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APPENDIX C

Basic Data Sources

Background of the Consumers Union Panel

On most occasions, researchers design a field survey to provide data for the analysis of specific problems. The research design includes decisions on the sample size, the methods to be used in obtaining information from respondents, the questions to be asked, etc. On other occasions researchers are presented with an opportunity to obtain information subject, however, to certain limitations. A unique opportunity of this sort arose in 1958, when the Consumers Union Panel was initiated.

Mail questionnaire data from subscribers had been gathered for many years by Consumers Union of U.S. (CU), the product-testing and -rating organization. These questionnaires were of interest to economists largely because they contained data on intentions to buy major durable goods, as well as some rather crude supplementary data on income, expected and past changes in income, methods of financing purchases, and so on. Examinations of the CU buying intentions data over the postwar period showed that these data would have predicted changes in aggregate purchases of consumer durables by the United States population more accurately than intentions data obtained from consumers selected at random from among all United States households (as represented in the annual Survey of Consumer Finances conducted by the Survey Research Center at the University of Michigan).[1] The National Bureau of Economic Research consequently initiated a small-scale research program into the CU questionnaire data, most of which were still available.

It quickly became evident that the amount of economically useful data in these questionnaires to which durable goods purchases and buying intentions could be related was quite limited. Some alterations in the questionnaire format were suggested to Consumers Union prior to their regular annual survey in October 1957. These alterations included, among others, a change, from twelve months to six months, in the planning period contained in the buying intentions question. At the same time Consumers Union agreed to the inclusion in the October 1957 questionnaire of a request for volunteers for a special consumer survey; those who agreed to be surveyed were told that they would receive a more elaborate

[1] See Juster, "The Predictive Value of Consumers Union Spending-Intentions Data," *The Quality and Economic Significance of Anticipations Data*, Princeton for NBER, 1960.

questionnaire specifically designed for research on consumer purchases and financial decision-making generally.

The regular CU questionnaire had typically drawn about 120,000 responses from a total subscriber list of some 600,000. In October 1957 some 130,000 responses were received, of which just over 33,000 volunteered for membership in this special panel. The arrangement was that subscriber anonymity would be carefully preserved at all times. In April 1958, six months after the request for volunteers, a special questionnaire was mailed to the 33,000 households who had expressed willingness to participate. Along with information about levels of and changes in assets, debts, and income, data were requested on demographic characteristics, intentions to buy durables, attitudes, expectations, and ownership and recent purchases of durables. Because buying intentions were of special interest, the sample was split into five randomly selected subgroups, each of which was sent a differently structured question or combination of questions about intentions to buy. Very little detail was requested about income and assets because it was uncertain how such requests would affect the response rate; but one of the subgroups was sent a detailed asset question as an experiment. In addition all respondents were asked if they would object to receiving future questionnaires containing an identification number to enable reinterviewing, if that proved feasible and useful.

Close to 80 per cent of the April 1958 questionnaires were returned—just over 26,000 in all. Over 24,000 indicated no objection to answering future questionnaires containing an identification number; these households were assigned reference numbers in the order of their arrival. Different number blocks were used to designate the five subgroups into which the original volunteer group had been split. The response rate for the group sent a detailed asset question was the same as for the other groups.

A reinterview survey took place in October 1958, six months after the first special survey. Almost 20,000 returns were received from the 24,000 respondents who had agreed to answer identified questionnaires.[2] Apparently, then, the response rate for each successive survey in the panel was approximately 80 per cent of those answering the preceding one. It also

[2] The number was actually larger than 20,000. In the process of transferring information from the questionnaire schedules onto IBM punch cards, almost 1,000 questionnaires were apparently misplaced and not punched. (One box was presumably labeled "completed," although it had not been processed.) This error was not discovered until some time after the cards had been processed for the reinterview analysis; consequently, these 1,000 cases do not appear in the reinterview sample discussed in this report.

appears, incidentally, that this mail survey was much more successful in following up respondents who had moved than are most personal interview surveys. It is known that some 15 per cent of these households bought homes in the twelve months between October 1957 (when the first mailing address for panel members was received) and October 1958 (when the reinterview survey was mailed out). Thus, about 5,000 of the original 33,000 households moved during this period. The number of undeliverable (no such name, etc.) questionnaires returned unopened from *both* the April and October 1958 surveys was about 1,000; and some of these must have been returned because of undecipherable handwriting on the return envelopes from which the mailing list was compiled. Thus at least 80 per cent of the movers appear to have been followed.

Second and third reinterview surveys were subsequently taken under the auspices of the Expectational Economics Center at Columbia University, under the direction of Albert G. Hart. These surveys were mailed in April 1959 and April 1960. The response rate was in line with previous experience for April 1959 (about 16,000 returns) but not for April 1960 (about 8,500 returns). The explanation for the last is probably the degree of exhaustive detail contained in the questionnaire, which ran 50 per cent larger than previous ones and asked about dollar magnitudes for all variables.

The October 1958 Reinterview Sample

This monograph concentrates on the analysis of the special survey in April 1958 and the first reinterview, in October 1958. Some data from the April 1959 reinterview are included. My concern is with the factors associated with differences among households in purchases of durable goods, in particular, with the degree to which the intentions, attitudes, and expectations expressed in April 1958 are related to purchases over the subsequent six-month period. Consequently, two kinds of data problems must be settled. First, there is no assurance that households are "matched" in the two surveys: Identification numbers were assigned to April 1958 responses, and the same numbers were assigned to the October 1958 outgoing questionnaires. But there are numerous possibilities for error in the procedures used to ensure matching. The possibilities range from key-punch errors in transferring the identification numbers to punch cards to failure on the part of the mailing service to make sure that the outgoing October questionnaire (containing a reference number but no name, as agreed) was put into the proper envelope (containing a name but no number). The matching process was carefully supervised, with

the original mailing list envelopes (containing both names and numbers) being checked with each insertion. But there are clearly widespread possibilities for errors, although not for a "run" of errors.[3]

The second problem arises because many questionnaires were incompletely filled out. Thus, some of the variables used in the analysis have unknown values for some respondents. There are three possible alternatives: exclusion of questionnaires with missing information, assignment of a neutral value for the missing variable, or estimation of the missing variable from other data on the same questionnaire.

For the first problem an elaborate matching procedure was instituted. Several pieces of information that should be either fairly stable or consistent were available from the two surveys: education of household head, age of household head, and family income and income change were used as the matching criteria. For the first two of these variables it was assumed that respondents were matched if the same category was checked in both cases, or if the category differed in a way that could be explained by normal "progress"—that is, people get somewhat older and might become more highly educated, but they can become neither younger nor less well educated. With respect to income, data were available for both April and October family income, actual and expected changes in income, and responses to a question about whether family income was unusually high or low in either April or October or both.

Based on these data, a certain number of cases were excluded because it seemed doubtful that the same family was represented. In borderline cases the respondent was eliminated from the sample on the grounds that it was far better to discard possibly accurate information than to try correlating the April buying intentions of one household with the April-October purchases of another. Altogether, about 5 per cent of the 20,000-odd October 1958 returns were eliminated because of doubt as to whether the same family was represented. About 60 per cent of this total comprised straight age or education differences that were in the wrong direction. Some of these cases undoubtedly consisted of the same household; but different people must have answered the two questionnaires, both considering themselves head of household. Others are doubtless either

[3] In this connection, the cost of obtaining information is clearly relevant, since additional resources will always enable a reduction of errors. I would estimate the total cost of obtaining some 24,000 April 1958 IBM punch cards from the returned questionnaires, plus some 20,000 October 1958 punch cards, as no more than $25,000. That is, the basic data cost roughly fifty cents per mail interview, including all costs of preparation, mailing, processing, and coding returns and of key punching. The cost is low partly because both the April and October 1958 questionnaires were completely precoded.

key-punch errors or the results of carelessness on the part of respondents. Incidentally, the number of age-bracket changes in the aging direction was close to what one would have predicted from the width of the bracket. An age bracket covering ages from thirty through thirty-four ought to lose about 10 per cent of its cases over a six-month period and ought to gain 10 per cent of the cases in the bracket covering ages from twenty-five through twenty-nine.

As regards the second problem—missing data on one or more variables—it was finally decided to exclude these households from the sample.[4] Many of these households had more than one piece of information missing, and estimating on the basis of information actually provided would have been hazardous in a large fraction of cases. Altogether about 13 per cent of the sample was lost for this reason, making a total of some 18 per cent excluded for either mismatched or missing data. Of the original 19,546 returns from the reinterview survey, a total of 15,810 were regarded as usable. Additional deletions were made at a late stage of the regression analysis. Households who reported that the expected change in their income or in general business conditions was "too uncertain to guess" were removed because it was impossible to know what a pleasant or unpleasant surprise would consist of for these people. About 10 per cent of the sample was lost here. Another substantial fraction was removed from one set of regressions (see Appendix A) because respondents in this group had either purchased houses during the forecast period or had reported intentions to buy houses at the beginning of the forecast period.

A complete tabulation of the numbers of responses to the various surveys, the numbers excluded, and the numbers utilized in the analysis is presented in Table C-1. Table C-2 shows the distribution of usable cases, classified according to age–marital status and the buying-intentions question.

Comparison of Consumers Union Panel with U.S. Population

As already noted, the Consumers Union sample was selected for analysis because of its availability and historical predictive value. Consumers

[4] Serious consideration was given to estimating missing values by using a regression technique. Two considerations led to rejection of the questionnaire rather than rectification by estimation. First, there was some reason to believe that the general quality of information contained on questionnaires with missing data was probably lower than average. Secondly, the sample was not randomly selected to begin with; consequently, population parameters were not being estimated in any case. Introducing a slight additional bias into an already strongly biased sample seemed a small loss to set against the substantial cost and time required to estimate values for cases with missing information.

TABLE C-1

NUMBER OF HOUSEHOLDS RESPONDING TO SURVEYS OF CONSUMERS UNION PANEL

	Basic Subsamples					
	A	B	C	D	E	Total
Original panel, formed Oct. 1957	7,069	7,069	7,068	7,069	5,000	33,275
Replies to April 1958 questionnaire						26,133
Did not volunteer for reinterview						1,831
Volunteered for reinterview	5,101	5,268	5,130	5,161	3,642	24,302
Replies to reinterview Oct. 1958[a]	4,205	4,287	3,987	4,226	2,841	19,546
Mismatched cases excluded	241	219	212	222	161	1,055
Cases with missing data excluded	601	594	569	519	398	2,681
Subtotal	3,363	3,474	3,206	3,485	2,282	15,810
Age-marital groups 4 and 5 (over 65 or unmarried) excluded	349	376	434			
Subtotal	3,014	3,098	2,772	[b]	[b]	
Cases with uncertain expectations excluded						
Age-marital 1 (married, 25–34)	103	103	100			
Age-marital 2 (married, 35–44)	98	125	100			
Age-marital 3 (married, 45–64)	109	112	107			
Total	310	340	307			
Subtotal in regression analysis[c]	2,704	2,758	2,465	[b]	[b]	
Cases with housing plans and/or purchases excluded						
Age-marital 1	229	176	206			
Age-marital 2	136	138	131			
Age-marital 3	65	64	53			
Total	430	378	390			
Subtotal in regression analysis[d]	2,274	2,380	2,075	[b]	[b]	

SOURCE: Basic data from Consumer Purchase Study, NBER.

[a] Somewhat understated, for reasons discussed above, note 2.

[b] Samples excluded from regression analysis.

[c] These cases analyzed in Chapter 7.

[d] These cases analyzed in Appendix A.

Union subscribers are by no means representative of the United States population as a whole; and the sample of these subscribers that responds to questionnaires—which is the "universe" being sampled in this study—may not be at all representative of the total CU subscriber population. Further, the reinterview sample is not representative of CU subscribers that return questionnaires, and this is the sample whose behavior is actually examined in the monograph.

The following tables present some comparisons between the CU reinterview panel and the United States population. In most instances the population data consist of tabulations prepared for the Survey of Consumer Finances (SCF) conducted annually by the Survey Research Center at the University of Michigan. SCF data are based on a random sample of

TABLE C-2
DISTRIBUTION OF REGRESSION SAMPLES

Age-Marital Status	*Intentions-to-Buy Sample* A	B	C
HOUSING ACTIVITY EXCLUDED			
Married; head-of-household age between:			
25–34	852	866	814
35–44	863	836	691
45–64	559	678	570
Total	2,274	2,380	2,075
HOUSING ACTIVITY INCLUDED			
Married; head-of-household age between:			
25–34	1,081	1,042	1,020
35–44	999	974	822
45–64	624	742	623
Total	2,704	2,758	2,465

SOURCE: Basic data from Consumer Purchase Study, NBER.
NOTE: Subsamples D and E and respondents who were either unmarried or over 65 years old were not included (cf. Table C-1).

all United States households. In cases where population and CU data are not available for the same year, the comparison is based on years that are as close together as possible. Since most of the distributions presented change slowly over time, any discrepancies in dates should not significantly affect the comparisons.

INCOME AND FINANCIAL CHARACTERISTICS

Probably the most striking difference between the CU sample and the population is the distribution by income and asset level (Table C-3). The CU median income is almost double that of the population. In 1958, more than half of the CU family units had an annual income over $7,500, whereas only 24 per cent of population families earned over that amount. Conversely, over one-quarter of the population earned under $3,000, compared to less than 2 per cent of the CU sample. These differences in income cannot be attributed to differences in the participation of wives in the labor force. The distribution of working wives by income class shows about the same degree of participation for the CU group and the population if full-time and part-time workers are aggregated. There are some differences in the distributions when the two are treated separately, but this may be due to differences in the definition of full-time work. There is some indication that the population may have a higher per-

TABLE C-3

FINANCIAL CHARACTERISTICS OF THE CONSUMERS UNION SAMPLE AND OF THE U.S. POPULATION

FAMILY INCOME	DISTRIBUTION OF FAMILY INCOME		EMPLOYMENT OF WIVES BY INCOME CLASS[a]					
			Full-Time		*Part-Time*		*Full or Part-Time*	
	Population 1957	*CU 1957*	Population 1956	CU 1960	Population 1956	CU 1960	Population 1956	CU 1960
	(proportion of sample)		(proportion of wives in income class who work)					
Less than $3000	.28	.02	.09	.09	.15	.15	.24	.24
$ 3,000–$3,999	.11	.04	.11	.05	.14	.13	.25	.18
$ 4,000–$4,999	.12	.08	.15	.08	.15	.20	.30	.28
$ 5,000–$7,499	.26	.28	.24	.08	.14	.19	.38	.27
$ 7,500–$9,999	.12	.23	.41	.14	.08	.19	.49	.33
$10,000 and over	.12	.33	.25	.19	.07	.16	.32	.35
N.R.[b]		.04						
Median	4,850	8,277						
Total			.19	.14	.13	.18	.32	.32

INCOME AND ASSETS

Type of Financial-Asset Holdings:	*Population 1957* (proportion of sample)	*CU 1958*	*Sources of Income:*[c]	*Population 1957* (proportion of sample)	*CU 1957*	*CU 1957 Main Source of Income*
Checking account	.55	.92	Wages and salaries	.82	.86	.82
Savings account	.50	.76	Own business or profession	.14	.20	.15
U.S. government savings bonds	.32	.49	Interest or dividends	.18	.14	.03
Other bonds	n.a.	.08	Rent or royalties	.09	.07	.02
Common or preferred stock	.11	.43	Other	.31	.14	.04
None of the above	.24	.02				
Amount of Assets						
Less than $2,000	.75	.43				
$2,000–$10,000	.17	.37				
Over $10,000	.07	.19				

SOURCE: Population data are based on the Survey of Consumer Finances as published in the *Federal Reserve Bulletin.* CU data are based on annual questionnaires.

[a] To make SCF data comparable to CU data the SCF published figures were adjusted to exclude households without a wife, without a husband, and those for whom marital status was not ascertained. Thus, 19 per cent of households that included both husband and wife had a full-time working wife, whereas only 13 per cent of all households had a full-time working wife.

[b] Not reported; SCF figure assigned, if not determined in interview.

[c] In the SCF data, royalties are included with "interest and dividends." Farm income for the SCF data is included in "other"; for the CU data, farm income is included with "own business or profession." The "other" category consists mainly of transfer payments (i.e., pensions, annuities, etc.).

n.a. = not available.

centage of working wives in the $5,000 to $10,000 income groups, as compared to the CU sample.

As would be expected for a high-income sample, the CU group has greater financial assets than the population: only 1.5 per cent of the CU sample reported having no liquid assets, compared to 24 per cent of the population; 19 per cent of the CU sample reported assets over $10,000, compared to 7 per cent of the population. A larger percentage of the CU sample than of the population holds each type of financial asset shown, the difference being especially large for common or preferred stock (43 per cent versus 11 per cent).

TABLE C-4

DEBT RELATIONSHIPS FOR THE CONSUMERS UNION SAMPLE AND THE U.S. POPULATION
(proportion of sample)

	Population 1956	CU 1957
TYPE OF CREDIT USED		
Did not buy anything on credit	.46	.44
Did buy on credit	.54	.56
Credit source[a]		
Instalment plan	.45	.16
Extended charge	n.a.	.09
Private source	n.a.	.04
Bank	.19	.25
Credit union	.04	.07
Finance company	.14	.04
Retail outlet	.23	n.a.
Car dealer	.01	n.a.
Other	.01	.01
Not reported	.02	.09
AMOUNT OF OUTSTANDING DEBT		
Under $500	.28	.20
$500–$999	.12	.14
$1,000 and over	.17	.18
No debt	.39	.47
Not reported	.04	

SOURCE: Population data are based on the Survey of Consumer Finances as published in the *Federal Reserve Bulletin*. CU data are based on annual questionnaires.

[a] The distribution by credit source exceeds the proportion that "did buy on credit" because some households were in debt to more than one type of creditor. In the SCF data, 0.45 used instalment debt; and the distribution by credit source refers to instalment debt only (i.e., the distribution among credit sources other than instalment is a distribution of 0.45 but does not add to 0.45 because of the use of multiple credit sources). In the CU data the distribution by credit source includes both noninstalment and instalment debt. Because of ambiguities in the way the question was phrased, the "instalment" category for the CU data is less inclusive than that for the SCF data.

n.a. = not available.

CREDIT AND DEBT

Interestingly enough, the extent to which credit is used seems to be quite similar for the CU sample and the population: 56 per cent of the 1957 CU sample bought on credit compared to 54 per cent of the population (Table C-4). The distribution by credit source indicates some differences, but a detailed analysis is not possible because the categories are not sufficiently comparable: the distribution by credit source for the population is based on the use of instalment credit only, whereas the CU data are based on both instalment and noninstalment credit use. An "instalment plan"

TABLE C-5
OWNERSHIP OF DURABLE GOODS IN THE CONSUMERS UNION SAMPLE AND IN THE U.S. POPULATION
(proportion of dwelling units)

	Population 1960	CU 1958
Household Durables[a]		
Air conditioner	0.12	0.22
Clothes dryer	0.17	0.33
Dishwasher	0.06	0.16
Food freezer	0.21	0.23
Range	0.96	1.00[b]
Refrigerator	0.94	1.00[b]
Television set	0.86	0.79
Washing machine[c]	0.41	0.75
Automobiles[d]		
One or more	0.73	0.96
One	0.61	0.68
Two or more	0.12	0.28
Do not own	0.27	0.04
Owner-Occupied Home[e]	0.54	0.70

SOURCE: Population data for household durables based on *Electrical Merchandising Week* data as published in *Statistical Abstract of the United States, 1960*, Bureau of the Census. Population data for automobiles from *Automobile Facts and Figures, 1957* and *1958*. Population data for home ownership from Survey of Consumer Finances as published in the *Federal Reserve Bulletin*. CU data are based on annual questionnaires.

[a] Population proportions were adjusted to include all occupied homes, both wired and unwired.

[b] The CU questionnaire asks the respondent if he owns a given appliance. If he lives in a rented dwelling in which the landlord supplies the appliance he would not report ownership. Only about 75 per cent of the CU sample reported ownership of a range and refrigerator for this reason, but it can be assumed that practically 100 per cent of the rented dwellings contain these appliances; 27 per cent of the CU sample lives in rented dwellings.

[c] Population figure is from 1960 *Census of Housing*.

[d] Data refer to 1956.

[e] Data refer to 1957.

category can be obtained from the CU data, but it is less comprehensive because of the way in which the question was phrased. Despite these problems, at least one general inference is possible: the population clearly relies more heavily on finance companies and less heavily on credit unions, relative to the CU sample. The distribution by amount of outstanding debt indicates that slightly fewer CU subscribers have debt outstanding; but those who do tend to have a larger amount outstanding than the population as a whole.

STOCK OF DURABLES

The differences between the CU sample and the population with regard to stocks of durable goods are consistent with the differences in income and financial assets (Table C-5). The CU sample has a higher percentage of ownership of every durable listed except television sets. For four of the durables (air conditioner, clothes dryers, dishwasher, and washing machine), the CU ownership rate is about double that of the population. For automobiles, the CU sample also has a higher percentage of ownership, with 96 per cent owning at least one car compared to 73 per cent for the population. Multiple car ownership is more than twice as frequent in the CU sample as in the population. The CU people also tend to own newer cars (Table C-6): 40 per cent of the CU car owners have a car less than two years old compared to 19 per cent of car owners in the population.

TABLE C-6
AGE OF AUTOMOBILES OWNED BY CONSUMERS UNION SAMPLE AND BY U.S. POPULATION

Age (years)	*Proportion of Sample*		*Cumulative Proportion of Sample*	
	Population 1957	CU 1957	Population 1957	CU 1957
Less than 1	.07	.21	0.07	.21
1–2	.12	.19	0.19	.40
2–3	.13	.19	0.32	.59
3–4	.09	.11	0.41	.70
4–5	.11	.10	0.52	.80
5–6	.07	.05	0.59	.85
6–7	.10	.05	0.69	.90
7–8	.11	.05	0.80	.95
8–9	.07	.02	0.87	.97
9–10	.04	.01	0.91	.98
10–11	.03	.005	0.94	.99
11–12	.02	.002	0.96	.99
Over 12	.04	.003	1.00	1.00

SOURCE: See Table C-5.

GENERAL CHARACTERISTICS

The CU sample has a slightly lower median age than the population, but the more notable difference is the very small portion of the CU sample under twenty-five or over sixty-five years of age (Table C-7). Only about 6 per cent of the CU sample fall into these categories, compared to 23 per cent of the population. The CU sample shows a much higher level of

TABLE C-7
SELECTED CHARACTERISTICS OF CONSUMERS UNION SAMPLE AND OF U.S. POPULATION
(proportion of sample)

	Population 1957	CU 1957
DISTRIBUTION BY AGE OF HOUSEHOLD HEAD		
Age		
Under 25	.09	.03
25–34	.20	.36
35–44	.23	.31
45–64	.33	.26
65 and over	.14	.03
Not reported	.02	
Median	43.7	38.5
DISTRIBUTION OF URBAN POPULATION BY CITY SIZE		
Population of city		
Over 1,000,000	.14	.16
100,000–1,000,000	.27	.29
25,000–100,000	.23	.22
2,500–25,000	.28	.25
Under 2,500	.08	.08
DISTRIBUTION BY EDUCATION OF HOUSEHOLD HEAD		
Education completed[a]		
None	.02	n.a.
Some elementary school	.22	n.a.
Elementary graduate	.18	n.a.
Some high school	.19	n.a.
High school graduate	.21	n.a.
Subtotal	.82	.21
Some college	.09	.21
College graduate	.10	.24
Graduate school		.31
Other		.03

SOURCE: Population data for age distribution from Survey of Consumer Finances as published in the *Federal Reserve Bulletin*. Population data for education from 1960 *Census of Population*. Population data for city size based on 1960 *Census of Population* as published in 1961 *Statistical Abstract of the United States*, Bureau of the Census. CU data are based on annual questionnaires.

[a] The population distribution refers to the male population twenty-five years old and over, since head-of-household data are not available.

n.a. = not available

formal education, with over 50 per cent of its heads of household having graduated from college (in comparison to 10 per cent of the population) and with only 21 per cent having a high school education or less, compared to 82 per cent of the population. (The population figures in this instance refer to the male population twenty-five years old and over, because education data for heads of household are not available. There is no reason to assume that using the male population twenty-five years old and over instead of heads of household only would bias the comparison in any way.)

In regard to urban population distribution, the CU sample and the population are very similar. In housing status they differ, with the CU sample having a greater percentage of home owners.

An analysis has been made of magazine readership in 1955, comparing the CU sample and the population. For almost every magazine listed the level of readership was much higher for the CU sample, but the reading taste of this sample does not appear to differ substantially from that of the population. A rank correlation shows the following results: for the top thirty-eight magazines read by CU subscribers, rank r^2 between CU and the population was 0.80; for the top ten magazines, rank $r^2 = 0.61$.

A more up-to-date comparison—between 1962 CU subscribers and the population—has been published in the January 1963 issue of CU's *Consumer Reports*, pages 9–12.