SURVEYS

TECHNICAL RESEARCH

HADLEY CANTRIL, Editor

This section is devoted to a survey of current research in the field of public opinion. Studies in the formation, analysis, and measurement of public opinion will be included. Material is to be drawn from a wide variety of fields such as economics, history, sociology, politics, social psychology, journalism, advertising, market research, and radio broadcasting.

HOW ACCURATE WERE THE POLLS?

Straw polls are of theoretical importance in social science because they furnish a method of testing sampling techniques. A survey of opinion made to test certain hypotheses must rely upon sampling methods because of vast numbers involved in modern social studies. Straw polls may be said to fulfil the requirements of scientific prediction only to the extent that scientific methods of sampling are employed.[1]

While some of the Presidential election forecasters did much better than others in anticipating the events of November 3, 1936, in general they were baffled and surprised by the overwhelming character of the Democratic victory. The election showed that there is much yet to be learned about sampling techniques. None of the non-partisan state-by-state straw

[1] For a general discussion of election prediction see Claude Robinson, *Straw Polls* (New York, 1932). W. Y. Elliott in S. Rice (ed.) *Methods in Social Science* (Chicago, 1932), p. 88, takes the view that the *Literary Digest* polls have no particular scientific value because they simply amount to a pre-election contest.

polls came very close to the popular pluralities.

In the present analysis the relation of a number of variables to the election results will be considered. All of these variables were available before the election and could have been used as a basis of prediction. They are the 1932 Presidential returns, the 1934 Congressional election returns, the *Literary Digest* final unadjusted poll, the same poll corrected by Robinson's party-to-party-shift method, the final Crossley poll, and the final Gallup poll.[2] Table I gives the Democratic vote by states expressed as a percentage of the major party vote for each of the measures concerned.

The following methods will be employed to test the relation of the variables to the final election returns: approximation to the electoral vote distribution, percentage plurality error for the nation, average percentage state plurality error, product moment correlation, and regression equation. It is contended that the regression equation and the standard error of estimate give the best test of the accuracy of prediction.

Which of the variables concerned came the closest to the final division in the electoral college? In the order of the magnitude of electoral votes given to Roosevelt the variables stood: 488 by Congressional election returns of 1934, 477 by Gallup, 472 by 1932 Presidential election returns, 406 by the Crossley poll, 217 by the *Literary Digest* corrected poll, and 161 by the *Literary Digest* unad-

[2] The 1932 returns were taken from E. E. Robinson, *The Presidential Vote 1896-1932* (Stanford, 1934), the 1934 returns from *Congressional Directory* (senatorial returns were used in those states which elected senators in 1934 and the aggregate returns for representatives in the remaining states except in the Southern states indicated where 1932 returns were used because Democratic congressional candidates had no opposition), the October 31, 1936, issue of the *Literary Digest, Chicago Herald and Examiner,* November 1, 1936, for the Crossley poll, and *Lincoln Sunday Journal,* November 1, 1936, for the Gallup poll. The party-to-party-shift method is described in C. Robinson, *op. cit.,* p. 122 and in *New York Post,* October 17, 1936. In Indiana, for instance, the unadjusted *Digest* poll showed that Roosevelt would receive 73 per cent of his 1932 vote and 12 per cent of Hoover's 1932 vote. It was assumed the party shifts shown by the *Digest* were more accurate than the total figures. This meant that in Indiana for every 100 votes cast Roosevelt would receive 41 votes from his 1932 constituency and 5 votes from Hoover's for a total of 46 (see Table I). The formula may be expressed as follows:

Let a represent the percentage Democratic in 1932 according to the official returns

Let b represent the percentage Republican in 1932 according to the official returns

Let c represent the percentage of his 1932 vote that the *Digest* indicated Roosevelt would retain in 1936

Let d represent the percentage of the 1932 Republican vote that the *Digest* indicated Roosevelt would win in 1936

Then, the corrected *Digest* return by the party-to-party-shift method would be $ca + db$.

This method makes no allowance for the new voters in 1936, or rather, it assumes that these new voters will behave in the same fashion as those who said they voted in 1932.

TABLE I. *Per Cent Democratic of Major Party Vote According to 1936 Straw Polls and Recent Election Results*

State	ELECTION RETURNS			1936 STRAW POLLS			
	Roosevelt 1936 X_g	*Roosevelt 1932* X_a	*Congressional Vote 1934* X_b	*Crossley Poll 1936* X_e	*Gallup Poll 1936* X_d	*Literary Digest 1936 Unadjusted* X_e	*Literary Digest 1936 Adjusted* X_f
Alabama	87	86	94	86	83	77	78
Arizona	72	69	74	63	58	46	53
Arkansas	82	87	92	84	81	74	78
California	68	61	58	62	59	46	54
Colorado	62	57	63	57	55	39	47
Connecticut	58	49	52	41	50	32	41
Delaware	56	49	46	48	53	41	48
Florida	77	75	75*	78	69	59	62
Georgia	88	92	92*	92	84	77	80
Idaho	65	61	60	55	61	42	50
Illinois	59	57	56	54	51	39	45
Indiana	57	56	52	55	52	38	46
Iowa	56	59	54	49	51	37	46
Kansas	54	55	49	48	48	36	44
Kentucky	59	60	55	58	60	55	55
Louisiana	89	93	93*	87	83	68	75
Maine	43	44	50	35	38	31	35
Maryland	63	63	57	59	60	51	53
Massachusetts	55	52	61	43	48	23	36
Michigan	59	54	48	52	51	33	42
Minnesota	66	62	60	55	54	40	50
Mississippi	97	96	96*	99	95	88	90
Missouri	61	64	60	59	57	43	51
Montana	73	62	60	65	61	44	53
Nebraska	58	64	56	53	53	39	48
Nevada	71	69	66	65	67	49	56
New Hampshire	51	49	50	45	44	23	35
New Jersey	60	51	59	51	51	32	40
New Mexico	64	64	55	59	60	51	54
New York	60	57	60	53	54	46	49
North Carolina	73	70	65	74	70	73	68
North Dakota	68	71	41	68	64	46	55
Ohio	61	51	60	49	52	40	44
Oklahoma	68	73	68	61	64	51	58
Oregon	68	61	48	62	61	48	56
Pennsylvania	58	47	52	45	51	40	42
Rhode Island	57	56	57	53	50	25	40
South Carolina	98	98	99	98	94	85	89
South Dakota	56	65	58	54	48	35	44
Tennessee	70	67	80	69	70	67	65
Texas	87	89	97	87	82	71	76
Utah	69	58	54	62	65	57	58
Vermont	43	42	49	38	39	25	33
Virginia	71	69	78	65	68	62	62
Washington	68	63	64	58	61	42	49
West Virginia	61	55	55	53	52	43	47
Wisconsin	68	67	52	62	57	38	47
Wyoming	61	58	59	50	52	38	45

*Vote for Roosevelt in 1932 used.

justed poll. Never before did the polls show such a range of variation in the prediction of the electoral votes. James Farley, the chairman of the Democratic National Committee, in exactly anticipating the electoral vote of Roosevelt, showed himself to be the best predictor of them all. Was Farley's prophecy the result of the natural optimism of a party leader, good luck, or scientific sampling? On good authority, Michelson was quoted as saying three weeks before the election that Roosevelt was sure of 400 electoral votes. Perhaps the Democrats had not completed their canvass at this time or Emil Hurja was unduly cautious. It is not likely that Farley will now admit that he was surprised at his own abilities as a forecaster. Furthermore, the chances are that the final reports of the Democratic party workers were very revealing. The same cannot be said for the canvassing machinery of the Republican party if we can judge by a Republican poll reported just prior to the September elections in the State of Maine. A comparison of the official figures with the Republican estimates shows that the Republican managers overestimated their strength by about 10 per cent.[3] This is what one would expect party managers to do.

As far as the popular vote in the nation was concerned, the best estimate was made by *Fortune* which used a very small sample—only 4,500 for the entire country.[4] It predicted that Roosevelt would receive 62 per cent of the total popular vote, 1 per cent over Roosevelt's actual percentage. Considering the fact that in a city such as Chicago only 75 people were interviewed, this forecast was a piece of good luck. The Democratic percentages of the total vote cast were as follows for the other variables: 59 per cent for the 1934 Congressional election returns, 57 per cent for the 1932 Presidential election returns, 54 per cent by the Gallup and Crossley polls, 49 per cent by the corrected *Digest* poll, and 41 per cent by the unadjusted *Digest* poll. Thus, it is clear that anyone

[3] National Republican Committee Poll for Maine, as reported in *Chicago Herald and Examiner*, August 30, 1936, compared with election results (President elected November 3, all others September):

	Republican Poll	Election Results	Error
	Per Cent Democratic	*Per Cent Democratic*	*Per Cent Plurality*
Governor	30	43	26
Senator	38	49	22
Congressman, 1st District	31	42	22
Congressman, 2nd District	36	42	12
Congressman, 3rd District	23	39	32
President	20	43	26

[4] "The Fortune Quarterly Survey," *Fortune* XIV, October 1936; 130, 224.

TABLE II. *Percentage Plurality Errors—1936 Presidential Election*

State	1932 *Presidential*	1934 *Congressional*	*Crossley*	*Gallup*	*Literary Digest* *Unadjusted*	*Literary Digest* *Adjusted*
Alabama	2	14	2	8	20	18
Arizona	6	4	18	28	52	38
Arkansas	10	20	4	2	16	8
California	14	20	12	18	44	28
Colorado	10	2	10	14	46	30
Connecticut	18	12	34	16	52	34
Delaware	14	20	16	6	30	16
Florida	4	4	2	16	36	30
Georgia	8	8	8	8	22	16
Idaho	8	10	20	8	46	30
Illinois	4	6	10	16	40	28
Indiana	2	10	4	10	38	22
Iowa	6	4	14	10	38	20
Kansas	2	10	12	12	36	20
Kentucky	2	8	2	2	8	8
Louisiana	8	8	4	12	42	30
Maine	2	14	16	10	24	16
Maryland	0	12	8	6	24	20
Massachusetts	6	12	24	14	64	38
Michigan	10	22	14	16	52	34
Minnesota	8	12	22	24	52	32
Mississippi	2	2	4	4	18	14
Missouri	6	2	4	8	36	20
Montana	22	26	16	24	58	40
Nebraska	12	4	10	10	38	20
Nevada	4	10	12	8	44	30
New Hampshire	4	2	12	14	56	32
New Jersey	18	2	18	18	56	40
New Mexico	0	18	10	8	26	20
New York	6	0	14	12	28	22
North Carolina	6	16	2	6	0	10
North Dakota	6	54	0	8	44	26
Ohio	20	2	24	18	42	34
Oklahoma	10	0	14	8	34	20
Oregon	14	40	12	14	40	24
Pennsylvania	22	12	26	14	36	32
Rhode Island	2	0	8	14	64	34
South Carolina	0	2	0	8	26	18
South Dakota	18	4	4	16	42	24
Tennessee	6	20	2	0	6	10
Texas	4	20	0	10	32	22
Utah	22	30	14	8	24	22
Vermont	2	12	10	8	36	20
Virginia	4	14	12	6	18	18
Washington	10	8	20	14	52	38
West Virginia	12	12	16	18	36	28
Wisconsin	2	32	12	22	60	42
Wyoming	6	4	22	18	46	32
Average	8.29	12.38	11.75	12.25	37.38	25.41

who assumed conditions had not changed much since the 1934 Congressional elections would have come just as close to the popular vote as *Fortune*. Simple extrapolation of the trend line fixed by the 1932 and 1934 Congressional elections would have given an almost perfect result. Usually the popularity of a party which has just won the presidency tends to fall off at the Congressional elections which follow the Presidential election. However, the Democrats managed more than to hold their own in the 1934 Congressional elections.

For the nation as a whole the 1934 Congressional elections anticipated the 1936 result, but when we consider the state-by-state results the 1934 returns are nowhere near as useful. Table II gives the percentage plurality errors state by state for each of the variables used. According to average percentage plurality errors these variables have the following rank: 8.29 for the Presidential returns of 1932, 11.8 for the Crossley poll, 12.2 for the Gallup poll, 12.4 for the Congressional returns of 1934, 25.4 for the corrected *Digest* poll, and 37.4 for the unadjusted *Digest* poll.

There is practically no difference between the average plurality errors of the Crossley and the Gallup polls. If the ten states of the Solid South are omitted, then the average plurality error for the Gallup poll is 13 and that of the Crossley poll 13.6. The plurality errors of the Gallup poll are less in those states which were regarded as uncertain. Thus, in Connecticut, Delaware, Idaho, Iowa, Massachusetts, Ohio, Pennsylvania, and Wyoming, Gallup came much nearer to the final returns than did Crossley. On the other hand, Crossley was better than Gallup in Illinois, Indiana, and South Dakota. If a person took these two polls together and resolved all doubts in favor of Roosevelt, he would come out correctly in the electoral college in all states except Kansas, Massachusetts, and New Hampshire. Or to put it in another fashion, if a person added 6 per cent to each state percentage the Gallup poll would have predicted the exact electoral result. Could any rational basis be found for making such a correction to the Gallup figures before the election? Some of the state polls conducted by metropolitan newspapers came much closer to the final result than did the Gallup. Thus, a person who assumed that the *New York Daily News* poll for New York, the *Baltimore Sun* poll for Maryland and the *Chicago Daily Times* poll for Illinois would come closer to the result than the Gallup poll for those states and could have assumed something like an average underestimation of the Roosevelt vote by Gallup of about 6 per cent.[5]

[5] The *Baltimore Sun* poll gave Roosevelt 64 per cent of the total vote in Maryland,

Never before did the *Literary Digest* have such a large average percentage plurality error. In 1928 its average plurality error was 12 per cent and in 1932 only 6 per cent. It is true that the corrected figures shifted Arizona, California, Missouri, Montana, Nevada, North Dakota, and Oregon from the Landon to the Roosevelt column, but the corrected figures were still very wide of the mark. I believe that the *Digest* poll was honestly conducted even though the polling of Republican areas first was a little misleading. As in its previous polls, its sample was overloaded with persons in the higher income groups because the lists were made up largely from telephone books and automobile registers. It is likely that class lines were more sharply drawn in this than in preceding elections. The upper income groups supported Landon, whereas the labor groups, the have-nots, the underprivileged, those on relief, the farmers without telephones, and those without motor cars supported Roosevelt. Another interpretation which the *Digest* suggested was that the lower income groups were not interested in sending back the ballots which were mailed to them.[6] In Chicago every third registered voter was sent a ballot and the 100,000 that participated gave Landon a slight margin, although the final returns showed that Roosevelt carried the city 2 to 1. If the editors of the *Digest* had wished to analyze their returns they could have adjusted their figures for Chicago by classifying the ballots by postal districts and giving the proper weight to each district. In fact, they could have marked ward and precinct numbers on the return ballots if they had wished.[7] Considering the time when the ballots were sent out, the *Digest* must have used the March registration lists and not the new October lists. Since there was an increase in registration it is likely that the *Digest* poll missed the new voters who evidently supported Roosevelt in larger numbers than Landon.

The coefficients of correlation and the regression equations listed below show that the Gallup poll was the best measure of all the variables concerned. If Gallup had hit the result exactly in each state, then r would have been 1, the constant in the regression equation would have been 0, and the regression line would have a slope of 1 since it would pass through the 45-degree angle. Gallup came the nearest to fulfilling these

the *New York Daily News* gave him 65 per cent in New York, and the *Chicago Daily Times* gave him 58 per cent in Illinois. According to these assumptions Gallup was underestimating Roosevelt's vote in these states respectively by 4, 11, and 7 per cent.

[6] See E. B. Roper, "Forecasting Election Returns," *Review of Reviews* XCIV (October 1936), 58.

[7] This would not destroy the secrecy of the straw poll and could have been done as the envelopes were addressed.

conditions. The high value of r meant that S_{gd} would have the lowest value of all. In other words, if the 1936 results by states are expressed as a function of the Gallup poll, the use of that function to predict the 1936 results comes closer than any of the other measures, since S_{gd}, the standard deviation of the residuals (difference between true value and estimated values), is the lowest standard error of estimate.[8]

Correlational methods show that the 1932 Roosevelt vote came closer to the final result than the Crossley poll. While r_{gc} is greater than r_{ga}, the constant and the regression coefficient for X_g on X_a come closer to the ideal conditions than those for X_g on X_c. Archibald M. Crossley, like Gallup, is an advertising research man. He said that he relied entirely upon a personal canvass to make his poll. No totals were mentioned in his releases. Because of the stand taken by Hearst in the campaign, everything was done before the election in his papers to soften the fact that Crossley was predicting Roosevelt's reelection. After the election Crossley claimed that his poll was the best.[9]

The 1934 Congressional returns (X_b) stand next to the bottom of this list because a Congressional election brings into play different influences than are found at work in a presidential election. Thus, there was a high Republican vote in North Dakota in 1934, but this was a Lemke vote which in 1936 shifted to Roosevelt.

What was the secret of the relative success of the Gallup poll? The word relative is deliberately used as Gallup himself expressed the hope before the election that he would come closer to predicting state pluralities than he did.[10] He claimed that in making his poll he strove to get a representative sample rather than a huge one. Part of his polling was done by means of a mail ballot, and the results which he obtained in this fashion followed very closely the *Digest* poll. These returns were supplemented by personal interviews in which an attempt was made to reach the lower income groups. By a system of weights for the different classes he arrived at the state percent-

[8]

Variable	r	*Regression Equation*	S
1936 Gallup poll	.972	$X_g = 10.84 + .921X_a$	2.89
1932 Roosevelt vote	.939	$X_g = 11.78 + .851X_a$	4.24
1936 Crossley poll	.970	$X_g = 17.92 + .796X_c$	2.98
Literary Digest, Adjusted	.952	$X_g = 20.48 + .856X_r$	3.76
1934 Congressional vote	.862	$X_g = 21.99 + .700X_b$	6.24
Literary Digest, Unadjusted	.908	$X_g = 33.28 + .694X_c$	5.15

[9] *Chicago Herald and Examiner*, November 5, 1936.

[10] Gallup in an article entitled "Putting Public Opinion to Work" *Scribner's* (November 1936), p. 38, claimed that he would be able "to predict figures accurate within three points for all doubtful states and for all other states that have sizable populations."

ages reported in his releases. Each poll was separately reported, and it is not likely that any of his samples exceeded 300,000.[11] If in the present study I had used one of his earlier polls the results would not have been anywhere near so satisfactory. Gallup was just beginning to discover how to weight his samples more properly. Undoubtedly he can do a better job next time.

HAROLD F. GOSNELL
University of Chicago

SYMBOLS

A simple cross-out method has been successfully applied by *Dr. Ross Stagner* (*University of Akron*) to study the frequency and patterning of political and economic stereotypes. Stagner submitted to about 500 adults, chiefly factory and office workers and small business men, a list of forty words and phrases which served as symbols for various social stereotypes. Unpleasant words were to be crossed out.

Among those most disliked were: Ku Klux Klan, 90 per cent; Communist, 80 per cent; Child Labor, 74 per cent; Nazi and Fascist, 73 per cent. The Townsend Plan was crossed out by 48 per cent, the American Liberty League by 30 per cent, and Socialist—theoretically as unpleasant as Communist—by 43 per cent.

As would be expected, Stagner found patterns in the symbols crossed out, the most obvious pattern being the tendency to cross out all "radical" terms. Words fitting this pattern are Revolution, I.W.W., Soviet, Pacifism, and Labor Union. There is also evidence for another pattern which groups together Republican, Democrat, Big Interests, Wall Street, Trusts, and American Liberty League. This pattern is not, however, as clear as the first.

It is obvious that most of these 500 sample Americans are prejudiced against the Fascist and Communist extremes and at the same time against Wall Street, Big Interests, and Child Labor. A "middle way" is implied in the correlation of .43 between the cross-outs on Nazi and Socialist and of .55 between Communist and Wall Street.

Selden C. Menefee (*University of Washington*) wanted to find out what effect political symbols and party labels had on political judgments.[12] That labels are important everybody knows. Menefee tried to measure the comparative force of different symbols. He wrote out sixteen statements, two of which represented a definite line of thought appropriately covered by a single word-symbol. The eight stereotypes studied were: Conservatism, Fascism, Patriotism, Pacifism, Liberalism, Radical-

[11] In his November 1, 1936, release Gallup said 312,551 ballots were distributed and in his November 8, 1936, release he said that 100,000 ballots were sufficient.

[12] *American Sociological Rev.*, August 1936, 614-21.