ECONOMIC NEWS ON TELEVISION
THE DETERMINANTS OF COVERAGE

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Abstract This paper examines the television networks' coverage of the unemployment rate, the inflation rate as measured by the Consumer Price Index, and the growth rate of real GNP over the twelve years from 1973 through 1984. This time period includes two major recessions, two severe bursts of inflation, and three presidential elections. A common complaint is that the networks overemphasize bad economic news. Using two measures of coverage, this paper examines whether the television networks give greater coverage to these statistics when they are deteriorating. The empirical results reveal that the networks do give greater coverage to bad economic news during nonelection years, but this pattern disappears during election years. The empirical results also reveal that presidential comments are very powerful in shaping the amount of coverage given to these economic statistics.

There is strong evidence that television news plays a powerful role in shaping public opinion (Kinder and Iyengar, 1987). This influence, however, may or may not be desirable. According to Kinder and Iyengar, this depends on the "thorny question" of "how faithfully the pictures and stories that appear on the news each night portray what of real consequence is actually happening in the world" (1987:122). The networks' coverage of the economy presents a wonderful opportunity to investigate this question for two reasons.

First, there is a common perception among some critics that the networks' coverage of the economy distorts reality. These critics complain that the networks overemphasize bad economic news. For example, economist Herbert Stein—a former chairman of the Council of Economic Advisors—believes that "the press communicates an exces-

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sively dramatic, anxious and negative view of the economy" (Stein, 1975:40). Similarly, President Reagan complained during the 1982–83 recession that the constantly "downbeat" coverage of the economy was inhibiting the recovery (Washington Post, 1982). In response, CBS anchorman Dan Rather argues that these criticisms are attempts to "convince the public that problems are not problems" (Associated Press, 1983). In other words, he believes that these critics are blaming the messengers for bad economic news.

Second, the actual performance of the economy is continuously measured by several economic statistics. As a result, it is possible to examine how the coverage of the economy depends on the actual performance of the economy. This paper uses the networks' coverage of the unemployment rate, the inflation rate as measured by the Consumer Price Index, and the growth rate of real GNP over the twelve years from 1973 through 1984 to test whether the television networks give greater coverage to these statistics when they are deteriorating, holding other factors constant. The paper also examines how the coverage changes during election years and whether the president can influence the amount of coverage by commenting on the statistics.

Previous Studies

Several critics of the media use a study by the Institute for Applied Economics (1984) as evidence that the networks are biased toward bad economic news (Washington Post, 1984; Ben Wattenberg, 1984; Paul Weaver, 1984). The Institute examined the content of the three major network news programs over the six month period from 1 July to 31 December 1983. During this period, the economy was beginning its recovery from the 1982–83 recession. The Institute found that while nearly 95% of the economic statistics were positive, 85% of the in-depth stories were primarily negative.

In his summary of the report, Holmes Brown (1984) uses the CBS coverage of the June 1983 unemployment rate as a typical example of the network's coverage of the economy. Since the unemployment rate decreased in June, Brown characterizes this statistic as good news. Nevertheless, "the entire emphasis of the report was on those who remained out of work—not on those who were returning to work" (1984:19). As a result, Brown uses this as an example of a primarily negative report accompanying the release of a positive economic statistic.

The unemployment rate in June was 10.0%—down from 10.1% in May. It is certainly debatable whether CBS was being excessively negative in focusing its report on the high level of unemployment rather

than the small change. In the Institute report, this ambiguity disappears because an economic statistic is defined as positive or negative based only on the direction of the change in the statistic. This assumption implies that the level of unemployment should not influence the coverage of the unemployment rate.

In contrast, the practice of "pegging" stories to news events and the desire of network journalists to "present both sides of the story" imply that network journalists view the release of the unemployment rate as an appropriate time to discuss both the level of and the change in the unemployment rate.[1] For example, suppose a network has developed a report on the level of unemployment and its impact on individuals in the rust belt. This report might then be held until it could be pegged to some news event such as the release of the unemployment rate. Also, reports on a decrease in the unemployment rate will often describe the plight of those still unemployed in an attempt to "present both sides of the story." As a result, network journalists believe that the coverage of the unemployment rate should reflect both the level and the change in the statistic.

Behr and Iyengar examine CBS's coverage of the economy and conclude that its "news coverage is indeed not limited to 'bad news'; decreases in unemployment are as newsworthy as increases" (1985: 46). More specifically, they estimate how the network's coverage of the economy responded to changes in the condition of the economy over the years from 1974 through 1980. As dependent variables for the coverage of unemployment, they use the total number of reports on unemployment during a two-month period and the number of times it was the lead story. Their independent variables include the unemployment rate for that period and the absolute value of the change in the unemployment rate from the previous period. However, they do not include a dummy variable which indicates the direction of the change in the unemployment rate. As a result, they incorrectly infer from their empirical results that "decreases in unemployment are as newsworthy as increases" (1985:46). Without the dummy variable, their empirical results simply do not address this question.[2]

Behr and Iyengar also argue that they cannot test for whether the coverage of inflation was limited to bad news "because there were no periods of deflation over the seven years we examined" (1985:46). It is very rare for economies to experience deflation, i.e., an actual decrease in the level of prices. In the 1970s, improvements in inflation

1. These practices are discussed in more detail by Gans (1979), Tuchman (1972), and Wood (1985). Wood also summarizes several other criticisms made by economists of the media's coverage of economic news.

2. An anonymous referee reports that Behr and Iyengar "did in fact look for directional differences in the effects of changes in the unemployment rate and found none."

occurred when the rate of inflation decreased. As a result, Behr and Iyengar could have used their data to test whether CBS gave greater coverage to inflation when the inflation rate was increasing. Unfortunately, their results for the coverage of inflation are unable to answer this question.[3]

In this paper, I ask the following question: If we accept that the release of an economic statistic is an appropriate time to discuss both the level of and the change in the statistic, do the networks give greater coverage to the statistic when it is deteriorating?

The Model

When the unemployment rate is released on the first Friday of the month, the networks have to decide how much coverage it deserves on that night's newscast. In other words, they have to decide on the length of the report and whether to make it the lead story. In general, important stories are given more time and are more likely to lead the news programs (Gans, 1979).

This paper presents the results from estimating two equations which describe the coverage by the network news programs of three economic statistics: the unemployment rate, the inflation rate as measured by the CPI, and the growth rate of real GNP. The dependent variable of the first equation is the number of seconds of coverage given to the economic statistic (TIME). The independent variables are the absolute value of the change in the economic statistic (CHG), the level of the statistic (LEVEL), a dummy variable for whether the statistic is deteriorating (BAD), the length of the other major story of the day (RIVAL), a dummy variable for whether the president commented on the eco-

3. Behr and Iyengar use a single independent variable to measure the inflation performance of the economy. This variable is the (two-month average) inflation rate as measured by the Consumer Price Index if it is above the (seven-year) average inflation rate; otherwise, it is 0. According to Behr and Iyengar, a positive coefficient on this variable implies that the coverage of inflation "is driven by changing (worsening) national conditions, though here the changes must be unusually severe to warrant additional news coverage" (1985:46). Over the 1970s, there were numerous occasions when the inflation rate was above the (seven-year) average inflation rate but was nevertheless declining. Does this situation really represent a worsening national condition? Once again, this confusion seems to arise because Behr and Iyengar do not appreciate the distinction between deflation and a decline in the inflation rate. In contrast, the equations estimated in this paper use three independent variables to describe the inflation performance of the economy. These variables are the inflation rate (LEVEL), the absolute value of the change in the inflation rate (CHG), and a dummy variable for whether the inflation rate is increasing (BAD). Not surprisingly, when their variable is included in my specifications, it primarily affects the coefficient on LEVEL. In general, their specification does not adequately capture the impact of changes in the inflation rate and the direction of the change on the coverage of inflation.

nomic statistic (COMMENT), dummy variables for whether it is a presidential or an off-year congressional election year (PRES, CONG), and a full set of interaction terms between PRES, CONG, and the other independent variables (P*CHG, P*LEVEL, P*BAD, P*RIVAL, P*COMMENT, C*CHG, C*LEVEL, C*BAD, C*RIVAL, and C*COMMENT). This equation was estimated using ordinary least squares and is described in the Appendix.

The second measure of coverage is whether or not the report on the economic statistic leads the evening news program. In this case, the dependent variable (LEAD) equals 1 if the report on the economic statistic leads the evening news program; otherwise, LEAD equals 0. The independent variables are the same as those used in the first equation. Since LEAD is a qualitative dependent variable, the logit model is used to estimate the impact of the independent variables on the probability that a report on one of these statistics will lead an evening newscast. This specification is also described in the Appendix.

The model used to generate the two equations assumes that network journalists decide on the amount of coverage to give the release of an economic statistic by looking at both its level and the change in the statistic. As a result, we would expect the coverage of the unemployment rate, for example, to increase when the level of unemployment is high or when there are large changes in unemployment. If the critics of the networks are correct that the networks emphasize bad economic news, we would also expect that the unemployment rate would receive greater coverage when it was increasing. These hypotheses can be tested using the estimated coefficients on CHG, LEVEL, BAD, and the corresponding interaction terms.

On 2 September 1983 the Bureau of Labor Statistics released the unemployment rate for the previous month. Since the economy was just beginning its recovery from the severe 1982–83 recession, we might have expected the network news programs to devote major stories to unemployment that night. However, none of the three network news programs did more than announce the new unemployment rate statistics. This small amount of coverage is not surprising given the competing (or RIVAL) story that night on the evening news. This rival story, which dominated each of the three broadcasts, concerned the destruction of a South Korean commercial jetliner by Soviet jet fighters during the previous night. Therefore, we expect the coefficient on RIVAL, which is the length of the other major story of the day, to be negative.

The president may influence the amount of coverage given to these statistics by timing speeches to coincide with the release of a favorable statistic or by commenting on the statistic to reporters. There is ample anecdotal evidence that presidents attempt to influence what appears on the evening broadcasts. For example, Robinson and Sheehan quote

a political aide of President Carter as saying that their daily campaign staff meeting "consisted virtually of nothing else than deciding what we were going to do that day to get on the evening news" (1983:201). In general, Kinder and Iyengar argue that "presidents in the television age have assiduously sought to control the criteria by which they are viewed and evaluated" (1987:121). Given their evidence on the impact of television coverage on public opinion, Kinder and Iyengar conclude that "presidents would be foolish to do otherwise" (1987:121). In this paper, the impact of presidential comments or speeches on the coverage of these statistics is estimated using a dummy variable for whether the president referred to the economic statistic (COMMENT).

The impact of the independent variables on the coverage of these statistics may change during election years. For example, the previous quote about President Carter's campaign staff suggests that presidents may try harder to influence the coverage of these statistics during presidential election campaigns. However, this does not necessarily imply that they are better able to influence the coverage. This depends on how the coefficient on COMMENT changes during presidential election years. Also, the behavior of network reporters, editors, and producers may change during election years. For example, Robinson and Sheehan believe that "campaign news produces the most objective reporting that [the] national press ever provides" (1983:62). This suggests that reporters may be less likely to emphasize bad economic news during election years, if indeed they ever do. In other words, the coefficient on BAD may change during election years. More generally, the coefficients of the model may change as these economic statistics take on more political significance during election years. The model presented in this paper allows the coverage of these statistics to differ in presidential election years, off-year congressional election years, and nonelection years. Also, the interaction terms allow a formal test of whether the coefficients change during presidential and off-year congressional election years. This is explained in the Appendix.

One of the primary advantages of this model is that it focuses on the actual decisions that the networks must make on the day that, for instance, the unemployment rate is released (see Westin, 1982:54). The model could have used different dependent variables such as the total number of reports on unemployment in the month that the unemployment rate was released, the total length of these reports, or the number of times these reports lead the evening newscasts. However, these variables do not correspond to actual decisions made by network journalists on the day that the unemployment rate is released. As a result, the model used in this paper better captures the process of network decision making. If this is true, we would expect our results to extend to these other dependent variables. Indeed, we might even expect our

results to be reflected in the tone and content of stories. Naturally, it would be interesting to test these hypotheses using alternative dependent variables.[4]

Data Description

Television News Index and Abstracts provides information on the total number of seconds devoted to the coverage of economic statistics (TIME) and whether the reports were lead stories (LEAD). For each of the three major network news programs, this information was collected for their reports on the release of the unemployment rate, the Consumer Price Index, and the Gross National Product over the twelve years from 1973 through 1984. The monthly coverage of the unemployment rate and the Consumer Price Index provide samples containing 428 and 431 observations, respectively. The coverage of the preliminary estimate of each quarter's Gross National Product provides a smaller sample of 143 observations.[5]

The model used in this study assumes that journalists decide on the amount of coverage to give economic statistics by looking at the level of the statistic (LEVEL) and the magnitude of the change (CHG). For unemployment, the level is the seasonally adjusted unemployment rate for all civilian workers. The change is the difference between the cur-

4. There are several other advantages associated with the decision to limit the analysis to the coverage of these economic statistics. First, the results are easily replicable since it is very clear when a report concerns one of these statistics. Second, the decision to limit the analysis to the coverage of these economic statistics allowed the collection of more data along a different dimension. While Behr and Iyengar collected information on only CBS over seven years, this study collected information on all three networks over twelve years. As a result, the sample used in this paper can be used to formally test whether the three networks provide similar coverage of the economy. In particular, the coverage of the unemployment rate and the Consumer Price Index in nonelection years provide two samples which are large enough to formally test this hypothesis. In this case, the independent variables of the model are CHG, LEVEL, BAD, RIVAL, COMMENT, a dummy variable for NBC, a dummy variable for ABC, and a full set of interaction terms between the network dummy variables and the other independent variables. In each of the four equations (two statistics and two measures of coverage), the entire set of network variables are statistically insignificant at the 10% level. This is strong evidence that the coverage of the economy is very similar across the three networks. It also explains why network variables do not appear in any of the equations estimated in this paper.

5. The potential number of observations for the coverage of both the unemployment rate and the CPI is 432, i.e., 12 years × 12 months × 3 networks. The final sample for the unemployment rate lost two observations due to the preemption of news programs due to sports events, one observation due to a tape malfunction at Vanderbilt University, and one observation because it was unclear whether the unemployment rate was the focus of the report on the economy. The final sample for the CPI lost one observation due to a tape failure. The potential number of observations for the coverage of GNP is 144. The final sample lost one observation because it was unclear whether GNP was the focus of the report on the economy.

rent and previous month's unemployment rate. For GNP, the level is the preliminary estimate of the most recent quarter's growth rate calculated on an annual basis. The change is the difference between the preliminary estimate of the most recent quarter and the revised estimate of the previous quarter.[6]

The monthly inflation rates were calculated using the all-items Consumer Price Index for urban wage earners and clerical workers and were measured at annual rates. The model was first estimated using the current monthly inflation rate and the change from the previous month. Since monthly inflation rates, IR_t, are very volatile, the model was also estimated using variables based on different definitions of the level of inflation. These new definitions assume that the volatility of the monthly inflation rate causes journalists to implicitly use the average monthly rate in the recent past as an estimate of the level of inflation. Indeed, the fit of the OLS regression improved substantially when the level of inflation, LEVEL_t, was defined as the mean inflation rate over the last three months, and the change in inflation was defined as the difference between the current month's inflation rate and the level in the previous month, i.e., $\text{IR}_t - \text{LEVEL}_{t-1}$. As a result, the empirical results presented in this paper are based on these latter definitions. However, the general conclusions drawn from the empirical results do not hinge on these definitions. The only systematic difference is that the change in inflation becomes more important in explaining the coverage of the inflation rate.[7]

For each economic statistic, CHG is the absolute value of the change in the statistic. BAD is a dummy variable that equals 1 if the change is negative for the growth rate of real GNP and positive for the inflation and unemployment rates. And finally, NOCHG is a dummy variable that equals 1 if there was no change in the statistic.[8]

The variable RIVAL is the length of the major competing story on the network news program on the day that the statistic was released. If the report on the statistic did not lead the evening news program, RIVAL is the length of the lead story. Otherwise, RIVAL is the length of the report

6. These growth rates are the best estimates available at the time that network journalists decide on the amount of coverage to give preliminary estimates of GNP.

7. These definitions also conform more closely to how I would interpret the information provided by the monthly inflation rate. More specifically, if you asked me to interpret what the current month's inflation rate might imply about the future course of inflation, I would compare it with some estimate of the previous level of inflation. I would not compare it with last month's inflation rate. I also suspected that the estimates of the coverage of the growth rate of real GNP would improve if similar variables were used. However, the fit of the OLS regression did not improve when similar variables were used. As a result, I decided to present the estimates based on the simplest specification for the coverage of GNP.

8. Due to the volatility of the monthly inflation rate and the growth rate of real GNP, NOCHG is never equal to 1 for either of these statistics.

which followed the first commercial.[9] Finally, RIVAL is measured in minutes (to the second decimal place), which makes the regression coefficients easier to interpret.

COMMENT is a dummy variable for whether the president made a comment on the economic statistic. Since this variable was constructed using information from *Television News Index and Abstracts*, it may omit some occasions when the president made a comment and all three networks decided to ignore it. However, this seems very unlikely given that there were very few occasions when one of the three networks did not quote the president and the others did. It appears that if a quote from the president is available, all three networks use it.

The variable PRES is a dummy variable that equals 1 if the report aired during a presidential election year, i.e., January through the day prior to the presidential election. Similarly, the variable CONG is a dummy variable that equals 1 if the report aired prior to an off-year congressional election. Finally, the remaining independent variables are interactive terms that are the product of PRES, CONG, and the other independent variables. Descriptive statistics for the variables which are not interaction terms are presented in Table 1.

Empirical Results

Over the years of the sample, there were two major recessions, two severe bursts of inflation, and three presidential elections. The means of the economic statistics (see Table 1) reflect the turbulence in the economy. More specifically, the mean growth rate of real GNP over the years from 1973 through 1984 was slower than the previous decade. Also, the economy experienced high mean levels of unemployment, 7.3%, and inflation, 7.6%. There were also large deviations around these means. In particular, the unemployment rate ranged from a low of 5.0% to a high of 10.8% over these twelve years. Also, the (three-month average) inflation rate varied from a low of 1.3% to a high of 17.0%.

As a result, the performance of the economy was a major news story over the years of the sample. For example, reports based on the release of the monthly unemployment rate were, on average, 2 minutes and 29

9. There are other possible ways to define RIVAL when the economic statistic is the focus of the lead report. One alternative is to use the length of the second report of the day. However, the networks often tuck a short report between the lead story and the first commercial. Alternatively, RIVAL could have been defined as the second longest report of the day. However, this definition would have included some reports that were only loosely tied to the news events of the day.

Table 1. Descriptive Statistics

	Unemployment Rate	Consumer Price Index	Growth Rate of Real GNP
Dependent variables			
TIME (seconds)	148.96	127.82	94.90
	(124.49)	(94.15)	(72.20)
LEAD (%)	34.58	30.39	18.88
	(47.62)	(46.05)	(39.27)
Independent variables			
CHG	0.21	2.74	4.21
	(0.19)	(2.44)	(3.13)
LEVEL	7.25	7.57	1.53
	(1.55)	(3.63)	(5.00)
BAD	0.40	0.48	0.52
	(0.49)	(0.50)	(0.50)
NOCHG	0.18	—[a]	—[a]
	(0.39)		
RIVAL	3.83	4.44	4.63
	(2.37)	(3.05)	(2.84)
COMMENT	0.15	0.08	0.06
	(0.36)	(0.28)	(0.24)
Sample size (N)	428	431	143

NOTE: Sample standard deviations are shown in parentheses.
[a] Due to the volatility of the inflation rate and the growth rate of real GNP, NOCHG is never equal to 1 for either of these statistics.

seconds long (see Table 1). This slightly exceeds the normal length of a "major report," which is "about one minute forty-five seconds to two minutes long" (Westin, 1982:51). Also, 35% of the reports on the unemployment rate led the nightly news programs. There is also a clear pattern in the amount of coverage given to the three statistics. Using both measures of coverage, the unemployment rate received the most coverage and the growth rate of real GNP the least.[10]

10. In contrast, Behr and Iyengar (1985) find that the CBS Evening News carried more stories on inflation than unemployment over the years from 1974 through 1980. Using the same network and time period, I find that the reports on the unemployment rate were nevertheless longer and more likely to be lead stories. These seemingly contradictory results may be due to the existence of fewer news pegs for unemployment. For example, the network news programs regularly cover two measures of inflation—the Consumer Price Index and the Wholesale Price Index—and only one measure of unemploy-

Table 1 also reveals that presidents were most likely to comment on the unemployment rate and least likely to comment on the preliminary estimate of GNP. Not surprisingly, presidents were also more likely to comment on these statistics when they were improving. With the exception of comments on the GNP, these comments were also more likely to occur during presidential election years.[11] For example, presidents commented on about half of the occasions when the unemployment rate decreased during a presidential election year. In contrast, there was only one occasion when a president commented on an increase in the unemployment rate which occurred during a presidential election year. Finally, the length of the rival story was, on average, about 4 minutes long.

Table 2 presents the mean coverage of these economic statistics broken down by whether or not they were deteriorating. In nonelection years, the differences are dramatic. In particular, reports about increases in the unemployment rate were, on average, 48% longer and 106% more likely to lead the evening newscasts than reports about decreases in unemployment. For the inflation rate, reports about increases were, on average, 29% longer and 61% more likely to lead the evening newscasts. Finally, reports about decreases in the growth rate of real GNP were 27% longer and 61% more likely to lead the evening newscasts—although this latter difference is not statistically significant. In election years, this pattern very nearly disappears. With two exceptions, these statistics were not given greater coverage when they were deteriorating in election years.

These differences in coverage, however, do not hold other factors constant. For example, the difference in the mean coverage of rising and falling unemployment rates during nonelection years does not hold the magnitude of the change constant. In particular, the increases in the unemployment rate in nonelection years were larger, on average, than the decreases. Since large changes in the unemployment rate are more newsworthy than small changes, the difference in the mean coverage of rising and falling unemployment rates may be attributable to the relative magnitude of the changes rather than their direction.

The regression results for the coverage of these economic statistics during nonelection years are presented in Table 3. The first three columns present the ordinary least squares regression results for the num-

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ment. Therefore, each of these studies reveals something different about the pattern of coverage across the different economic statistics. While Behr and Iyengar report that there are fewer reports on unemployment, this study reveals that these reports are longer, on average, than those on inflation.

11. Only President Reagan commented on GNP, and these comments mostly occurred during the recovery from the 1982–83 recession.

Table 2. Mean Coverage by Direction of Changes in Economic Statistics

	UR			CPI			GNP		
	TIME	LEAD	*N*	TIME	LEAD	*N*	TIME	LEAD	*N*
Nonelection year									
Deteriorating	185.1	48.3	89	138.5	38.7	111	110.3	21.2	33
	(14.0)	(5.1)		(9.3)	(4.6)		(9.3)	(6.4)	
Improving	125.2	23.4	107	107.6	24.1	141	86.6	13.2	38
	(11.0)	(4.1)		(6.9)	(3.6)		(8.5)	(5.9)	
Difference	59.9**	25.0**		30.9**	14.6**		23.7*	8.1	
	(17.8)	(6.6)		(11.5)	(5.9)		(12.6)	(8.7)	
Presidential election year									
Deteriorating	151.0	40.0	30	154.5	28.6	42	87.1	8.3	24
	(17.5)	(9.1)		(20.5)	(7.1)		(8.3)	(5.3)	
Improving	155.9	53.7	41	93.3	29.2	48	105.8	25.0	12
	(17.1)	(7.9)		(10.4)	(6.6)		(8.1)	(6.7)	
Difference	−4.9	−13.7		61.2**	−0.6		−18.8	−16.7*	
	(24.5)	(12.0)		(23.0)	(9.7)		(13.1)	(8.9)	
Congressional election year									
Deteriorating	190.2	37.0	54	152.1	33.9	56	87.8	33.3	18
	(20.2)	(6.6)		(12.0)	(6.4)		(8.1)	(7.0)	
Improving	139.0	41.4	29	153.3	27.3	33	94.4	22.2	18
	(20.8)	(9.3)		(14.4)	(7.9)		(8.1)	(6.5)	
Difference	51.2*	−4.3		−1.2	6.7		−6.7	11.1	
	(29.0)	(11.4)		(18.7)	(10.1)		(11.4)	(9.6)	

NOTE: Standard errors are shown in parentheses.
* $p < .10$, two-tailed test. ** $p < .05$, two-tailed test.

ber of seconds of coverage. The last three columns present the logit regression results for whether the report was the lead story on the evening news.[12]

12. The model was estimated on the entire sample using the full set of interaction terms for presidential and off-year congressional election years. The estimated parameters presented in Tables 3, 4, and 5 are nevertheless the same as those produced by running the regressions using only the basic independent variables (CHG, LEVEL, BAD, NOCHG, RIVAL, and COMMENT) and the relevant subsample. The *t* statistics are different, however, because the estimates of the variances are based on the entire sample. Also, these tables present estimates of logit derivatives rather than logit coefficients. Since the logit specification is a nonlinear function of the independent variables, logit coefficients cannot be given the same interpretation as OLS coefficients. In other words, these estimated coefficients cannot be interpreted as the probability changes associated with a one unit

With one exception, the estimated coefficients on BAD for both sets of regressions are significantly positive. Also, the magnitude of these coefficients imply that bad economic news is given substantially more coverage than good economic news in nonelection years. For example, the length of these reports are longer, on average, if the statistics are deteriorating. In particular, rising unemployment and inflation rates are given, on average, 41 and 23 seconds of additional coverage, respectively. Given the limited amount of time available on the network news programs, the additional coverage represents an increase of 35% and 20%, respectively. Also, declining growth rates receive 38 seconds of additional coverage, which represents a 48% increase.

The reports are also much more likely to be lead stories if the statistics are deteriorating. Evaluated at the means of the other independent variables, the probability that an increase in the unemployment rate will lead a network news program in a nonelection year is 28.7%.[13] This probability for an equally large decrease is only 10.8%.[14] Therefore, a report on the unemployment rate is more than twice as likely to lead an evening news program when the unemployment rate is increasing. Similarly, an increasing inflation rate raises the probability that it will be a lead story from 20.3% to 34.6%. While the estimated coefficient on BAD in the GNP regression is statistically less significant (at only the 25% level), its magnitude is very similar. In this case, a declining growth rate raises the probability that it will be a lead story from 1.9% to 6.5%. Therefore, these regression results strongly support the ear-

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increase in the corresponding independent variable. These logit derivatives were calculated using the estimated coefficients of the logit model and the mean values of the independent variables (the formula for the logit derivative is presented in the Appendix). These derivatives along with the t statistic for the hypothesis that the associated logit coefficient equals 0 are presented in Tables 3, 4, and 5. The estimates of the logit coefficients are available from me upon request.

13. This predicted probability is very different from the corresponding descriptive statistic that 48.3% of the reports on an increasing unemployment rate led the evening newscasts in nonelection years (see Table 2). There are two reasons for this discrepancy. First, the predicted probabilities (and the derivatives presented in Tables 3, 4, and 5) are evaluated at the mean values of the independent variables for the entire sample (see Table 1), not at the mean values for the three subsamples. If we evaluated the probabilities and derivatives at the mean values of the three subsamples, we would not be able to disentangle whether any differences were due to differences in how the networks cover these statistics (i.e., the parameters) or to differences in the performance of the economy (i.e., the values of the independent variables). Second, the logit model is nonlinear. As a result, this predicted probability increases rapidly as the values of the independent variables rise above their mean values.

14. The logit derivative on the BAD dummy variable in the unemployment regression (0.179 of Table 3) tells us that the probability that the unemployment rate will be the lead story increases by 17.9 percentage points when BAD increases from 0 to 1. This change is equal to the difference between the two predicted probabilities described in the text.

Table 3. Regression Results: Coverage of the Economy During Nonelection Years

	OLS Coefficients for Number of Seconds of Coverage			Logit Derivatives for Lead Story		
	UR	CPI	GNP	UR	CPI	GNP
Intercept	−44.21	91.16**	128.60**	−0.507**	−0.050	0.049
	(−1.26)	(5.31)	(5.62)	(−2.99)	(−0.53)	(1.17)
CHG	189.70**	6.03**	−3.39	0.949**	0.008	−0.004
	(4.83)	(2.73)	(−1.16)	(4.72)	(0.68)	(−0.74)
LEVEL	20.81**	3.64**	−0.36	0.051**	0.007	0.001
	(5.12)	(2.26)	(−0.19)	(2.85)	(0.78)	(0.29)
BAD	41.45**	22.88**	38.04*	0.179**	0.143**	0.045
	(2.80)	(2.08)	(1.80)	(2.81)	(2.43)	(1.22)
NOCHG	58.61**	—[a]	—[a]	0.241**	—[a]	—[a]
	(2.89)			(2.36)		
RIVAL	−10.02**	−5.33**	−7.87**	−0.105**	−0.061**	−0.038**
	(−3.83)	(−3.30)	(−3.00)	(−5.45)	(−4.62)	(−3.35)
COMMENT	75.36**	23.38	39.46	−0.022	−0.224	0.034
	(3.34)	(0.89)	(1.49)	(−0.24)	(−1.39)	(0.80)
Sample size[b]	428	431	143	428	431	143
R^2 [b]	.367	.235	.205			
Log likelihood[b]				−194.03	−217.62	−41.70

NOTE: The t statistic for the hypothesis that the coefficient equals 0 is shown in parentheses.
[a] Due to the volatility of the inflation rate and the growth rate of real GNP, NOCHG is never equal to 1 for either of these statistics.
[b] The sample size, R^2, and log likelihood are for the full model described in the Appendix.
* $p < .10$, two-tailed test. ** $p < .05$, two-tailed test.

lier conclusion that bad economic news receives more coverage than good economic news during nonelection years.[15]

The estimated coefficients on NOCHG imply that an improvement in the unemployment rate also receives less coverage than an unchanging unemployment rate. This may not be as surprising as it seems. An unchanging unemployment rate may indicate that the economy is near a turning point in the business cycle and, as a result, may receive more coverage.

The level of unemployment and the magnitude of the change in the unemployment rate have the expected impact on the amount of coverage given to the unemployment rate. Higher levels of unemployment and larger changes result in reports which are longer and more likely to lead the evening newscasts. There is a surprising asymmetry in the results for the coverage of the CPI. While higher levels of inflation and larger changes result in longer reports, they are not more likely to lead the evening newscasts.[16] The corresponding coefficients are not significant for the coverage of GNP.

The length of the rival story has the expected impact on the amount of coverage given to these economic statistics. However, the magnitudes of the estimated coefficients in the first set of equations are quite small. For example, each additional minute devoted to the rival story is associated, on average, with a decrease of only 5 to 10 seconds in the coverage of these economic statistics. Therefore, major stories

15. The networks' coverage of these statistics could have been modeled as a two-step process where networks first decide on whether the reports will be lead stories and then on their length. When LEAD is included as an independent variable in the TIME regressions of this recursive system, the estimated coefficients on BAD in the unemployment and inflation regressions decrease to 21.42 and 9.99 seconds, respectively. This result is not surprising given that the unemployment and inflation rates are more likely to be lead stories when these statistics are deteriorating and that lead stories are, on average, longer. As a result, reports about increases in these statistics are longer in part because they are more likely to be lead stories. In fact, about half of the additional time devoted to bad economic news about these statistics can be attributed to this factor. The estimated coefficient on BAD in the GNP regression falls only slightly when LEAD is included as an independent variable. This is also not surprising given that the estimated coefficient on BAD is less significant in the logit regression for GNP.

16. The size of the estimated parameters on CHG and LEVEL in the inflation regressions are much smaller than the corresponding estimates in the unemployment regressions. However, the interpretation of these parameters requires that we adjust for the greater volatility of the inflation rate. If the monthly change in the inflation rate is unusually large (i.e., twice as large as the mean monthly change) then the length of reports increase, on average, by 16.5 seconds. For unemployment, a similar change (i.e., twice the mean monthly change) causes the length of reports to increase, on average, by 39.8 seconds. When the level of these statistics increase from their respective means to levels commonly associated with recessions (9%) and bursts of inflation (13%), the coverage of unemployment and inflation increases by 36.4 seconds and 19.8 seconds, respectively. Therefore, the coverage of the unemployment rate is more responsive than the coverage of the inflation rate to the level and the magnitude of the change in the corresponding statistic.

may compete less with one another than with the remaining stories for time on the broadcast. However, only one story can lead each night's newscast. In this case, each additional minute devoted to the rival story is associated, on average, with a decrease of from 4 to 11 percentage points in the probability that one of these statistics will lead the evening newscast.

In nonelection years, presidential comments appear to influence the length of reports but not whether they are lead stories. In particular, the president can dramatically increase the amount of time the networks devote to the unemployment rate by making a comment about it. In this case, a presidential comment increases the predicted amount of coverage from 136 seconds to 211 seconds.

The regression results for the coverage of these economic statistics during presidential election years are presented in Table 4. The coverage changes significantly during presidential election years.[17] The greatest change is the relative coverage given to bad economic news. With one exception, the amount of coverage no longer depends on whether the economic statistic is deteriorating. All but one of the coefficients on the BAD dummy variable are smaller than the corresponding coefficients in the nonelection year equations, and three of these differences are statistically significant.

With some exceptions, the levels of these statistics become less important and changes become more important in determining the amount of coverage during presidential election years. While three of the four coefficients on the level of unemployment and inflation are positive and statistically significant in the nonelection year equations, the corresponding coefficients in the presidential election year equations are all smaller and statistically insignificant. At the same time, changes in the CPI become much more important. In particular, the coefficients on CHG are significantly larger than the corresponding coefficients in the nonelection year equation. The one important exception is that changes in the unemployment rate become a less important determinant of whether the report leads the evening newscast.

With the exception of the length of reports on the unemployment rate, presidential comments affect the length of reports and the likeli-

17. The hypothesis that the entire set of presidential election variables (i.e., the presidential dummy and interaction variables) has no impact on the amount of coverage is rejected at the 5% level for four of the six equations. These four equations are the OLS and logit equations for the coverage of the unemployment rate and the inflation rate. Evaluated at the means of the other independent variables, the probability that the unemployment rate will be a lead story increases from 20% to 33% during a presidential election year. However, the predicted length of these reports is virtually unchanged. In contrast, the predicted coverage of the inflation rate decreases during a presidential election year. The predicted probability that the inflation rate will be a lead story decreases from 27% to 18% and the predicted length of these reports decreases by 17%.

Table 4. Regression Results: Coverage of the Economy During Presidential Election Years

	OLS Coefficients for Number of Seconds of Coverage			Logit Derivatives for Lead Story		
	UR	CPI	GNP	UR	CPI	GNP
Intercept	208.28[n]	41.25	154.55**	−0.388	−0.238**	−0.022
	(1.41)	(1.62)	(3.69)	(−0.52)	(−2.01)	(−0.67)
CHG	189.26**	14.54**[n]	−10.66**	0.064[n]	0.120**[n]	0.001
	(2.42)	(3.41)	(−2.37)	(0.17)	(3.63)	(0.11)
LEVEL	−5.62	1.59	−6.18*	0.069	−0.002	0.005
	(−0.29)	(0.71)	(−1.89)	(0.70)	(−0.19)	(1.41)
BAD	−36.24[n]	51.70**	−27.09[n]	0.008	−0.095[n]	−0.004
	(−1.18)	(2.86)	(−1.07)	(0.05)	(−1.11)	(−0.27)
NOCHG	−38.98[n]	—[a]	—[a]	−0.253[n]	—[a]	—[a]
	(−1.19)			(−1.47)		
RIVAL	−10.24*	−5.18	6.07[n]	−0.074**[n]	−0.061**	−0.007
	(−1.93)	(−1.10)	(0.84)	(−2.28)	(−2.23)	(−1.40)
COMMENT	−32.16[n]	137.70**[n]	—[b]	0.290*	0.201**[n]	—[b]
	(−0.96)	(6.15)		(1.75)	(2.23)	

NOTE: The t statistic for the hypothesis that the coefficient equals 0 is shown in parentheses.
[a] Due to the volatility of the inflation rate and the growth rate of real GNP, NOCHG is never equal to 1 for either of these statistics.
[b] None of the presidents commented on GNP during any of the presidential elections.
[n] Significantly different from the corresponding coefficient in nonelection years at $p < .10$, two-tailed test.
* $p < .10$, two-tailed test. ** $p < .05$, two-tailed test.

hood that they are lead stories on the evening newscasts. These comments are very powerful in shaping the amount of coverage that the networks give to these statistics. For example, the probability that a report on the unemployment rate will lead the evening news increases from 29% to 58% as a result of a presidential comment. Similarly, a presidential comment about the inflation rate increases both the probability that it will be a lead story (from 16% to 36%) and the length of the story (from 95 to 233 seconds).

The regression results for the coverage of these economic statistics during off-year congressional election years are presented in Table 5. The coverage of the economy during congressional elections seems to share some of the characteristics of the coverage in both nonelection years and presidential election years.

With one exception, the amount of coverage does not depend on whether the economic statistic is deteriorating. In this case, the coverage is similar to that in presidential election years. In general, the networks do not give greater coverage to bad economic news in election years.

In contrast, the impact of presidential comments closely resembles that in nonelection years. Once again, presidential comments influence the length of reports on the unemployment rate. The other coefficients are statistically insignificant.

Finally, the coefficients on CHG and LEVEL are slightly different from those found for the other two periods. The only change which occurs across both measures of coverage is that changes in the inflation rate have less impact on coverage than in presidential years.

Conclusion

In nonelection years, the networks give greater coverage to bad economic news. This pattern is remarkably stable. Using two different measures of coverage and three different economic statistics, the pattern emerges in all six cases. Also, the differences are not trivial. For the sample used in this paper, reports on the unemployment rate, the inflation rate as measured by the Consumer Price Index, and the growth rate of real GNP were approximately 34% longer and twice as likely to lead the evening newscasts when these statistics were deteriorating holding other factors constant.

We are now left with the difficult question of whether this additional coverage is appropriate. There are two alternative interpretations of the results presented in this paper. First, one could argue that the additional coverage given to bad economic news is appropriate because bad economic news is more important or newsworthy than good

Table 5. Regression Results: Coverage of the Economy During Off-Year Congressional Elections

	OLS Coefficients for Number of Seconds Coverage			Logit Derivatives for Lead Story		
	UR	CPI	GNP	UR	CPI	GNP
Intercept	−32.41	176.42**np	133.55**	−0.267	−0.038	−0.038
	(−0.63)	(4.75)	(2.89)	(−1.00)	(−0.20)	(−0.09)
CHG	136.25	−3.34np	−0.19	1.020**p	0.050**np	0.058
	(1.43)	(−0.96)	(−0.03)	(2.09)	(2.46)	(1.09)
LEVEL	28.58**p	4.32	6.34**np	0.038	0.009	0.033
	(4.24)	(1.53)	(2.04)	(1.03)	(0.55)	(1.25)
BAD	41.97*p	−13.85p	−3.67	0.002	0.026	0.107
	(1.65)	(−0.69)	(−0.15)	(0.02)	(0.23)	(0.49)
NOCHG	9.23	—a	—a	0.035	—a	—a
	(0.21)			(0.15)		
RIVAL	−16.06**	−7.87**	−7.55	−0.100**	−0.080**	−0.114*
	(−2.67)	(−2.49)	(−1.43)	(−2.74)	(−3.31)	(−1.92)
COMMENT	98.61**p	−21.81p	—b	0.093	−0.215p	—b
	(2.88)	(−0.54)		(0.55)	(−0.87)	

NOTE: The t statistic for the hypothesis that the coefficient equals 0 is shown in parentheses.
[a] Due to the volatility of the inflation rate and the growth rate of real GNP, NOCHG is never equal to 1 for either of these statistics.
[b] None of the presidents commented on GNP during any of the off-year congressional elections.
[n] Significantly different from the corresponding coefficient in nonelection years at $p < .10$, two-tailed test.
[p] Significantly different from the corresponding coefficient in presidential election years at $p < .10$, two-tailed test.
* $p < .10$, two-tailed test. ** $p < .05$, two-tailed test.

economic news. Presumably, network journalists want to describe what the statistics tell us about the current condition of the economy. In this case, it is not clear why bad economic news should be more important than good economic news. However, they also want to describe what the changes measured by the statistics mean for individuals within the economy. In this case, bad economic news may be more newsworthy than good economic news. This assumes that individuals suffer more from bad economic events than they benefit from good economic events. If this is true, viewers may also be inherently more interested in bad economic news.

Alternatively, one could argue that the additional coverage is evidence that the networks overemphasize bad economic news. If so, this coverage could affect the economy. There is already strong evidence that "television news clearly and decisively influences the priorities that people attach to various national problems, and the considerations they take into account as they evaluate political leaders or choose between candidates for political office" (Kinder and Iyengar, 1987: 117). If the networks overemphasize bad economic news, this coverage could potentially cause individuals to acquire a distorted view of the condition of the economy. These misperceptions could directly alter their economic behavior. At the very least, it could be used in judging the performance of political leaders. In response, political leaders might adopt inappropriate policies since "the government must respond to the picture that is in the public mind, even if that picture is unrealistic" (Stein, 1975:41).

The pattern of coverage given to bad and good economic news changes during election years. With two exceptions, network journalists do not give bad economic news more coverage during election years. This evidence is consistent with Robinson and Sheehan's argument that network journalists are more careful to produce balanced reports during election campaigns. Alternatively, this change may instead reflect the relative difficulty of interpreting and communicating the significance of good economic news in these two periods. The political significance of good economic news is very apparent during an election campaign. In contrast, the economic significance of good economic news in a nonelection year may be more unclear to reporters and/or difficult to communicate to viewers. As a result, reporters may find it easier to build stories around good economic news during election years than nonelection years.

This increase in the relative coverage given to good economic news controls for the separate impact of presidential comments, which are very powerful in shaping the amount of coverage that the networks give to these statistics, particularly during presidential election cam-

paigns. This ability to influence the amount of coverage, however, does not ensure that the coverage is favorable:

> In an age of network journalism, the president may determine, more than ever, what the newshole is. But presidents do not do nearly so well at determining news quality. The networks have made it very hard to control tone. (Robinson and Sheehan, 1983:204)

It is hard to imagine, however, that this ability to influence the amount of coverage does not ultimately benefit the president. For example, Kinder and Iyengar present evidence that television news "primes" viewers to evaluate presidents according to the issues which receive more coverage. As a result, if the president wants to be evaluated on the basis of the success of his economic policies, he can indirectly "prime" voters by repeatedly making comments about the economy.

The evidence that television news plays a powerful role in shaping public opinion requires that we examine the "thorny question" of how faithfully their coverage reflects reality. This is a difficult question because it ultimately rests on value judgments concerning the role of the networks, the definition of "faithful" coverage, and even what is meant by reality. Nevertheless, it is possible to collect empirical evidence on the decisions made by the networks' journalists concerning the amount of coverage given to different issues. For example, the results presented in this paper raise the possibility that the networks are excessively negative in their coverage of the economy during nonelection years. This is a topic that deserves further research and discussion.

Appendix

The length of network reports (TIME) on the unemployment rate, the inflation rate as measured by the CPI, and the growth rate of real GNP are assumed to be determined by

$$\begin{aligned} \text{TIME} = {} & \alpha_0 + \alpha_1 \text{CHG} + \alpha_2 \text{LEVEL} + \alpha_3 \text{BAD} + \alpha_4 \text{RIVAL} + \alpha_5 \text{COMMENT} \\ & + \alpha_6 \text{PRES} + \alpha_7 \text{P*CHG} + \alpha_8 \text{P*LEVEL} + \alpha_9 \text{P*BAD} + \alpha_{10} \text{P*RIVAL} \\ & + \alpha_{11} \text{P*COMMENT} + \alpha_{12} \text{CONG} + \alpha_{13} \text{C*CHG} + \alpha_{14} \text{C*LEVEL} \\ & + \alpha_{15} \text{C*BAD} + \alpha_{16} \text{C*RIVAL} + \alpha_{17} \text{C*COMMENT} + \epsilon. \end{aligned} \tag{1}$$

The dependent variable, TIME, is the number of seconds of coverage given to the economic statistic. The independent variables are the absolute value of the change in the economic statistic (CHG), the level of the statistic (LEVEL), a dummy variable for whether the statistic is deteriorating (BAD), the length of the other major story of the day (RIVAL), a dummy variable for whether the president comments on the economic statistic (COMMENT), dummy variables for

whether it is a presidential or congressional election year (PRES, CONG), and a full set of interaction terms between PRES, CONG, and the other independent variables (P*CHG, P*LEVEL, P*BAD, P*RIVAL, P*COMMENT, C*CHG, C*LEVEL, C*BAD, C*RIVAL, and C*COMMENT). The error term, ϵ, is assumed to have a mean of 0.

In nonelection years, the expected length of these reports is given by

$$E[\text{TIME}|\text{PRES} = 0, \text{CONG} = 0] = \alpha_0 + \alpha_1 \text{CHG} + \alpha_2 \text{LEVEL} + \alpha_3 \text{BAD} + \alpha_4 \text{RIVAL} + \alpha_5 \text{COMMENT}. \quad (2)$$

The estimates of the α's are presented in Table 3. The remaining parameters in equation (1) tell us how the coverage of these economic statistics change during election years. In particular, the expected length of these reports in presidential election years is given by

$$E[\text{TIME}|\text{PRES} = 1] = \beta_0 + \beta_1 \text{CHG} + \beta_2 \text{LEVEL} + \beta_3 \text{BAD} + \beta_4 \text{RIVAL} + \beta_5 \text{COMMENT}, \quad (3)$$

where $\beta_k = \alpha_k + \alpha_{k+6}$ for $k = 0, \ldots, 5$. For example, the coefficient on BAD in the presidential election year equation, β_3, equals the corresponding coefficient in the nonelection year equation, α_3, plus α_9. The estimates of the β's are presented in Table 4.

The estimates of the α's and β's are exactly the same as those produced by running separate regressions on the observations for nonelection and presidential election years, respectively. The advantage of this formulation is that it allows us to formally test whether the coverage of the economy changes during election years. For example, the statistical test of whether α_9 equals 0 is equivalent to asking whether BAD has the same effect on coverage in both presidential and nonelection years, i.e., whether $\beta_3 = \alpha_3$. Using an F test, it is also possible to test whether the entire set of presidential election year variables has a statistically significant impact on coverage.

During off-year congressional elections, the expected length of these reports is given by

$$E[\text{TIME}|\text{CONG} = 1] = \gamma_0 + \gamma_1 \text{CHG} + \gamma_2 \text{LEVEL} + \gamma_3 \text{BAD} + \gamma_4 \text{RIVAL} + \gamma_5 \text{COMMENT}, \quad (4)$$

where $\gamma_k = \alpha_k + \alpha_{k+12}$ for $k = 0, \ldots, 5$. The estimates of the γ's are presented in Table 5.

Finally, this approach assumes that the variances of the disturbance terms are equal across the three subsamples (nonelection, presidential, and congressional election years). This assumption can be tested. For example, we can test whether the variance of the disturbance term for the coverage of unemployment is the same in nonelection and presidential election years. In all nine cases (three statistics and three subsamples), we accept the null hypothesis at the 5% level of significance. In only one case was the null hypothesis rejected at the 10% level of significance. Therefore, the evidence strongly supports the use of this model to test whether the coverage of the economy changes during election years (for a more detailed discussion of this type of model, see Kmenta, 1986:468–471).

A second measure of coverage is whether or not the report on the economic

statistic leads an evening news program. In this case, the probability (P) that the economic report will be the lead story is estimated using the following cumulative logistic function:

$$P = E[\text{LEAD}|Z] = e^Z/(1 + e^Z), \tag{5}$$

where

$$\begin{aligned} Z = {} & \delta_0 + \delta_1 \text{ CHG} + \delta_2 \text{ LEVEL} + \delta_3 \text{ BAD} + \delta_4 \text{ RIVAL} + \delta_5 \text{ COMMENT} \\ & + \delta_6 \text{ PRES} + \delta_7 \text{ P*CHG} + \delta_8 \text{ P*LEVEL} + \delta_9 \text{ P*BAD} + \delta_{10} \text{ P*RIVAL} \\ & + \delta_{11} \text{ P*COMMENT} + \delta_{12} \text{ CONG} + \delta_{13} \text{ C*CHG} + \delta_{14} \text{ C*LEVEL} \\ & + \delta_{15} \text{ C*BAD} + \delta_{16} \text{ C*RIVAL} + \delta_{17} \text{ C*COMMENT} + \mu. \end{aligned} \tag{6}$$

The variable LEAD is a qualitative dependent variable that equals 1 if the report on the economic statistic leads the evening news program; otherwise, LEAD equals 0. The definitions of the independent variables are the same as those used earlier, and μ is an error term with a zero mean. This model is very similar to the previous model. In particular, it allows us to formally test the impact of elections on the probability that reports on economic statistics will be lead stories.

Since this probability is a nonlinear function of the independent variables, the estimated coefficients cannot be interpreted as the probability changes associated with a one-unit increase in the corresponding independent variable. In other words, the estimated coefficients cannot be given the same interpretation as ordinary least squares coefficients. These changes, however, can be estimated using the estimated coefficients of the logit model and specific values of the independent variables. These probability changes are given by

$$\partial P/\partial x_i = [e^Z/(1 + e^Z)^2]\delta_i, \tag{7}$$

where x_i refers to the ith independent variables (for a more detailed discussion of the logit model, see Kmenta, 1986:550–553).

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