interpreted with caution. The next collection of data

on work at home patterns was conducted as part of the 10th interview of the SIPP panel, during the summer of 1999. This third SIPP estimate should provide a clearer picture of the trend over time.

The remainder of this report examines data on home-based workers from the 1997 SIPP. The analysis will focus on the employment and demographic characteristics of those who work at home and make comparisons to those who do not work at home.

The workers studied in this report are divided into three workplace classifications

Workers who did not work a full workday at home as part of their work schedule are referred to as nonhome workers. Those who worked exclusively at home (i.e., every day they worked, they reported working at home) are considered home workers. A third group, mixed workers, includes those that reported working at home at least 1 full day in a typical week, but also reported working other days in a location outside of their home. Table 2 shows the distribution of employed people across the three work-at-home statuses for their primary job in 1997.

⁵ The AHS underestimates the number of workers (and most likely the number of homebased workers) compared to the census because it does not include those in group quarters or those in the armed forces.

⁶ See *Census Brief CENBR/98-2*, U.S. Census Bureau, 1998.

Among all people employed in July 1997, 93 percent never worked at home (nonhome workers), 2 percent worked at home for part of their workweek (mixed workers), and 5 percent worked at home exclusively (home workers). Overall, employed people worked an average of 4.8 days per week, with no significant variation between types of workers. Mixed workers spent, on average, 1.8 of their 5.2 workdays at home. The average home worker put in 4.9 workdays per week at home.

Figure 1 displays the distribution of days worked at home for mixed workers and home workers. These data reveal a clear divergence in the number of days worked at home by each group. Most (60 percent) mixed workers worked only 1 day at home and most (55 percent) home workers worked 5 days at home. Twenty-eight percent of mixed workers worked 2 or 3 days at home. Twenty-five percent of home workers worked 6 or 7 days at home.

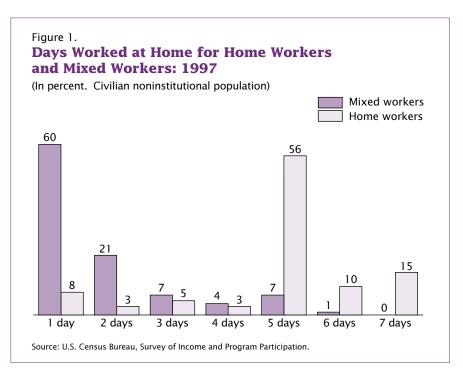
EMPLOYMENT CHARACTERISTICS

Home workers are much more likely than other workers to be self-employed

In 1997, 50 percent of home workers were self-employed, compared with 11 percent of nonhome workers and 36 percent of mixed workers. That home workers are more likely to be self-employed is not surprising since, by definition, they spend all their workdays at home. Table 3 presents employment characteristics for the total employed population and for each of the three work-at-home groups.

One-third of home and mixed workers are in professional and related services industries

Home and mixed workers were more likely to work in professional



and related services industries than nonhome workers; 30 percent for home and 32 percent for mixed workers compared with 23 percent for nonhome workers (Table 3). Compared to other industries, professional and related services industries encompass enterprises that can be more easily transported to remote locations. On the other hand, the manufacturing and retail trade industries are more difficult to locate in the home. This is confirmed by the fact that home and mixed workers were less likely than nonhome workers to be in these industries: 7 percent and 10 percent, respectively, for home; 11 percent and 10 percent for mixed workers; and 16 percent and 18 percent for nonhome workers.

Half of mixed workers are in executive, managerial, and professional occupations

Fifty-two percent of mixed workers were employed in the executive, administrative, managerial, and professional occupations; compared with 40 percent of home workers and 27 percent of nonhome workers. Mixed workers were more likely to be employed in technician and sales occupations, while home workers were more likely to be employed in service occupations and farming, forestry, and fishing occupations (Figure 2).

DEMOGRAPHIC CHARACTERISTICS

Home workers are the oldest of the three groups — nonhome workers are the youngest

Forty percent of nonhome workers were under 35 at the time of the survey, compared with 26 percent of home workers and 31 percent of mixed workers. Conversely, 32 percent of nonhome workers were 45 or over, compared with 39 percent of mixed workers and 46 percent of home workers. Table 4 displays the demographic characteristics of these groups.

Home workers are more likely to be female

Just as in the overall working population, the majority of nonhome and mixed workers were male. However, home workers were more likely to be female than male. Fifty-four percent

Table 3. Employed People by Self-Employment, Industry, and Occupation: 1997

(Numbers in thousands, civilian noninstitutional population)

	Total		Nonhome workers		Mixed workers		Home workers	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	132,692	100.0	123,432	100.0	2,875	100.0	6,385	100.0
Self-employed								
Yes	18,205	13.7	13,981	11.3	1,034	36.0	3,190	50.0
No	114,487	86.3	109,451	88.7	1,841	64.0	3,195	50.0
Industry								
Agriculture, forestry, and fishing	3,852	2.9	3,093	2.5	104	3.6	655	10.3
Mining	551	0.4	523	0.4	10	0.3	18	0.3
Construction	8,051	6.1	7,485	6.1	183	6.4	383	6.0
Manufacturing	20,912	15.8	20,165	16.3	301	10.5	446	7.0
Transportation, communications, and								
other public utilities	8,722	6.6	8,431	6.8	101	3.5	190	3.0
Wholesale trade	5,146	3.9	4,613	3.7	228	7.9	305	4.8
Retail trade	22,619	17.0	21,699	17.6	300	10.4	621	9.7
Finance, insurance, and real estate	7,836	5.9	7,116	5.8	231	8.0	490	7.7
Business and repair services	8,500	6.4	7,682	6.2	247	8.6	570	8.9
Personal services	4,732	3.6	4,145	3.4	77	2.7	510	8.0
Entertainment and recreation services	2,693	2.0	2,536	2.1	49	1.7	108	1.7
Professional and related services	31,450	23.7	28,602	23.2	929	32.3	1,918	30.0
Public administration	7,164	5.4	6,897	5.6	102	3.5	165	2.6
Other, unclassified	465	0.4	446	0.4	13	0.4	7	0.1
Occupation								
Executive, administrative, and								
managerial	17,695	13.3	15,872	12.9	652	22.7	1,170	18.3
Professional speciality	19,741	14.9	17,527	14.2	833	29.0	1,382	21.6
Technical and related support	4,180	3.1	4,023	3.3	87	3.0	70	1.1
Sales	15,724	11.8	14,217	11.5	576	20.0	930	14.6
Administrative support and clerical	19,486	14.7	18,560	15.0	213	7.4	714	11.2
Service: private household	1,097	0.8	872	0.7	12	0.4	212	3.3
Service: protective service	2,203	1.7	2,158	1.7	11	0.4	35	0.5
Other service	15,010	11.3	14,266	11.6	120	4.2	625	9.8
Farming, forestry, and fishing	3,869	2.9	3,205	2.6	85	3.0	579	9.1
Precision production, craft, and repair	13,901	10.5	13,387	10.8	181	6.3	332	5.2
Machine operators, assemblers, and								
inspectors	8,281	6.2	8,076	6.5	34	1.2	171	2.7
Transportation and material moving	5,412	4.1	5,317	4.3	42	1.5	53	0.8
Handlers, cleaners, and laborers	5,629	4.2	5,497	4.5	26	0.9	106	1.7
Other, unclassified	465	0.4	455	0.4	3	0.1	7	0.1

Source: U.S. Census Bureau, Survey of Income and Program Participation.

of home workers were female, compared with 46 percent of nonhome and 43 percent of mixed workers.

Home and mixed workers are more likely to be White Non-Hispanic⁷

Seventy-six percent of nonhome workers were White Non-Hispanic compared with 85 percent of home and 86 percent of mixed workers. The proportion of Black nonhome workers also appears to be higher than that of home and mixed workers; however, because of the small number of the latter, this apparent difference is not significant.

Over two-thirds of home and mixed workers are married

Sixty-nine percent of home and 68 percent of mixed workers were married⁸, compared with 58 percent of nonhome workers. Home and mixed workers were less likely to be never married than nonhome workers — 17 percent and 19 percent compared with 27 percent.

Home and mixed worker families are equally likely to have young children as nonhome worker families

Fifty-seven percent of nonhome worker families have one or more children under the age of 18 — virtually the same percentage as families containing either mixed workers (58 percent) or home workers (57 percent). These figures refer to

⁷ Hispanics may be of any race. In the 1996 Survey of Income and Program Participation, the percentage of each minority race group that reported being Hispanic is as follows: Black — 4 percent, American Indian/Alaska Native — 18 percent, Asian/Pacific Islander — 2 percent.

⁸ The percentages for home and mixed workers are not statistically significant.

the children in the respondents' family and do not include the children of non-family members that may reside in the household.

Mixed workers, on average, earn \$15,000 more than other workers

Figure 3 displays average earnings and average family income for each of the three groups. Average earnings for mixed workers were \$42,821, compared with \$27,461 for home workers and \$27,174 for nonhome workers. Families with at least one member working at home had significantly higher incomes than families without a home-based worker. Average family income for mixed worker families was \$72,343, compared with \$64,165 for home worker families and \$54,430 for nonhome worker families.

Home workers are less likely to live in metropolitan areas

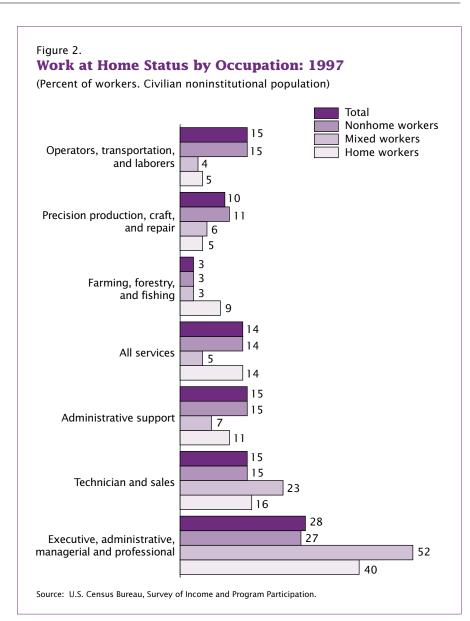
Home workers were less likely than other workers to live in metropolitan areas — 78 percent, compared with 83 percent of nonhome workers and 84 percent of mixed workers (Table 4).

Over half of mixed workers hold a bachelor's degree

Home workers were more likely to hold a bachelor's degree than nonhome workers, while mixed workers had even higher levels of educational attainment. Fifty-two percent of mixed workers held a bachelor's degree — compared with 38 percent of home workers and 24 percent of nonhome workers.

SUMMARY

In contrast to the media attention given to telecommuting, the majority of home-based workers in 1997 were not putting in a portion of the



workweek in traditional offices. Rather, the typical home-based worker worked exclusively at home many operating home-based businesses. The SIPP data also reveal that the size of the home worker population declined between 1995 and 1997, although procedural differences between the two survey years may be a factor in this decline.

Still, a large number of workers split their workweek between home and office. These mixed workers tended to be college-educated executives, managers, and administrators living in metropolitan households with household incomes of \$75,000 or more. As opposed to the home worker population, this segment of the workforce grew between 1995 and 1997. Even though this growth was small compared with the decline in the number of home workers, the mixed worker population is likely to expand and draw increasing attention as the information economy continues to develop.

Table 4. Employed People by Selected Characteristics: 1997

(Numbers in thousands, civilian noninstitutional population)

Observatorialia	Total		Nonhome workers		Mixed workers		Home workers	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	132,692	100.0	123,432	100.0	2,875	100.0	6,385	100.0
Age								
15 to 24 years	19,495	14.7	18,899	15.3	147	5.1	450	7.1
25 to 34 years	32,783	24.7	30,819	25.0	731	25.4	1,233	19.3
35 to 44 years	36,386	27.4	33,719	27.3	889	30.9	1,777	27.8
45 to 54 years	26,846	20.2	24,696	20.0	658	22.9	1,491	23.4
55 to 64 years	12,734	9.6	11,529	9.3	327	11.4	878	13.7
65 years and over	4,449	3.4	3,770	3.1	123	4.3	556	8.7
Sex								
Male	71,036	53.5	66,457	53.8	1,637	57.0	2,942	46.1
Female	61,656	46.5	56,975	46.2	1,237	43.0	3,444	53.9
Race and Hispanic Origin								
White	112,915	85.1	104,575	84.7	2,597	90.3	5,742	89.9
White non-Hispanic	101,241	76.3	93,320	75.6	2,481	86.3	5,440	85.2
Black	14,005	10.6	13,430	10.9	178	6.2	397	6.2
American Indian and Alaska Native	1,272	1.0	1,161	0.9	10	0.4	101	1.6
Asian and Pacific Islander	4,500	3.4	4,265	3.5	89	3.1	146	2.3
Hispanic (of any race)	12,689	9.6	12,238	9.9	129	4.5	322	5.0
Marital Status								
Married	77,565	58.5	71,227	57.7	1,958	68.1	4,380	68.6
Widowed	2,691	2.0	2,476	2.0	18	0.6	196	3.1
Divorced	14,182	10.7	13,250	10.7	303	10.5	629	9.9
Separated	3,284	2.5	3,103	2.5	54	1.9	127	2.0
Never married	34,970	26.4	33,376	27.0	541	18.8	1,053	16.5
Own Children Under 18								
At least one	75,685	57.0	70,364	57.0	1,659	57.7	3,662	57.4
None	57,007	43.0	53,067	43.0	1,216	42.3	2,723	42.6
Family Income								
Under \$25,000	32,049	24.2	29,781	24.1	468	16.3	1,801	28.2
\$25,000 to \$49,999	44,023	33.2	41,441	33.6	813	28.3	1,769	27.7
\$50,000 to \$74,999	28,637	21.6	26,828	21.7	634	22.0	1,175	18.4
\$75,000 and over	27,983	21.1	25,382	20.6	961	33.4	1,641	25.7
Metropolitan Status								
Metropolitan	109,654	82.6	102,260	82.8	2,406	83.7	4,988	78.1
Nonmetropolitan	22,410	16.9	20,552	16.7	468	16.3	1,390	21.8
Educational Attainment								
Less than high school diploma	17,127	12.9	16,374	13.3	105	3.7	648	10.2
High school graduate	40,979	30.9	39,044	31.6	430	14.9	1,505	23.6
Some college/Associate degree	41,121	31.0	38,474	31.2	848	29.5	1,800	28.2
Bachelor's degree or more	33,465	25.2	29,539	23.9	1,493	51.9	2,433	38.1

Source: U.S. Census Bureau, Survey of Income and Program Participation.

SOURCE OF THE DATA

The estimates in this report come from the SIPP. This is a longitudinal survey of people who are at least 15 years old, conducted at 4-month intervals by the Census Bureau. Although the main focus of the SIPP is information on labor force participation, jobs, income, and participation in federal assistance programs, information on other topics is also collected in topical modules on a rotating basis. Data shown in this report are from the Work Schedule topical module collected in the 4-month period from April to July 1997 as part of the 1996 panel of the SIPP. The Work Schedule topical module included questions on employment status, number of employers, number of hours and days worked per week, days worked only at home, work schedule, and reason for work schedule. Further information can be found on the SIPP Web site: www.sipp.census.gov/sipp.

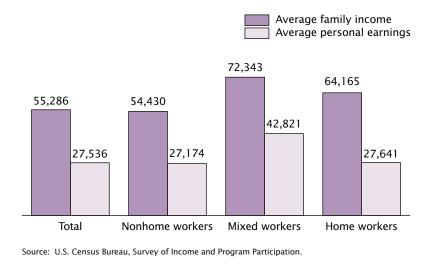
ACCURACY OF THE ESTIMATES

All survey statistics are subject to sampling error, as well as nonsampling error such as survey design flaws, respondent classification and reporting errors, data processing mistakes, and undercoverage. The Census Bureau attempts to reduce errors made by respondents, coders, and interviewers through the use of guality control and editing procedures. Ratio estimation to independent age-race-sex-Hispanic population controls partially corrects for bias due to survey undercoverage. However, biases exist in the estimates when missed people have characteristics different from those of interviewed people in the same age-race-sex-Hispanic origin group. Analytical statements in this report have been tested and meet statistical standards. However, because of methodological differences, use caution when comparing these data with data from other sources.

Contact Earl J. Letourneau, Demographic Statistical Methods Division, at 301-457-4228 or on the internet at: *Earl.J.Letourneau@ census.gov* for survey design and estimation questions. For more information on the source of the data, the accuracy of the estimates, the use of standard errors, and the computation of standard errors, see

Figure 3. Average Family Income and Earnings by Work at Home Status: 1997

(In dollars. Civilian noninstitutional population)



"Methodology" under the SIPP Web site: www.sipp.census.gov/sipp.

CONTACTS

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