Measuring Personal Economic Well-Being

Report Submitted to
The Board of Overseers, National Election Study and
The 1984 National Election Study Planning Committee

Steven J. Rosenstone
John Mark Hansen
(Yale University)

Donald R. Kinder
(University of Michigan)

October, 1983

Over the past decade, political scientists have devoted considerable attention to the effect that changes in personal economic well-being have on **how** citizens evaluate the president, how they vote in elections, and whether or not they participate in politics. Individual and aggregate level analyses often have produced divergent findings. One reason for this discrepancy *may be that* the survey-based measures of personal economic well-being are relatively weak. Although aggregate data on inflation, change in real disposable income per capita, unemployment, and the like are readily available for cities, counties, states, and the nation as a whole, individual level assessments of a person's economic well-being have had to rely on **four item:** whether respondents say they (and/or their spouse) are currently unemployed or were unemployed during the past year; whether respondents say economic matters are their most important personal problem; and **responses to the** question: We are interested in how people are getting along financially these days. Would you say that you (and your family living with you) are better off or worse off than you were a year ago?" This fourth variable--the "better/worse off financially" question--has become the chief indicator of personal economic well-being. Given the theories being tested, it is a heavy burden for this single item to carry.

Our mission **here** is four-fold: 1) We assess the validity and reliability of the better/worse off financially question. 2) We develop and test additional survey measures of personal economic well-being. 3) I-Je examine whether self-reported changes in personal economic well-being **over the** previous six months can be measured *more* reliably than evaluations over the previous year. 4) We see whether assessments of personal economic well-being over the last six months better predict political attitudes and behavior than assessments using the traaitional one year time frame.

Measuring Personal Economic Well-Being

The underlying construct we are trying to measure is a perceptual analogue to change in per capita real disposable income. We say perceptual analogue because it is impossible, within the confines of a survey instrunent, to measure this concept "objectively." One cannot ask respondents to report their after tax income for the current and previous years. It is even difficult to get people to tell an interviewer their current pre-tax income. Many respondents hesitate to reveal such personal information; others (particularly non heads of households) simply do not know their family's income.[1]

Rather than try to measure changes in real disposable income directly, we devised a set of less intrusive questions, the responses to which will indicate whether the respondent's family income has declined. The items, which we shall introduce in a moment, are designed to get respondents to report on perceptions and activities that would change as a consequence *of* fluctuations in their personal economic well-being. The measurement model

─────

[1] For example, 12 percent of the respondents on the 1982 National Election study were missing data on this question.

holds that each of the perceptions and behaviors we observe are indicators of financial well-being--an unobserved variable that cannot be measured directly.

A person can do five things to counteract the effects of declining income. He can reduce consumption, or alter the nature of the goods he consumes (defer buying a car, or purchase a Chevy instead of a Mercedes); he can look for additional work to compensate for lost income; he can borrow money; he can save less or dip into existing savings; or he can put off paying creditors. When income is on the rise, people consume or save more; they are not likely to search for additional work (and may even cut back on the hours they work since they can now afford to purchase leisure); they are less likely to borrow to make ends meet and less prone to late payment of debts. Our survey questions tap these five consequences of changes in personal income. In addition we ask respondents for a global assessment of whether their income has increased or decreased. Finally, we expand the traditional better/worse off financially item by including a follow-up question that asks people how much better or worse off they have become.[2]

The Time Frame

The better/worse off financially item traditionally has asked people to compare their current situation to last year's. Two considerations motivate us to consider a shorter time frame in this question as well as in the new questions we are testing. First, responses may be more reliable when comparisons are made over shorter time periods. There is abundant, unequivocal evidence "that people forget even tangible anti salient events like hospitalizations, automobile accidents, crime victimizations, and major home improvement expenditures (Cannell, karquis, and Laurent (n.d.); Penick 1976; Neter and Waksberg 1964). About half the known instances are not reported to survey interviewers a year after their occurrence. Similarly, when we ask a person to compare his present state to his situation in the past, circumstances further back in time may be less easy to remember than more recent baselines. If it is easier to recall what things were like six months ago than to remember what they were like a year ago, questions asking for six month comparisons are more reliable than those demanding one year comparisons.

Our second motivation is a theoretical one: short-term changes in personal economic well-being may be more important in explaining political preferences and behavior than changes over a longer term. In evaluating presidents or deciding whom to vote for, people may ask "what have you done for me lately?" and really mean lately."[3] Although people's economic well-being eroded during

---

[2] Unemployment is conceptually distinct from personal economic well-being. The two are related, to be sure, but a family can experience unemployment without experiencing economic stress; a respondent and his spouse can be employed yet still experience economic difficulties. Consequently, we treat them separately here.

[3] Fair (1978) found, for example, that a six month change in real GNP per capita is a slightly better predictor of presidential voting than a one year change. Similarly, Rosenstone (1982) found that short-term changes in

1980, for example, it may have been the collapse of personal income in the second and third quarters of the year that had the greatest impact on Reagan's margin of victory. In sum, a shorter time frame may yield measures of economic well-being that both are more reliable and are more powerful predictors of political attitudes and behaviors.

Study Design

This report analyzes questions that were asked as part of the Center for Political Studies' Pilot Survey for the 1984 National Election Study. People were interviewed in July, 1983 and reinterviewed a month later. The questions measuring personal *economic* well-being were asked at the beginning of the first Of these two waves. The respondents constituted a national random sample of the 1982 voting age citizen population. The 314 people interviewed in 1983 are a subsample of respondents to the 1982 National Election Study. Thus, their November, 1982 responses to over a hundred demographic and political questions are also available for analysis.

To test the six month versus the one year time frame, respondents were randomly divided into two groups, each of which was asked the same personal economic well-being questions. Respondents in sample A (N = 158) were prompted with phrases like "in the last year" or "this past year" while those in sample B (N = 156) were prompted with "in the last six months" or "this past six months. "

The Survey Questions and Marginals

The exact wording of the questions and the marginals for the two samples are reported in table 1. (The variable numbers are the ones listed in the NES 1983 pilot study codebook. For the sake of clarity [but at the cost of eloquence] these variable numbers will be used throughout this report.) The percentage of people who responded "don't know" *or whose* responses were not ascertained are reported in table 2. These respondents are deleted from the percentages listed in table 1.

People are not reluctant to answer these questions; there are virtually no missing data. The question that seems to give respondents the most trouble is V2129--whether the respondent was able to work less because he did not need the money--but even here, fewer than 2 percent declined to answer. In general, people are just as willing to respond to questions posed with a six month time frame as to those with a one year prompt. The possible exception to this conclusion is V2111, change in income relative to prices: 1.9 percent were missing data on the six month version of the question.

----

unemployment suppress turnout more than long-term changes, and Kernell (1978, fn. 21) found that six month moving averages for differences in unemployment and consumer prices better explain fluctuations in presidential popularity than either 2, 3, 4, 5, 7, **11, 12,** or 13 month differences.

Variable Number	Question	Sample A 1 Year Time Frame	Sample B 6 Month Time Frame
V2103	We are interested in how people are getting along financially these days. Would you say that you (and your family living with you) are better off or worse off than you were (a year ago/six months ago)?		
	Better Off	30.4	32.1
	Same	32.9	39.7
	Worse Off	36.7	28.2
V2104	Is that much better off or somewhat better off? Is that much worse off or somewhat worse off?		
	Much Better Off	7.6	7.1
	Somewhat Better Off	22.8	25.0
	Same	32.9	39.7
	Somewhat Worse Off	26.6	21.2
	Much Worse Off	10.1	7.1
V2110	During the (past year/past six months) have you (and your family) been able to buy most of the things you needed and planned on, or have you had to put off buying these things?		
	Had to Put Off Buying	53.2	51.6
v2111	Do you think that over the (last year/past six months) (your/your family's) income has gone up more than the cost of living, has it fallen behind, or has it stayed about even with the cost of living?		
	Gone Up More	10.1	8.5
	Stayed About Even	45.6	47.7
	Fallen Behind	44.3	43.8
v2129	Now I'm going to read a list of things that may have happened to you (or family members living with you) during the past (year/six months). First, this (past year/in the past six months) did you (or anyone in your family) work less because you really didn't need the money?		
	No	95.5	97.4

V2130   (This past year/In the last six months) have
you (or anyone in your family) had to watch
your budget more closely than the (year
before/six months before)?

Yes	**63.9**	55.1

V2131   During the past (year/six months), have you
(and your family) put off medical or dental
treatment because you didn't have the money?

Yes	**29.7**	**27.6**

V2132   (This past year/In the past six months), in
order to make ends meet; did (any of) you
borrou money from a bank, lending institution,
or fram relatives or friends?

Yes	**25.9**	**18.1**

V2133   [If yes] Did you have to borrow more; the same
amount, or less than the (year/six months)
before or didn't you have to borrow then?

More	3.8	6.5
Same	**5.7**	3.9
Less	**5.7**	**1.3**
Didn't Borrow Then	10.8	**6.4**

V2133B   \<Change in borrowing\>
\<Constructed f rom V2132 and **V2133**\>

Not Borrowing	74.1	81.9
Corrowing Less	5.7	**1.3**
Borrowing Same	5.7	**3.9**
Borrowing i iore	14.6	12.9

V2134   (This past year/In the past six months) have you
(and your family) had to use your savings to make
ends meet?

Yes	47.5	37● 8

V2135   [If yes] Did you use your savings more, the same,
or less than the (year before/six months before),
or didn't you have to use your savings then?

More	30.4	12.3
Same	5.7	**13.5**
Less	**1.9**	2.6
Didn't Use Savings Then	**9.5**	9.0

V2136   [If no] Over the past (year/six months) have you (and your family) been able to put money aside?

Yes	**31. 2**	37.2

V2137   [If yes] Have you been able to save more, the same amount or less than (the year before/during the six months before)?

More	10.2	**10. 3**
Same	**15. 9**	20.5
Less	5.1	6.4

V2134C   <Change in Savings>
<Constructed from V2134, V2135, V2136, and V2137>

Less Savings	45.2	**27.7**
Same Savings	42.7	**59.4**
Greater Savings	12.1	12.9

V2138   (This past year/In the past six months) have you (or anyone in your family) fallen behind in rent or house payments?

Yes	7.6	5.1

v2139   (This past year/In the past six months), in order to make ends meet , have (any of) you looked for a new job, or looked for a second job, or tried to work more hours at your present job?

Yes	**44.9**	34.2

Table 2
Kissing Data on Survey Questions Asked to iieasure Personal Economic Well-Being
Variable Number, Question, and Percent Missing Data (DK and NA)

Variable Number	Question	Sample A 1 Year Time Frame	Sample B 6 Month Time Frame
V2103	Better/Worse off financially (3-point)	0	0
V2104	Better/Worse off financially (5-point)	0	0
V2110	Had to put off buying things	0	.6
v2111	Change in income relative to prices	0	1.9
v2129	Worked less because didn't need the money	1.3	1.9
V2130	Watch budget more closely	0	0
V2131	Put off medical or dental treatment	0	0
V2132	borrow money	0	.6
V2133	Borrow money versus last (year/6 months)	0	.6
V2134	Use savings to make ends meet	0	0
V2135	Use savings versus last (year/6 months)	0	.6
V2136	Put money aside	.6	0
V2137	Put money aside versus last (year/6 months)	.6	0
V2138	Fallen behind in rent or housing payments	.6	0
V2139	Looked for new or second job or more hours	1.3	.6

The most general conclusion to reach from the marginals reported in table 1 is that the six month time frame elicits slightly more "better off" responses than the one year prompt.   This is exactly what one would expect, since the economy really did get better (or become less bad) over the last six months compared to the last year.   While the growth in per capita real disposable income was roughly the same over both periods (4.8 percent annual rate over the last six months vs. 5.0 percent over the last year), the rate of growth Of income was five times greater *over the* last six months than over the last year (250 vs. 55 percent).   Unemployment dropped to 9.5 percent in July 1983 from 9.8 percent in July 1982, but from 10.4 percent in January 1983. And the savings rate (savings/income) declined less from July to December (-10.7 percent) than from July to July (-19.4 percent). Other evidence on the divergent validity of the two frames is discussed later.

The pattern of more better off responses given to the six month prompt also partly results f rom differences (that occurred by chance) between the two samples.   Respondents in sample A (the one year time frame) are slightly poorer, have lower occupational status, and a more likely to be unemployed than sample B respondents (Lake 1983).

Nearly every question produces healthy variance in its division of the population except for two items; V2129 and V2138. Few people cut back on work because they really didn't need the money (4.5 percent in sample A and 2.6 percent in sample B); few report having fallen behind in rent or house payments (7.6 and 5.1 percent in sample A and B respectively). As we will see in a moment, these two items, in large part because of their limited variance, are not strongly associated with the other indicators of personal economic well-being and drop out of the analysis. [4]

The follow-up question to the better/worse off financially item produces additional variance that, as we will see, significantly boosts the validity and rel lability of the variable.   About one out of four respondents place themselves in the "much better off" or "much worse off" categories when given the opportunity to do so.

There are two errors in the way the questions were asked. First, the pattern of questioning used on V2134-V2137 that allowed the construction of V2134C (change in savings) should have been duplicated for the questions tapping whether or not the respondent had borrowed money. People who responded "no" to V2132 should have been asked a follow-up question probing whether they had borrowed in the previous year/six months.   The second error is a relatively minor one: responoents who answered "have no savings" to V2134 should have been probed with a follow-up question asking whether they had savings in the previous year/six months.

----

[4] This finding may be context-dependent.   Substitution of leisure for income occurs mostly at the upper income reaches, and since the recession has shifted the entire population down, the threshold might not be met by anyone in the sample.   If the cconomy were booming, though, we might indeed find *more* people working less (although we still doubt that a sizable portion of the population would do so).

What People Mean When They Say "Better" or "Worse" Off Financially

Respondents who indicated that they were either better or worse off financially (as opposed to the same) were asked why. Interviewers coded four responses to this open-ended question which are displayed in tables 3 and 4.

People seem to have taken the follow-up question quite literally. They did not provide an "explanation" of why they were better or worse off as much as the "meaning" of their response.   The better off responses seem largely to reflect changes in income and employment, and to a much lesser extent changes in prices, assets, and indebtedness.   The worse off responses also reflect changes in income and employment, and, to an astonishing degree, perceived inflation (higher prices).   Contrary to those perceptions, the U.S. has [5] experienced over the last year its lowest rate of inflation in a decade. Change in family composition and taxes seem to enter into the worse off responses more than the better off responses.

A striking finding, consistent with most previous scholarship, is that people do not, on the surface at least, to make connections between what is going on in government or the economy as a whole and their personal life circumstances.   Government policy, Ronald Reagan, or general economic conditions are not what people first reach for when asked to explain why their economic position has changed.   (Another possibility, of course, is that people misunuerstooci our intent in asking this question and assumed we were merely providing them an opportunity to elaborate how they were better or worse off.)

The differences between the one year and six month time frames are small. Income seems to play a slightly bigger role when respondents are probed to think back a year than when they are asked to think back six months. The total number of responses per respondent are the same for the six month and one year prompts.

The important message to take away from tables 3 and 4 is that people think about changes in income, employment, prices, and spending power when they say

----

[5] Perceptions of inflation seem to have an incredible tenacity, as we would expect from "adaptive expectations" theory in economics.   People simply get used to and expect a certain rate of change in prices.   Yet, if adaptive expectations were wholly true we would not expect complaints about inflation outstripping increases in income--people would already have taken the price changes into account and adjusted their income expectations accordingly.   More likely, people generalize price increases for particular commodities due to changes in supply and demand (which always occur as markets equilibrate and are not inflation) and a general rise in prices due to changes in the value of money (which is).   Thus, the political content of "inflation" may be in which prices increase.   What matters, for instance, is that the cost of a new home has gone beyond the resources of about half of all Americans (because of demand for housing as an investment and higher materials costs), not that the rise in the housing component of the Consumer Price Index has been offset by a decline in the price of dry beans (even though food is a larger component of the household budget used in calculating the CPI).

Table 3
Why are you (and your family) better off financially?
Response Code, Response, and Marginals (in Percents)
Four Responses Coded (V2105-V2108)

Response Code	Response	Percent of Responses Year	Percent of Responses 6 Mo	Percent of Cases Year	Percent of Cases 6 Mo
10.	Better Pay	22.2	14.3	29.2	20.0
11.	Higher income from self employ or property	3.2	12.9	4.2	18.0
12.	More work, hence more income	17.5	15.7	22.9	22.0
28.	Higher income/ NA why	7.9	2.9	10.4	4.0
13.	Increased contributions from family unit	1.6	1.4	2.1	2.0
14.	Lower prices	12.7	5.7	16.7	8.0
15.	Lower taxes			2.1	12.0
16.	Decreased expenses	1.6	8.6	12.5	4.0
17.	Lower interest rates	9.5	2.90	2.1	0
18.	Higher interest rates	0		0	0
19.	Better asset position	3.2	701	4.2	10.0
20.	Change in debt	1.6	7.1	2.1	10.0
21.	Change in family composition	3.2		4.2	0
23.	Generally good times	3.2	507	4.2	8.0
25.	More social security	3.2	2.9	4.2	4.0
27.	Other reasons; security , opportunities	1.6	2.9	2.1	4.0
30.	Income tax refund	0	0	0	0
38.	Federal economic policy	0	0	0	0
39.	State government policies	1.6	0	2.1	0
40.	Reagan's policies	3.2	291.4	4.2	2.0
47:	Other reasons	1.6		2.1	4.0
97.	Other	0	5.7	0	8.0
	Total	100.0	100.0	131.3	140.0
		(63)	(70)	(48)	(50)

Table 4
Why are you (and your family) worse off financially?
Response Code, Response, and Marginals (in Percents)
Four Responses Coded (V2105-V2108)

Response Code	Response	Percent of Responses		Percent of Cases	
		Year	6 Mo	Year	6 Mo
50.	Lower Pay	5.2	9.7	8.6	13.6
51.	Lower income from self employ or property	10.4	8.1	17.2	11.4
52.	Less work, hence less income	22.9	16.1	37.9	22.7
68.	*Lower* income / NA why	1.0	0	1.7	0
53.	Decreased/unchanged contrib. from outside	2.1	3.2	3.4	4.5
54.	higher prices	29.2	29.0	48.3	40.9
66.	Utilities too high	2.1	4.8	3.4	6.8
55.	Higher interest rates, tight credit	0	1.6	0	2.3
56.	High, higher taxes	6.3	6.5	10.3	9.1
57.	Income taxes	1.0	0	1.7	
58.	Increased expenses; more people in family	8.3	9.7	13.8	1306
59.	Worse asset position	1.0	1.6	1.7	2.3
60.	Debt	0	1.6	0	2.3
61.	Change in family (divorce, death, etc)	1.0	0	1.7	0
63.	Bad times in general	2.1	0	3.4	0
64.	Strike	1.0	1.6	1.7	2.3
65.	Less Social Security	3.1	1.6	5.2	2.3
67.	Other: less security, lower std. of living	2.1	4.3	3.4	6.8
78.	Government economic policy	1.0	1.6	1.7	2.3
80.	Reagan	1.0	0	1.7	0
97.	Other	1.0	1.6	1.7	2.3
	Total	100.0	100.0	165.5	140.9
		(96)	(62)	(58)	(44)

they are better or worse off. Rising prices, regardless of whether income has kept pace with inflation, seem to make people think they are worse off financially than they really are.   This suggests that future instrumentation may try to measure changes in people's perceived spending power in ways that go beyonu the pool of items considered here, perhaps concentrAting on particular components of household budgets (see note 5, above).

The Measurement Model

The next step is to identify the variables that best measure personal economic well-being.   Because a central concern of the analysis is to compare the six month to the one year time frame, we analyze these two samples separately.   If personal economic well-being can be measured better in one of the samples, we will have information crucial to choosing one time prompt over the other.

The measurement model employed is the familiar Jöreskog model available in LISREL v.   Each survey question is treated as an indicator of the unobserved unuerlying dimension--personal economic well-being. To enable us to compare the model's estimated parameters *across the* two samples, the maximum likelihcod estimates are made from the variance-covariance matrix among the variates.   (This matrix is calculated separately for each sample.) For convenience, we have coded all variables on the zero-one interval with 1.O representing the "better off" enu of the continuum and 0.0 the "worse off" end.

We began by estimating a single dimension within each sample. As a result of this first pass through the data, V2129 and V2138--worked less because didn't need the money and fallen behind in rent or housing payments--were dropped f rom further consiaeration.   Their loadings in sample A were .032 and .077 respectively; the loadings in sample B were .037 and .038. In both samples these variables had estimated reliabilities of less than .10.[6]

Eight variates remain; their inter-item Pearson correlations are reporteu in table 5.   Although treating these items as a indicators of single underlying dimension yields loadings that are all "significant," this specification fits the variance-covariance matrix poorly: prob. =.042 in sample A; prob. =.031 in sample B.

Further analysis reveals that two distinct, though correlated, dimensions lie under the pool of variates.   The first, which we label as the general, perceptual dimension, nroduces responses to the better/worse off financially question, change in income question   the watch budget more closely question, and the constructed change in savings variable.   The remaining items--put off buying things, put off medical treatment, change in borrowing, and look for a new job or more hours, are all reports of specific behaviors presumably performeci by people trying to adjust to economic changes. The estimated parameters for this model-are reported in table 6. Other specifications were

----

[6] Crosstabul ar analysis of the entire pool of questions confirmed that these two items were weakly associateu with the others.

Table 5
Pearson Correlations Among Items Measuring Personal Economic Well-Being

Sample A -- 1 Year Time Frame

	V2104	V2110	V2111	V2130	V2131	V2133B	V2134C
V2104 Better/Worse off financially							
V2110 Put off buying things	.37						
v2111 Change in income	.57	.39					
V2130 Watch budget more closely	.46	.48	.53				
V2131 Put off medical treatment	.35	.44	.38	.38			
V2133B Change in borrowing	.26	.32	.18	.21	.31		
V2134C Change in savings	.45	.31	.48	.43	.34	.18	
V2139 Look for new job/more hours	.24	.29	.32	.33	.39	.27	.32

Sample B -- 6 Month Time Frame

	V2104	V2110	V2111	V2130	V2131	V2133B	V2134C
V2104 Better/Worse off financially							
V2110 Put off buying things	.38						
v2111 Change in income	.49	.44					
V2130 Watch budget more closely	.51	.47	.51				
V2131 Put off medical treatment	.35	.47	.25	.30			
V2133B Change in borrowing:	.28	.32	.22	.23	.32		
V2134C Change in savings	.45	.30	.33	.41	.16	.28	
V2139 Look for new job/more hour	.24	.27	.22	.24	.26	.22	.19

Table 6
Maximum Likelihood Factor Analysis of
Items Measuring Personal Economic Well-Being
(Estimates Made From Variance-Covariance Matrix)

Sample A -- 1 Year Time Frame

| | | Loadings | | | | |
| | | General, Perceptual Dimension | | Specific, Behavioral Dimension | | |
Variable	Question	Coef.	S.E.	Coef.	S.E.	Reliability
V2104	Better/Worse off financially	.193	(.021)			.495
V2110	Put off buying things			.334	(.041)	.446
V2111	Change in income	.251	(.024)			.588
V2130	Watch budget more closely	● 337	(.037)			.490
V2131	Put off medical treatment			.310	(.038)	.457
V2133B	Change in borrowing			.163	(.032)	.193
V2134C	Change in savings	.214	(.027)			.393
V2139	Look for new job/more hours			.264	(.042)	.281

Correlation between the two dimensions = .781   Total : .898
Chi-Square with 19 degrees of freedom = 16.01 (prob = .657)
Adjusted goodness of fit = .937

Sample B -- 6 Month Time Frame

| | | Loadings | | | | |
| | | General, Perceptual Dimension | | Specific, Behavioral Dimension | | |
Variable	Question	Coef.	S.E.	Coef.	S.E.	Reliability
V2104	Better/Worse off financially	.184	(.020)			.527
V2110	Put off buying things			.378	(.042)	.567
V2111	Change in income	.214	(.025)			.457
V2130	Watch budget more closely	.366	(.038)			.538
V2131	Put off medical treatment			.273	(.038)	.370
V2133B	Change in borrowing			.164	(.031)	.217
V2134C	Change in savings	.172	(.026)			.305
V2139	Look for new job/more hours			.193	(.042)	.165

Correlation between the two dimensions = .759   Total: .894
Chi-Square with 19 degrees of freedom = 16.29 (prob = .638)
Adjusted goodness of fit = .937

tried; a blank cell indicates that the coefficient can safely be regarded as *being* equivalent to zero. (Readers who prefer looking at stanaardized coefficients can find them in table 7.) Although the two dimensions are both theoretically and empirically distinct, they are correlated with each other ($r = .781$ in sample A; $r = .759$ in sample B).

One of our preliminary models allowed V2134C (change in savings) to load on the specific, behavioral as well as the general , perceptual dimension, but the specification reportea in table 6 is noticeably superior. Why does the change in savings variable emerge as a general perception rather than a specific behavior? We probably all have a general feel for what shape our passbook is in anti whether its balance is higher or lower than it was six months *or* a year ago. Unlike borrowing, which involves a specific and perhaps even a humiliating act, drawing down a passbook or liquici assets account--or for that matter-adding to it, is a gradual, continuous process, usually not a single, isolated act. Loreover, savings can change without us ever engaging in a specific behavior. Savings is what's left in the checkbook at the end of the month; borrowing involves an appointment with a bank loan officer. In short, saving or not saving does not seem to be a "behavior" in the same sense that going to the dentist or looking for a job is.

The model fits the data well and equally well regardless of whether the six month or one year time frame is employed. The adjusted measure of goodness of fit is .937 in each sample; the Chi-square has a probability of .657 in sample A and .638 in sample B.

In both sample A and B, the change in income question (V2111) and the watch budget more closely question (V2130) each have stronger loadings than the better/worse off financially question. V2104, V2111 and V2130 are about equally reliable in both samples. V2134C, the change in savings item, is the least reliable of the four. This holds in both samples.

As a group, the four variates that load on the specific, behavioral dimension are less reliable items than the four that comprise the first dimension. V2133B (change in borrowing) is the least reliable of the group. (Ire suspect that this is a consequence of the error [alluded to earlier] in setting up this question battery.)

There is nothing in the measurement model that allows us to choose between the six month and one year time frames. The estimates are as equivalent as two independent samples of about 150 respondents will ever get. The structure of the measurement model is precisely the same across the two samples; the

----

7 These are the correlations between the underlying dimensions, not the scales.

8 We tested whether there was a response set to the answers given in the two batteries of questions (V2104-11 and V2129-39). Variables within each group are no more highly correlated with each other than with variables outside the group. Efforts to represent a response set either in the lambda loading matrix or in the theta delta matrix of covariances among the variate error terms failed to turn up evidence of a response set.

Sample A -- 1 Year Time Frame

Variable	Question	Loadings				Reliability
		General, Perceptual Dimension		Specific, Behavioral Dimension		
		Coef.	S.E.	Coef.	S.E.	
V2104	Better/Worse off financially	.704	(.076)			.495
V2110	Put off buying things			.668	(.082)	.446
V2111	Change in income	.767	(.074)			.588
V2130	Watch budget more closely	.700	(.076)			.490
V2131	Put off medical treatment			.676	(.082)	.457
V2133B	Change in borrowing			.440	(.087)	.193
V2134C	Change in savings	.627	(.079)			.393
V2139	Look for new job/more hours			.530	(.085)	.281

Correlation between the two dimensions = .781   Total: .898
Chi-Square with 19 degrees of freedom = 16.01 (prob = .657)
Adjusted goodness of fit = .950

Sample B -- 6 Month Time Frame

Variable	Question	Loadings				Reliability
		General, Perceptual Dimension		Specific, Behavioral Dimension		
		Coef.	S.E.	Coef.	S.E.	
V2104	Better/Worse off financially	.726	(.077)			.527
V2110	Put off buying things			.753	(.083)	.567
V2111	Change in income	.676	(.079)			.457
V2130	Watch budget more closely	.733	(.077)			.538
V2131	Put off medical treatment			.603	(.085)	.370
V2133B	Change in borrowing			.406	(.087)	.217
V2134C	Change in savings	.552	(.082)			.305
V2139	Look for new job/more hours			.406	(.083)	.165

Correlation between the two dimensions = .759   Total: .894
Chi-Square with 19 degrees of freedom = 16.29 (prob = .638)
Adjusted goodness of fit = .949

loadings are nearly the same; the individual items are of comparable reliability; the two latent variables are correlated to the same degree; the estimated reliabilities of the pool of variates are virtually identical.

One further test of the measurement model before we proceed: Because the eight indicators of personal economic well-being are discrete (each has between two and five categories), we also estimated the model using polychoric correlations as the measure of association among the items rather than covariances. The polychoric correlation matrix is provided in table 8; the estimated parameters are reported in table 9.

The structure of the model remains the same as does the relative loadings of the variables *on* the two unaerlying dimensions. (As before, a blank cell indicates that the loading can safely be regarded as equivalent to zero.) There are two differences between these estimates and those based on the covariances (or correlations). First; when polychoric correlations are employed, the model does not fit the data nearly as well as when covariances are used. The problem lies not in the specification of the matrix of loadings, but in the specification of the error variances (which we assumed to be a diagonal matrix, implying no covariance among the error terms for each variate). Examination of the appropriate diagnostic statistics indicates that several of these covariances probably are non-zero,[9] but we did not pursue this matter.

The second difference, which is to be expected, is that the estimated individual item reliabilities are higher when the model is estimated on the polychoric correlations than on the covariances among the items. The relative ranking of the item reliabilities, however, is about the same.

We alluac to this second set of estimates to assure ourselves that our conclusions regarding the basic structure of the two dimension model is not an artifact of the measure of association we employed. In order to resolve the contest between the six month and one year time frames, however, we must be able to compare our estimates across the two samples; hence we confine the analysis to the covariance-based (unstandardized) estimates so that differences in the variances of the variates across the two samples will not contaminate our conclusions.

Preiude to the Analysis

The central questions to be addressed in the remainder of this report are: 1) how reliable anti valid are the general, perceptual and specific, behavioral dimensions; 2) how much analytical power does each provide; and 3) when they are employed in analysis are they significantly "better" variables than the better/worse off financially question in either its traditional or new 5 category version. In audition to examining the 4 variate general, perceptual

----

[9] In sample A there may be covariance between the error terms for variates V2104 and V2111; V2110 and V2130; and V2110 and V2139. In sample B error term covariance may exist between V2104 anu V2110, V2104 and V2131; V2134 and V2131; and V2134 and V2133E.

Table **8**
Polychoric Correlations Among Items Measuring Personal Economic Well-Being

Sample A — 1 *Year* Time Frame

	V2104	V2110	V2111	V2130	V2131	V2133B	V2134C
V2104 Better/Worse off financially							
V2110 Put off buying things	.48						
v2111 Change in income	.67	.54					
V2130 Watch budget more closely	.60	.70	.72				
V2131 Put off medical treatment	.48	.70	.58	.66			
V2133B Change in borrowing	.31	.52	.26	.35	.47		
V2134C Change in *savings*	.53	.43	.60	.59	● 53	.24	
V2139 Look for new job/more hours	.31	.45	.45	● 51	.60	.42	.45

Sample B -- **6** Month Time Frame

	V2104	V2110	V2111	V2130	V2131	V2133B	V2134C
V2104 Better/Worse off financially							
V2110 Put off buying things	.49						
v2111 Change in income	.59	.60					
V2130 Watch budget more closely	.57	.68	.68				
V2131 Put off medical treatment	.48	.76	.38	.50			
V2133B Change in borrowing	.37	.56	.38	.41	.52		
V2134C Change in savings	.53	.42	.42	.57	.24	.44	
V2139 Look for new job/more hours	.32	.42	.33	.39	.43	.37	.29

Table 9
Maximum Likelihood Factor Analysis of
Items Measuring Personal Economic Well-Being
(Estimates Made From Polychoric Correlation Matrix)

Sample A -- 1 Year Time Frame

		Loadings				
		General, Perceptual Dimension		Specific, Behavioral Dimension		
Variable	Question	Coef.	S.E.	Coef.	S.E.	Reliability
V2104	Better/Worse off financially	.726	(.071)			.527
V2110	Put off buying things			.816	(.069)	.666
V2111	Change in income	.841	(.067)			.707
V2130	Watch budget more closely	.871	(.066)			.758
V2131	Put off medical treatment			.870	(.067)	.757
V2133B	Change in borrowing			.554	(.078)	.307
V2134C	Change in savings	.695	(.073)			.484
V2139	Look for new job/more hours			.650	(.075)	.423

Correlation between the two dimensions = .834   Total: .951
Chi-Square with 19 degrees of freedom = 56.13 (prob = <.01)
Adjusted goodness of fit = .820

Sample B -- 6 Month Time Frame

		Loadings				
		General, Perceptual Dimension		Specific, Behavioral Dimension		
Variable	Question	Coef.	S.E.	Coef.	S.E.	Reliability
V2104	Better/Worse off financially	.754	(.071)			.569
V2110	Put off buying things			.937	(.064)	.878
V2111	Change in income	.759	(.071)			.577
V2130	Watch budget more closely	.902	(.065)			.814
V2131	Put off medical treatment			.804	(.069)	.647
V2133B	Change in borrowing			.611	(.075)	.373
V2134C	Change in savings	.625	(.076)			.391
V2139	Look for new job/more hours			.485	(.079)	.235

Correlation between the two dimensions = .767   Total: .971
Chi-Square with 19 degrees of freedom = 59.52 (prob =< .01)
Adjusted goodness of fit = .817

dimension, we test a version of this dimension that is comprised of only V2104, V2111 and V2130, dropping V2134C (the change in savings variable) because of its lower reiiability. If the NES interview budget is tight, we may wish to forego asking the savings questions needed to construct V2134C if the loss of information is slight. We examine the analytical cost of doing so. We must also still decide which time frame is most appropriate.

In short, the contest is: V2103 (the 3 category better/worse off financially question) vs. V2104 (the 5 category version) vs. the 3 variate general, perceptual dimension vs. the 4 variate **general,** perceptual dimension, vs. the specific, behavioral dimension, all the while comparing the results of the six month to the one year time frame.

To test the validity of the contestants, in each sample we examine both the causes of the five ways to measure personal economic well-being, and their political effects. When a measure of personal economic well-being is the variable being explained, we employ ordinary least squares (OLS) to estimate the effect of other variables on it. When one of the measures of personal economic well-being is doing the explaining, we treat the measure as endogenous and use two-stage least squares (2SLS) in order to correct for measurement error. (Using OLS would yield attenuated estimates, thereby hampering our ability to choose among the alternative measures.) Since this is a head-on contest among five possible measures, the same method--2SLS--is used to correct for the measurement error in each trial.

Proceeding with this analysis requires tnat we construct the 3 and 4 variate versions of the general, perceptual dimensions as well as the specific, behavioral dimension. We ao so by estimating a single factor model for each dimension individually from the variance-covariance matrix among the items. (The two samples are again estimated separately.) We use the estimated factor scores as weights in building each scale. The factor scores are reported in table 10 for analysts who wish to construct the scales themselves.[10]

Reliability

The estimatea reliabilities of the scales are reported in table 10. They are fairly high--between .7 and .8. The general, perceptual dimension--both the 3 and 4 variate versions--is more reliable than the specific, behavioral dimension. This holds in both samples. If the 3 variate version of the general dimension is used instead of the 4 variate one, the loss in reliability is slight. The scales are slightly more reliable in sample A (the one year time frame) than in sample B (where a six month prompt was used), but the differences are trivial.

---

[10] Remember, that each variate is coded on the zero-one interval where 1.0 is the "better off" end of the continuum.

Table 10
Weights (Factor Scores).[']
Used to Construct Measures of Personal Economic Well-Being
And Estimated Reliabilities of Scales

Sample A -- 1 Year Time Frame

Variable	Question	General, Perceptual Dimension, 4 Variates	General, Perceptual Dimension, 3 Variates	Specific, Behavioral Dimension
V2104	Better/Worse off financially	1.029	1.069	
V2110	Put off buying things			.607
v2111	Change in income	1.256	1.570	
V2130	Watch budget more closely	.485	.513	
V2131	Put off medical treatment			.942
V2133B	Change in borrowing			.495
V2134C	Change in savings	.577		
V2139	Look for new job/more hours			.443
	Estimated reliability of scale	.805	.786	.695

Sample B -- 6 Month Time Frame

Variable	Question	General, Perceptual Dimension, Variates	General, Perceptual Dimension, ?-Variates	Specific, Behavioral Dimension
V2104	Better/Worse off financially	1.401	1.367	
V2110	Put off buying things			.786
v2111	Change in income	.840	1.056	
V2130	Watch budget more closely	.661	.760	
V2131	Put off medical treatment			.892
V2133B	Change in borrowing			.538
V2134C	Change in savings	.585		
V2139	Look for new job/more hours			.309
	Estimated reliability of scale	.777	.754	.691

"Each dimension was estimated separately by maximum likelihood factor analysis of the variance-covariance matrix among the items.

Convergent Validity

Our analysis of the convergent validity of the five measures of personal economic well-being focuses on the antecedents of each. Two questions motivate this examination. First, how well are the alternative measures of personal economic well-being predicted by variables that, apriori, should predict economic well-being? Here we make use of measures of personal economic circumstances (e.g. change in income, losing a job) and social location (education, race, sex). Second, does the predictability of personal economic well-being vary in sensible ways as a function of time frame?

Because the variances are not constant across each of the variables or across the samples, we rely on unstandardized regression coefficients to assess the correlates of the five measures. The bivariatc relationships are reported in tables 11 (for sample A) and 12 (for sample B). Tw entries appear in each cell of these tables. The first is the ordinary least squares estimate of the slope where the row entry is the independent variable and the column entry is the dependent variable. The second number in the cell is the probability that the relationship occurred by chance. The first five independent variables (all dealing with unemployment) plus non-white, rural and women are dummies. The three variables labeled "objective change in .. ." were constructed by comparing the respondent's July, 1983 responses to those he gave in November, 1982. These variables are coded on the zero-one interval with 1 .O being the "better off" end of the continuum.[11] Income t-l is measured in thousands of dollars; age is left in its natural units.

In general, the evidence displayed in tables 11 and 12 amounts to strong convergent validation for the measures of personal economic well-being. Moreover, the results are sensibly patterned by time frame.

The associations with demographic variables break down about as one would expect. Race and family income t-l are more strongly associated with the six month than the one year measures of well-being; education is about equally associated with both. The improvement in the economy over the last six months affected most those people who traditionally benefit first from upturns--skilled and professional workers and those with most seniority. By and large, these workers are neither poor nor black. Regardless of the measure of financial well-being used or the time frame employed, women are worse off than men. This may reflect the more precarious finances of female heads of households as well as the greater familiarity of women with household budgets.

Rural residents fall at the wrse off end of the continuums measured with the one year prompts, but are uniformly distributed across measures built from the six-month prompts. At first blush, this may seem to be just the opposite to what one might expect given the summer drought and the news media's vivid

----

[11] For example, if the respondent or his spouse were unemployed in November, 1982, but not unemployed in July, 1983, he was coded 1.0. If they were working in 1982, but unemployed in 1983, the respondent was coded 0 .0. If they were employed at the time of both interviews or unemployed at the time of both interviews, the respondent was coded .5.

Table 11
Predictors of Wternativc Measures of Economic Well-Being
Uivariate Ordinary Least Squares Estimates
(Sample A--1 Year Time Frame)

Variable			V2103	V2104	General 3 Variate	General 4 Variate	Specific
					Measure of Personal Economic Well-Being		
R or mate unemployed	slope: prob:		-.06 .65	-.07 .42	-.08 .36	-.07 .36	-.19 .06
R or mate unemployed t-1			-.18 .13	-.15 .07	-.08 .35	-.08 .29	-.34 <.01
R or mate uncieremployeci			-.19 .09	-.13 .09	-.09 .24	-.10 .18	-.22 .02
R or mate underemployed t-1			.08 .53	.05 .59	-.01 .92	-.01 .89	.01 .96
R or mate unemployed during the year			-.02 .79	-.02 .67	-.09 .12	-.10 .07	-.21 <.01
Objective change in unemployment			.00 ● 99	-.02 .83	.02 .87	.03 .82	-.11 .45
Objective change in underemployment			.32 .09	.22 .09	.12 .38	.13 .31	.32 .04
Objective change in income			.25 .07	.24 <.01	.13 .17	.11 .23	.18 .11
Better/Worse off financially t-1			.34 <.01	.24 <.01	.25 <.01	.25 <.01	.26 <.01
Income t-1			.001 .53	.001 .43	.001 .38	.001 .36	,005 <.01
Education t-1			.40 <.01	.27 <.01	.21 <.01	.20 <.01	.25 <.01
Non-white			-.11 .32	-.09 .25	-.05 .52	-.07 .32	-.25 <.01
Age			-.004 .05	-.002 .08	-.001 .55	-.001 .64	,006 x.01
Rural			-.12 .09	-.09 .06	-.11 .02	-.08 .08	-.10 .08
Woman			-.22 <.01	-.14 <.01	-.17 <.01	-.17 <.01	-.13 .02

Table **12**
Predictors of Alternative Measures of Economic Well-Being
Bivariate Ordinary Least Squares Estimates
(Sample 5-6 Month Time Frame)

Variable	Measure of Personal Economic Well-Being				
	V2103	V2104	General 3 Variate	General 4 Variate	Specific
R or mate unemployed slope: prob:	-.32 .03	-.20 .04	-.16 .13	-.15 .13	-.14 .27
R or mate unemployed t-1	-.02 .88	-.01 .91	-.02 .84	.01 .93	-.23 .05
R or mate underemployed	-.27 <.01	-.23 <.01	-.24 <.01	-.23 <.01	-.28 <.01
R or mate underemployed t-1	-.08 .55	-.10 .26	-.09 .32	-.10 .26	-.21 .06
R or mate unemployed during the year	-.07 .42	-.09 .13	-.07 .26	-.07 .21	-.18 .02
Objective change in unemployment	.34 .03	.29 x.01	.30 <.01	.30 <.01	.21 .12
Objective change in underemployment	.44 .02	.34 <.01	.36 <.01	.34 <.01	.32 .05
Objective change in income	-.01 .92	-.01 .96	.06 .50	.07 .44	.24 .04
Better/Worse off financially t-1	.40 <.01	.27 <.01	.21 <.01	.20 <.01	.29 <.01
Income t-1	.010 <.01	.006 <.01	.008 <.01	.008 <.01	.008 <.01
Education t-1	.29 <.01	.20 <.01	.25 <.01	.23 <.01	.40 <.01
Non-white	-.15 .13	-.09 .16	-.18 .01	-.15 .02	-.17 .04
Age	-.003 .09	-.002 .12	-.001 .58	-.001 .65	.004 .03
Rural	.02 .80	.00 .98	-.02 .72	-.02 .73	-.05 .37
Woman	-.12 .07	-.07 .12	-.16 <.01	-.15 <.01	-.15 <.01

portrayal of the economic hardships farmers have been suffering. However, as a consequence of the drought, the Payment-in-Kind (PIK) Program, and the Soviet grain deal, crop prices went up over the summer. Farmers, and we suspect rural residents who depended upon agriculture, have traditionally been more sensitive to fluctuations in prices than income (Boulding 1953), and prices have risen though income remains low.

The specific, behavioral dimension, particularly when it is measured with the one year time frame, is more strongly associated with unemployment than is either the worse off financially question or the general, perceptual dimension. This suggests, as later analysis below will confirm, that the specific dimension is measuring the behavioral changes that people employ to cope with the most extreme of economic shocks--unemployment. There are also greater racial differences within the year time frame on the specific, behavioral than on the general, perceptual dimension. Blacks, because of their economic position, simply have a greater probability of engaging in the behaviors that make up the specific dimension--putting off medical treatment or buying things.

Both unemployment and underemployment [12] are more highly associated with changes in personal economic well-being when these changes are measured over the last six months than over the last year. This is what one should expect. Objective changes in unemployment as well as objective changes in underemployment are also highly associated with the six month responses. Unemployment t-1 is more highly associated with the dimension measured with a one year time frame than with six months. Again, this is what one would expect since unemployment in Ilovember, 1982 would not fall into the six months being recalled.

By comparing what respondents in July, 1983 reported their family income to be to the response given eight months earlier in November, 1982 we were able to construct an "objective," although extremely crude, measure of change in total income. [13] Despite its grossness, this measure of "objective" change in income is strongly associated with one year measures of change in personal economic well-being. It is weakly associated with the six month measures--Just as one would expect. The six month specific dimension is an exception to this generalization--it is strongly associated with the "objective" change in income variable.

In summary, these measures of personal economic well-being, including the traditional 3 category better/worse off financially question, have quite striking convergent validity . Moreover, the differences between the patterns of association found for the six month and one year time frames strongly

----

[12] Here underemployment means that either the respondent or his spouse working fewer hours than they would like to work.

[13] Responses in both years were recorded in very gross income categories (e.g. $10,000 to $15,000). People whose income increased two or more categories are coded 1.0; people who increased one category are coded .75; those who stayed the same are coded .50; one category decreases in income are coded .25; two category decreases are coded 0.0.

Table 13
Equations for Alternative I-easures of Personal Economic Well-Being
(Sample A--l Year Time Frame)
Ordinary Least Squares Estimates

| | Leasure of Personal Economic Well-Being | | | | |
| | | | General | General | |
	V2103	V2104 3	Variate 4	Variate	Specific
Objective change in income	-373 (.125)	.331 (.080)	.237 (.084)	.195 (.081)	.318 (.098)
Income t-1					.003 (.002)
R or mate underemployed	-.136 (.112)	-.103 (.072)			
R or mate unemployed during the year			-.106 (.057)	-.115 (.054)	-.087 (.066)
Objective change in underemployment					.251 (.144)
Education	.401 (.123)	.277 (.079)	.234 (.086)	.231 (.077)	.315 (.099)
Age	-.020 (.011)	-.017 (.007)	-.020 (.008)	-.018 (.007)	.009 (.002)
Age squared	.0002 (.0001)	.0002 (.0001)	.0002 (.0001)	.0002 (.0001)	
Rural	-.093 (.071)	-.080 (.046)	-.111 (.047)	-.076 (.045)	-.130 (.056)
Woman	-.234 (.062)	-.152 (.040)	-.196 (.042)	-.190 (.040)	-.149 (.050)
Constant	,645	.627	● 677	.664	-.135
R-squared	.255	.303	.281	● 274	.350
Standard error of the regression	.360	.231	.244	.232	.281
Number of cases	138	138	139	138	137

Table 14
Equations for Alternative Measures of Personal Economic Well-Being
(Sample B--6 Month Time Frame)
Ordinary Least Squares Estimates

	Measure of Personal Economic Well-Being				
Variable	V2103	V2104	General. 3 Variate	General. 4 Variate	Specific
Objective change in income					.256 (.103)
Income t-1	.008 (.002)	.005 (.001)	.007 (.001)	.007 (.001)	.006 (.002)
R or mate unemployea	-.414 (.144)	-.295 (.094)	-.252 (.095)	-.238 (.087)	
R or mate. underemployed					-.177 (.076)
R or mate unemployed during the year			-.068 (.057)	-.064 (.052)	-.101 (.071)
Objective change in unemployment	.420 (.155)	.363 (.100)	.355 (.102)	.353 (.093)	
Education					.287 (.093)
flon-whi te	-.145 (.099)	-.090 (.064)	-.109 (.065)	-.093 (.060)	-.120 (.079)
Age	-.003 (.002)	-.002 (.001)			,004 (.002)
Woman			-.121 (.043)	-.107 (.039)	
Constant	.278	.333	.202	.205	.069
R-squared	.222	.256	.345	.355	.355
Standard error of the regression	.352	.227	.232	.213	.276
Number of cases	141	141	139	139	136

suggests that those respondents who were prompted by six month questions did indeed employ a six month baseline in their responses.

As a final step, in each sample we estimated one equation for each of the five measures of personal economic well-being. The ordinary least squares estimates are reported in tables **13** and 14. The first entry in each cell of the table is the slope; the number in parentheses is the standard error. A blank cell indicates that the row variable dropped out of the column variable's equation. Because the exogenous variables listed in tables 11 and 12 are associated with each other, some of them fall out of these equations. The five equations offer no surprises given the bivariate relationships just discussed. Objective change in income is a more powerful predictor of the one year responses than the six month measures; unemployment is a more powerful predictor of personal economic well-being measured in the short-term than in the long run.

The standard error of the regression, listed near the bottom of each column, indicates how well we are able to predict each measure of personal economic well-being from the variables that appear in its equation.[14] First, we are slightly better able to explain the six month measure of personal economic well-being than those constructed from the one year question prompts. (Compare the standard error of the regressions in tables 13 and 14.) The differences are very small. At a minimum we can conclude safely that the six month versions of the dimension can be predicted at least as well as the one year versions can be. Second, as the reliability of the measure of the dimension increases, so too does our ability to predict respondents' position on the scale. The most dramatic change in both samples, occurs as one moves from the 3 to the 5 category version of the traditional better/worse off financially item (from V2103 to V2104). In the six month time frame the fit of the equation for the 4 variate general, perceptual dimension is slightly better than it is for 5 category better/worse off financially question; the fit is about comparable in the one year equations. The standard errors for the specific, behavioral dimension equations are slightly higher than those for the general, perceptual dimension.

Predictive Validity

Our final exercise examines the predictive validity of the five measures of personal economic well-being and compares the estimated effect of each measure across the two time frames. Five dependent variables are examined: evaluations of the nation's economy, evaluation of Reagan's performance as president; ratings of Reagan and Glenn on "feeling thermometers"; and vote choice in a Reagan/Mondale trial heat (tables 15-19). We estimate the effect of personal economic well-being on evaluations of Senator Glenn to test discriminant validity : we expect the estimated coefficients in this case to be essentially zero and will worry if they are not.

----

[14] Unlike the R^2, the standard error of the regression can be compared across equations and samples, assuming the dependent variables are in comparable units.

For each of the five dependent variables, we estimate a series of equations.   In the first equation we use V2103 (the 3 category better/worse off financially question) as the measure of personal economic adversity; in the second equation we use V2104 (the 5 category version); in the third equation we use the 3 variate version of the general, perceptual dimension; and in the fourth equation we employ the 4 variate version of the general, perceptual dimension.

The control variables that appear in these equations are listed in a note at the bottom of each table.   The demographic and political variables that appear as other right-hand side variables in these equations can safely be regarded as exogenous.   We employed lagged measures of party identification, liberalism-conservatism, union household, and family income to eliminate Fiorina-like concerns about mediating effects of retrospective evaluations.

In each equation, the control variables are constrained to have the same effect in both samples; but we estimate a separate coefficient for the effect of the economic well-being measure in each sample.   The economic well-being measures are treated as endogenous variables to correct for their measurement error.   The variables reported in tables 13 and 14 (the causes of each measure of personal economic well-being) and the lagged responses to the better/worse off financially question were used as exogenous instruments. Every equation is overidentified.   By comparing the one year to the six month coefficient, we can assess the predictive power of each question format.   To help us in this task, we report the probability that the two coefficients are equal.

We also estimate a fifth equation for each dependent variable in which the specific, behavioral dimension is put head to head with the 4 variate general, perceptual dimension.   Although the equation is identified, the coefficients are too unstable to allow us meaningfully to compare the relative effects of the general and the specific dimensions.   We are forced, therefore, to assume that the effect of each variable is the same in the two samples; these estimates are reported in equation six.   Finally, because evaluations of the nation's economy *were* also asked with both a one year and a six month time frame, for this variable (table 15) the assumption that the effect of the other exogenous variables are equal in the two samples may be inappropriate,' so here we also estimate separate equations for each sample.

Our central questions still must be resolved. Which of the five alternative measures of personal economic well-being should be used? And should the survey questions be asked with a one year or six month time frame?

First of all, in the equation for evaluations of Glenn (table 18), the effect of personal economic well-being, regardless of the measure used, is small in an absolute sense, and especially tiny compared to the estimated effect of personal economic well-being on the other political variables examined.   *This* is what we expected; there is little reason to think that personal economic well-being should have much to do with evaluations of Glenn, at least in July, 1983.   Moreover, if there is a relationship, the effect is in a direction opposite to the one we would expect: the better off are

Table 15
Estimated Effect of Alternative Measures of Personal Economic I-Jell-Being
On Evaluation of the Nation's Economy
Two Stage Least Squares Estimates[*]

Eq #	Measure of Personal Economic Well-Being Appearing in the Equation	Coefficients Sample A (1 Year)	Sample B (6 Months)	Prob. Coef A = Coef B	Standard Error of Regression
1.	V2103: Better/Worse off financially--3 categories	.135 (.076)	.214 (.074)	.03	,224
2.	V2104: Better/Worse off financially--5 categories	.228 (.110)	.314 (.106)	.06	.221
3.	General, Perceptual Dimension --3 variates	.304 (.108)	.348 (.102)	.31	.222
4.	General, Perceptual Dimension --4 variates	.294 (.113)	.337 (.105)	.25	.221
5.	General, Perceptual Dimension --4 variates	.020 (.200)	.355 (.279)		.224
	Specific, Behavioral Dimension	.240 (.145)	● 099 (.184)		
6.[**]	General, Perceptual Dimension --4 variates	.280 (.180)			.222
	Specific, Behavioral Dimension	.136 (.118)			
7.[***]	General, Perceptual Dimension --4 variates	.433 (.218)	.549 (.213)		.236 (A) .212 (B)
	Specific, Behavioral Dimension	-.038 (.191)	-.066 (.151)		

[*]The other variables that appeared in each equation were: party identification t-1 ; liberal-conservatism t-1; log(family income t-1); and Hispanic. These variables are assumed to be exogenous. (In addition, dummy variables for rural residents , women, and unemployed respondents or mates appear as exogenous variables in equations 1 and 2, but were deleted [prob. <.65] from equations 3-7. Whether the respondent or his mate was unemployed during the year appeared as a variable in equations 1-4, but was deleted from equations 6 and 7 for the same reason.) The measures of personal economic well-being are treated as endogenous. The variables reported in tables 13 and 14 and the response to the better/worse off financially question t-1 were used as instruments.

[**]In this equation, the coefficients were constrained to be equal across the two samples.

[***]These coefficients were estimated separately on each sample.

Table **16**
Estimated Effect of Alternative Measures of Personal Economic Well-Being
On Evaluation of Reagan's handling his Job as President
Two Stage Least Squares-Estimates:.

Eq #	Measure of Personal Economic Well-Being Appearing in the Equation	Coefficients Sample A (1 Year)	Sample B (6 Months)	Prob. Coef A = Coef B	Standard Error of Regression
1.	V2103: Better/Worse off financially--3 categories	.436 (.114)	.323 (.104)	.22	.303
2.	V2104: Better/Worse off financially--5 categories	.584 (.155)	.479 (.144)	.09	.303
3.	General, Perceptual Dimension --3 variates	.652 (.157)	.501 (.134)	.05	.300
4.	General, Perceptual Dimension --4 variates	.698 (.166)	.525 (.139)	.03	.300
5.	General, Perceptual Dimension --4 variates	.489 (.310)	.639 (.298)		.301
	Specific, Behavioral Dimension	.116 (.206)	-.079 (.207)		
6.**	General; Perceptual Dimension --4 variates	.607 (.238)			-303
	Specific, Behavioral Dimension	.007 (.161)			

*The other variables that appeared in each equation **were:** party identification t-l; liberal-conservatism t-l ; union household t-l; log(family income t-1); education t-l ; race; Jew; and age. These variables are assumed to he exogenous. (Whether the respondent or his mate was unemployed in the last year also appeared as an exogenous variable in equations 1 and 2, but was deleted from equations **3-6** because its probability of being different from zero fell to **.65.)** The measures of personal economic well-being are treated as endogenous. The variables reported in tables **13** and 14 and the response to the better/worse off financially question t-l were used as instruments.

**In this equation, the coefficients were constrained to be equal across the two samples.

Table 17
Estimated Effect of Alternative Measures of Personal Economic Well-Being
On Rating of Reagan on "Feeling Thermometer"
Two Stage Least Squares Estimates:.

Eq #	Measure of Personal Economic Well-Being Appearing in the Equation	Coefficients Sample A (1 Year)	Sample B (6 Months)	Prob. Coef A = Coef B	Standard Error of Regression
1.	V2103: Better/Worse off financially--3 categories	.194 (.066)	.181 (.065)	.39	.197
2.	V2104: Better/Worse off financially--5 categories	.284 (.092)	.270 (.089)	.38	.197
3.	General, Perceptual Dimension --3 variates	.287 (.091)	.253 (.083)	.28	.194
4.	General, Perceptual Dimension --4 variates	.309 (.096)	.263 (.085)	.22	.194
5.	General, Perceptual Dimension --4 variates	.066 (.242)	.378 (.202)		.198
	Specific, Behavioral Dimension	.171 (.188)	-.055 (.146)		
6.**	General, Perceptual Dimension --4 variates	.408 (.206)			.201
	Specific, Behavioral Dimension	- ,070 (.152)			

*The other variables that appeared in each equation were: party identification t-1; liberal-conservatism t-1; union household t-1; log(family income t-1); race; Hispanic; and age. These variables are assumed to be exogenous. The measures of personal economic well-being are treated as endogenous. The variables reported in tables 13 and 14 and the response to the better/worse off financially question t-1 were used as instruments.

**In this equation, the coefficients were constrained to be equal across the two samples.

Table 10
Estimated Effect of Alternative Measures of Personal Economic Well-Being
On Rating of Glenn on "Feeling Thermometer"

Two Stage Least Squares Estimates"

Eq #	Measure of Personal Economic Well-Being Appearing in the Equation	Coefficients Sample A ((6 months)	Sample B	Prob. Coef A = Coef B	Standard Error of Regression
1.	V2103: Better/Worse off financially--3 categories	.011 (.049)	.078 (.048)	.03	.145
2.	V2104: Better/Worse off financially--4 categories	.024 (.068)	.090 (.066)	.04	.145
3.	General, Perceptual Dimension --3 variates	.058 (.068)	.121 (.060)	.07	.145
4.	General, Perceptual Dimension --4 variates	.072 (.072)	,129 (.062)	.09	.144
5.	General, Perceptual Dimension --4 variates	-.087 (.147)	.147 (.146)		.148
	Specific, Behavioral Dimension	.119 (.097)	.010 (.104)		
6.**	General, Perceptual Dimension --4 variates	.119 (.131)			.146
	Specific, Behavioral Dimension	.020 (.088)			

*The other variables that appeared in each equation were: party identification t-1; race; objective change in unemployment; and reduction in social service benefits t-1 . These variables are assumed to be exogenous. The measures of personal economic well-being are treated as endogenous. The variables reported in tables 13 and 14 and the response to the better/worse off financially question t-1 were used as instruments.

**In this equation, the coefficients were constrained to be equal across the two samples.

Table 19
Estimated Effect of Alternative Measures of Personal Economic Well-Being
On Reagan/Mondale Trial Heat
Two Stage Least Squares Estimates"

Eq #	Measure of Personal Economic Well-Being Appearing in the Equation	Coefficients Sample A (1 Year)	Sample B (6 Months)	Prob. Coef A = Coef B	Standard Error of Regression
1.	V2103: Better/Worse off financially-03 categories	,462 (.157)	.424 (.152)	.27	.397
2.	V2104: Better/Worse off financially--5 categories	.627 (.220)	.612 (.215)	.44	.392
3.	General, Perceptual Dimension --3 variates	.485 (.221)	.452 (.204)	.39	.385
4.	General) Perceptual Dimension --4 variates	.463 (.230)	.421 (.205)	.37	.386
5.	General, Perceptual Dimension --4 variates	.824 (.446)	.317 (.430)		.394
	Specific, Behavioral Dimension	-.226 (.297)	.059 (.287)		
6.**	General, Perceptual Dimension --4 variates	.503 (.330)			.389
	Specific, Behavioral Dimension	-.055 (.214)			

*The other variables that appeared in each equation were; party identification t-1 ; liberal-conservatism t-1; union household t-1 ; log(family income t-1); education t-1 ; and Eispanic. These variables are assumed to be exogenous. The measures of personal economic well-being are treated as endogenous. The variables reported in tables 13 and 14 and the response to the better/worse off financially question t-1 were used as instruments.

**In this equation, the coefficients were constrained to be equal across the two samples.

slightly more likely to have warm feelings toward the Ohio Senator.[15]

Second, the other four tables (15, 16, 17, and 19) make clear that employing the traditional 3 category version of the better/worse off financially question leads one to underestimate substantially the effect Of personal economic conditions on political evaluations and vote choice. This is the case even after correcting for measurement error. In every equation, the 5 category version of this variable, and both the 3 and 4 variate *versions* of the general, perceptual dimension are better fits to the data (as indicated by the lower standard errors of the regressions). More important are the estimated effects due to personal economic well-being. Use of the traditional better/worse off financially question causes one to underestimate, by as much as one-half, the political effect of personal economic conditions.[16]

The general, perceptual dimension usually outperforms the 5 category version of the better/worse off financially question. If the single item rather than tine set of items is relied upon to measure the dimension, the effect of personal economic conditions is often underestimated. The Reagan "feeling thermometer" is an ambiguous case and the Reagan/Mondale trial heat is the major exception to this conclusion, although in both instances the general perceptual dimension is a slightly better fit to the data.

When it comes to explaining political evaluations and choices, the statistical cost of using the 3 variate version of the general, perceptual dimension instead of the 4 variate version is slight.

The specific, behavioral dimension has no independent explanatory power over and above the general, perceptual dimension. (Look at equations 5 and 6 in each table.) The direct effect of this dimension on the political preferences we examined is substantively anti statistically insignificant. This finding is not an artifact of the high association between these two dimensions; relatively efficient estimates are produced once the effect in the two time frames were constrained to be equal. There is little conceptual or statistical cost from dropping this variable from consideration assuming NES continues to measure experience with unemployment.

The specific dimension falling out of each equation implies that it may be a cause of the general perceptual dimension. Pioreover, the variables measuring unemployment drop out of the equations for evaluations of the nation's economy and evaluations of Reagan's job performance when the specific, behavioral dimension is introduced into the analysis. This further

----

[15] Maybe he has the right stuff. (Or, is that the stuff of the right?)

[16] it goes without saying that if one faiis to correct for the measurement error, the coefficients would be greatly attenuated. For example, if each measure of personal economic well-being were treated as exogenous and ordinary least squares were used to estimate its effect, the coefficients for the one year time frame in the first four equations listed in table 16 would be .271, .365, .434, and .455. The reader should keep in mind that the estimates reported in tables 15 to 19 are probably not consistent since other right-hand side variables, such as partisanship, are surely measured with error.

confirms our earlier suspicion that the specific dimension measures behaviors that are largely a consequence of unemployment and less so of general economic well-being. In the concluding section we speculate further on why this dimension does not directly affect political evaluations.

The battle between the one year and six month time frames does not have a decisive winner. The six month time frame is more strongly associated with evaluations of the nation's economy and evaluations of Glenn; the one year time frame is more strongly related to evaluations of Reagan's performance as president, feelings towards Reagan, and choice in the Reagan/Mondale trial heat. But it should be emphasized that few of these differences are sure bets.

Conclusions and Recommendations

1. Two things can be said about the traditional better/worse off financially question; it is a valid, yet relatively unreliable item. People think about changes in income, employment, and spending power when they respond "better" or "worse" off. At the individual level, responses correlate with objective changes in income.

The relationship between responses to the question and objective economic conciitions holds in the aggregate over time as well. Using monthly data gathered by the Survey of Consumer Attitudes, we regressed responses to the traditional better/worse off financially question onto monthly changes in aggregate per capita real disposable income. We estimated a series of equations. In each equation responses to the better/worse off financially question is dependent variable and change in per capita real disposable income over a specified number of months is the independent variable. In each trial, change in income is expressed as an annual rate, so that the metrics are comparable across equations. We try two different versions of the dependent variable. In the first set of equations reported in table 20, the dependent variable is the proportion of the population that said it was "worse off" financially in that month's survey. In the second set of equations the dependent variable₁₇is a weighted average of the "worse off ,""better off ," and "same" responses. [17]

Our first concern is whether responses to the better/worse off financially question are best pretiicted by changes in per capita real disposable income over a one year period or whether some other period shorter (or longer) than one year better predicts responses. The answer, displayed in table 20, is clear. Replies to the worse off financially question are best predicted by changes in per capita changes in real disposable income that are slightly longer than one year. In both sets of equations (the first of which correct for autocorrelation), the coefficients rise as the period of time over which the change in income is measured lengthens, and they peak between 14 and 16 months. [18] Moreover, the fit (as measured by the standard errors of the

───────   ───────

[17] **The** scale is (0.0 x worse off) + (.5 x same) ÷ (1.0 x better off).

[18] This phenomenon, known as "forward telescoping, " is fairly common.

Table 20
The Effect of Changes in Real Disposable Income
on Perceptions of Personal Economic Well-Being,
January, **1978** to December, 1982

a.   Proportion "Worse Off"

Change in Per Capita Real Disposable Income (Annual Rates) Over		Coefficient	Standard Error	Standard Error of Regression	Rho
1 month	(current)	-.06 .06	●	051	.62
1 month	(previous)	.03 .06		.051	.62
3 months		-.32	.21	.048	.55
4 months		-.59	.21	.046	.55
6 months		-.37	.38	.049	.55
8 months		-.69	.39	.047	.51
10 months	-1.42		.39	.042	.41
12 months	-2.16		.34	.036	.19
14 months	-2.26		.30	.036	.04
16 months		-2.38	.33	.034	.19
18 months	-2.05		.42	.039	.27

b.   Better/Worse Off Financically Scale

Change in Per Capita Real Disposable Income (Annual Rates) r	Coefficient	Standard Error	Standard Error of Regression	D!
1 month (current)	.01	.10	.059	**1.89**
1 month (previous)	.16	.10	.057	**1.91**
3 months	.35	.25	.058	1.99
4 months	.43	.27	.057	2.02
6 months	.41	.38	.058	1.99
8 months	.96	.40	.056	**1.99**
10 months	**1.00**	.42	.056	**2.12**
12 months	**1.31**	.43	.054	2.26
14 months	**1.49**	.43	.053	**2.26**
16 months	**1.36**	.45	.054	**2.22**
14 months	**1.49**	.43	.053	**2.26**
16 months	**1.36**	.45	.054	**2.22**
18 months	**1.03**	.45	.056	**2.13**

Source :   Survey Research Center, **Survey of Consumer** Attitudes; U.S. **Commerce**
Department, Survey of Current Business.

regressions) improves as the length of the difference increases; the best fit occurs between 14 and 16 months. [19] Both the coefficients and the fits improve most dramatically when the difference increases from about 6 or 8 months to 10 months.   In sum, it appears that people do indeed employ a baseline that is pretty close to the one we ask them to use.   When asked to compare their well-being now to that of a year ago, respondents compare their current situations with their positions 14 or so months ago, not 1 month ago, 3 months ago, or 6 months ago.

A second question that we posed is whether the effect of these long-term evaluations may be tempered by more recent experience.   We found no evidence of recency effects in the aggregate analysis, however.   Short run income changes (regardless of how they are measured) do not have an independent effect on responses to the better/worse off financially question over and above effect of the long-term, 14 month change in income.   In sun, people do seem to make comparisons with remembered baselines pretty well, and those evaluations appear uncontaminated by more recent experience.

2.   There are several lessons to learn from the specific, behavioral dimension, even though it had no independent effect on political evaluations. One nettling problem with its variates is that the opportunities associated with each are not constant across all subgroups of the population.   Some people are less likely to engage in some forms of economic coping than others. For example, the elderly are much less likely to put off buying things than they are to put off medical or dental care.   Blacks, reacting to realistic assessments of the job market, are less likely to look for a new job than borrow, put off medical care, or defer purchases. Crosstabular analysis shows that this selective opportunities problem does not plague the four variates that comprise the general, perceptual dimension--most demographic variables are equally associated with those questions.   This variance in opportunitis may account for the specific behavioral dimension's low reliability and weak explanatory power.

Another problem that arises with the specific, behavioral dimension stems from asking respondents to recall specific behaviors as opposed to offering general comparisons.   An anecdote will make the point. In the 1983 Pilot Study, there were 19 respondents who said in the November, 1982 NES that either they or their spouses were unemployed at the time of the interview. Eight months later, in July, 1983, only 8 of the 19 (42 percent) said they or their spouse were unemployed in the past year.   Assuming that there is little over-reporting of current unemployment, this is a stunning example of the problem encountered when one asks people to recall specific facts or behaviors that occurred more than a few months ago.   Lots of people simply forget. This anecdote combined with the aggregate analysis just discussed suggests that people are better able to make comparisons with recalled baselines (as in the questions that make up the general, perceptual dimension) than to recall isolated events (as in the items comprising the specific, behavioral dimension).

----

[19] The standard errors of the regressions in table 20.a are calculated on the actual, not ciifferenced data.

3. The NES should continue to ask the better/worse off financially question (V2103) and add the follow-up item to allow construction of the 5 category scale(V2104). These questions should appear on both the pre-election interview schedule and on all waves of the NES rolling cross-section interviews.

4. The NES should ask the questions that are used to measure the general, perceptual dimension (V2111, V2130, and V2134-37). The savings battery has the lowest priority and should be included only if the budget permits. The statistical cost of anitting this item from the scale is small. If the savings battery is asked, respondents who volunteer that they have not saved in the current period, should be asked whether they saved or withdrew savings in the previous period. V2111 and V2130, to be sure, should be included in every wave of the rolling cross-section and the standard pre/post interview. Multiple indicators will not only improve measurement of this dimension, they will allow scholars to avail themselves of a variety of statistical procedures to correct for measurement error without having to rely solely on 2SLS.

5. Given the huge amount of measurement error that exists in recall questions of unemployment, the NES may wish to ask respondents not only whether they or their spouses are currently unemployed, or have been unemployed in the past year, but also ask whether they have had a bout with unemployment in the last month, the last two months, the last three months and the last six months. In general, the NES needs to improve its measurement of unemployment. Items also must be developeci to measure under employment defined as people working at jobs below their level of training.

6. On the basis of the evidence we have been able to muster, there is nothing that allows to say decisively that the one year time frame is either superior *or* inferior to the six month time frame. We can measure personal economic well being using the six month prompt with the same reliability as with the one year time frame. We can predict responses to six month measures as well as we can with one year measures. They have comparable predictive validity.

It may be that the failure to find clear time frame differences in personal economic well-being reflect the economic environment in which the Pilot Study was contiucted. If, for example, this study were replicated in November, 1980 very different results might have emerged. Recall that it wasn't until the second and third quarters of 1980 that inflation shot through the roof and real disposable *income per* capita plummeted. As Fair has noted, short-term fluctuations in economic conditions--that is, six month changes in real GNP per capita--are a much better predictor of the 1980 vote than the annual changes. What this suggests is that there may well be circumstances under which there will be clear differences between the effects of the six month and one year evaluations of personal economic well-being, differences that we simply are not able to capture in the summer of 1983.[20] Our concern over context is a theoretical one, not a methodological one. *In other contexts, we* are arguing; the six month chance may be the real motivational force, not the

----

[20] Time series data may also be needed to resolve decisively the one year versus six month time frame question.

year change.

A reasonable strategy might be as this: First, use the six month time frame on the rolling cross-section. Because people do seem fairly capable of making the comparisons asked of them in responding to the questions comprising the general personal economic well-being dimension, one wants to ensure over the course of the nine months or so of interviewing that over-time fluctuations in individuals' economic well-being are indeed picked up. The one year time frame, since it is more encompassing, will probably not capture these changes in personal circumstances as well as a shorter format will. Because the one year time frame seems to tap one year changes in personal economic well-being, its use on the rolling cross-section, would more likely measure a very, very slow moving average of annual changes more than anything remotely resembling short-term fluctuations in personal economic circumstances. A one year frame would make it extremely difficult to evaluate the effect of short-term changes in personal economic well-being on changes in political evaluations and preferences that occur during the course of the campaign. Whatever time frame is chosen, it should complement the time frame used for assessments of group and national economic well-being.

Second, for the sake of continuity with previous National Election Studies Board should stick with the one year time frame in the standard pre-election interview, but also ask every respondent the six month battery of questions as well. This would allow the two to be compared once again, perhaps in a context where there are real differences between the economic environments six months and one year before the election. Asking both formats would also provide compatibility between the rolling cross-section data set and the pre/post-election data set. We must keep in mind that our conclusion that there is no difference between the one year and six month time frame is a finding that may be very context dependent.

If the NES employes the six month time frame, it may be easier for people to recall things if they are prompted by a phrase like "since last March" rather than "in the past six months."

7. As Sears and Lau (1983) have suggested, measures of personal economic well-being may be very sensitive to placement in the interview schedule. Following up on this notion, the September, 1983 CBS News/New York Times survey asked half their respondents the traditional three category better/worse off financially question at the beginning of the interview; the other half of the sample were given the question at the end of the thirty minute interview. Edward Tufte is currently analyzing these data. If he uncovers interview effects, the personal economic well-being battery should appear as near the beginning of the interview schedule as possible, certainly before any questions about politics.