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## 4. FACTORS RELATED TO PLANS AND PURCHASES IN THE APRIL SURVEY

### *Introduction*

As noted previously, the survey taken in April 1958 provides a unique opportunity to examine, for the CU group, interrelationships among purchases, buying plans, and a host of other variables. The question posed is a relatively simple one: Which factors—age, income, debts, income expectations, education, among others—seem to be closely associated with purchases or plans, and how strong do these relationships appear to be? We are interested mainly in net relationships (the effect of X on Y after A, B, and C are taken into account). The objective is to try to isolate the factors that account for changes in the level of aggregate buying plans. With a model of decision making cast in terms of purchases as determined by buying plans, associated expectations, and associated financial and demographic variables, we should be able to specify the reasons why buying plans are higher in one period than in another. By examining relationships between plans, purchases, and expectational and financial variables on a cross-section basis we learn something about the importance of the latter variables in explaining differences between households at the same point in time. And changes in buying plans and purchases over time should be explicable in terms of alterations in the distribution of these exceptional and financial variables through time.<sup>1</sup> The difficulty lies in our probable failure to obtain for all relevant variables and to develop clear ideas about interactions among combinations of factors.

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<sup>1</sup>The use of differences between households obtained from cross-section data to make judgments about aggregate changes through time is plagued with difficulties. For example, cross-section data on household savings have always showed that the increase in savings tends to be proportionally greater than increases in income. But aggregate savings data show a roughly constant ratio to aggregate income, over a long period of continually rising aggregate income. These apparently contradictory findings have been explained in several ways: the relative income hypothesis, that savings are a function of *relative* income position rather than absolute income levels (J. Duesenberry, *Income, Savings and the Theory of Consumer Behavior*, Harvard University Press, 1949); the asset change hypothesis, that the secular growth of individual assets exerts a secular upward push on consumption (J. Tobin, "Relative Income, Absolute Income and Savings," *Money, Trade and Economic Growth*, a volume in honor of John Henry Williams, Macmillan, 1951; L. R. Klein, "Assets, Debts, and Economic Behavior," *Studies in Income and Wealth*, Volume 14, National Bureau of Economic Research, 1951); and the permanent income hypothesis, that our income data measure the wrong thing, and income-consumption regressions from cross-section data yield a slope coefficient that is biased downward (M. Friedman, *A Theory of the Consumption Function*, Princeton for the National Bureau of Economic Research, 1956).

Most data of this sort are beset with the problem of a high degree of interrelationship among the independent variables. For example, age is very closely related to buying plans; younger people plan to buy more durable goods—given the same incomes—than older people do. Income expectations are also related to buying plans; people who expect higher incomes plan to buy more than people who expect lower incomes do. But age and income expectations are also very closely related; young people expect income increases more frequently than do older people. Is the association of buying plans with income expectations due solely to youth (income optimists are generally young, and young people have more buying plans) or is there an independent effect of income prospects on buying plans?<sup>2</sup>

All the data presented below were obtained from two subsamples of the April survey returns. Of the five subsamples, three included a question about buying plans new to CU surveys. Analysis of the data from the three subsamples is not complete at this writing, but some of the results will be discussed below.

#### *Age-Income Pattern*

Each subsample was separated into fifteen homogeneous subgroups, each having the same age and income. Selected variables were examined for the data from each subgroup. Buying plans and purchases have been aggregated for all items included on the April survey—some fifteen different household durables and automobiles in four price categories.<sup>3</sup> All

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<sup>2</sup>Some of the results from the annual Survey of Consumer Finances and the interim surveys conducted by the Survey Research Center, both using nationwide probability samples of a few thousand families, suffer from this kind of ambiguity. It is generally not possible to stratify a sample of 2,000 or 3,000 by age and income in order to examine the relationships between other variables holding these two constant, simply because such stratification quickly makes the cell sizes very small. For example, George Katona and Eva Mueller present data (*Consumer Attitudes and Demand, 1950-52*, Survey Research Center, Michigan, p. 66), indicating that people who report being better off compared to the year before had bought more durables than people who reported being worse off. An income stratification is used, but all age groups are lumped together. This relationship may be spurious because younger people would tend to report being better off than last year more frequently than older people would (given the same income), and younger people also buy more durable goods. The same difficulty arises in much of the data presented by J. B. Lansing and S. B. Withey, ("Consumer Anticipations: Their Use in Forecasting Consumer Behavior," *Studies in Income and Wealth*, Vol. 17, Princeton for National Bureau of Economic Research, p. 399).

<sup>3</sup>The household durables included in the surveys were room air conditioners, house air conditioning systems, movie cameras, carpets and rugs (cost, over \$100), electric or gas clothes dryers, dishwashers, food freezers, furniture (cost, over \$100), garbage disposal units, high-fidelity components or packaged sets, home heating systems, electric or gas ranges, refrigerators, black and white TV sets, color TV sets, and washing machines.

TABLE 23

AVERAGE LEVEL OF BUYING PLANS FOR A SIX-MONTH FORWARD PERIOD,  
WITHIN AGE AND INCOME GROUPS, APRIL 1958, SUBGROUP A  
(UNITY = \$300)

Age Group	INCOME CLASS					Total
	Under \$5,000	\$5,000- 7,499	\$7,500- 9,999	\$10,000- 14,999	\$15,000 and over	
<i>Household Durable Goods</i>						
Under 35	0.70	0.71	0.84	1.05	1.04	0.81
35-44	.42	.48	.65	.74	.97	.64
45 and over	.36	.48	.52	.59	.65	.53
<i>Total</i>	<i>.54</i>	<i>.59</i>	<i>.68</i>	<i>.78</i>	<i>.82</i>	<i>.67</i>
<i>New and Used Automobiles</i>						
Under 35	0.30	0.28	0.26	0.47	0.67	0.32
35-44	.32	.27	.40	.62	.57	.43
45 and over	.21	.32	.51	.51	.62	.45
<i>Total</i>	<i>.28</i>	<i>.29</i>	<i>.38</i>	<i>.54</i>	<i>.61</i>	<i>.40</i>
<i>Automobiles and Household Durables</i>						
Under 35	1.00	0.99	1.09	1.53	1.71	1.13
35-44	.74	.74	1.05	1.36	1.54	1.07
45 and over	.57	.80	1.04	1.10	1.27	.98
<i>Total</i>	<i>.81</i>	<i>.87</i>	<i>1.06</i>	<i>1.31</i>	<i>1.43</i>	<i>1.07</i>

Source: All data in this and the other tables of this section from the National Bureau's consumer purchases study unless otherwise noted.

household equipment items are weighted equally at \$300 per item; automobiles are weighted according to estimated net cost after trade-in allowance.<sup>4</sup>

Tables 23 to 26 show the average level of buying plans and purchases for each age-income group, based on the convention that unity equals \$300. Group A received a questionnaire asking about buying plans for a

<sup>4</sup>Use of equal weights for household durables is a choice based on the high cost of working up a better alternative, plus the fact that we felt little damage would be done to reality. The magnitude wanted was planned dollar expenditure on durables. For the categories for which average prices are clearly much higher than the rest—house air conditioning systems and home heating units—relatively few buying plans or purchases were reported. An average weighted by actual prices would thus give results that are not very different from our simple unweighted average.

TABLE 24  
**AVERAGE LEVEL OF BUYING PLANS FOR A TWELVE-MONTH FORWARD PERIOD,  
 WITHIN AGE AND INCOME GROUPS, APRIL 1958, SUBGROUP B  
 (UNITY = \$300)**

<i>Age Group</i>	INCOME CLASS					<i>Total</i>
	<i>Under \$5,000</i>	<i>\$5,000- 7,499</i>	<i>\$7,500- 9,999</i>	<i>\$10,000- 14,999</i>	<i>\$15,000 and over</i>	
<i>Household Durable Goods</i>						
<i>Under 35</i>	1.14	1.29	1.48	1.70	2.24	1.43
<i>35-44</i>	1.11	1.14	1.29	1.40	1.55	1.29
<i>45 and over</i>	0.63	0.85	1.02	1.11	1.21	1.00
<i>Total</i>	0.99	1.15	1.30	1.38	1.49	1.26
<i>New and Used Automobiles</i>						
<i>Under 35</i>	0.86	0.75	0.91	0.94	1.58	0.87
<i>35-44</i>	0.81	0.79	0.95	0.96	1.55	0.96
<i>45 and over</i>	0.64	0.82	0.96	1.20	1.68	1.08
<i>Total</i>	0.79	0.77	0.94	1.04	1.62	0.96
<i>Automobiles and Household Durables</i>						
<i>Under 35</i>	2.00	2.03	2.39	2.65	3.82	2.30
<i>35-44</i>	1.91	1.93	2.24	2.36	3.11	2.25
<i>45 and over</i>	1.26	1.66	1.98	2.31	2.89	2.08
<i>Total</i>	1.78	1.92	2.24	2.42	3.11	2.22

six-month forward period and about purchases over the past twelve months. Group B was asked about plans for a twelve-month forward period and about purchases over the past twelve months. Data are presented for new and used automobiles, for aggregate household durable goods, and for the total of both categories.

The characteristics of these data are similar to those pointed out in the discussion of relationship between plans for a more restricted list of durables and age-income variables (Section 3, under age-income pattern). The picture here is more realistic than in the earlier analysis, because the items included here are more representative of the range of durables that consumers actually buy. Income is closely related to plans and purchases of both automobiles and household durables—a bit closer

TABLE 25

AVERAGE LEVEL OF PURCHASES WITHIN AGE AND INCOME GROUPS FOR  
TWELVE-MONTH PERIOD BEFORE APRIL 1958, SUBGROUP A  
(UNITY = \$300)

Age Group	INCOME CLASS					Total
	Under \$5,000	\$5,000- 7,499	\$7,500- 9,999	\$10,000- 14,999	\$15,000 and over	
<i>Household Durable Goods</i>						
Under 35	1.16	1.60	1.81	2.08	2.13	1.69
35-44	1.05	1.20	1.21	1.58	1.88	1.36
45 and over	0.78	1.09	1.22	1.23	1.41	1.17
<i>Total</i>	<i>1.02</i>	<i>1.36</i>	<i>1.44</i>	<i>1.60</i>	<i>1.68</i>	<i>1.43</i>
<i>New and Used Automobiles</i>						
Under 35	1.28	1.32	1.53	1.65	2.40	1.47
35-44	0.94	1.46	1.50	1.70	2.29	1.50
45 and over	0.87	1.27	1.52	1.59	2.13	1.51
<i>Total</i>	<i>1.08</i>	<i>1.26</i>	<i>1.52</i>	<i>1.65</i>	<i>2.23</i>	<i>1.49</i>
<i>Automobiles and Household Durables</i>						
Under 35	2.44	2.92	3.34	3.73	4.53	3.16
35-44	1.98	2.66	2.71	3.29	4.17	2.86
45 and over	1.65	2.35	2.74	2.82	3.54	2.68
<i>Total</i>	<i>2.10</i>	<i>2.62</i>	<i>2.95</i>	<i>3.25</i>	<i>3.92</i>	<i>2.92</i>

for automobiles. Plans and purchases seem to show about the same degree of variation with income, although the absolute levels are usually higher for purchases. Further, the six-months plans seem related to income in about the same manner as the twelve-months plans, in contrast to the pattern found in previous data for the CU sample.<sup>5</sup> The reasons are probably tied up with the nature of the survey period. Plans in April showed a sharp decline from previous levels, which appeared to result in part from uncertainty and pessimism about business conditions. As will be shown later, the uncertainty had a more pronounced effect on short-range plans than on longer-range ones, and the usual income pattern of short-run plans relative to longer-range ones may have been distorted.

<sup>5</sup>See Section 2.

TABLE 26  
 AVERAGE LEVEL OF PURCHASES WITHIN AGE AND INCOME GROUPS FOR  
 TWELVE-MONTH PERIOD BEFORE APRIL 1958, SUBGROUP B  
 (UNITY = \$300)

Age Group	INCOME CLASS					Total
	Under \$5,000	\$5,000- 7,499	\$7,500- 9,999	\$10,000- 14,999	\$15,000 and over	
<i>Household Durable Goods</i>						
Under 35	1.42	1.58	1.88	2.18	2.37	1.77
35-44	1.26	1.28	1.59	1.75	2.29	1.59
45 and over	0.90	1.16	1.24	1.59	2.30	1.46
<i>Total</i>	<i>1.24</i>	<i>1.40</i>	<i>1.62</i>	<i>1.82</i>	<i>2.31</i>	<i>1.62</i>
<i>New and Used Automobiles</i>						
Under 35	0.88	1.22	1.46	1.72	2.96	1.39
35-44	0.95	1.02	1.32	1.88	2.52	1.48
45 and over	0.85	1.14	1.50	1.68	2.66	1.60
<i>Total</i>	<i>0.88</i>	<i>1.15</i>	<i>1.42</i>	<i>1.76</i>	<i>2.67</i>	<i>1.48</i>
<i>Automobiles and Household Durables</i>						
Under 35	2.30	2.80	3.34	3.90	5.33	3.16
35-44	2.21	2.31	2.91	3.63	4.81	3.07
45 and over	1.75	2.30	2.73	3.28	4.96	3.06
<i>Total</i>	<i>2.13</i>	<i>2.55</i>	<i>3.04</i>	<i>3.58</i>	<i>4.98</i>	<i>3.10</i>

Variations in plans and purchases within age groups follow a systematic pattern. Both buying plans and purchases of household durables vary sharply with age. Automobiles are much less responsive, and it is hard to find any persistent relationship in these data. There is some slight indication that automobile plans and purchases decline with age for the lowest income class; otherwise, the pattern seems quite diverse.

One of the most encouraging features of the data is that the income and age patterns for buying plans tend to be repeated for purchases. There are no obvious inconsistencies between the two. The buying plan data "make sense" in a way which suggests that they are meaningful pieces of information.

### *Methodological Problems*

For examining additional variables, our procedure consists of measuring within age-income groups the sensitivity of buying plans and past purchases to selected variables. Several alternative measures of sensitivity can be devised, all having certain merits and suffering from one or more serious defects. The simplest procedure is to calculate average levels of plans (purchases) within each of our fifteen age-income groups for people having different kinds of expectations, etc. Many of the averages will have large sampling errors because the number of people in some cells is quite small.<sup>6</sup> However, we could compute the average number of plans (purchases) for each income expectations category in each of the age-income groups and average the fifteen observations. The resulting averages would reflect the influence of income expectations on buying plans (purchases), independently of age and income, subject to two major problems. The first is random variation due to sampling errors, which can be handled by omitting cell averages based on fewer than some predetermined number of observations. The second is inherent in the use of actual averages for each age-income group. Since richer people tend to report more plans and purchases than poorer ones do, and younger people more than older ones do, the averages for the fifteen groups would give too much weight to the richer and younger groups, and too little to others.<sup>7</sup>

One method for handling the problem is partial correlation, which would isolate the effects of income expectations, holding age and income constant. This is the most satisfactory procedure if the age and income effects are both linear, although it is very time consuming.

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<sup>6</sup>Five classifications of income expectations within each subsample would make 75 cells to be filled in. Since there are only about 5,000 people in any one subsample, some cells contain less than ten people—for example, the number of rich young income pessimists would be extremely small for obvious reasons. Any people actually found in the category are likely to be congenital pessimists, rather than people who really expect adverse income changes.

<sup>7</sup>For example, suppose we had only two groups—young and old—and wanted to estimate the percent difference between the buying plans of optimists and pessimists. Further suppose that young people have twice as many buying plans as older ones do, young optimists 50 per cent more plans than young pessimists, and old optimists 25 per cent more plans than old pessimists. We want our data to say that, on the average, optimists have 37.5 per cent more buying plans than pessimists. The difference in purchase plans between optimists and pessimists, averaged according to usual procedures, would be larger than 37.5 per cent, owing to the assumption that buying plans of young optimists are more, relative to those of young pessimists, than those of old optimists relative to old pessimists. If the assumption is reversed, the average difference would be less than 37.5 per cent. In either case, the result would not be the difference between buying plans of optimists and pessimists. A similar difficulty applies for rich optimists and pessimists vs. poor optimists and pessimists.

An alternative procedure, used most in this study, is to assign ranks to average plans or average past purchases in each category for every age-income group. The ranks can then be correlated against hypothetical ranks based on the assumption that the variable has a systematic net effect on plans or purchases. Thus, if every income-optimist category in each age-income group had more buying plans than every category where people expected no change in income, and every no-change category had more plans than every income-pessimist group, the correlation would be perfect. We would not know whether the plans of optimists were much higher or only a little higher, on the average, than the plans of other people.<sup>8</sup>

The measures used here are: (1) correlation coefficients designed to measure the consistency with which plans or purchases are related to some variable, keeping age and income constant; and (2) the average level of buying plans or purchases for all age-income groups within each classification of selected variables, such as income prospects, debts, and economic attitudes. The averages are intended to provide a rough measure of the *amount* of variation in plans or purchases among consumers with different income prospects or debt; the correlations provide a measure of the *consistency* of the relationship within age-income groups.<sup>9</sup> These statistics will be supplemented where it seems appropriate.

### *Income Relationships*

The April survey questionnaire contained four questions dealing with personal income experience or prospects. Respondents were asked how their incomes during the first part of 1958 compared with their incomes during the same period a year ago, and whether they expected to be

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<sup>8</sup>In the typical case, we would have 60 or 75 different ranks—4 or 5 categories of some variable within 15 age-income groups. These ranks are correlated against the hypothetical ranks that should be associated with the variable. The hypothetical ranks thus consist of 15 repetitions of a 1-through-4 or 1-through-5 ranking rather than a 1-through-60 or 1-through-75 ranking. Normal least squares procedures are then used to estimate a correlation coefficient. This procedure is mathematically identical with treating each age-income group as a separate sample, estimating a rank correlation coefficient for each of the 15 samples, and averaging the 15-rank correlation coefficients.

<sup>9</sup>The two measures generally tend to move together, in that large differences in the average level of plans or purchases for income optimists compared to income pessimists, for example, will generally mean that the ranks within age-income groups will tend to be more consistent than if average differences are not large. This is not always true, since large average differences may be accompanied by a great deal of variability, and small differences by very little. In effect, standard errors in the average level of plans or purchases may be systematically different in one situation than in the other.

TABLE 27

PERCENTAGE DISTRIBUTION OF RESPONSES FROM CONSUMERS UNION SAMPLE, APRIL 1958

How does your household income over the last few months compare with your income over this same period a year ago?

	<i>Substantially higher</i>	<i>Some-what higher</i>	<i>About the same</i>	<i>Some-what lower</i>	<i>Substantially lower</i>	<i>Other</i>	<i>Not reported</i>
Per Cent of Sample	5.9	37.5	42.1	9.1	4.4	0.5	0.4

Do you expect that your family income during the next 12 months or so, compared to your income during the last few months, will be:

	<i>Substantially higher</i>	<i>Some-what higher</i>	<i>About the same</i>	<i>Some-what lower</i>	<i>Substantially lower</i>	<i>Too uncertain to guess</i>	<i>Other</i>	<i>Not reported</i>
Per Cent of Sample	4.1	35.7	46.5	7.5	3.3	2.5	0.2	0.2

TABLE 27, CONCLUDED

How does your 1957 income compare with the average income your household has been receiving over the past 2 or 3 years?

Per Cent of Sample	Because of unusual circumstances		For reasons likely to persist		Because of unusual circumstances		For reasons likely to persist		About the same		Not reported	
	Higher: circumstances	Lower: circumstances	Higher: likely to persist	Lower: likely to persist	Higher: circumstances	Lower: circumstances	Higher: likely to persist	Lower: likely to persist	Higher: likely to persist	Lower: likely to persist	Higher: likely to persist	Lower: likely to persist
	57.6	10.4	47.2	9.9	5.6	4.3	31.9	0.5				

How would you characterize your household's general financial prospects over the next 5 years compared to now (including prospects for both income and expenses)?

Per Cent of Sample	Deterio- rate slightly		Deterio- rate moder- ately		Deterio- rate substan- tially		Too uncertain to guess		Other		Not reported	
	Improve slightly	About the same	Improve slightly	About the same	Improve moder- ately	About the same	Improve substan- tially	Too uncertain to guess	Other	Not reported	Other	Not reported
	17.7	35.3	20.0	14.2	4.3	2.4	1.4	4.2	0.4	0.2		

TABLE 28

AVERAGE LEVEL OF BUYING PLANS FOR AGE-INCOME GROUPS WITH  
DIFFERENT INCOME EXPERIENCE AND INCOME PROSPECTS, APRIL 1958  
(UNITY = \$300)

<i>Period of Plans</i>	<i>Number of Groups</i>	AVERAGE LEVEL OF BUYING PLANS WITH INCOME EXPERIENCE OF:			<i>r</i> <sup>2</sup>	
		<i>In- crease</i>	<i>No change</i>	<i>De- crease</i>		
<i>Recent Change in Income</i>						
Within:						
6 months	15	1.20	1.04	1.03	0.12 <sup>a</sup>	0.10 <sup>b</sup>
6 months	9	1.19	1.00	0.95		
12 months	15	2.46	2.22	2.06	0.36 <sup>a</sup>	0.36 <sup>b</sup>
12 months	9	2.30	2.17	1.71		
<i>Expected Change in Income</i>						
6 months	15	1.26	1.03	0.95	0.34 <sup>a</sup>	0.35 <sup>b</sup>
6 months	9	1.24	0.98	0.95		
12 months	15	2.52	2.19	2.06	0.24 <sup>a</sup>	0.28 <sup>b</sup>
12 months	9	2.46	2.02	1.81		

<sup>a</sup>Estimated on the basis of ranks for 5 categories of changes—substantial and moderate increases or decreases, and no change.

<sup>b</sup>Estimated on the basis of ranks for 3 categories of changes; the 2 increase and 2 decrease categories were combined.

All correlation coefficients are significant at the 5 per cent level.

Source: Appendix Tables A-36, A-38, and A-39.

making more during the next twelve months or so. They were asked whether their 1957 incomes were unusually high or unusually low relative to their incomes during the past few years. The final income oriented question was concerned with long-range (five-year) financial prospects, involving both income and expenditure prospects. The distribution of responses to these questions is shown in Table 27.

Buying plans turned out to be fairly strongly related to both recent income experience and to expected income. Table 28 shows the average level of six- and twelve-months plans for all fifteen age-income groups, and for the nine groups in the center of the income distribution.<sup>10</sup> Correlation coefficients are also shown, calculated according to the ranking procedure described above.

<sup>10</sup>The nine group averages cover households with incomes between \$5,000 and \$15,000 per year. All age-income groups within these limits contain at least 275 people.

It is evident that both short- and longer-range plans were related to income experience and to income prospects during that period. There is little to choose between the relationships either in degree of difference in the averages or (with one exception) in consistency of the ordinal relationships within age-income groups,<sup>11</sup> possibly because income experience and income expectations are closely related.

There is some evidence that twelve-months plans are more consistently related to differences in recent income experience than six-months plans are, the reverse being true in relation to expected changes in income. One might anticipate that six-months plans would be more sensitive to both kinds of differences than longer-range plans would be since the short-range buying plans should, on the average, reflect a greater impact of recent or expected events. However, recent income experience is related to buying plans indirectly—presumably through its impact on the character of income expectations. The six-months plans show slightly higher correlations to expectations.<sup>12</sup>

The relationships of variables representing recent and expected income changes with actual purchases are much less close than with buying plans. These are shown in Table 29. There is practically no relationship between past purchases and either income experience or income prospects, except for people who had either large increases or large decreases. Neither of the correlations, which are computed by assigning ranks of 5, 4, 3, 2, 1, to the (highest through lowest) average for every age-income group, are significant at the 5 per cent level. If we change our procedure and assign only three grades or ranks—3 to the highest, 1 to the lowest, and 2 to the three averages in the middle—we find that the correlations rise substantially. For recent income experience and income expectations, respectively, the  $r^2$ 's become 0.07 and 0.16, and both are significant at the 5 per cent level.<sup>13</sup>

Reasons for differences between relationships for purchases and for plans (and also reasons for past purchases—expected income relationships

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<sup>11</sup>There is also little to choose between the degree of consistency within a five- or three-part scale of changes, as indicated by the two different  $r^2$  values.

<sup>12</sup>It seems doubtful that one could argue a priori that short-range buying plans must show a more consistent relationship to income expectations than longer-range ones do. But it is plausible that six-months plans represent immediately pressing needs, while twelve-months plans represent demands more contingent upon the course of events. Action on such contingent plans might depend upon successful guesses about the future, while guesses might have little bearing on actions that contain less of a contingency factor.

<sup>13</sup>The procedure of assigning ranks of 3, 2, 2, 2, 1 instead of 5, 4, 3, 2, 1 is not guaranteed to improve the relationships. It will do so only where observations in the extreme categories are more consistently "correct" than in the intermediate categories.

TABLE 29

AVERAGE LEVEL OF ACTUAL PURCHASES FOR AGE-INCOME GROUPS WITH  
DIFFERENT INCOME EXPERIENCE AND INCOME PROSPECTS,  
APRIL 1958 (UNITY = \$300)

<i>Period of purchase (A &amp; B samples combined)</i>	<i>Number of groups</i>	AVERAGE LEVEL OF PURCHASES WITH INCOME EXPERIENCE OF:					<i>r</i> <sup>2</sup>
		<i>Large increases</i>	<i>Some increase</i>	<i>No change</i>	<i>Some decrease</i>	<i>Large decreases</i>	
<i>Recent change in income</i>							
Past 12 months	15	3.53	2.90	2.95	3.20	2.90	0.01
Past 12 months	9	3.23	2.87	2.97	3.30	2.92	
<i>Expected change in income</i>							
Past 12 months	15	3.32	3.25	2.99	3.30	2.88	0.04
Past 12 months	9	3.20	3.01	2.88	3.31	2.84	

Sources: Appendix Tables A-37 and A-40.

being somewhat more pronounced than those between past purchases and recent income changes) are open to speculation. First, the purchases data cover a twelve-month period, April 1957 to April 1958. The income experience of many people—and their income prospects—must have been quite different in the first half of this period than during the latter half, when the 1957-1958 recession was beginning to have its impact. We know (from aggregate data) that purchase patterns were different. Thus it seems sensible to find weaker relationships between purchases over the past year and either actual or prospective income changes than between plans and these variables. If we had asked about purchases for the preceding six months, the picture might have been different.

Second, the survey was taken during a period when prospective changes in income may have been more important for decision making than were any changes that had actually taken place. The period was one of rapid decline in output for the economy as a whole, but much smaller declines in personal income. Uncertainty about the depth of the recession may have been a stronger factor influencing both purchase plans and purchase decisions than any changes actually taking place were, especially for people with the incomes and occupations of those in our sample. If so, differences in income prospects predicated on different evaluations of the probable severity of the recession would be more closely related to pur-

chase patterns in the recent past than differences in the stream of income receipts would be. On balance, both these phenomena might be due to the same factor—the greater impact of the uncertainty about future business conditions than of any specific changes taking place in respondents' incomes.

### *Permanent Income Hypothesis*

The question dealing with unusual changes in income offers an interesting opportunity to test the permanent income hypothesis developed by Milton Friedman.<sup>14</sup> He suggests that there is a proportional relationship between permanent (normal) income and consumption, using the latter term to mean the use value of services consumed rather than actual spending on goods and services.<sup>15</sup> Deviations from the income-consumption relationship, as usually measured, are attributed either to differences between permanent and measured income or to differences between consumer expenditures and actual consumption. According to Friedman, transitory changes in income do not result in any change in consumption (defined as the flow of services), unless the change affects permanent income.

Some aspects of this hypothesis about consumer behavior can be tested with data from the April survey. We should find that people with transitory increases in income are relatively more frequent in high-income (measured) brackets than in low-income brackets; and vice versa for people with transitory decreases—relatively few in high-income brackets and more in low-income groups. This follows by definition, since the existence of a transitory increase tends to put a household into a higher bracket than usual, and a transitory decrease has the reverse effect.<sup>16</sup> This comparison can serve as a check on whether the question about unusual income change was interpreted by our respondents as we intended them to. It also provides some measure of the importance of transitory income in determining the position of individuals within an income distribution.

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<sup>14</sup>*A Theory of the Consumption Function, op. cit.*

<sup>15</sup>Expenditures to increase the stock of durables would be treated as saving in Friedman's model.

<sup>16</sup>More transitory increases than decreases are bound to occur in income brackets higher than the sample median. Three categories of people will be found in such an income class (X): those normally there; those normally in a lower class but with transitory income increases; and those normally in a higher class but with transitory income decreases. The fact that class X is above the median for the sample means that there are more people in the sample who could move into X by virtue of transitory gains than there are people who could move into X by having transitory losses. Hence, if gains and losses are randomly distributed, there must be more transitory gains in any class higher than the median, and more transitory losses in any class lower than the median.

TABLE 30

## PERCENTAGE OF RESPONDENTS REPORTING UNUSUALLY HIGH OR UNUSUALLY LOW INCOMES, WITHIN AGE-INCOME GROUPS, APRIL 1958

Age of Household Head	INCOME CLASS							
	Less than \$3000	\$3000-\$3999	\$4000-\$4999	\$5000-\$7499	\$7500-\$9999	\$10,000-\$14,999	\$15,000-\$24,999	\$25-000 and over
<i>Per Cent with Unusually High Income</i>								
under 25	5.5	17.9	8.5	20.0	25.3	36.6	25.0	0.0
25-34	7.6	10.3	8.7	10.5	12.7	14.1	10.2	9.1
35-44	9.4	5.4	7.6	8.0	8.5	18.8	11.6	9.5
45-64	6.0	9.9	7.4	8.5	10.1	11.9	11.8	10.2
65 and over	1.3	4.8	7.9	7.7	9.3	25.0	4.8	10.4
<i>Per Cent with Unusually Low Income</i>								
under 25	21.8	11.9	10.6	3.0	2.5	0.0	0.0	0.0
25-34	35.9	22.8	11.7	4.5	3.0	2.4	4.3	4.0
35-44	37.7	13.2	13.8	6.7	4.0	2.6	2.9	1.9
45-64	26.0	15.5	17.6	7.9	6.4	4.4	4.1	7.1
65 and over	11.8	16.1	9.2	4.6	5.3	9.6	0.0	4.3

Table 30 suggests that respondents were able to distinguish transitory decreases from permanent decreases without undue difficulty—the bottom half of the table behaves quite sensibly. For transitory versus permanent increases, however, the data do not look very promising. The percentage of people reporting transitory increases tends to rise somewhat with the income level, but the tendency is very erratic, especially in the youngest age groups.<sup>17</sup> In addition, it seems clear that older people are more likely to report transitory income decreases, and younger people increases. With advancing age, within any income class, relatively fewer people tend to report unusual income increases, and relatively more tend to report unusual income decreases. This result suggests that respondents may have tended to confuse the notion of large changes with unusual changes. For example, older people whose incomes were sharply lower because of retirement or a switch from full-time to part-time work may have reported

<sup>17</sup>A subsequent survey of this same group of people with a differently phrased question indicates that some people tend to call any increase in income an unusual or temporary increase.

unusually low incomes, when in fact it might be a normal development that should have been expected and discounted.<sup>18</sup>

Assuming that the question about unusual changes in income was generally interpreted correctly,<sup>19</sup> we can investigate the buying and saving behavior of these people to see whether it squares with the Friedman hypothesis. We have data about their durable goods purchases and buying plans, we know about the changes in their asset holdings over the last six months,<sup>20</sup> and we know how much they thought they had saved over the past year. If the permanent income hypothesis is correct, we should find that people with transitory increases in income had saved more than people with permanent increases had, saving being defined to include increases in the stock of durable goods. Similarly, people with transitory decreases should be found to have saved less than people with permanent decreases had.

It is less clear what should be found for comparative changes in durable goods purchases or buying plans, or for assets changes. It should be true that people with transitory increases either bought more durables, planned to buy more, increased financial assets by a greater amount, or reduced debt by a greater amount than people with permanent increases; and vice versa for people with transitory and permanent decreases.

The data offer conflicting evidence on these questions. Exhaustive examination of durable goods purchase patterns and buying plan patterns failed to disclose any significant relationships between past or prospective acquisition of durables and transitory or permanent changes in income. We tested some 30 different tabulations, assigning arbitrary values of +1 to people with transitory increases, -1 to people with transitory decreases, and 0 to people with permanent changes or no change. Out of the 30 tests, the highest correlation achieved was an  $r^2$  of 0.18 for pur-

<sup>18</sup>The data suggest that there may be a systematic lag in the process of incorporating normal life-cycle changes into permanent income terms. The systematic difference between age groups implies that younger people may underestimate, and older people overestimate, their permanent income in a systematic way. If such were the case, consumption would also tend to lag similarly.

<sup>19</sup>We have one further consistency check on this question. People who reported unusual increases in income relative to the last few years should generally also report recent income higher than in the previous year, and (less generally) expected decline in future income. The reverse should be true for people reporting unusually low incomes. The first of these checks comes out very well (hardly any with unusually high incomes in 1957 did not also report higher recent incomes. The second check indicates that many people who reported unusually high incomes did not expect a decline. It provides further indication of the unreliability of replies from the transitory increase group.

<sup>20</sup>The question dealt with financial assets only, and ignored changes in asset values due to price changes.

chases in the household durables subcategory; only 7 of the 30 showed significance at the 5 per cent level, and only one out of 10 categories involving total durable goods showed significance at that level. The signs of these regressions were mostly positive (25 out of 30).<sup>21</sup>

However, this tells us only that people with transitory increases bought or planned to buy more durables than did people with transitory decreases. It does not tell us that they bought more than people with permanent increases or that people with transitory decreases bought less than people with permanent ones. The latter relationships were tested, but the results were neither positive nor negative.

The situation is even less satisfactory for assets changes. With ranks assigned of 1 to people with transitory decreases, 2 for permanent decreases, 3 for no change, 4 for permanent increases, and 5 for transitory increases, the correlation showed an  $r^2$  of (0.47), Table 31. However, this relationship is entirely due to the fact that people with income increases of any kind tended to build up financial assets more frequently than did people with unchanged incomes, and the latter more frequently than people with income decreases of any kind. If we reverse the first two and the last two ranks we can test the hypothesis that people with permanent income increases built up assets more frequently than people with transitory increases did (or decreased assets less frequently), and similarly for permanent and transitory decreases. We find that the correlation improves considerably—to an  $r^2$  of (0.69). Thus, financial asset changes followed a pattern the reverse of that predicted by the permanent income hypothesis. Since we know that there were no differences in recent or prospective purchases of durable goods by these groups, the picture so far is not in accord with the Friedman hypothesis. However, neither of the above tests is conclusive, because we are dealing with only components of saving.

Some support for the permanent income hypothesis is provided by the subjective savings estimate in this survey. Respondents were asked to estimate, as a fraction of income, how much they thought they had been able to save over the past year. Median saving, estimated by the respondents themselves, turned out to be higher for people with transitory income increases than for people with permanent ones, and lower for people with transitory decreases than with permanent ones. The correlation, with use of ranks for the five categories that are in accord with the

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<sup>21</sup>The categories tested included household furnishings, automobiles, and total durables. A and B subsamples were tested, both in the aggregate and for separate age groups. Although few of the individual differences showed significance, it seems likely that so many independent relationships having the same sign means a slight but statistically significant difference in the behavior of these groups.

TABLE 31  
CORRELATION COEFFICIENTS RELATING FINANCIAL ASSET CHANGES AND  
RATE OF SAVING FOR HOUSEHOLDS THAT EXPERIENCED DIFFERENT  
KINDS OF CHANGES IN INCOME, APRIL 1958

<i>Relationship between:</i>	<i>Number of Observations</i>	<i>r<sup>2</sup></i>
<b>Financial Asset Changes</b>		
Normal-unusual income changes		
Ranked in accord with permanent income hypothesis <sup>a</sup>	75	0.47
Ranked inversely for permanent income hypothesis <sup>b</sup>	75	0.69
Grouped <sup>c</sup>	45	0.93
<b>Rate of Saving</b>		
Normal-unusual income changes		
Ranked in accord with permanent income hypothesis <sup>a</sup>	75	0.54
Ranked inversely for permanent income hypothesis <sup>b</sup>	75	0.47
Grouped <sup>c</sup>	45	0.91

<sup>a</sup>Hypothetical ranks were 1 for unusual income increase, 2 for normal increase, 3 for no change, 4 for normal decrease, and 5 for unusual decrease.

<sup>b</sup>Hypothetical ranks were 1 for normal income increase, 2 for unusual increase, 3 for no change, 4 for unusual decrease, and 5 for normal decrease.

<sup>c</sup>Hypothetical ranks were 1 for increases in income, 2 for no changes, and 3 for decreases.

permanent income hypothesis, comes to an  $r^2$  of (0.54). Reversing the ranks for permanent and transitory changes reduces the correlation to an  $r^2$  of (0.47).

Since no difference was found in the durable goods acquisition rate for these groups, the implication is that the hypothesis comes out well in the (subjective) aggregate saving figures, but that the components look a bit strange. Since we did not ask for change in personal debt, we cannot determine whether these data would tend to nullify the odd results for the asset change data. Acquisition of nonfinancial assets (about which we know nothing) obviously could tip the scales concerning components of saving. We should probably regard the data, on balance, as lending mild support to the Friedman hypothesis. Table 31 summarizes the asset changes and subjective savings estimates for our age-income groups.

#### *Long-Range Financial Prospects*

The remaining question about income prospects in the April survey dealt with financial prospects five years ahead. Replies to it are interesting and also have bearing on the pertinence of the permanent income hypothesis.

One would expect that spending behavior in households whose financial future appears bright would reflect those expectations (in comparison

with others of comparable age and current income, but less favorable future prospects) assuming that consumers take their longer-run prospects into account in the formulation of short-run decisions. In the same comparative way, one would expect to find those households consuming more currently than the others, since permanent income is higher than measured income for the former group. Such households would clearly be expected to be buying more durable goods.

The data yield quite clear-cut results. Households with favorable long-term prospects have purchased more durables than other households, and also plan to buy more in future. Table 32 shows average levels of buying plans and purchases for age-income groups, and rank correlations between plans or purchases and financial prospects. The correlations involve a ranking procedure for five classes within each of our fifteen age-income groups—three shades of favorable future prospects, a no change group, and one group whose future financial prospects were unfavorable.<sup>22</sup>

The average magnitude of the differences in buying plans for people with varying estimates of their long-term financial prospects is much greater than the average magnitude of the differences in purchases for the same people. For example, people with very optimistic long-range prospects had about 60 per cent more six-months buying plans, on the average, than people who expected a worsening in the next five years; the average difference for the twelve-months plans was about 30 per cent. People who had very optimistic long-range prospects made between 20 and 30 per cent more purchases than people with worsening long-run prospects.

Correlations for the rankings indicate that buying plans are more consistently related to financial prospects than purchases are. Thus, long-term financial optimism seems to make a bigger absolute difference, on the average, in what people plan to do than in what they have done. It is quite possible that there is a systematic tendency in plan data to exaggerate the extent to which actual changes or deviations will occur.<sup>23</sup> However, it is also quite possible that both plan and purchase relationships are in fact equally good, and that the observed difference is a result of classifying the group for both plans and past purchases by financial prospects in April 1958, rather than classifying for purchases by April 1957 prospects, and

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<sup>22</sup>There were relatively few people who expected their financial situations to worsen in future; all were lumped together regardless of the extent of the anticipated worsening.

<sup>23</sup>A related tendency in aggregate plan data can be observed for the CU sample. Aggregate changes in buying plans have generally been larger than subsequent changes in actual purchases. See F. T. Juster, "Expectational Data and Short-term Forecasting," unpublished Ph.D. thesis, Columbia University, 1956.

TABLE 32

AVERAGE LEVEL OF BUYING PLANS OR PURCHASES OF DURABLE GOODS FOR  
HOUSEHOLDS WITH DIFFERENT EXPECTATIONS ABOUT THEIR FINANCIAL  
SITUATIONS FIVE YEARS AHEAD, APRIL 1958  
(UNITY = \$300)

Plan or Purchase Period	Number of groups	FINANCIAL SITUATION EXPECTED TO:					<i>r</i> <sup>2a</sup>
		Improve consid- erably	Improve somewhat	Improve slightly	Remain the same	Deteri- orate	
<i>Average Buying Plans</i>							
Within:							
6 months	13	1.30	1.17	1.18	0.85	0.82	0.46 <sup>b</sup>
6 months	9	1.48	1.13	1.04	0.85	0.84	
12 months	13	2.62	2.38	2.38	2.12	2.02	0.28 <sup>b</sup>
12 months	9	2.63	2.19	2.16	2.04	1.93	
<i>Average Purchases</i>							
A Subsample							
Past year	13	3.43	3.01	2.97	2.71	2.64	0.19 <sup>b</sup>
Past year	9	3.35	2.88	2.96	2.58	2.77	
B Subsample							
Past year	13	3.56	3.18	3.00	3.00	2.90	0.08 <sup>b</sup>
Past year	9	3.10	3.03	2.88	2.85	2.76	

<sup>a</sup>Using rankings for 5 classes of financial prospects, 13 age-income groups.

<sup>b</sup>Significant at 5 per cent level of probability.

Source: Appendix Tables A-46 and A-47.

for plans by April 1958 prospects. Extreme optimists in April 1957, who for that reason made many purchases during the April 1957–April 1958 period, might have become less optimistic by April 1958, but not more optimistic. Similarly, people who were extremely pessimistic in April 1957, and for that reason made relatively few purchases, might have become less pessimistic by April 1958 but not more.

This bias normally will weaken whatever relationship actually exists between expectations and purchases, if we think of expectations as preceding purchases (or causing them). All of our data relating expectations to purchases relate present expectations to past purchases. Unless a group of individuals with a given type of expectation at one point in time are equally likely to change their expectations in either direction at a later point in time, classifying by the later expectations and examining actions contingent upon the earlier expectation will show a relationship less strong

than actually exists. There are two possible cases where the bias could be disregarded. First, the earlier expectation may be unrelated to economic events and may simply reflect the personality and temperament of the respondent. Then we would not expect any change in expectations over time, and using one or another date to obtain the expectations data would make no difference. Second, people who fall into the most optimistic category at one point in time might, in fact, become more optimistic. But that change could not show up in a later survey because the (open-ended) classification would not distinguish upward movements within the highest category. It is thus possible for people in the most optimistic or most pessimistic category to change in either direction, although actual data could show a change only in one direction.

The six-months plans are apparently more sensitive than twelve-months plans are to variations in long-range financial prospects. Part of the apparent difference may be due to sampling variability,<sup>24</sup> but part of it may be a real difference. It might be argued that the twelve-months plans should reflect longer-range considerations to a greater extent than do six-months plans.<sup>25</sup> This is probably not so, since we have seen that six-months plans are likely to be more concrete and indicative of what actual purchases will look like, while twelve-months plans probably reflect a more general buying mood. If so, one would expect the results shown in Table 32, with short-range plans more sensitive to factors significantly related to actual purchases.

#### *Attitudes and Expectations Concerning Business Conditions and Prices*

No comparable data for the April survey questions about economic attitudes and expectations can be obtained from previous CU questionnaires, so we have no information about shifts in responses over time. We can, however, form a fairly clear picture of respondents' views of the general economic situation and their own financial prospects at the time of the survey. Replies to the now familiar questions on income expectations and long-term financial prospects also contribute to that picture.

<sup>24</sup>The reader may have noted that purchases for the A subsample are somewhat more responsive to variations in financial prospects than are purchases for the B subsample. These differences are due to sampling variability, since the same question was asked of the two subsamples and they were selected at random. However, time horizons for buying plans differed—six months for A and twelve months for B. The greater sensitivity of six-months compared to twelve-months buying plans may thus be related to the sampling variability that shows up in purchase data.

<sup>25</sup>Katona and Mueller also found that long-range expectations influence current plans and purchasing behavior. Their findings deal with the impact of long-range expectations concerning business conditions and prices, rather than with long-range personal financial prospects of households. See their *Consumer Attitudes and Demand, 1950-52, op. cit.*

TABLE 33

PERCENTAGE OF RESPONDENTS WITH DIFFERENT EXPECTATIONS ABOUT  
FUTURE BUSINESS CONDITIONS AND DIFFERENT OPINIONS ABOUT  
BUYING CONDITIONS, APRIL 1958

<i>Expectations about General Business Conditions in Next 12 Months</i>	<i>Per Cent of Respondents<sup>a</sup></i>
Much better	3.8
Somewhat better	32.0
About the same	24.7
Somewhat worse	27.1
Much worse	3.1
Too uncertain to guess	8.5
Other	0.5
Not reported	0.3
Total	100.0
 <i>Opinions about Buying Conditions</i>	
Good time to buy	28.9
Bad time to buy	51.9
Don't know	12.7
Other	5.5
Not reported	1.0
Total	100.0

<sup>a</sup>Based on 11,187 responses.

Respondents were asked about their expectations concerning general business conditions. A substantial number of people, though not a majority, said they expected business to be worse during the next 12 months than "recently." In addition, a large majority felt the present was, from the point of view of their own financial situations, a bad time rather than a good time to buy major durable goods (Table 33).

Average levels of buying plans and purchases varied markedly with expectations about business conditions (Table 34); both buying plans and purchases during the past twelve months were higher for the optimists than for the pessimists. As anticipated, the six-months buying plans were considerably more sensitive to variations in business expectations than were the twelve-months plans, and both more sensitive than purchases. It bears repeating that differences in the sensitivity of purchases and plans must be partly due to a possible systematic bias in the purchases data caused by relating *present* expectations to *past* purchases.

One of the most interesting features of these data is the very sizable

TABLE 34

AVERAGE LEVEL OF BUYING PLANS OR PURCHASES FOR HOUSEHOLDS WITH  
 VARYING EXPECTATIONS ABOUT GENERAL BUSINESS CONDITIONS,  
 APRIL 1958 (UNITY = \$300)

<i>Plan or Purchase Period</i>	<i>Number of Groups</i>	BUSINESS CONDITIONS EXPECTED TO:				<i>r</i> <sup>2b</sup>
		<i>Im- prove</i>	<i>Stay the same</i>	<i>Worsen some- what</i>	<i>Worsen con- siderably</i> <sup>a</sup>	
<i>Average Buying Plans</i>						
Within:						
6 months	15	1.30	0.99	1.05	0.88	0.30
6 months	9	1.26	1.03	0.98	0.85	
12 months	15	2.26	2.34	2.08	1.97	0.22
12 months	9	2.26	2.20	2.08	2.05	
<i>Average Purchases</i>						
A subsample						
Within:						
Past year	15	3.11	3.05	2.89	2.67	0.09
Past year	9	3.06	2.94	2.92	2.49	
B subsample						
Within:						
Past year	15	3.24	2.98	3.03	2.92	0.09
Past year	9	3.12	3.02	3.00	2.62	

<sup>a</sup>Includes people who said the situation was "too uncertain to guess."

<sup>b</sup>Uses ranking procedure within each age-income group.

Source: Basic data from Appendix Tables A-41 and A-42.

average difference in buying plans for people who were either moderately or sharply optimistic and those who were pessimistic to some degree. For the six-months plans the optimists had 25-30 per cent more buying plans than the moderate pessimists had, and almost 50 per cent more than the extreme pessimists (with income and age kept constant). The differences are much less pronounced for the twelve-months plans. The implications here are quite different from those of a similar amount of variation, discussed above, in average buying plans for people with divergent income expectations. The big difference in the average levels of buying plans reported for the income expectations questions was between people who were very optimistic and people who were very pessimistic. Even if all the extreme pessimists were pleasantly surprised it would have made very little difference to total plans, assuming that they would have changed

their plans to the level of the optimists.<sup>26</sup> The simple reason is that, extreme pessimists and extreme optimists being rare, even a drastic alteration in their average plans would have made little difference to total plans for the group.<sup>27</sup> However, the number who were moderately pessimistic about general business conditions was very large, and the number who were either very pessimistic or very uncertain was quite respectable. If all of these were to be pleasantly surprised, and if they had altered plans accordingly, there would be a very sizable increase in the level of total buying plans for the sample.<sup>28</sup>

Answers to the question whether April 1958 was a good or a bad time to buy also showed considerable variability in the average level of buying plans associated with the two answers. The opinion that the time was good for buying was associated with almost double the amount of six-months buying plans, on the average, that the opposite opinion was (Table 35). Respondents who answered "don't know" or "other" on the question were in the middle. For the twelve-months plans, the differential was in the same direction but was considerably less wide—nearer to 35-40 per cent than 100 per cent, on the average. Again, respondents who checked a "don't know" or "other" response had more buying plans than the bad-time-to-buy group, and less than the good-time-to-buy group.<sup>29</sup> These relationships were also quite systematic. In every one of the fifteen age-income groups, people who thought it was a good time to buy had more six-months buying plans than people who thought it a bad time to buy; the same is true for the twelve-months buying plans question, with the exception of one group.

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<sup>26</sup>In fact, they probably would have altered plans somewhat more than is implied by this assumption. It seems to be true that people whose prospects improve buy more than people do who were optimistic to begin with and have no reason to change. See Eva Mueller, "Effects of Consumer Attitudes on Purchases," *American Economic Review*, December 1957, p. 946.

<sup>27</sup>This is even true to some degree for people who were moderately pessimistic about their income prospects, of whom there are relatively few in the CU sample.

<sup>28</sup>Using the 9-group averages in Table 34 and the weights in Table 33, and assuming that everybody who was not an optimist became one and behaved accordingly would increase six-months plans about 18 per cent; twelve-months plans and purchases would be much less affected, rising by about 4 to 5 per cent. Even though people who were pessimistic and then pleasantly surprised may buy more than original optimists, some are doubtless perennial pessimists whose expectations reflect personality traits and would not be altered by events.

<sup>29</sup>Examination of the definite and the probable or possible buying plans over a twelve-months horizon indicate that opinions about buying conditions are closely related to the former but not to the latter. That is, people who said the present was a good time to buy had many more definite plans to purchase than did people who thought the present a bad time to buy. There were only small differences between the probable or possible buying plans of people with varying opinions about buying conditions.

TABLE 35

AVERAGE LEVEL OF BUYING PLANS AND PURCHASES FOR HOUSEHOLDS WITH VARYING OPINIONS ABOUT WHETHER THE PRESENT WAS A GOOD OR BAD TIME TO BUY, APRIL 1958  
(UNITY = \$300)

<i>Plan or Purchase Period</i>	<i>Number of Groups</i>	<i>OPINIONS ABOUT WHETHER THE PRESENT WAS:</i>		
		<i>Good time to buy</i>	<i>Don't know or other</i>	<i>Bad time to buy</i>
<i>Average Buying Plans</i>				
Within:				
6 months	15	1.53	1.13	0.87
6 months	9	1.53	1.13	0.80
12 months	15	2.62	2.29	2.00
12 months	9	2.56	2.16	1.94
<i>Average Purchases</i>				
A subsample				
Within:				
Past year	15	3.26	2.93	2.81
Past year	9	3.21	3.02	2.73
B subsample				
Within:				
Past year	15	3.44	3.23	3.13
Past year	9	3.25	2.95	2.90

Source: Appendix Tables A-44 and A-45.

The data also indicate that past purchases were related to opinions about buying conditions in April 1958, though not as closely as were buying plans. The probable reason for the less close relation, as pointed out before, is that opinions either way would not necessarily have arisen during the twelve months before April 1958. Thus some of the people who said, in April 1958, that the present was a bad time to buy may have held the opposite view about 1957, and had acted accordingly.

The difference between the levels of six- and twelve-months plans is much greater for people who thought it a bad time to buy than for the others. That is, people who thought April 1958 was a bad time to buy had about 130-140 per cent more twelve-months than six-months buying plans, people who thought it a good time to buy about 70 per cent, and

those who didn't know about 100 per cent.<sup>30</sup> Table 34 (opinions about general business conditions in future) shows something of the same phenomenon. People who expected business to be better had average ratios, for twelve- to six-months plans, of less than 2:1. People who expected a worsening had average ratios of more than 2:1, and the ratios are higher the worse people expected business conditions to be.

These findings suggest that the low level of plans associated with both adverse expectations about general business and adverse opinions about a given time for investing in durables may not persist for long. Both adverse views seem to be associated strongly with a short-run curtailment of buying plans, less so with curtailment of plans when the time horizon is extended to twelve months. The two answers are also strongly related to each other. One of the important things influencing people to think the present a bad buying time seems to be the kind of expectations they have about general business conditions.<sup>31</sup>

The last piece of data in the area of attitudes and expectations is concerned with expectations about general price movements.<sup>32</sup> Most of the respondents expected prices in general to either rise or stay the same during the next twelve months (Table 36). There was a slight difference

<sup>30</sup>By and large, the level of twelve-months plans is usually about double that of the six-months ones. The fact that the amount of plans is doubled, on the average, when the time period is doubled means little, partly because the twelve-months question is open-ended—"12 months or so"—while the six-months question is not. What is significant is that the ratio of twelve- to six-months plans appears to vary systematically in this question.

<sup>31</sup>The following figures compare business expectations and opinions about buying conditions. The data are unweighted averages for fifteen age-income groups, with the average expectation about business for each group (age, income, and opinion about buying conditions held constant) estimated by assigning weights of 3 to the very optimistic, of 1 to the moderately optimistic, of 0 to the neutral, of -1 to the moderately pessimistic, of -3 to the very pessimistic and the very uncertain. The resulting total was then divided by the number of people in each group.

	Good Time to Buy	Don't Know	Bad Time to Buy
Average expectation about business conditions (15 age-income groups)	0.254	-0.408	-0.401

Similar results are reported by Katona and Mueller (*Consumer Attitudes and Demand, 1950-51, op. cit.*, p. 68). In the interim surveys conducted by the Survey Research Center, people were asked whether they regarded the present as a good or bad time to buy major durable goods; the same question asked in the present study was oriented specifically towards the personal situation of respondents. Despite the differences in the question and in the nature of the two samples, opinions about buying conditions and expectations about business conditions are closely related.

<sup>32</sup>Unfortunately, the more relevant question on expectations about price movements for durable goods was not asked.

TABLE 36

PERCENTAGE DISTRIBUTION OF RESPONSES ABOUT PRICE EXPECTATIONS  
FROM CONSUMERS UNION SAMPLE, APRIL 1958

Question: During the next 12 months or so, what do you think will happen to the prices of the things your household buys (food, clothing, durable goods, etc.)?

Per cent of sample	ANSWERS					
	<i>Higher than now</i>	<i>About the same as now</i>	<i>Lower than now</i>	<i>Too uncertain to guess</i>	<i>Other</i>	<i>Not reported</i>
	43.1	36.0	13.7	6.5	0.5	0.2

in the level of buying plans for people who had different price expectations, although it was not so systematic as that found for other kinds of expectations (Table 37). People who expected prices to fall reported more buying plans, particularly for the six-months horizon, than those who expected either increases or no change in prices did. People who expected no change had fewer buying plans, on the average, than those who expected either increases or decreases.<sup>33</sup>

While the relation of price expectations to buying plans (with age and income constant) appears to be weak, an interesting set of interrelationships suggests that there is some net effect of the price expectations variable. We have seen that although people who expect prices to fall have somewhat more buying plans than others—not many or systematically more—they certainly have not fewer plans. But people who expect prices to fall are also more likely to view the current time as a bad time

<sup>33</sup>The behavior of respondents whose answer to a question is “no change,” may contain a systematic bias—less serious for the CU sample than for a random population sample, but present to some degree. In general, people who say they expect no change are less likely to report buying plans or purchases than other people are—other things being equal. To check no change means, for some, not much interest or unwillingness to think about it. It follows, as frequently seen so far, that the no-change group reports fewer buying plans or purchases than pessimists, or, in the case of price expectations, fewer buying plans than people do who expect prices either to increase or decrease.

Among the no-change respondents are three different groups: one reports no change as a real opinion; a second is uncertain about the direction a change will take and guesses no change; a third is in a hurry and takes the easiest way out. The third group would also tend to report fewer buying plans than anybody else, for the same reasons. The April 1958 survey attempted to separate out the second group with a “too uncertain to guess” choice to be checked. The idea was to imply a more intelligent response than “don’t know,” with its implication of ignorance.

TABLE 37

AVERAGE LEVEL OF BUYING PLANS FOR HOUSEHOLDS WITH VARYING  
PRICE EXPECTATIONS, WITHIN AGE-INCOME GROUPS, APRIL 1958  
(UNITY = \$300)

<i>Period of Plans</i>	<i>Number of Groups</i>	AVERAGE BUYING PLANS WITH PRICES DURING NEXT 12 MONTHS EXPECTED TO BE:		
		<i>Higher</i>	<i>Same</i>	<i>Lower</i>
Within:				
6 months	15 <sup>a</sup>	1.05	1.08	1.32
6 months	9	1.13	1.01	1.22
12 months	15 <sup>b</sup>	2.19	2.04	2.29
12 months	9	2.27	2.03	2.28

<sup>a</sup>13 groups only, because of small sample sizes in 2 groups.

<sup>b</sup>12 groups only because of small sample sizes in 3 groups.

Source: Appendix Table A-43.

TABLE 38

AVERAGE NUMBER OF HOUSEHOLDS EXPECTING PRICE INCREASES, WITH  
VARYING OPINIONS ABOUT BUYING CONDITIONS, BY AGE-INCOME  
GROUPS, APRIL 1958

<i>Age-Income Group</i>	AVERAGE NUMBER OF HOUSEHOLDS <sup>a</sup> THAT EXPECT PRICES TO INCREASE AND THINK THE PRESENT IS:		
	<i>A good time to buy</i>	<i>Don't know</i>	<i>A poor time to buy</i>
15 groups	0.357	0.256	0.245
9 groups	.372	.296	.229
Under-35 age group	.412	.297	.327
35-44 age group	.317	.264	.219
45-and-over age group	.343	.205	.188

<sup>a</sup>Unweighted arithmetic averages of number of households that expect increases minus number expecting decreases divided by the total number in the group.

to buy, as can be inferred from Table 38. People who think the present a good time to buy expect higher prices on the average than others; hence, there must be relatively more people expecting price declines in the bad-time-to-buy group. This difference shows up in 14 out of 15 age-income groups, and seems to be stronger for older consumers than younger

ones.<sup>34</sup> The reader will recall our finding that those who thought the present was a good time to buy generally had many more buying plans than people thinking the opposite. If there were no net relationship between price expectations and buying plans, we would thus necessarily find that people who expected higher prices, and considered the time good for buying, had more buying plans than people who expected lower ones. That is, people who think it's a good time to buy have more plans than others, and expect price increases more generally than others; therefore, in the absence of a net relationship between price expectations and buying plans, people who expect higher prices would also report more buying plans.

In fact those who expect higher prices show fewer buying plans than the others—or about the same. Consequently, people who expect prices to fall (with age, income, and opinion about buying time kept constant), must have more buying plans than people who expect prices to rise.<sup>35</sup> On balance, the writer's inference is that the expectation of price declines had caused consumers to defer purchases of durables during the period of the survey, and that price expectations may well be a significant variable for the problems under study. It is always possible, of course, that addition of more variables to the test would give results tending to negate this proposition.<sup>36</sup>

<sup>34</sup>This result suggests that thinking the present a bad time to buy would not necessarily be an indication of pessimism on the part of the respondent, but may simply reflect, for some people, an expectation that prices are going to fall and that the future will be a better time to make purchases than the present.

<sup>35</sup>Perhaps a clearer way to describe this proposition is in terms of the sign attached to a coefficient of partial correlation. With buying plans  $X_1$ , opinion about buying conditions  $X_2$ , and price expectations  $X_3$ , we have the following:  $X_1$  is positively related to  $X_2$ , that is, people with more plans generally think the present is a good time to buy.  $X_2$  is positively related to  $X_3$ , that is, people who think the present a good time to buy generally expect higher prices in future.  $X_1$  is substantially unrelated to  $X_3$ , that is, people have roughly the same number of buying plans regardless of their price expectations. If anything, the gross relationship here is slightly negative. The partial  $b_{13.2}$  has the sign of  $r_{13} - r_{12} r_{23} / \sqrt{1 - r_{12}^2} \sqrt{1 - r_{23}^2}$ . In this expression, the denominator must be positive and the right hand side of the numerator ( $r_{12} r_{23}$ ) must be positive because both relationships are positive. Unless  $r_{13}$  is positive and as large as  $r_{12} r_{23}$ , the whole expression will thus be negative. In fact we know that  $r_{13}$  is either zero or slightly negative, hence  $r_{13.2}$  (and  $b_{13.2}$ ) must be negative.

<sup>36</sup>Katona and Mueller (*Consumer Expectations, 1953-56*, Survey Research Center, 1957) also find that price expectations alone are very weakly related to buying intentions for automobiles. They did not examine the relationships between buying plans, opinions about buying conditions, and price expectations. Data from their earlier publication (*Consumer Attitudes and Demand, 1950-52*, p. 72), however, suggest that these variables are related in the same way that our data suggest, indicating that the relationship we find for the CU sample also exists for the population as a whole.

TABLE 39

PERCENTAGE DISTRIBUTION OF RESPONSES TO QUESTIONS ABOUT  
TOTAL FINANCIAL ASSETS AND ASSET CHANGES, APRIL 1958

<i>Total Financial Assets</i>	<i>Per Cent of Sample</i>
Less than \$2,000	42.3
\$2,000-\$10,000	37.2
More than \$10,000	19.2
Not reported	1.3
Total	100.0
<i>Changes in Assets Over Past 6 Months</i>	<i>Per Cent of Sample</i>
Increased substantially	7.0
Increased somewhat	37.7
Stayed about the same	40.3
Decreased somewhat	10.6
Decreased substantially	3.5
Not reported	0.9
Total	100.0

*Assets, Debts, and Savings*

The third main area under examination is the relationship of buying plans and purchases to financial asset holdings and changes in them, to debts, and to subjectively estimated personal savings. Three questions were asked in the April 1958 Survey about assets, three about debts, and one about personal savings.

*Assets*

About financial assets, respondents were asked which kinds they held, the approximate total amount of their holdings,<sup>37</sup> and whether their holdings had changed over the past six months—disregarding changes due to movements in the prices of securities (Table 39). The replies, with other data, indicate that buying plans and purchases are more sensitive to changes in holdings of financial assets than they are to the amounts of such assets. Plans were strongly related to changes in asset holdings (Table 40),

<sup>37</sup>One of the subgroups was asked about asset holdings in detail. The response rate on the detailed questionnaire was no different from any of the others. These data had not been fully analyzed, at the time of writing.

TABLE 40

AVERAGE LEVEL OF BUYING PLANS AND PURCHASES FOR HOUSEHOLDS  
EXPERIENCING DIFFERENT CHANGES IN FINANCIAL ASSET HOLDINGS  
OVER PAST SIX MONTHS, WITHIN AGE-INCOME GROUPS, APRIL 1958

Plan or Purchase Period	Number of Groups	ASSET CHANGES OVER PAST 6 MONTHS			<i>r</i> <sup>2a</sup>
		Higher	Same	Lower	
<i>Average Buying Plans</i>					
Within:					
6 months	15	1.20	0.98	0.79	(+)0.64
6 months	9	1.24	0.98	0.79	
12 months	15	2.46	2.17	1.96	(+)0.32
12 months	9	2.38	2.08	1.81	
<i>Average Purchases</i>					
A subsample					
Within:					
Past year	15	2.81	2.82	3.10	(-)0.05
Past year	9	2.84	2.91	3.28	
B subsample					
Within:					
Past year	15	3.32	3.13	3.26	(-)0.07
Past year	9	2.99	2.93	3.40	

<sup>a</sup>Based on ranking procedure. The signs in parenthesis indicate whether the slope is positive or negative.

Source: Appendix Tables A-54 and A-55.

particularly the six-months plans.<sup>38</sup> People whose asset holdings had increased over the six months preceding the survey had over 50 per cent more buying plans, on the average, than those whose assets had decreased—age and income constant. For the twelve-months plans the differential was roughly 30-35 per cent. This relationship was also consistent within age-income groups, particularly for the six-months plans.

The result might mean simply that people whose asset holdings had increased (decreased) over the six months before April had purchased durable goods at a lower (higher) rate than normal during that period.

<sup>38</sup>The responses indicated that absolute rather than proportional changes were being reported. The question asked whether assets had increased substantially, increased somewhat, and so on. The number who said their assets had increased substantially tended to rise steadily with increased incomes, which would not necessarily have been so if proportional changes were reported.

That is, what seems to be an asset-change effect might be due mainly to discontinuities in the rate of durable goods purchases. To some degree this does seem to be so, since Table 40 indicates that asset changes are negatively correlated with past purchases. However, the relationship is considerably weaker, both in average magnitude and in consistency within age-income groups, than that for buying plans.<sup>39</sup> The asset change-purchases relationship is considerably better without the over-\$15,000 income class, in which asset changes are probably less closely related to durable goods purchases as a result of discontinuity in financial flows (alternatives being more numerous and complicated there). The  $r^2$  value for the rankings goes up from 0.05 to 0.21 for the A sample, and from 0.07 to 0.25 for B. In addition, the relationship between purchases of household equipment and asset change is somewhat stronger than that shown between total durables purchases and asset changes. It is still less powerful than that between buying plans and asset changes. On balance, the evidence suggests that the observed relationship between asset changes and buying plans represents to some degree the impact of past purchases on buying plans, plus other probable factors.

The net effect of total asset holdings on either plans or purchases was much smaller than that of asset changes (Table 41). There was no systematic difference (age and income kept constant) between the purchases or buying plans of households that had between \$2,000 and \$10,000 in financial assets and those that held more than \$10,000. Both plans and purchases were slightly lower for people with less than \$2,000 assets, although the only substantial difference was for the six-months buying plans.

Further, there was no evidence that the influence of asset holdings depended on income. The asset question asked about absolute amounts in three broad categories. Perhaps one reason for the lack of difference between the behavior of households with moderate amounts of assets (\$2,000-10,000) and those with large amounts (over \$10,000) is that the impact of assets on spending is discontinuous. Up to a certain "satisfactory" level, more assets encourage spending by increasing the sense of security; above that level, more assets make relatively little difference to (consumption) spending behavior.<sup>40</sup>

The argument leads to a possible explanation of the finding of no difference: our moderate category was sufficiently broad to get beyond the

<sup>39</sup>The problem of differential time periods for the variables arises again; asset changes were requested for a previous six-month period, purchases for the past year.

<sup>40</sup>This reasoning is supported by J. N. Morgan, "Factors Related to Consumer Saving when It Is Defined as a Net Worth Concept" (*Contributions of Survey Methods to Economics*, L. Klein, ed., Columbia University Press, 1954).

TABLE 41

AVERAGE LEVEL OF BUYING PLANS AND PURCHASES FOR HOUSEHOLDS  
WITH DIFFERENT AMOUNTS OF FINANCIAL ASSET HOLDINGS,  
WITHIN AGE-INCOME GROUPS, APRIL 1958

<i>Plan or Purchase Period</i>	<i>Number of Groups</i>	<i>AMOUNT OF FINANCIAL ASSETS<sup>a</sup></i>	
		<i>Less than \$2,000</i>	<i>\$2,000 or more</i>
<i>Average Buying Plans</i>			
Within:			
6 months	15	0.97	1.19
6 months	9	0.93	1.17
12 months	15	2.26	2.36
12 months	9	2.15	2.22
<i>Average Purchases</i>			
A subsample			
Within:			
Past year	15	2.90	3.01
Past year subsample	9	2.94	2.92
B Within:			
Past year	15	3.07	3.29
Past year	9	2.99	3.05

<sup>a</sup>Defined to include checking, savings, and saving and loan accounts, government bonds, other bonds, common and preferred stocks.

Source: Basic data from Appendix Tables A-52 and A-53.

satisfactory level, even for the highest income groups. However, one would expect to find a closer relationship between purchases or buying plans and these two asset categories for households with relatively high incomes than for those with relatively low incomes. This does not appear to be so; the relationship is as random at high incomes as at low ones. Hence, we come to the conclusion that amounts of financial asset holdings have very small effect on purchases or buying plans (after allowing for the effects of income and age), with the possible exception of those with quite low assets. The effect of liquid asset holdings cannot be investigated with data from these two subsamples.

The relationship between asset holdings and purchases or buying plans is also influenced by discontinuities in the rate at which durable goods are purchased. Low assets may be accounted for by recent purchases of durables. Thus, part of the effect shown for six-months buying plans might

TABLE 42  
PERCENTAGE DISTRIBUTION OF RESPONSES ABOUT INDEBTEDNESS,  
APRIL 1958

Question: What is the approximate amount of your household's outstanding indebtedness at the present time, aside from house mortgages? (Do not include regular charge accounts.)

	<i>Less than \$500</i>	<i>\$500- 1,000</i>	<i>More than \$1,000</i>	<i>None</i>	<i>Not reported</i>
Per cent of sample	20.9	13.1	17.3	45.7	3.0

Question: With respect to your total outstanding indebtedness (not counting house mortgages), what is the approximate amount of the monthly repayments you are now making?

	<i>\$1-24</i>	<i>\$25-49</i>	<i>\$50-100</i>	<i>More than \$100</i>	<i>None</i>
Per cent of sample <sup>a</sup>	13.5	15.8	36.6	18.0	16.1

Question: About how long do you estimate it would take to reduce your outstanding nonmortgage debt to the point where you would be willing to undertake substantial new commitments?

	<i>Less than 1 year</i>	<i>1-2 years</i>	<i>2-3 years</i>	<i>More than 3 years</i>
Per cent of sample <sup>a</sup>	54.7	33.4	8.0	3.9

<sup>a</sup>Percentages exclude replies of no indebtedness.

be due to the inverse relationship between recent and prospective purchases, rather than to a real relationship between assets and buying plans. If so, we would expect to find an inverse relationship between purchases and asset holdings. The fact that we find a positive—although fairly weak—relationship here suggests that there is a real relationship, and that discontinuities only give it a weak appearance.

### *Debts*

The effect of personal indebtedness on buying plans and purchases is quite strong and in the expected direction. The questions as asked and the percentage distribution of answers are given in Table 42. The first and third questions seemed to be about equally good ways of measuring the impact

<sup>41</sup>The question about debt maturity may tell more about the subjective impact of debt on household buying decisions than either of the other two. A decision to repay a relatively small total debt over three years must reflect a situation adverse to new purchases.

TABLE 43

AVERAGE LEVEL OF BUYING PLANS AND PURCHASES FOR HOUSEHOLDS  
WITH DIFFERENT AMOUNTS OF PERSONAL INDEBTEDNESS,  
WITHIN AGE-INCOME GROUPS, APRIL 1958  
(UNITY = \$300)

Plan or Purchase Period	Number of Groups	AMOUNT OF PERSONAL DEBT				<i>r</i> <sup>2a</sup>
		Zero	Less than \$500	\$500- 999	\$1,000 and over	
<i>Average Buying Plans</i>						
Within:						
6 months	15	1.17	1.14	0.90	0.97	(- )0.39 <sup>b</sup>
6 months	9	1.16	1.10	0.97	0.92	
12 months	15	2.33	2.43	2.26	2.01	(- )0.10 <sup>b</sup>
12 months	9	2.21	2.28	2.24	1.87	
<i>Average Purchases</i>						
A subsample						
Within:						
Past year	15	2.50	2.77	3.52	4.19	(+ )0.66 <sup>b</sup>
Past year	9	2.37	2.75	3.35	4.29	
B subsample						
Within:						
Past year	15	2.93	2.75	3.50	4.61	(+ )0.56 <sup>b</sup>
Past year	9	2.68	2.72	3.21	4.29	

<sup>a</sup>Using ranking procedure within four debt groups.

<sup>b</sup>Significant at the five per cent level of probability. The signs in parenthesis indicate whether the slope is positive or negative.

Source: Basic data from Appendix Tables A-48 and A-49.

of debts on purchase decisions or buying plans. The second was neither strongly nor systematically related to either.

The result seems quite sensible, in retrospect. Households have the option of paying off any sized debt with either large payments over a short time or smaller payments over a longer time, and the choice between these alternatives reflects the household's financial situation. Answers to the question about amounts of monthly payment thus indiscriminately combine those to whom debt is a burden with those to whom it is not. Answers to the question about amount of debt also combine them to a lesser degree. There is a somewhat lower sensitivity vis-a-vis buying plans in responses to this question (Table 43) than to the debt maturity question (Table 44).<sup>41</sup> As usually found, six-months buying plans are more closely related to both amount and maturity of debt than are twelve-months plans. This is especially true for the amount of debt.

TABLE 44

AVERAGE LEVEL OF BUYING PLANS FOR HOUSEHOLDS THAT EXPECT TO BE SUBSTANTIALLY IN DEBT FOR VARYING PERIODS OF TIME, WITHIN AGE-INCOME GROUPS, APRIL 1958  
(UNITY = \$300)

Plan or Purchase Period	Number of Groups	No Debt	LENGTH OF REPAYMENT PERIOD			<i>r</i> <sup>2a</sup>
			Less than 1 year	1-2 years	More than 2 years	
<i>Average Buying Plans</i>						
Within:						
6 months	15	1.16	1.24	0.76	0.73	(-)0.40 <sup>b</sup>
6 months	9	1.15	1.26	0.71	0.72	
12 months	15	2.26	2.49	1.94	1.43	(-)0.39 <sup>b</sup>
12 months	9	2.22	2.43	1.95	1.36	
<i>Average Purchases</i>						
A subsample						
Within:						
Past year	15	2.52	3.08	3.96	3.71	(+)0.52 <sup>b</sup>
Past year	9	2.42	3.19	3.90	3.64	
B subsample						
Within:						
Past year	15	2.76	3.32	4.00	3.70	(+)0.38 <sup>b</sup>
Past year	9	2.64	3.16	3.84	3.58	

<sup>a</sup>Using ranking procedure with four categories for 15 age-income groups.

<sup>b</sup>Significantly different from zero at five per cent level of probability. The signs in parenthesis indicate whether the slope is positive or negative.

Source: Appendix Tables A-50 and A-51.

The debt-purchases relationships for both questions are even stronger than the buying plans relationships, although here variation is in the opposite direction. Households with relatively large debt or with long-time repayment arrangements made more purchases during the past year. Debt arrangements are, of course, a consequence of purchases made, rather than a reason for making them. The question on amount of debt is somewhat more sensitive to purchases than the one on length of time—in contrast to our results for buying plans. It reflects the fact that people with large absolute amounts of debt are more likely to have incurred them recently than are people with long debt maturities; most of this relationship, which is shown for total durable goods purchases, seems to be a

reflection of automobile purchases in the preceding year.<sup>42</sup> Purchase of a car, particularly a new one, would result frequently in an indebtedness of over \$1,000, less frequently in a report of long-time indebtedness, especially for the higher income groups in the sample.<sup>43</sup>

Do these results lead to a definite conclusion about the net impact of debt on buying plans? We have seen that buying plans are inversely related to debt, and that recent purchases are positively related to debt (age and income kept constant). Both these relationships seem to be of the same order of magnitude and are about equally consistent within age-income groups. Thus, we cannot tell whether plans are really related to debt or whether the relationship actually is between plans and recent purchases, with the positive association of debt level and purchases causing a spurious negative relationship between debt and buying plans in our data.

A little reflection on probable magnitudes suggests that it is quite unlikely that the buying plans-debt relationship would disappear if we took account of differences in the level of recent purchases. It seems likely that the association between buying plans and recent purchases is quite weak. The relationship is primarily a consequence of the tendency for households with small stocks of durable goods relative to income and age, to buy more durables than households with relatively large stocks.<sup>44</sup> Given any sized stock of durables, households with heavy recent acquisitions are likely to have fewer plans for the near future. However, low stocks and relatively high recent acquisitions may lead to more buying plans than large stocks and relatively low recent acquisitions.

Outstanding indebtedness, as noted, is rather closely related to recent acquisitions and is in fact a consequence of them. But it is not likely that the debt outstanding at any one time is strongly related in a positive manner to the stock of durables. It may even be related inversely, since heavy debt means heavy recent acquisitions, which in turn mean a relatively low stock of durables before the purchases.

Thus we have six known or assumed relationships, with age and income kept constant.

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<sup>42</sup>The correlation between amount of debt and recent purchases of automobiles, using the ranking procedure, comes to an  $r^2$  of 0.62 for the amount of debt and of 0.53 for debt maturity. Similar correlations for household furnishings are 0.11 and 0.05, respectively.

<sup>43</sup>Many respondents in the CU group reported usually borrowing from banks rather than from finance companies. The probable result would be less consistency between recent automobile purchase and debt maturity than between purchases and amount of debt.

<sup>44</sup>"Large" and "small" are related to both the amount and age of the household's durable goods.

1. Debt is strongly and positively related to recent acquisitions (known).
2. Debt is moderately and negatively related to buying plans (known).
3. Buying plans are strongly and negatively related to the stock of durables (assumed).
4. Recent acquisitions are weakly and negatively related to the stock of durables (assumed).
5. Debt is weakly, and probably negatively, related to the stock of durables (assumed).
6. Buying plans and recent acquisitions are weakly, and probably negatively, related (assumed).

If these assumptions are correct, there is almost certainly a negative relationship between debt and buying plans, with age, income, stock of durables, and recent acquisitions of durables kept constant.<sup>45</sup>

### Savings

The final relationship to be examined in this section is between the percentage of income saved and durable goods buying plans or purchases. Respondents were asked to estimate their rates of personal saving, but were given no definition of what saving meant (Table 45).

TABLE 45  
PERCENTAGE DISTRIBUTION OF RESPONSES ABOUT SAVINGS FROM  
CONSUMERS UNION SAMPLE, APRIL 1958

Question: Approximately what percentage of your household income were you able to save over the past 12 months or so?

	20% or more	10-20%	5-9%	Less than 5%	<i>Spent more than income</i>	<i>Don't know</i>	<i>Not reported</i>
Per cent of sample	9.9	23.3	23.3	29.2	11.2	2.5	0.6

Buying plans were positively related to the estimated rate of saving in the previous year; the more people thought they had saved the more dur-

<sup>45</sup>The relationship can be shown most simply by an arithmetical illustration. If we assume that by strong relationship we mean an  $r$  of 0.70, by a moderate relationship an  $r$  of 0.40, and by a weak relationship an  $r$  of 0.30, we have the following multiple correlation problem: let  $X_1$  = buying plans;  $X_2$  = debt;  $X_3$  = stock of durables;  $X_4$  = recent purchases of durables. From our assumptions above,  $r_{12} = -0.40$ ;  $r_{14} = +0.70$ ;  $r_{13} = -0.70$ ;  $r_{34} = -0.30$ ;  $r_{23} = -0.30$ ;  $r_{24} = -0.30$ . Then the relationship  $r_{12,34}$  comes out to be  $-0.80$ .

TABLE 46

AVERAGE LEVEL OF BUYING PLANS AND PURCHASES FOR HOUSEHOLDS THAT SAVED DIFFERENT FRACTIONS OF INCOME IN THE PRECEDING TWELVE MONTHS, WITHIN AGE AND INCOME GROUPS, APRIL 1958 (UNITY = \$300)

Plan or Purchase Period	Number of Groups	More than 10 per cent	FRACTION OF INCOME SAVED			Dis- saved	r <sup>2a</sup>
			5-9 per cent	0-5 per cent			
<i>Average Buying Plans</i>							
Within:							
6 months	13	1.19	0.96	1.04	0.79	(+)0.26 <sup>b</sup>	
6 months	9	1.23	1.06	1.04	0.82		
12 months	13	2.27	2.02	2.08	1.99		
12 months	9	2.34	2.10	2.15	1.87	(+)0.11 <sup>b</sup>	
<i>Average Purchases</i>							
A subsample							
Within:							
Past year	13	2.72	2.77	2.70	3.00	(-)0.02	
Past year	9	2.72	2.96	2.84	3.48		
B subsample							
Within:							
Past year	14	2.95	3.17	2.97	3.37	(-)0.08 <sup>b</sup>	
Past year	9	2.90	3.08	2.98	3.23		

<sup>a</sup>Using ranking procedure within 15 age-income groups.

<sup>b</sup>Significant at 5 per cent level of probability. The signs in parenthesis indicate whether the slope is positive or negative.

Source: Basic data from Appendix Tables A-56 and A-57.

ables they planned to buy in future. As typically with these data, six-months plans were more closely associated with recent saving than were twelve-months plans. The relationship between past purchases and saving is inverse but relatively weak; the more people had saved in the past year the fewer durable goods they had purchased. As might be expected, people who had spent more than income acquired durable goods at a considerably heavier rate than those who had accumulated savings.

Comparison of Table 40 with Table 46 indicates that the recent saving and recent asset change relationships are similar. Each shows a strong positive relationship to buying plans and a weak negative relationship to purchases. Both lend modest support, on the level of individual household

decision making, to the proposition that personal saving and the acquisition of durable goods are highly interchangeable activities. They also lend support to the corollary proposition that consumption, defined as using up services, is much more closely related to income than consumption defined as spending on goods and services is.<sup>46</sup>

### Summary

Our examination of the interrelationships of purchases and buying intentions to attitudes, expectations, assets, and debts has been oriented around two fundamental questions. Are expectational and financial factors more closely associated with short-horizon and firmly-held buying plans, or with longer-horizon and loosely-held plans? Which expectational and financial factors seem to be most closely associated with buying plans and purchases?

First, it is clear from our data that expectational and financial variables are usually more closely associated with short-horizon and definite buying plans than with longer-horizon and indefinite ones. Although households with either improved financial circumstances or favorable expectations reported more buying plans for both the short- and longer-term periods than other households, they had *relatively* more for the shorter period (on a percentage basis). The same result was found for almost all variables examined. Further, the relationship of the expectational and financial variables to definite buying plans was generally stronger than that for probable or possible buying plans—both questions having a twelve-months horizon (on the basis of data not presented in this section). The results suggest that buying plans are part of a rational decision making process, in which plans are contingent upon expectations. If not, plans would tend to be randomly distributed with respect to expectations. The looser relationship between longer-range plans and expectations is probably due to the greater uncertainty of future events. Hence, the distribution of highly contingent and uncertain plans is more likely to be random with respect to any variable examined.

Investigation of the second question—which expectational and financial variables turn out to be most closely related to buying plans and purchases—yielded some interesting but inconclusive results. It is clear that most of the variables examined are of some significance in comparisons of households in the same age group and income class. But it is not clear at

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<sup>46</sup>This proposition is discussed above in the section on the permanent income hypothesis. It is also discussed rather extensively in the literature: see Friedman, *op. cit.*; James Morgan, "The Structure of Aggregate Personal Savings," *Journal of Political Economy*, December 1951, p. 528; Juster, "Expectational Data and Short-Term Forecasting," *op. cit.*

this point which of them would continue to show significant effects if additional factors were to be held constant, because of strong interrelationships among many of the variables tested. For example, one-year income expectations, recent income experience, and five-year financial prospects are all closely related. Households with favorable recent income experience are more likely to have favorable one-year expectations, and households with favorable short-range expectations are more likely to have favorable long-range prospects. Consequently, all these variables show some relationship to buying plans, and it is uncertain which of them is really significant, and which appear significant only because of interrelationships with one or more variables.

In addition to the three, most of the other variables examined show a statistically significant relationship to buying intentions, the exception being total financial assets. Their relationship to purchases is usually, though not always, less strong and less consistent, the exception being debt. Answers to all the expectation and attitude questions show a strong relationship to plans and a relatively weaker one to past purchases. Only three of this type of variable—long-range financial prospects, one-year expectations about business conditions, and opinions about buying conditions—show a statistically significant relationship to past purchases. We cannot conclude, however, that expectation and attitude variables are more closely related to plans than to actual purchases, nor that only the three above-mentioned variables exert a significant effect on purchases. The reason is that we classified households by their April 1958 expectations and attitudes and compared them with purchases during the preceding year. In principle, classification should have been made by April 1957 expectations and attitudes and their relationships with subsequent purchases examined. The conceptually correct relationship is almost certainly stronger than the one shown in this section. People who were very optimistic in April 1958 could have been less optimistic (within the classification used) in April 1957, but not more. Similarly, people who were very pessimistic in April 1958 could have been less pessimistic in April 1957 but not more. Consequently, the average levels of past purchases for our April 1958 extremely optimistic (pessimistic) groups are almost certainly lower (higher) than they would have been if classification had been based on the degree of optimism shown by the April 1957 expectations of these groups. The general effect of this bias is to weaken the relationship of purchases to expectations and attitudes, assuming that purchases are related to these variables and that purchases lag rather than lead the formation of attitudes and expectations.