

**THE SURVEY OF INCOME AND
PROGRAM PARTICIPATION**

**AN EVALUATION AND ANALYSIS
OF RESERVATION WAGE DATA
FROM SIPP**

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AN EVALUATION AND ANALYSIS OF RESERVATION WAGE DATA FROM SIPP

by Paul Ryscavage

Introduction

The reservation wage is an important element in an individual's decision to participate in the labor market. It represents the wage a worker would require to give up an additional hour of leisure (Hammermesh and Rees, 1984). In working and is commonly thought of as the lowest wage a person would accept for market work.

The reservation wage of an individual is a subjective value and can be affected by many factors. The most obvious is the type of work a person is looking for or considering . Other factors could include the traveling distance to the job, the working conditions, the sources of other income in the household, and so on. The precise impact of each of these factors on one's reservation wage is difficult to quantify. Nevertheless, the concept remains central to much of contemporary labor economic theory and interest in any empirical evidence of it remains high.

In the fifth round of interviews of the 1984 panel of the Survey of Income and Program Participation (SIPP), a series of questions were asked about the reservation wage, job search, and reasons for not participating in the labor force. SIPP is a longitudinal household survey designed to provide comprehensive information on the economic situation of households and persons in the country. ¹ The reservation wage questions were part of the survey's topical module which in this wage also contained questions on child care, welfare history and child support, support for nonhousehold members, and work related expenses.

Because of the potential usefulness of reservation wage data, and also their political sensitivity, a thorough evaluation of them is essential. This paper is divided into two parts. The first part discusses how the data were collected and the various qualitative issues concerning the data. The second part presents some of the data in an analytical context. Both parts should provide potential users with some insights into the nature and quality of the data.

¹For more information on SIPP see Dawn Nelson, David B. McMillen, and Daniel Kasprzyk. "An Overview of the Survey of Income and Program Participation, Update 1," (1985).

PART 1. SIPP RESERVATION WAGE DATA: AN EVALUATION

Background

Reservation wage data are not frequently collected because of the difficulty in collecting in them. Two surveys which have collected them in the past are the Current Population Survey (CPS) and the National Longitudinal Surveys (NLS) of Work Experience.

In May 1976 the CPS contained a special supplement to its regular labor force questions inquiring about the job seeking activities of unemployed persons identified in that month. This supplemental questionnaire was to be answered by unemployed persons and mailed back to the Bureau of the Census. The questionnaire was very detailed and consisted of eight pages. The specific reservation wage question read: "What is the lowest wage or salary you would accept (before deductions) for this type of work?" Great care was taken to focus the respondent's attention on a specific type of work or occupation and the related factors that might condition the response.

Approximately 3,200 persons answered the supplemental questionnaire out of a potential *of 4,700, for a nonresponse rate of slightly more than 30 percent. Although the Bureau of Labor Statistics (BLS) (who had responsibility for analyzing these data) published the results of this survey, they were careful to discuss the limitations of the estimates (Rosenfeld, 1977). Feldstein and Poterba (1984) used the data later to analyze the relationship between unemployment compensation and reservation wages.

The NLS also contained questions relating to the reservation wage and job search. These surveys, however, relate to the specific age-sex cohorts and do not cover the entire adult population as the CPS. Holzer (1986) used the data from the 1979 and 1980 surveys of young men to study black youth nonemployment. The NLS questions were asked of both employed and nonemployed youths.

Planning for the design of the reservation wage questions in SIPP was accomplished by a subcommittee of the SIPP Wage 5 Topical Module Committee.² Subcommittee members came from various agencies of the Federal government which had some interest in this type of data.³ All of the members were economists with knowledge of the theoretical and empirical issues surrounding the reservation wage.

²Other questions related to the reservation wage were asked in this section of the module, such as jobseeking methods, the number of employers contacted, the kind of job that was being sought, and so on. In this paper all of these questions will be referred to as the reservation wage questions.

³Subcommittee members were Robert Villanueva, Council of Economic Advisers; John Raisian, U.S. Department of Labor; Paul O Flaim, Bureau of Labor Statistics; Peggy Ross, Agricultural Research Service; Joseph Antos, Office of Management and Budget; Kyle Johnson, Department of Defense; Bruce Vavricheck, Congressional Budget Office; and Paul Ryscavage (chairman), Bureau of the Census.

A major constraint in developing the reservation wage questions was the amount of space in the questionnaire that could be devoted to this topic. SIPP is a complex survey and consists of three major sections: a control card made up of various questions about the social and demographic characteristics of each person in a household; a core section composed of detailed questions about labor force activity, income sources and amounts, and participation in various Federal government transfer income programs; and a topical module section which collects a wide variety of information on many different subjects. Because data were also to be collected in the topical module on five additional topics (mentioned earlier), the space constraint played a significant role in the design of the reservation wage questions.

Specific questions were developed in early 1984. With the exception of one subcommittee member, there was agreement that the design of this portion of the module was optimal given the amount of space available on the questionnaire. The one dissenter felt the subjective nature of the reservation wage concept required a much more extensive series of questions covering the job search process.

The entire wave 5 topical module was field tested in Boston, Massachusetts in the summer of 1984. The questions “worked” satisfactorily, although minor adjustments to some of them were made. Actual interviewing took place in the January-April period of 1985.

Questionnaire Design

SIPP’s reservation wage questions are displayed in Appendix A. Basically, they consist of two parts. The first part, questions 15a to 16n, contains questions to be asked primarily of persons on layoff and looking for work, in other words, the unemployed. The second part, questions 17a to 17h, is made up of questions addressed primarily to persons outside the labor force. A few check items and questions preceding question 15a sort out these two groups from one another and persons who were employed.

In designing the general format of the reservation wage questions, the subcommittee had to strike a balance between obtaining information on the various factors affecting the reservation wage and the amount of space available for the questions. This led to the following decisions relating to four major questionnaire design issues.

The subcommittee had to decide to whom the reservation wage questions would be asked. Obviously, unemployed persons were of the greatest interest and the majority of the questions were addressed to them. It was also decided to ask the reservation wage questions to persons who were outside the labor force and who had expressed interest in entering the job market in the near future. Asking the question of employed persons was discussed, but a majority of subcommittee members felt it would take up too much additional space⁴.

⁴As mentioned above, the National Longitudinal Surveys of Work Experience have asked reservation wage questions to employed workers.

A second decision involved the reference period for the questions. The normal reference period in SIPP is the previous four months preceding the interview (the actual interview takes place usually in the first two weeks of the month following the end of the reference period). Because the reservation wage is subjective in nature and affected by many factors, it was decided the reference period should be a relatively short period of time and as close to the interview as possible. Therefore, the last month of the SIPP four month reference period was selected, with special emphasis on the last week of that month.

If a person (16 years of age and over) in the last week of the last month was either on layoff, or without a job and looking for one, he or she was potentially eligible to be asked the reservation wage question. If a person had been outside the labor force in the last week of the last month, but had been looking for work in the other week(s) of that month, he or she also would have been potentially eligible. Both groups were considered to be in the unemployment universe. Any persons who worked in the last week was skipped out of this portion of the module.

The last week of the last month was also used in defining the “not” in the labor force universe. If individuals between 16 and 64 (and not receiving Medicare) had been outside the labor force in that week but working in the others, they would be classified as not in the labor force and potentially eligible to be asked the reservation wage question.

A third decision concerned whether or not “proxy” respondents would be allowed to answer the specific reservation wage question. Clearly, the subjective nature of the question would dictate that only self-respondents be asked. In SIPP, emphasis is placed on obtaining self-respondent interviews, but proxy interviews do occur (approximately 37 percent of the interviews in the 5th wave of the 1984 panel were proxy interviews). Despite the fact that the size of the universe being asked the specific reservation wage question would be reducing by restricting it to self-respondents, it was decided that this would yield more reliable data.

Last, a decision was made that (despite the space constraint) the specific reservation wage question had to be set in the appropriate labor market-related context. Questions, therefore, were asked to determine if an individual either had tested the job market and how strongly or whether there would be any future interest in working. In addition, an effort was made to find out whether or not the respondent was interested in a specific type of work or occupation.

Given the above decision, the following conditions defined the universes of sample persons who were asked the specific reservation wage question:

PERSONS IN UNEMPLOYMENT UNIVERSE

ASKED RESERVATION WAGE QUESTION

Sample persons had to be:

1. 16 years of age and over;
2. a self-respondent;
3. and, during the last week of the last month prior to the interview, either
 - on layoff and/or looking for work or
 - if not in the labor force that week, looking for work in at least one other week of the month.

PERSONS IN NOT IN LABOR FORCE UNIVERSE

ASKED RESERVATION WAGE QUESTION

Sample persons had to be:

1. 16 to 64 years of age and not a Medicare recipient;
2. a self-respondent
3. considering looking for work in the next 12 months;
4. and, not in the labor force the last week of the last month prior to the interview and had not looked for work in any of the other weeks of the last month.

Nonresponse

One major determinant of the quality of the data collected in a survey is the magnitude of the missing responses. A large amount of nonresponse to survey questions can seriously bias the survey's estimates because the pattern of nonresponse is typically nonrandom.

SIPP is a longitudinal panel survey and subject to panel attrition. Approximately 20,000 households were eligible for interviews in the fifth wave of SIPP interviewing. By the end of the fourth wave of interviewing sample loss had amounted to approximately 15 percent and by the end of the fifth wave it was up to 17 percent (Nelson, Bowie, and Walker, 1987).

Noninterview adjustment factors were applied to the weights of sample members in interviewed households to account for noninterviewed households.

Item nonresponse, of course, varied by question. The following are the nonresponse rates for the major questions in this portion of the module:

	<u>Nonresponse rate</u>
Q15a. Was ... on layoff from a job during that week?	4.0%
Q15b. For how many weeks had ... been on layoff up until that time?	11.6%
Q15f. What wage or salary was ... receiving at the time ... was laid off that job?	14.5%
Q16b. Was ... looking for a full-time or part-time job?	16.6%
Q16c. Did ... contact any employers, during (last month) in person, by mail, or by telephone?	16.8%
Q 16d. How many different employers did ... contact?	35.0%
Q16g. What kind of job were you looking for?*	17.0%
Q16j. What wage or salary did you expect to receive for this kind of work?*	18.6%
Q16k. What is the lowest wage or salary you would have accepted (for this kind of work)?*	15.4%
Q17a. What would you say is the main reason ... did not look for work during (last month)?	6.3%
Q17d. If you do look for work, will you look for a particular kind of job?*	3.3%
Q17g. What wage or salary do you expect to receive for this kind of work?*	4.1%
Q17h. What is the lowest wage or salary you would accept (for this kind of work)?*	4.6%

*Asked of self-respondents only.

The highest nonresponse rates occurred in those questions asked of the unemployment universe (questions 15a to 16n). The highest rate was associated with the question concerning the number of employer contacts persons looking for jobs had made--35 percent. Persons from

this universe who were asked the expected wage and reservation wage questions had nonresponse rates in the 15 to 18 percent range. These rates are similar to the nonresponse rate for wage and salary earnings collected in the March 1984 CPS (U.S. Bureau of the Census, 1986). Nonresponse rates for the questions asked of the not in the labor force universe were generally lower. For the expected wage and reservation wage questions, nonresponse rates were less than 5 percent. Missing responses to all questions were imputed on the basis of responses given by persons of similar characteristics as the nonrespondent. After all imputations had been made, the unemployment universe consisted of approximately 3,100 unweighted sample members and the not in the labor force universe, 7,100 unweighted sample members. For more information on responses and nonresponse rates on all the reservation wage questions, see Appendix B.

BENCHMARKING

Another check on the quality of the data involved comparing them with data from other surveys and studies. The first estimate checked was the number of persons age 16 and over on layoff and/or looking for work in the average month of the December 1984 to March 1985 period, or “winter 1984-85.” According to SIPP, an average of approximately 10 million persons a month were on layoff and/or looking for work in this period.⁵ According to the BLS, which uses the CPS to estimate the country’s level of unemployment, there was a monthly average of 8.7 million persons unemployed in this period.

While a variety of survey differences explain the discrepancies in the estimates, perhaps the primary reason is that in SIPP⁶ the reference period is the past month and in the CPS the reference period begins with the 12th of the month. This factor has been shown to partially account for the differences between the SIPP and CPS estimates (Ryscavage and Bregger, 1985).

The text table below shows the SIPP estimate of persons on layoff and/or looking for work and the CPS estimate of total unemployment by age and sex.

In general, the age-sex distributions from both surveys sketch out similar profiles, although in the majority of the age-sex group comparisons the SIPP estimates were found to be larger than the CPS.

⁵This estimate differs slightly from the estimate derivable from the core portion of the survey because of differences in questions and designs in both sections of the survey.

⁶Actually, in SIPP some persons on layoff were omitted from this group because they were not in the labor force in the last week of the last month, but had been on layoff in the other week (s) and had not looked for work. They totaled 643,000.

Groups	CPS		SIPP	
	<u>Number (thous.)</u>	<u>Percent</u>	<u>Number (thous.)</u>	<u>Percent</u>
Total	<u>8,659</u>	<u>100.0</u>	<u>10,056</u>	<u>100.0</u>
Men, 16 and over	4,957	57.2	5,755	57.2
16 to 19 years	795	9.2	956	9.5
20 to 24 years	1,057	12.2	1,459	14.5
25 to 54 years	2,700	31.2	2,813	28.0
55 to 64 years	347	4.0	417	4.1
65 and over	59	0.7	109	1.1
Women, 16 and over	3,702	42.8	4,301	42.8
16 to 19	607	7.0	750	7.5
20 to 24 years	757	8.7	937	9.3
25 to 54 years	2,088	24.1	2,300	23.2
55 to 64 years	217	2.5	251	2.5
65 and over	34	0.4	34	0.3

Another comparison of unemployment estimates in SIPP and CPS was of persons who said they had been laid off from their previous job. According to the CPS, in the winter of 1984-85 an average of 1,469,000 persons were on layoff. In SIPP, a conservative estimate of this group's size was 1,917,000.⁷ Survey differences no doubt played a role here to, especially questionnaire design differences. In the CPS, the questions determining whether or not a person was on layoff are more numerous than in SIPP probably resulting in a more refined estimate. It is more likely in SIPP that some persons who reported themselves as on layoff may have actually terminated their employment through some other job action.

⁷See footnote 6.

The SIPP estimate of persons not in the labor force was also compared to one obtained in the CPS. As was mentioned, in SIPP this group was defined to consist of persons 16 to 64 years of age who were not Medicare recipients. The SIPP estimate for this group was 36.3 million persons while the CPS estimate for approximately the same universe (but including Medicare recipients) was 39.6 million individuals.⁸ As pointed out by Ryscavage and Bregger, the SIPP estimate of persons not in the labor force tends to be lower than the CPS estimate. The table below presents a detailed age-sex comparison of the estimates.

Groups	CPS		SIPP	
	<u>Number (thous.)</u>	<u>Percent</u>	<u>Number (thous.)</u>	<u>Percent</u>
Total	<u>39,594</u>	<u>100.0</u>	<u>36,292</u>	<u>100.0</u>
Men, 16 and over	11,279	28.5	9,854	27.2
16 to 19 years	3,475	8.8	3,335	9.2
20 to 24 years	1,700	4.3	1,510	4.2
25 to 54 years	2,813	7.1	2,506	6.9
55 to 64 years	3,291	8.3	2,503	6.9
Women, 16 and over	28,315	71.5	26,439	72.8
16 to 19	3,719	9.4	3,649	10.1
20 to 24 years	3,095	7.8	3,065	8.4
25 to 54 years	14,693	37.1	13,955	38.5
55 to 64 years	6,808	17.2	5,770	15.9

⁸Actually, the difference between the two estimates would be slightly larger because included in the SIPP estimate is 643,000 persons who reported being on layoff during the reference month, but did not look for work and 688,000 persons who reported they weren't looking for work because they had jobs at some time during that month.

As the distributions from both surveys show, women make up the largest part of the group--over 70 percent. In general, the age-sex distributions from both surveys are very similar.

Few sources of data on the actual reservation wages of persons exist so benchmarking the SIPP estimates are difficult. As mentioned at the outset, however, a special supplement to the May 1976 CPS did ask about the reservation wages of the unemployed. Some of these data are compared to the SIPP estimates in the analytical part of the paper.

PART 2. SIPP RESERVATION WAGE DATA: AN ANALYSIS

Reservation Wages of Unemployed Persons

One way persons have traditionally been categorized in the CPS is by their status at the time they began looking for work, or, in other words, the reason for their unemployment. Reasons for unemployment are divided into four groups: 1) a job loss caused by either a layoff or some other involuntary job separation; 2) quitting one's job; 3) re-entering the labor force after a period outside the labor force; and 4) entering the labor force for the first time. Each group is composed of persons with unique characteristics. In the SIPP reservation wage questions only persons who experienced a job loss because of a layoff were identified among all other persons looking for work. Space limitations prevented identifying the other groups of job seekers by the reason for their unemployment.

Another limitation of the SIPP reservation wage questions was only those persons who were available to be interviewed (a self-respondent) were asked the specific reservation wage question. Consequently, reservation wage data were not collected for the entire SIPP unemployment universe, estimated to average approximately 10 million persons a month in the first four months of 1985.

Table 1 displays distributions of hourly reservation wages of unemployed persons for various age-sex groups.⁹ The data relate to roughly 5.1 million persons who reported their reservation wages (self-respondents), or 51 percent of the persons identified as on layoff and/or looking for work. This "subuniverse" is composed of proportionally more middle-aged women than the total universe (34.6 percent vs. 23.2 percent).

The table shows that approximately 2.5 million persons in this subuniverse had a reservation wage below the Federal minimum wage in 1985 of \$3.35 an hour.

⁹Weekly, monthly, and annual wages and salaries were converted into hourly wages; the vast majority of individuals in the universes, however, reported their previous wages, expected wages, and reservation wages in terms of hourly rates.

At minimum, therefore, it appears that roughly 25 percent of the total universe of unemployed persons had a reservation wage below the minimum wage (2.5 million persons divided by 10.0 million persons). This proportion may be higher since it is based only on those individuals who “self-reported” their reservation wage.

While other data sources do not exist by which to benchmark this estimate, we can refer to the CPS estimates of May 1976 to determine the proportion of unemployed persons who had a reservation wage that fell below the Federal minimum at that time (\$2.30 an hour). According to Rosenfeld (1977), of those unemployed workers who reported their “lowest acceptable hourly earnings” (the reservation wage), 22 percent reported reservation wages below the Federal minimum; of the unemployed reporting their “lowest acceptable weekly earnings” roughly 12 percent said less than \$100 a week.¹⁰

Reservation wage data are generally of greatest interest when presented in the form of distributions. Nevertheless, measures of central tendency, such as the medians, for age-sex groups do provide some insight into distributional differences.

For example, reservation wages among men were highest in the 55 to 64 year old category where the median was \$6.66 while for teenage boys it was just under \$2.00 an hour. Human capital differences are, of course, quite sharp between these groups, as are other labor market characteristics, such as job tenure, productivity, and job mobility. The median reservation wage for women 25 to 54 years of age was \$3.34, or approximately at the minimum wage level, while for teenage girls it was under \$2.00 an hour.

It is unclear to what extent respondents--and their responses--may have been affected by the general nature of the survey. SIPP is a Federal government survey which inquires into the income sources--whether labor market or nonlabor market--of persons and households. Some respondents may have felt obliged to report relatively low reservation wages as an indication of their desire to enter the job market. This possibility awaits further investigation.

¹⁰Weekly earnings of \$100 for 40 hours of work yields an hourly wage of \$2.50, slightly above the Federal minimum wage of \$2.30 an hour in May 1976.

Table 1. Persons 16 years old and over who were either on layoff and/or looking for work by their reservation wage, age, and sex-- winter 1984-85 1/

Age and sex	Total	Less than \$3.35	Hourly rates of pay						Median
			\$3.35 \$4.49	\$4.50- \$5.99	\$6.00- \$7.99	\$8.00- \$9.99	\$10.00- \$11.99	\$12.00 or more	
Total	5,165	2,487	824	677	570	269	133	205	\$3.48
Men, 16 and over	2,321	955	290	294	339	172	118	154	4.16
16 to 19	204	174	18	8	4	-	-	-	1.96
20 to 24	499	234	93	97	52	14	6	3	4.32
25 to 54	1,304	465	156	150	224	115	77	117	4.81
55 to 64	250	66	18	27	43	39	24	34	6.66
65 and over	64	15	5	12	16	5	11	-	(B)
Women, 16 and over	2,843	1,532	534	383	231	97	16	51	3.10
16 to 19	265	228	15	23	-	-	-	-	1.94
20 to 24	551	316	116	64	49	5	-	-	2.87
25 to 54	1,787	893	355	253	145	77	16	48	3.34
55 to 64	217	95	48	39	21	11	-	2	3.66
65 and over	25	-	-	4	15	5	-	-	(B)

1/ Relates only to self-respondents. Weekly, monthly, and annual earnings responses were converted to hourly rates of pay.

B Base is less than 200,000.

Table 2. Persons 16 years old and over who were either on layoff and/or looking for work by their expected wage for a specific type of work, reservation wage, and sex--winter 1984-85 1/

Wage and sex	Total	Less than \$3.35	Hourly rates of pay						Median	
			\$3.35 \$4.49	\$4.50- \$5.99	\$6.00- \$7.99	\$8.00- \$9.99	\$10.00- \$11.99	\$12.00 or more		
<u>EXPECTED WAGE</u>										
Total	1,952	310	286	349	332	265	162	248	\$6.18	
Men, 16 and over	852	46	92	89	157	161	122	184	8.51	
Women, 65 and over	1,100	264	194	260	175	103	40	64	5.03	
<u>RESERVATION WAGE</u>										
Total	1,952	538	275	345	344	191	105	154	5.22	
Men, 16 and over	852	111	83	136	193	120	95	115	7.00	1.94
Women, 16 and over	1,100	428	192	209	151	72	10	38	4.08	(B)

1/ See footnote 1, Table 1.

One relationship which some economists have been interested in is the proportion of unemployed workers who have reservation wages above their previous wage and how this related to their receipt of unemployment compensation (Feldstein and Poterba, 1984). While more will be said about this relationship in a subsequent section, the subuniverse of persons displayed in Table 3 shows that about 10 percent did have reservation wages above their previous wage. According to Feldstein and Poterba (1984), who used the May 1976 CPS, nearly 30 percent of the job losers on layoff had reservation wages above their previous wage.

Caution must be exercised in interpreting all of these data. SIPP's sample size is small relative to other well-known household surveys such as the CPS and, in particular, the sample sizes or universes of unemployed persons upon which the reservation wage data are based are even smaller. In consequence, standard error on the estimated size of the subuniverse under discussion (which totaled 1.3 million) was $\pm 88,000$; the standard error of the proportion of persons on layoff with a reservation wage in excess of their previous wage (about 10 percent) was ± 2.1 percentage points; and the standard error on the median reservation wage for all persons in the unemployment universe (estimated to be \$3.48 an hour) was about $\pm \$0.09$.

Reservation Wages of Persons Not in the Labor Force

Of the 346.3 million persons age 16 to 64 who were not in the labor force (and not receiving Medicare) in early 1985, approximately 5.7 million indicated they had some interest in entering or re-entering the labor force in the next 12 months.

This universe consisted of self-respondents, so there could have been more individuals interested in the labor market who simply were not available for the interview. Table 4 presents the distributions of their hourly reservation wages by age-sex groups. According to the SIPP data, about 58 percent of these persons--or 3.3 million--had a reservation wage that was below the Federal minimum of \$3.35. The largest single age-sex group with a reservation wage this low was women between the ages of 25 and 54--1.6 million.

Women in the central age groups and young persons age 16 to 24 made up 83 percent of the persons considering entering or re-entering the labor force. It is understandable, therefore, that the overall median reservation wage for this universe--\$2.90--would be low. Men age 25 to 54 had the highest median reservation wage of all age-sex groups at \$5.88.

Table 5 presents a subuniverse that is restricted to persons who indicated they not only had an interest in the job market in the future, but that there was a specific type of work or job they were interested in. Of the 2.7 million persons in this subuniverse, 32 percent expected a wage of less than \$3.35 an hour. As was the case with the comparable unemployment universe, persons outside the labor force who were interested in a particular job or line of work had reservation wages which were roughly \$1.00 less than their expected wages.

Table 3. Persons 16 year old and over who were on layoff and looking for work by their reservation wage and wage on their previous job--winter 1984-85^{1/}

(Number in thousands)

PREVIOUS JOB Hourly rates of pay	RESERVATION WAGE Hourly rates of pay							
	Total	Less than \$3.35	\$3.35 \$4.49	\$4.50- \$5.99	\$6.00- \$7.99	\$8.00- \$9.99	\$10.00- \$11.99	\$12.00 or more
Total	1,292	432	238	206	178	89	55	94
Less than \$3.35	250	193	32	17	9	-	-	-
\$3.35 to \$4.49	227	88	112	15	7	1	-	4
\$4.50 to \$5.99	154	30	37	61	18	-	-	8
\$6.00 to \$7.99	226	69	37	57	45	10	7	-
\$8.00 top \$9.99	160	31	12	32	49	35	-	-
\$10.00 to \$11.99	99	5	-	24	25	26	14	5
\$12.00 or more	177	16	8	-	25	18	33	77

^{1/} See footnote 1, Table 1.

Table 4. Persons age 16 to 64 who were not looking for work, but most likely would do so in the next 12 months by their reservation age, age, and sex--winter 1984-85 1/

(Number in thousands)

Age and sex	Total	Less than \$3.35	Hourly rates of pay						Median
			\$3.35 \$4.49	\$4.50- \$5.99	\$6.00- \$7.99	\$8.00- \$9.99	\$10.00- \$11.99	\$12.00 or more	
Total	5,734	3,302	755	864	419	196	77	123	\$2.90
Men, 16 to 64	1,075	494	132	125	144	66	23	91	3.72
16 to 19	273	245	12	10	-	5	-	-	1.86
20 to 24	204	109	28	7	29	18	8	5	3.64
25 to 54	393	64	54	86	96	30	6	58	5.88
55 to 64	204	76	38	22	19	13	9	27	4.13
Women, 16 and over	4,659	2,807	623	739	274	129	53	33	2.77
16 to 19	527	439	44	38	5	-	-	-	2.00
20 to 24	786	513	132	98	25	10	8	-	2.56
25 to 54	2,946	1,621	419	522	222	96	34	33	3.04
55 to 64	399	233	27	81	22	23	12	-	2.86

1/ See footnote 1, Table 1.

Table 5. Persons age 16 to 64 who were not looking for work, but most likely would do so in the next 12 months by their expected wage for a specific type of work, reservation wage, and sex--winter 1984-85 1/

(Numbers in thousands)

Wage and sex	Hourly rates of pay								
	Total	Less than \$3.35	\$3.35- \$4.49	\$4.50- \$5.99	\$6.00- \$7.99	\$8.00- \$9.99	\$10.00- \$11.99	\$12.00 or more	Median
<u>EXPECTED WAGE</u>									
Total	2,708	857	380	549	395	225	123	180	\$4.82
Men, 16 and over	451	93	14	51	85	57	36	115	7.60
Women, 16 and over	2,257	764	367	498	310	167	86	64	4.48
<u>RESERVATION WAGE</u>									
Total	2,708	1,205	384	450	320	169	70	110	3.79
Men, 16 and over	451	87	39	67	107	51	23	77	6.61
Women, 16 and over	2,257	1,118	345	383	213	118	47	33	3.38

1/ See footnote, Table 1.

Unemployment Insurance and Reservation Wages

A popular topic in the labor economic literature has been the impact on labor force participation of various income maintenance programs. Feldstein and Poterba (1984) used data from the May 1976 CPS supplement on job search of the unemployed to examine the impact of unemployment insurance on the reservation wages of the unemployed. As mentioned above, one of their findings was that close to 30 percent of the persons on layoff had a reservation wage above the wage on their previous job.¹¹ More importantly, they demonstrated, econometrically, that the larger the proportion of one's previous wage that is replaced by unemployment insurance, the higher one's reservation wage will be in relation to the previous wage. They found that when the unemployment insurance replacement rate (defined as the weekly unemployment insurance benefit divided by the net wage on the last job) increased from 0.4 to 0.7 (or from 40 to 70 percent of the previous net pay), the reservation wage ratio (defined as the reservation wage divided by the wage on the last job) rose by 4 percentage points.

The model from which they estimated this affect consisted of the reservation wage ratio as the dependent variable and various income and demographic independent variables which might affect the reservation wage during a period of unemployment. The income variables consisted of the unemployment insurance replacement ratio, another ratio reflecting the importance of nonwage income to the individual, and three binary variables indicating whether or not the individual received any welfare income or supplementary unemployment benefits during the period of unemployment, and whether or not another worker was present in the household. The demographic variables consisted of binary variables indicating whether or not the person was white, male, and married, and an age (in years) and schooling variable (years of school completed).

The model was estimated using 246 observations (or microrecords of information) and had a coefficient of determination of 0.084. The only independent variables that were statistically significant at the 5 percent level were the unemployment insurance replacement ratio and the nonwage income ration. The mean of the dependent variable was 1.025.

As an effort to both evaluate the SIPP reservation wage data as well as to test the robustness of the Feldstein-Poterba finding, a similar unemployment universe cannot be refined sufficiently to identify all of the "reasons for unemployment" categories as in the CPS, we can focus on persons who were on layoff, had reported a previous wage, and did receive unemployment insurance benefits during their spell of unemployment.

The reservation wage ration--the dependent variable--was defined as in the Feldstein and Poterba model, but some of the independent variables were defined differently. The unemployment insurance replacement ratio was defined as the monthly unemployment insurance

¹¹Feldstein and Poterba examined other universes of the unemployed as well, specifically, job leavers and job losers who lost their jobs because of reasons other than layoff.

benefit divided by the gross earnings on the previous job rather than the net earnings.¹² The nonwage income ratio was defined as the total income of the household in which the person lived minus all earnings in the household and the individual's unemployment insurance benefit divided by the gross earnings of the individual on the previous job. Binary variables were used to identify the presence of cash transfer income in the household (e.g., AFDC), the presence of other earnings in the household, and the presence of the noncash means-tested income (e.g., Food Stamps). Age, race, sex, and schooling variables were defined as in the Feldstein-Poterba model. And one variable was added that was not present in their model: the length of time an individual had been on layoff. This model was estimated on the microrecords of 149 individuals, all of whom had received unemployment insurance benefits, all of who had received unemployment insurance benefits during their spell of unemployment (as was the case in the Feldstein-Poterba model). The results of the regression are displayed in Table 6.

Of greatest interest was the coefficient on the unemployment insurance replacement ratio. The model indicated that the coefficient was positive and significantly different from zero. At 0.696, the coefficient implies that increasing the unemployment insurance replacement ratio from 0.4 to 0.7 (from 40 to 70 percent of the previous wage) raises the reservation wage ratio of persons on layoff by slightly more than 20 percentage points. This effect is about five times as large as the effect found by Feldstein and Poterba. It must be noted, however, that while our model indicates a considerably more sizable effect, the mean of our dependent variable was only 0.830 compared to a mean of 1.025 in the Feldstein-Poterba model. This suggests that the distributions may be different.

All of the other explanatory variable were not statistically different from zero. The duration of layoff variable did have a negative coefficient which would have been expected given what others have found regarding the relationship between the duration of unemployment and the reservation wage (including Feldstein and Poterba). The coefficient on the nonwage income ratio was not statistically different from zero but did have a positive sign as would be expected. Another income variable that had a positive sign but was not significant was the variable indicating the presence of other earnings in the household. Coefficients on the presence of cash and noncash transfer income in the household were negative; Feldstein-Poterba obtained negative coefficients on their welfare and supplementary unemployment benefits coefficients.

¹²Unemployment insurance benefits were not subject to Federal income tax in 1976 but were in 1985.

Table 6. Effect of unemployment and insurance and other variables on reservation wage ratios.

Variable	Job losers on layoff
Unemployment insurance replacement ratio	0.696 (0.121)
Nonwage income ratio	0.025 (0.031)
Household cash transfer income	-0.251 (0.193)
Household noncash transfer income	(-0.009) (0.089)
Household earnings	0.035 (0.062)
Age	0.003 (0.002)
White	0.009 (0.083)
Male	-0.048 (0.059)
Years of school completed	-0.013 (0.013)
Duration of layoff	-0.004 (0.002)
Constant	0.650 (0.217)
R ²	0.242
N	149
Mean of dependent variable	0.830

NOTE: The dependent variable is the ratio of the reservation wage to the wage on the previous job. Standard errors are shown in parentheses.

While this model and the one by Feldstein and Poterba have slightly different specifications and many data base differences exist, the results of both models appear to be similar (although the one based on the SIPP data had a coefficient of determination of 0.242). Both models detected significant relationships between the reservation wage ratio and unemployment insurance replacement ratio. Even when the duration of layoff variable was omitted from our regression, this relationship was still observed and the explanatory power of the equation dropped only slightly.¹³ An explanation of the large difference in the unemployment insurance effects from both surveys awaits further investigation.

Conclusions

This preliminary examination of the reservation wage data from the topical module of the fifth wave of SIPP's 1984 panel should provide insights into the data for potential users as well as persons designing reservation wage questionnaires. The following is a summation of what has been learned.

1. SIPP is a large and complex survey which inquires into various aspects of Americans' economic and social conditions. While many topics are covered, the overall emphasis of the survey is on income and the extent to which people rely on the income transfer programs of the Federal government. Given the nature of the reservation wage topic, that is, it is a subjective matter affected by many factors, the possibility exists that responses to the reservation wage questions were conditioned by the survey itself.
2. Reservation wage questions need to be asked in a labor market related context. If space limitations on the questionnaire had not been so severe, this context could have been greatly expanded (much like was done in the May 1976 CPS supplement on jobseeking activities).
3. It would have been desirable in the SIPP reservation wage questions to identify not only those persons who had been laid off, but also persons who had quit their job and started looking for work, those who had re-entered the labor market after an absence from a job, and those who were entering the labor market for the first time. While it might be possible to identify these individuals in the core portion of the questionnaire (and by using data from earlier waves), it would be difficult.

¹³The coefficient on the unemployment insurance replacement ratio was 0.663 and the coefficient of determination was 0.223.

4. The present questionnaire design permits some persons on layoff who have not looked for work to skip over the questions relating to their former job. Important information, such as the earnings on the previous job, is missed. This should be corrected in any re-design of the SIPP reservation wage questions.
5. The universe available for analysis from the SIP reservation wage questions are relatively small, especially within the unemployment universe. Consequently, standard errors of certain estimates are particularly large. Cross-tabulations of estimates must be constructed with this limitation in mind. The SIP reservation wage data are probably of adequate quality for modeling purposes and the great variety of other economic, social, and demographic data collected in the survey enhances this capability.

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APPENDIX B. Item Response, Imputations, and Imputation Rates in the SIPP Reservation Wage Questions

The following tabulation presents the item response information for the reservation wage questions contained in Section 5, Part C Topical Module of the 5th Wave of the 1984 SIP Panel.

<u>Question Number</u>	<u>Total responses</u>	<u>Imputed responses</u>	<u>Imputation rate (%)</u>
Q15a	3,074	123	4.0
Q15b	662	77	11.6
Q15c	662	44	6.6
Q15d	469	30	6.4
Q15e	207	13	6.3
Q15f	662	96	14.5
Q15a	3,074	42	1.4
Q15b	1,992	332	16.6
Q15c	1,992	335	16.8
Q15d	1,787	628	35.0
Q16e	205	51	24.9
Q16f	1,091	155	14.2
Q16g	512	87	17.0
Q16h	512	92	17.9
Q16i	442	107	24.2
Q16j	478	89	18.6
Q16k	1,021	157	15.4
Q16l	1,091	155	14.2
Q16m	88	15	17.0
Q16n	88	24	27.3
Q17a	7,135	446	6.3
Q17b	4,386	101	2.3
Q17c	4,102	99	2.4
Q17d	1,289	44	3.4
Q17e	1,289	42	3.3
Q17f	634	19	3.0
Q17g	532	22	4.1
Q17h	1,121	52	4.6