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ABSTRACT

To explore the theoretical relation of newspaper competition to overall news quality, a study used a model of newspaper competition based on economic assumptions to investigate whether the product quality of a newspaper is positively related to the financial expenditure on it, and whether newspaper circulation is positively related to quality. Data was reanalyzed from a content analysis of 114 newspapers (including 72 monopoly, 21 competitive, and 21 joint-operating-agreement newspapers) from a constructed week in November 1984. Findings showed statistically significant support for the relationship between financial commitment and quality, though not as strong as expected. Support for the relationship between news quality and circulation was strong, with quality accounting for a fairly large proportion of variance in circulation. These results suggest that competition makes better newspapers through financial commitment and that better newspapers sell more copies as a general rule. (One table of data and 32 endnotes are included.) (SR)

FINANCIAL COMMITMENT, NEWSPAPER QUALITY AND CIRCULATION: TESTING AN ECONOMIC MODEL OF DIRECT NEWSPAPER COMPETITION

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Direct competition between newspapers in the United States has become a matter of survival. The goal is to win enough readers to get a disproportionate share of advertisers.[1]

Unlike other forms of business competition, however, competition among newspapers is more likely to focus on content than on price as the means to achieve circulation leadership. The seemingly inevitable consequences of this competition for advertising among news organizations has been well documented. The elimination of newspaper competition in all but a small number of cities attests to the power of that process.[2]

What has not been so well explored is the theoretical relation of newspaper competition to overall news quality.[3] More specifically, little attempt has been made to adapt economic models of competition to predicting news organization behavior to get the readers needed to win the advertising. The goal of this paper is to help fill this research gap.

An available model of newspaper competition based on economic assumptions has been developed.[4] This model is used here to derive testable hypotheses relating intensity of competition to indicators of news commodity quality and quality to circulation.

Utility of an Modified Economic Approach to News Content

Assumptions about price competition and the nature of commodities limit the use of standard economic theory for predicting news organization behavior. First, price -- which is usually the same for newspaper competitors in any one market -- is not the dominant consideration used by consumers to make purchase choices. Second, pure competitive economic theory assumes that commodities are almost identical so that the nature of the commodity is not the major decision criterion for consumers. While newspapers do have common characteristics, newspapers show greater variation than other kinds of commodities. This variation in product may more often than price become the basis for consumer selection of newspapers.

Past research has mainly focused on the impact of newspaper monopolies on content, with varying findings and implications drawn from those findings.[5] One problem with much of this research is that comparisons often have been made categorically -- monopoly versus competitive markets -- while variations in the intensity of competition may best explain variations in the final news product. Indeed, studies that have defined competition as a matter of degree have found differences in possible impact on news content.[6]

One way in which competitive pressures may translate into variations in news content is through what Litman and Bridges have called the "financial commitment theory." [7] Basically, newspaper managers in intensely competitive environments decide to use financial resources to strengthen the news editorial quality of their product. Litman and Bridges found that competitive newspapers tended to carry more wire services and have more space devoted to their newshole. Lacy in a content analysis of 114 newspapers found that as intensity of competition increased, the number of wire services carried increased and the number of reporters used to fill a given amount of space increased.[8] Kenney and Lacy subsequently related competitive intensity to use of graphics and color on front pages, and found a positive relationship between competitive intensity to percentage of the front page given to color and graphics.[9]

The theory of monopolistic competition[10] applied to newspapers would explain these findings.[11] Managers spend money to differentiate their product from that of competitors in order to gain new readers while retaining the old ones. This would explain why earlier studies that looked at content distribution among geographic and news categories tended to show few differences. But increased expenditure on reporters, news services and visuals differentiates news commodities to increase their value to readers of the competition as well as to those who don't take any newspaper. This allows the newspapers to diferentiate themselves while remaining substitutes.

If this kind of differentiation is indeed the means by which financial commitment translates into news quality, a number of prescriptive implications become clear. Previous research by Danielson and Adams, for instance, found that completeness of coverage of the 1960 presidential election was related to staff size and number of wire services carried.[12] A negative relationship has been found between the number of stories reporters produced and source use in stories.[13] Another study found that the fairness of stories was positively related to the intensity of intercity competition among newspapers.[14]

Competitive Intensity, Financial Commitment, and Reader Choice

Intensity of competition is the mechanism driving the process of newspaper differentiation described above. Managers of monopoly newspapers obviously have no incentive to invest heavily in their product because advertisers and readers have no close substitutes. But not so obviously, even in technically competitive markets, one newspaper may so outdistance a competitor in terms of circulation and advertising that managers do not need to take account of that competition. But should competition intensify to a point where circulation shares for two newspapers approach equality, managers from both news organizations begin to augment the quality of their news products in relation to what the competition offers.

Financial commitment by managers to the news-editorial product is, therefore, the key intervening variable relating competition intensity to news content changes. The discretion managers possess in the allocation of funds is a function of several factors. The resources available to a newspaper organization can affect the financial commitment. The sheer ideological commitment of publishers or managers to a quality editorial product or simply to the continued survival of the organization may also have an impact of subsequent decisions.

But other things being equal, the competitive nature of the market obviously will have a major impact on decisions regarding the news-editorial product. For instance, the discretion of news organization managers will be broadest in monopoly markets. But that discretion narrows dramatically as competitive intensity forces decisions that more directly respond to perceived threats to the news organization's survival. Price manipulation for advertising and circulation can have a competitive impact in some markets, especially those where a large group newspaper competes with a smaller independent.[15] However, possible antitrust implications and the tendency of competitors to match price cuts limit this strategy. So even if price competition intensifies, it will usally be connected with content competition.

The choice of how to expend financial resources thus narrows to those attributes of newspaper quality that might directly attract more readers and indirectly improve the advertising attractiveness of the newspaper commodity. For example, managers might decide to expend financial resources on color, on syndicated features, on expanded news coverage, or on comics. If that decision is to expand news coverage, managers might opt to increase the news hole, to hire more reporters to increase the number of local stories, or to give reporters more discretion to develop interpretive or investigative pieces. However, while the connection between intensity of competition and financial commitment has been found,[16] the link between financial commitment and news quality has not been illuminated.

Finally, given a positive relationship between financial commitment and news quality, will readers change their behavior in response to these product commodity changes? Most economic models assume that consumers are rational in their buying choices, and this assumption is also made for newspaper readers. Such readers seek to optimize their needs and wants in the newspapers they buy, and are capable of assessing news products and making decisions about which provides the most satisfaction. Product differences are thus perceived by readers, and this perception, rather than subscription price, is the dominant basis for commodity choice.

Of course, the choices readers make flow from the choices of the managers of the competitive newspapers, possibly producing a "quality spiral." If one newspaper differentiates so that its quality exceeds that of the competitor, readers might "switch." Competition would intensify if such readers moved from the circulation leader to a circulation trailer, possibly inspiring a new round of commodity differentiation in both newspapers. If readers moved to the circulation leader in enough numbers, competitive intensity would correspondingly lessen, dampening differentiation unless the circulation trailer made greater efforts. In especially competitive markets, readers might even opt to subscribe to both competitors, thereby raising total circulation to some extent. But even if readers retained their original loyalties, they may come to expect more in terms of quality from both competitors, thereby further reducing -- at least for a time --the financial discretion of news organization managers.

While the above discussion plausibly relates competition to financial commitment and to circulation, it is important to test the two basic propositions from which the discussion procedes. Specifically, two propositions explicitly stated in the Lacy model are that the product quality of a media product is directly related to financial expenditure on the product, and that the circulation of that product is positively related to its quality. Applied to newspaper markets, these propositions can be restated as the following hypotheses:

1. The product quality of a newspaper is positively related to the financial expenditure on it.

While there is not necessarily a perfect correlation between quality of product and financial expenditure, with all other things equal, a media news firm that spends more on its product will produce a higher quality product.

2. Newspaper circulation is positively related to quality.

Readers will be more likely to use a news product if it meets the readers' needs and wants. Obviously not all readers may know an alternate product exists that might serve them better. But over the long run a sufficiently large number of readers will know this to make a difference.

METHOD

These hypotheses were tested by reanalyzing data from a content analysis of 114 newspapers for a constructed week from November 1984.[17] This newspaper sample was stratified for ownership and competition and included 72 monopoly, 21 competitive and 21 joint operating agreement newspapers.[18]

The news sections were content analyzed for such data as source of stories, geographic location of story subject and type of coverage.[19] All graphics were specified and coded. In addition, number of wire services and news syndicates was included.[20] Space devoted to different types of content was measured in total square inches as well as in terms of proportion of news section.

Data on circulation for each newspaper and city population were taken from published sources.[21] The number of staff writers and reporters was recorded from bylines.[22]

All coders coded the same copy of two newspapers at two different times in a coder reliability test. Agreement for categories in the news section coding checks ranged from 74.8 percent to 91.4 percent.[23]

The present study focuses on the relation of financial commitment to news quality and circulation. Financial commitment was measured by the ratio of the number of square inches of news copy produced by a newspaper to the number of that newspaper's staff reporters. This operationalization is a proxy measure, since actual financial data from each news organization was not publicly available. Still, this measure gets at the central notion of financial commitment -- how news managers actually decide to expend scarce resources. A commitment to expend resources on gathering and analyzing news suggests a professional commitment to improving the news sections. At the same, operationalizing this commitment as a ratio of news space to reporters available to fill it "corrects" for the variable news hole of each newspaper. The more reporters a news organization hires to fill its available space, the more a financial commitment to quality can be assumed.[24]

Obviously too, however, this assumption requires empirical verification, and a measure of quality is constructed to accomplish this. The quality index developed here is based in part on a survey of 746 daily newspaper editors conducted by Leo Bogart in 1977.[25] Specifically, seven of the qualities these editors considered important were operationalized in a content analysis coding protocol that was then used to analyze data from the newspaper sample. The quality index constructed for this study included the three highest ranked characteristics in the Bogart study. When the exact measure was not available, a close surrogate was used.

Bogart's measures of quality used here included high ratio of staff-written copy to wire service and feature service copy; total amount of non-advertising copy; high ratio of news interpretations and backgrounders to spot news reports,; high ratio of illustrations to text; number of wire services carried;

length of average front page news story; and high ratio of non-advertising content to advertising.

Four of these measures were modified for this study. The total amount of non-advertising and ratio of non-advertising content to advertising measures were computed just for the news sections. The length measure was for all stories in the news section rather than just for front page news stories. The ratio of news interpretation to spot news was operationalized in this study as the ratio of series, news analysis and interpretative stories to hard news copy.

The quality index was calculated using z-scores, since the characteristics described above varied in their measurement units. Thus, all content measures were in common units.

In the original survey, the editors used a scale of +3 to -3 to evaluate the contribution of the various content measures to quality.[26] The average ratings by the editors were used to weight the measures in the news quality index. The three highest ranked measures were given weights of 1.5, and the other four measures were weighted at 1. Comparisons of this index with those with other weights resulted in correlation coefficients in the .90 to .95 range.[27]

Of course, quality, like beauty, may be something undefinable in the mind of the beholder, and validity questions must be addressed. Face and concurrent validity issues for the index defined above can be examined directly. Tests of the study hypothesis should also help establish predictive validity.

Face validity asks the question of whether an index consists of items that seem to most observers to support the central construct. Virtually all the items used for this index have at least a broad consensus among news editors as being top indicators of journalistic quality. These editors presumably are the most qualified to know it when they see it.

But each item in the quality index can also be justified. Commitment to locally produced copy over wire service offerings suggests a concern for local audiences, which is the basis of most American newspapers.[28] The more non-advertising copy and the larger the ratio of non-advertising to advertising space suggest more potential exposure of readers to news space and thereby the greater the possibility of informing readers. The more interpretative and in-depth stories, the better readers might be assumed to be informed because such copy contains more context. The more graphics used, to a point, the easier such information could be digested by readers. The more wire services carried, the more information and perspectives from the world at large editors will have. It can be assumed that more perspectives will be offered to readers. The longer the stories, the more information they can be assumed to contain.

Concurrent validity is established when the results of some scale make sense in terms of what other sources of information also suggest. When this study's index was used to rank order individual newspapers and the groups of which they are part, general "standings" are similar to those usually ascribed to these organizations. For instance, the Los Angeles Times is at the top of the index, along with the Washington Post. When the index is analyzed by group, the Times-Mirror Co. is at the top, while Thomson is at the bottom.[29]

Finally, this study will probe the predictive validity of this index by determining its relation to financial commitment and circulation. Stone and Becker in separate studies found relationships between their measures of newspaper quality and newspaper circulation.[30] Both these studies relied on subjective expert evaluations of quality. The present study uses expert evaluations to help operationalize a more objectively verifyable assessment based on content analysis. While those two studies and the present one thus operationalize quality somewhat differently, a positive link between quality and circulation should be similar for all three.

Blankenburg has directly probed the relationship of financial commitment and circulation. Using Inland Press Association data, he found support for the connection between financial commitment and circulation.[31] He reported a .921 correlation between news-editorial expenditures and circulation. He pointed out, however, that there was no control for market size and that the causal direction was not clear. The present study deals with the question of causal direction by looking at the relation of financial commitment to news quality and the relation of news quality to circulation one year later.

Regression analysis was used to ascertain the nature of the relationship between financial commitment, quality and circulation. Two equations were run. The first tested the relationship of financial commitment in 1984 to quality in 1984, controlling for circulation in 1984. The second tested the relationship of 1984 newspaper quality to 1985 circulation, controlling for population size in 1985 in the city where the newspaper was published. The model thus predicts a significant and positive beta weight for the link between financial commitment and quality, and a significant and positive beta weight for the link between quality and circulation.

Data were examined for violations of regression assumptions of distribution. A few outliers were found for the variables. Outliers were defined as cases whose values were more than three standard deviations from the mean. The values for outliers were reassigned to that of three standard deviations.

The linearity of variables was examined by looking at scatterplots. While the distributions were not perfectly linear, they were close enough to continue analysis. The linearity of relationships among the variables was examined by using the natural log transformations in regression equations. In all cases, log transformations failed to increase the r-square for the equation, compared to regression using the original data. Since the r-square is an indication of linearity, the log regressions showed no more linearity than the original regressions.

In additiion, the z-scores for predicted values were plotted against the z-scores for the residuals. Although the distribution was not perfectly normal, no consistent pattern of variation from normality was found.

RESULTS

Hypothesis 1 predicted a direct, positive relationship between financial expenditure and product quality. Results are shown in Table 1. The beta weight for that relationship was .208, significant at the $p = .01$ level. Average daily circulation also was significantly related to the news quality index at the $p = .001$ level. The two independent variables accounted for 45 percent of the total variance in news quality, with 33 percent uniquely related to circulation, 6 percent uniquely related to financial commitment, and 6 percent shared by the two independent variables.

The second hypothesis predicted a positive relationship between news quality and newspaper circulation. The beta weight for that equation, shown in Table 1, was .373, significant at the $p = .001$ level. The city population in 1985 was significantly related to circulation in 1985 at the $p = .001$ level. The beta weight for this relationship was .542.

About 64 percent of the variance in the 1985 circulation was accounted for by the two independent variables. About 22 percent of the total variance in 1985 circulation was related uniquely with news quality, and about 37 percent of total variance was related uniquely with city population. The remaining 5 percent was shared by the two independent variables.

CONCLUSIONS

Support for both hypotheses provides overall support for the axiomatic model developed by Lacy. These two hypotheses are two of the three assumptions for the development of the extended model. Support for the relationship between financial commitment and quality was statistically significant, but not as strong as expected. This may be due to a weak relationship in the population or to the limited measures of financial commitment and news quality used here. A better test of the hypotheses would be one using actual bedget data as a measure of financial commitment and a news quality index using all 21 content measures mentioned in Bogart's 1977 survey of edotirs, on which this index was based.

Support for the relationship between news quality and circulation was strong, with quality accounting for a fairly large proportion of variance in circulation. Again, a better measure of quality might even increase the strength of the relationship found here.

Results concerning the second hypothesis have even more significant implications for the newspaper industry. A basic argument within the industry concerns the role quality, as defined journalistically, plays in the profitability of a newspaper. Udell called this the "profit controversy."[32] The question revolves around whether good journalism is good business. This study suggests that it is, and is consistent with the earlier studies of Stone et al. and Becker et al. that used panels as judges of quality.

The consistency of the present research with these two earlier studies also suggests that content-based measures of quality can be useful in evaluating newspapers and in predicting circulation. Future research should continue to develop and refine the quality index used here. This development should extend to additional measures of quality found by Bogart, but it should also include such traditional measures of journalistic quality as fairness, completeness and balance.

The concept and measurement of quality also needs elaboration from the point of view of the consumer. Journalism in America is local and local needs and wants will certainly vary. While an overall measure of quality might involve the measures mentioned here, specific news content serving specific needs and wants may vary from area to area.

Future research should continue to develop and refine the concept of financial commitment used in this study. Obviously, the simple hiring of more reporters may not guarantee quality reporting, although it increases the possibilities of such. Financial commitment must also have something to do with recruiting, training and rewarding of reporters.

The application of the model tested here to intracity newspaper competition might prove interesting. This area is certainly a vital area of the newspaper industry and one of concern for people engaged in its battles.

Results of this study also reduce the "comfort" provided by some past reasearch showing little difference between monopoly and competitive news organizations. Those who argue that the journalistic quality of newspapers has little impact on circulation should also take note. This study suggests that competition makes better newspapers through financial commitment and that better newspapers sell more copies, as a general rule. With the rapid disappearance of direct competition and the continued concerns over newspaper circulation and penetration, results of this study warrant further investigation.

ENDNOTES

1. See Barry Litman, "Microeconomic Foundations," Press Concentration and Monopoly, Robert G. Picard, James P. Winter. Maxwell E. McCombs, and Stephen Lacy, eds. (Norwood, N.J.: Ablex Publishing, 1988), pp. 3-34.

2. For statistical presentations of declining direct newspaper competition see Raymond B. Nixon, "Trends in U. S. Newspaper Ownership: Concentration with Competition," Gazette, 14:181-193 (1968), and John C. Busterna, "Trends in Daily Newspaper Ownership," Journalism Quarterly, 65:831-838 (Winter 1988).

3. Stephen Lacy, "A Model of Demand for News: Understanding the Impact of Competition on Daily Newspaper Content," Journalism Quarterly, in press.

4. Ibid.

5. For examples see: Ralph O. Nafzinger and Thomas F. Barnhart, "Red Wing and Its Daily Newspapers," No. 9 in the Community Basis for Postwar Planning, Minneapolis, Minn: University of Minnesota Press, May 1946; Stanley K. Bigman, "Rivals in Conformity: A Study of Two Competing Dailies," Journalism Quarterly, 25:127-31 (Spring 1948), Wesley F. Willoughby, "Are Two Competing Dailies Better than One?" Journalism Quarterly, 32:197-204 (Spring 1955); Gerard H. Borstel, "Ownership, Competition and Comment in 20 Small Dailies," Journalism Quarterly, 33:220-22 (Spring 1956); Raymond B. Nixon and Robert L. Jones, "The Content of Competitive Vs. Non-Competitive Newspapers," Journalism Quarterly, 33:299-314 (Summer 1956); Byrant Kearl, "The Effects of Newspaper

Competition on Press Service Resources," Journalism Quarterly, 35:56-64, 89 (Winter 1958); and David H. weaver and L. E. Mullins, "Content and Format Characteristics of Competing Daily Newspapers," Journalism Quarterly, 52:257-64 (Summer 1975).

6. Galen Rarick and Barrie Hartman, "The Effects of Competition on One Daily Newspaper's Content," Journalism Quarterly, 43:459-63 (Autumn 1966), and Stephen Lacy, "The Effects of Intracity Competition on Daily Newspaper Content," Journalism Quarterly, 64:281-90 (Summer-Autumn 1987).

7. Barry R. Litman and Janet Bridges, "An Economic Analysis of Daily Newspaper Performance," Newspaper Research Journal, Spring 1986, pp. 9-26.

8. Lacy, "The Effects of Intracity Competition on Daily Newspaper Content," op. cit.

9. Keith Kenney and Stephen Lacy, "Economic Forces Behind Newspapers' Increasing Use of Color and Graphics," Newspaper Research Journal, Spring 1987, pp.33-41.

10. Edward H. Chamberlin, The Theory of Monopolistic Competition, 8th ed. (Cambridge: Harvard University Press, 1962).

11. W. M. Corden, "The Maximisation of Profit by a Newspaper," The Review of Economic Studies, 20:181-90 (1952-53); W. B. Reddaway, "The Economics of Newspapers," The Economic Journal, 73:201-18 (1963); and James N. Rosse, "Daily Newspapers, Monopolistic Competition, and Economies of Scale," American Economic Review, 57:522-33 (May 1967).

12. Wayne A. Danielson and John B. Adams, "Completeness of Press Coverage of the 1960 Campaign," Journalism Quarterly, 38:441-52 (Autumn 1961).

13. Frederick Fico, "A Comparison of Legislative Sources in Newspaper and Wire Service Stories," Newspaper Research Journal, Spring 1984, pp. 35-43; Frederick Fico, "The Replication of Findings on Newspaper and Wire Service Source Use in Two Statehouses," Newspaper Research Journal, Fall 1985, pp. 74-80; and Frederick Fico, "Influence of Perceived Editorial Concern and Role Self-Concept on Source Reliance of Reporters in Two Statehouses," Journalism Quarterly, 63:332-30 (Summer 1986).

14. Stephen Lacy, Frederick Fico and Todd Simon, "The Relationship Among Economic, Newsroom and Content Variables: A Path Model," paper presented to the Association for Education in Journalism and Mass Communication, Portland, July 1988.

15. John C. Busterna, "Commentary: Competitive Effects of Newspaper Chain "Deep Pockets," Newspaper Research Journal, Fall 1988, pp. 61-72.

16. Litman and Bridges; Lacy; and Kenney and Lacy, *op. cit*.

17. The constructed week included November 10, 11, 13, 15 19, 23 and 28.

18. The newspapers were randomly selected from strata classified by ownership (independent, privately owned group and publicly owned group) and by type of market (monopoly, separately owned and operated newspapers and joint operating agreement). Two newspapers published by the same company in the same town were defined as monopoly because their budgeting decisions were probably related. The purpose of this stratified sampling was to insure adequate representation to examine differences among these types of newspapers.

19. The operational definitions of all the categories and a more extensive explanation of the content analysis are available from the authors.

20. The number of wire services was taken from 1985 Editor & Publisher International Yearbook (New York: Editor & Publisher Co., 1985).

21. 1985 Editor & Publisher International Year Book (New York: Editor & Publisher Co., 1984).

22. While counting bylines would not insure that all reporters on the staff were included, it provides a good estimate of the reporters who participated in producing the newspaper issues that were analyzed. The bias that exists would tend to be an underestimation of staff at larger newspapers and in competitive markets.

23. Agreement in the first news section reliability check was 81 percent for source, 89.4 percent for geographic subject, 74.8 percent for nature of news, and 81.4 percent overall. Agreement for the second news section reliability check was 91.4 percent for source, 82.8 percent for geographic subject, 81.4 percent for nature of news and 85.2 overall.

24. Labor accounts for the vast majority of budgets in newsrooms. This may range as high as 79 percent of the budget. See Conrad Fink, Strategic Newspaper Management (New York: Random House, 1988) pp. 165-166.

25. Leo Bogart, Press and Public (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1981), pp. 195-201.

26. Personal communication with Leo Bogart, 1988.

27. The authors experimented with several different levels

and combinations of weights for the measures. The weighting system used was adopted because it gave more weight to the top three measures listed by the editors and it worked best for separating newspaper groups. The average rating for various group newspapers were compared. The index used created the overall greatest differences among groups. All indexes were highly correlated.

28. Bogart, <u>Press and Public</u>, <u>op</u>. <u>cit</u>., pp. 240-44.

29. A ranking of groups was based on the average for all newspapers in the group that were also in the sample. Six groups had three or more newspapers included. The top group was Times-Mirror, Co. and the bottom group was Thomson. See Stephen Lacy and Frederick Fico. "Newspaper Quality and Ownership," Rating the Groups," paper presented to the Midwest Association for Public Opinion Research, Chicago, November 1988.

30. Lee Becker, Randy Beam, and John Russial, "Correlates of Daily Newspaper Performance in New England," <u>Journalism Quarterly</u>, 55:100-08 (Spring 1978), and Gerald C. Stone, Donna B. Stone and Edgar P. Trotter, "Newspaper Quality's Relation to Circulation," <u>Newspaper Research Journal</u>, Spring 1981, pp. 16-24. Becker found a correlation between quality and circulation, but used circulation as the independent variables. Stone found a strong relationship using quality as the independent variable.

31. William B. Blankenburg, "Newspaper Scale & Newspaper Expenditures," <u>Newspaper Research Journal</u>, Winter 1989, pp. 97-103.

32. Jon G. Udell, <u>The Economics of the American Newspaper</u> (New York: Hastings House, 1978).

TABLE 1

Regressions Testing Relationship Between Financial Commitment and News Quality and between News Quality and Circulation

	Dependent Variables	
	News Quality Index All Markets	1985 Circ. All Markets
Independent Variables (Beta Weights)		
Financial Commitment[a] 1984	.208*	N/A
Average Daily Circ. 1984	.572**	N/A
News Quality Index[b] 1984	N/A	.373**
City Population 1985	N/A	.542**
Adjusted R-square	.453**	.538**
Degrees of Freedom	2,105	2,104

* Significant at the $p < .01$ level.
** Significant at the $p < .001$ level.

[a] Financial commitment was measured by the number of reporters for a given amount of space in the news section.

[b] The news quality index was based on a survey of 746 newspaper editors in 1977 by Leo Bogart. The index used z-scores for seven content measures. These were: Total amount of non-advertising content in the news section, the ratio of non-advertising to advertisng content in the news section, the length of all stories in the news section, the ratio of in-depth copy to hard news copy, the number of wire services carried, ratio of staff written to wire copy in the news sections, the ratio of visual content to copy.