Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In The Matter Of:

Access Charge Reform	)	CC Docket 96-262
Price Cap Performance Review For	)	
	)	
Local Exchange Companies	)	CC Docket 94-l
	)	
Notice Of Proposed Rulemaking,	)	FCC 96-488
Third Report And Order. And	)	
Notice Of Inquiry	)	

STATEMENT OF DR. RANDALL S. BILLINGSLEY
FEBRUARY 14, 1997

I. INTRODUCTION

Q. Please state your name, occupation. and business address.

A. My name is Randall S. Billingsley. 1 hold the position of Associate Professor of Finance at Virginia Polytechnic Institute and State University. 1 also act as a financial consultant in the areas of cost of capital analysis. financial security analysis. and valuation. More details on my qualifications may be found in Billingsley Exhibit RSB- 1 . My business address is: Department Of Finance. Pamplin College of Business, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061-022 I

This statement presents my independent professional opinions and is not presented by me as a representative Of Virginia Polytechnic Institute and State University.

Q. Have you prepared exhibits to accompany this testimony?

A. Yes, I have prepared one exhibit.

II. PURPOSE OF STATEMENT AND SUMMARY OF CONCLUSIONS

Q. What is the purpose of your statement?

A. My purpose is to reply to selected comments filed with the Federal Communications Commission (Commission) in response to The Notice of Proposed Rule Making, Third Report and Order. and Notice Of Inquiry (FCC 96-488, December 24, 1996).

I also discuss the evidence concerning the cost of capital implications of the consistently increasing investment risk of the LECs. Further, I rebut MCI Communications Corporation's (MCI) unsupported recommendation that the Commission reinitialize rates and reduce them to 10 percent and the unsupported request by the General Services Administration (GSA) and the United States Department of Defense (DOD) that the Commission reinitialize rates and reduce the price cap indices. Lastly, I rebut Ms. Patricia D. Kravtin and Dr. Lee I.. Selwyn's affidavit filed on behalf of AT&T Corporation (AT&T) wherein they erroneously contend that the regional Bell holding companies (RBHCs) have been "overearning" relative to the companies constituting the Standard & Poor's 500 Composite Index (S&P 500).

Q. What issues does your rebuttal focus on in addressing MCI's comments?

A. My rebuttal observes that MCI's recommendation that the Commission reinitialize rates and reduce current **rates** to 10% is unsupported by any cost of capital, rate of return, or risk analysis. If MCI's request was implemented by the Commission. the LECs' shareholder return requirements would not be met.

Q. What issues does your rebuttal emphasize concerning the GSA and the DOD's joint recommendation that the Commission reinitialize rates and initiate a proceeding to establish new reference and trigger points for the interstate price cap plan?

A. My rebuttal emphasizes that the GSA/DOD recommendation is unsupported by any meaningful, substantive cost of capital analysis. The GSA/DOD's comments casually and incorrectly observe that recent changes in U.S. treasury bond rates imply that the LECs' capital costs have changed enough to require that authorized rates be changed. However. the GSA and the DOD provide no data or analysis that supports their apparent, albeit implicit, position that the LECs' cost of capital is below the currently authorized level.

Q. What topics do you consider in your rebuttal of the affidavit filed by Ms. Patricia D. Kravtin and Dr. Lee L. Selwyn on behalf of AT&T?

A. My rebuttal shows that Ms. Kravtin and Dr. Selwyn's estimated historical rates of return for the RBHCs are not relevant to assessing the LECs' capital costs or broader economic performance. Their serious conceptual errors include: 1) inappropriate reliance on the RGHCs as a reference group; 2) incorrect focus on accounting rather than market rates of return, and 3) inappropriate use of historical or earned rather than prospective rates of return.

III. CURRENT STATUS OF COMPETITION IN THE TELECOMMUNICATIONS INDUSTRY

A. INTRODUCTION

Q. What is the current status of competition in the telecommunications industry?

A. Competition in the telecommunications industry has increased dramatically in recent years. The sources of that increased competition include a greater threat of new entrants in the industry, a significant increase in the number and strength of existing competitors. a greater threat of substitute telecommunications products and services, more intense rivalry among existing competitors in the industry, and enhanced regulatory risk at both the state and the federal levels. Thus. both actual and potential competition have increased and the business risk of the industry has consequently increased.

Q. Specifically how has competition increased in recent years?

A. The interlata, intralata, and local exchange markets have become much more competitive in recent years. Large businesses have been able to bypass the LECs' private line and access services using fiber optic networks, microwave transmission and very small aperture terminals (VSAT). The growth of competitive access providers (CAPs) such as Metropolitan Fiber Systems (MFS) and the Teleport Communications Group (TCG) has allowed large business customers in major cities to connect with long distance carriers (interexchange carriers, IXCs) without paying an access charge to a LEC.

It is clear that investors believe that major CAPs, IXCs, and cable television (CATV) companies are positioning themselves to compete vigorously for customers in the local exchange market. As such, LECs face heightened potential competition that poses additional risk to their operations and their ability to recoup extensive infrastructure investments. The provision of wireless services such as PCS systems by CAPs. CATV operators. and electric utilities enhances the ability of customers to completely bypass the LECs. Wireless services are becoming a viable consumer alternative to LEC services. These alternatives will only increase the competitiveness of that environment and thus magnify the business risk of LEC operations. This growing risk is increasing the LECs' costs ofraising capital.

Q. Does the investment community believe that the business risk of the telecommunications industry has increased in recent years and is expected to continue increasing in the future, especially due to the passage of the Telecommunications Act of 1996?

A. Yes. The recent passage of the Telecommunications Act and responses to its passage dramatically indicate that business risk has been increasing and will increase even more in the future. The Act. which was signed into law by President

Clinton on February 8, 1996, essentially allows local, long-distance, and cable companies to get into one anothers' businesses. Thus, the traditional barriers that separated these industry sectors are now officially being dropped. While market pressures have been eroding these limits in recent years, the various competitors are now moving forward rapidly. However, open competition brings a significant increase in risk.

The passage of the Telecommunications Act is apparently viewed as risky by investors, competing telecommunications firms, and by the Commission. Indeed, the Commission has recently observed:

> ...[I]ncumbent LECs face potential competition as a result of the Act that they did not face previously. This potential competition could increase the risks facing the incumbent LECs, and thus increase their cost of capital, thus mitigating to some extent the factors suggesting that incumbent LECs' cost of capital has decreased since 1990. (Notice of Proposed Rule Making. Third Report and Order. and Notice of Inquiry. FCC 96-488, December 24, 1996, Page 101. Paragraph 228.)

Thus, investors will require higher rates of return to compensate them for the higher investment risk resulting from the new competitive environment fostered by the implementation of the Telecommunications Act.

IV. REBUTTAL OF MCI'S COMMENTS

Q. On what evidence does MCI base its recommendation that the LECs' rate of return be reduced to 10% (Comments Of MCI Communications Corporation. CC Docket No. 96-2623, et al.. January 29. 1997)?

A. MCI provides no evidence concerning the current level of or recent changes in the capital costs faced by the LECs. It merely argues that "the gap between embedded revenues and economic costs" is large enough in light of "rate of return, productivity, and universal service contributions" to make a reduction in the LECs' authorized rate of return to 10% appropriate (page 26). MCI's conclusions are based on a "black box" argument wherein no concrete evidence is offered concerning the rate of return requirements of the LECs.

V. REBUTTAL OF GSA/DOD COMMENTS

Q. How do the GSA and the DOD justify their joint recommendation that the Commission "...reinitialize LECs access charges on the basis of a newly prescribed rate of return" and reduce price indices (Comments Of The General Services Administration And The United States Department Of Defense, CC Docket No. 96-262, et al., January 29, 1997, page 20)?

A. The GSA and the DOD provide no direct evidence on the LECs' cost of equity. cost of debt. or capital structure. Thus. they provide no empirical evidence on the cost of capital faced by the LECs.

The GSA and the DOD only observe that "in view of the changes in T-bond returns".. they continue..."to recommend that the Commission initiate a proceeding to establish new reference and trigger points for the interstate price cap plan" (comments of the General Services Administration and the United States Department of Defense, Docket No. 96-262, et. al., January 29, 1997. page 20). No statistics are offered to confirm their supposition that there has been a significant change in treasury bond rates nor any evidence on the implications that such a change would have for the LECs' capital costs.

Q. In light of the supposed importance attached to them by the GSA and the DOD, how much have U.S. Treasury bond rates changed lately?

A. At the time of my last analysis of the LECs' capital costs, the average yield on 30-year U.S. Treasury bonds was 6.62% (March of 1996). The average yield on these securities in January of 1997 was 6.82%. Thus, there has not been a significant recent change in "T-bond returns" nor in the capital costs faced by the LECs. The GSA/DOD's position is consequently contradicted by capital market evidence.

Q. Does the fact that U.S. Treasury bond yields have declined over the last few years necessarily imply that the LECs' capital costs have declined by an equal amount?

A" No. There is evidence that the equity market risk premium increases by about 65 basis points for every 100 basis point decline in the interstate on low-risk debt securities. Thus, the cost of capital does not fall in tandem with Treasury bond rates as the GSA and the DOD appear to imply in their comments.

Q. Please summarize your assessment of the empirical basis for the GSA/DOD recommendation.

A. The GSA and the DOD do not offer any data or evidence whatsoever that the LECs' capital costs have declined sufficiently to justify the Commission reinitializing the LECs' access charges or reducing price cap indices. While the basis for their recommendation is vague, it is clear that their recommendation is unsupported by capital market data on return requirements in light of investors' expectations.

VI. REBUTTAL, OF AFFIDAVIT OF MS. PATRICIA D. KRAVTIN AND DR. LEE L. SELWYN ON BEHALF OF AT&T

A. REVIEW OF MS. KRAVTIN AND DR. SELWYN'S INCORRECT CONCLUSIONS

Q. Would you please review the results of Ms. Kravtin and Dr. Selwyn's analysis of the relationship between the average return on equity (ROE) of the incumbent lecs and the average roe of the companies comprising the S&P 500?

A. Yes. Ms. Kravtin and Dr. Selwyn calculated the average ROE for the RBHCs each year from 1990 to 1995 and compared these data with the average ROEs of the companies composing the S&P 500 over the same time period. On the basis of these calculations they erroneously conclude that the RBHCs generally earned more than the companies of the S&P 500.

Q. Please summarize your overall critical evaluation of Ms. Kravtin and Dr. Selwyn's conclusions.

A. Their conclusions are incorrect due to serious conceptual errors that include: 1) inappropriate reliance on the RBHCs as a reference group; 2) incorrect focus on accounting rather than market rates or return, and 3) inappropriate emphasis on historical, earned rather than prospective rates of return.

B. INAPPROPRIATE RELIANCE ON THE RBHCS AS REFERENCE GROUP

Q. What justification do Ms. Kravtin and Dr. Selwyn give for comparing the ROEs earned by the RBHCs from 1990 to 1995 with the ROEs of the companies comprising the S&P 500 over the same time period?

A. No justification or evidence of the usefulness of such a comparison is offered.

Q. Why is it inappropriate to compare the performance of the RBHCs with that of the firms comprising the S&P 500 in assessing capital costs?

A. A necessary condition for the valid comparison of rates of return in cost of capital analysis is that the rates compared be for firms that are comparable in risk. The RBHCs are the parent companies of the LECs. [However, a subsidiary firm need not be comparable in risk to its parent company. Ms. Kravtin and Dr. Selwyn's comparison of the RBHCs' historical ROEs with those of the firms comprising the S&P 500 provides no useful insights into the LECs' cost of capital or into their historical economic performance.

Q. Do Ms. Kravtin and Dr. Selwyn provide any evidence that the RBHCs and the LECs are comparable in risk or any evidence on the riskiness of the firms comprising the S&P 500 relative to the riskiness of the RBHCs or the LECs?

A. No. Ms. Kravtin and Dr. Selwyn do not provide any evidence on the relative riskiness of the LECs, the RBHCs, or the firms comprising the S&P 500. They implicitly assume that the LECs and the RBHCs are comparable in risk and only offer unsubstantiated speculation that "...the S&J' 500 is comprised of companies with much higher risk than utilities such as the RBHCs" (Ccomments of AT&T Corporation. Affidavit of Patricia D. Kravtin and Lee I.. Selwyn, CC Docket 96-262, et al., January 29. 1997. page 25). Further, Ms. Kravtin and Dr. Selwyn provide no evidence that the RBHCs are comparable in risk to the LECs.

C. INCORRECT FOCUS ON ACCOUNTING RATHER THAN MARKET RATES OF RETURN

Q. How relevant is Ms. Kravtin and Dr. Selwyn's use of accounting-based ROEs in the analysis of capital costs?

A. Accounting-based ROEs are irrelevant to determining market-based rates of' return. The ROEs examined by Ms. Kravtin and Dr. Selwyn combine the different accounting conventions used by each of the given firms to determine their income and book value investment for financial accounting purposes. Reported income is commonly adjusted by investors and analysts to gain a realistic sense of the value being created by a firm. Similarly, book values routinely differ from the market value per share of a company's stock. Thus, the return expectations and implied capital cost requirements of investors cannot be measured reliably using ROEs that are based on accounting conventions rather than market-determined values. Indeed. book values are commonly significantly lower than the market values of investments. This implies that Ms. Kravtin and Dr. Selwyn's estimated historical accounting returns significantly overstate the RBHCs' true earnings.

While still irrelevant to evaluating the LECs' capital costs, no clear evidence is provided that the RBHCs had true earnings in excess of the firms of the S&P 500 from 1990 to 1995. Further, no clear inferences can be made between accounting rates of return and risk. Consequently, Ms. Kravtin and Dr. Selwyn's analysis of the ROEs earned by the RBHCs relative to those of the companies comprising the S&P 500 is irrelevant to assessing the LECs' performance or capital costs.

D. **INAPPROPRIATE USE OF EARNED RATHER THAN PROSPECTIVE RATES OF RETURN**

Q. What significance does Ms. Kravtin and Dr. Selwyn's use of historical ROEs have for cost of capital analysis?

A. Ms. Kravtin and Dr. Selwyn incorrectly relate historical ROEs from 1990 to 199.5 for the RBHCs to the ROEs of the firms of the S&P 500. However. investors are forward-looking and therefore base their return requirements on their expectations for the future, not on the record of earned historical returns. Even if Ms. Kravtin and Dr. Selwyn's ROEs were adjusted to reflect true market-based rather than just artificial. accounting-based rates of return, they would not be useful in assessing the LECs' current capital costs.

Earned or historical rates of return reflect the resolution of uncertainty after the fact. Such returns cannot even be reliably used to infer the expectations that investors had when they invested in the companies that ultimately produced the given earned returns, much less current investor expectations. Only market-determined measures or investors' future expectations and return requirements reflect capital costs. Thus, Ms. Kravtin and Dr. Selwyn's analysis of the earned ROEs of the RBHCs relative to the firms comprising the S&P 500 from **1990** to 1995 is irrelevant to assessing the current capital costs and the associated risks of the LECs.

E. SUMMARY OF ERRORS IN MS. KRAVTIN AND DR. SELWYN'S ANALYSIS

Q. Please summarize the errors in Ms. Kravtin and Dr. Selwyn's analysis of the LECs and the significance of their findings.

A. Ms. Kravtin and Dr. Selwyn inappropriately rely on the RBHCs as a reference group. They provide no evidence that the LECs are comparable in risk to the RBHCs or to the firms comprising the S&P 500. Further. Ms. Kravtin and Dr. Selwyn incorrectly focus on accounting rather than market rates of return that do not reflect capital market expectations or conditions. Finally, Ms. Kravtin and Dr. Selwyn inappropriately use historical or earned rather than prospective rates of return. The historical earned accounting returns of the RBHCs provide no information on the LECs' historical or current capital costs.

In summary, the conclusions reached by Ms. Kravtin and Dr. Selwyn contradict economic and capital market theory. are biased by their reliance on accounting rather than market data, and are backward- rather than forward-looking. As such, they provide no insight into the LECs' capital costs.

VII. SUMMARY OF CONCLUSIONS

Q. Please summarize your conclusions.

A. MCI. AT&T and GSA/DOD provide no evidence justifying a represcription or reinitialization of the LECs' rates based on their cost of captial.

Q. Does this conclude your statement?

A. Yes, it does.

Billingsley Exhibit No. RSB-1
Billingsley Vita

RANDALL S. BILLINGSLEY

February 14, 1997

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APPOINTMENTS

1994 - Current: Associate Professor of Finance
Virginia Polytechnic Institute & State University

1993: Vice President
Association for Investment Management and Research
Education and Programs Department

Duties: Project director, responsible for the development and design of education technology products. Projects included videos on options and futures analysis, ethical issues in the investment profession. and financial statement analysis for investment valuation and management.

Responsible for the design and offering of continuing education programs to meet the needs of AIMR's members in particular and the investment industry in general.

Associate Professor, On Leave of Absence
Virginia Polytechnic Institute & State University

1987-1992: Associate Professor of Finance
Virginia Polytechnic Institute and State University

1981-1987: Assistant Professor of Finance
Virginia Polytechnic Institute and State University

1978-1981: Lecturer of Finance
Texas A&M University

1977-1978: Lecturer of Economics
Research Assistant in Economics
Texas A&M University

Summers 1978, 1980: Research Associate

Texas Transportation Institute

Texas A&M University

Duties: (1978) Principal researcher and author of a study concerning design ofoptimal subsidy techniques for public transit projects. (1980) Co-author of research proposal for study of the projected economic impact of user charges on the Texas Gulf Intra-Coastal Waterway (proposal accepted and fully funded). Performed research concerning various policy issues in transportation economics.

PROFESSIONAL DESIGNATIONS

1986: Chartered Financial Analyst (CPA)

The Institute of Chartered Financial Analysts

(Association for Investment Management and Research)

1992: Certified Rate of Return Analyst (CRRA)

National Society of Rate of Return Analysts

Billingsley Exhibit No. RSB-I
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EDUCATION

1982: Doctor of Philosophy in Finance, supporting field in Economics

Dissertation Title: "A Multivariate Analysis of Bank Holding Company Capital Note and Debenture Ratings"

Chairman: Dr Donald R. Fraser

Texas A&M University

1978: Master of Science in Economics, supporting field in Statistics Texas A&M University

1976: Bachelor of Arts in Economics

Texas Tech University

PRIMARY TEACHING AND RESEARCH INTERESTS

Teaching: Investments, Corporate Finance. Financial Institution Management.

Research: General interests include investments. valuation methods, cost of capital analysis, primary market pricing of debt instruments. and banking and public utility regulatory issues.

TEACHING HONORS

Teaching Excellence Award. The R. B. Pamplin College of Business. Virginia Polytechnic Institute and State University, 1986-1987.

Excellence In Teaching Award, MBA Association, Virginia Polytechnic Institute and State University, 19851986

PUBLICATIONS

Journal Articles - Refereed

"The Benefits and Limits of Diversification Among Commodity Trading Advisors," *Journal of Portfolio Management*, **forthcoming, (Author listing: R. S. Billingsley and D. M. Chance).**

"Simultaneous Debt and Equity Offerings and Capital Structure Targets," *Journal of Financial Research.* **Vol. 17, No. 4, Winter 1994. (Author listing: R. S Billingsley, D. M. Smith, and R. E. Lamy).**

"Regional Reciprocal Interstate Banking: The Supreme Court and the Resolution of Uncertainty." *Journal of Banking and Finance*, **Vol. 16, No. I, 1992, pp. 665-686, (Author listing: R. S. Billingsley and R. E. Lamy).**

"Integration of the Mortgage Market," *Journal of Finuncial Services Research,* **Vol. 6. 1992. 137-155, (Author listing: R. S. Billingsley, V. A. Bonomo, and S P Ferris).**

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"Shareholder Wealth and Stock Repurchases By Bank Holding Companies," *Quarterly Journal of Business and Economics*. **Vol. 28, No. I. Winter 1989. pp. 3-25, (Author listing: R. S. Billingsley, D. R Fraser and G. R. Thompson).**

Abstract: *Journal of Economic Literature,* **Vol. 27. No. 3. September 1989. p. 1503**

"The Regulation of International Lending: IMF Support. the Debt Crisis, and Bank Shareholders," *Journal of Banking and Finance*. Vol. 12, No, 2, 1988, pp 255-274. (Author listing: R. S. Billingsley and R. E. Lamy).

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"Bankruptcy Avoidance As A Merger Incentive," *Managerial Finance*, Vol. 14, No. I, November 1988, pp. 25-33. (Author listing: R. S. Billingsley, D. J. Johnson. and R. P. Marquette).

"The Pricing and Performance of Stock Index Futures Spreads." *Journal of Futures Markets*, Vol. 8, No. 3. June 1988, pp. 303-3 18, (Author listing: R. S. Billingsley and D. M. Chance).

"The Choice Among Debt, Equity, and Convertible Bonds," The *Journal of Financial Research*, Vol. I I, No. I, Spring 1988. pp. 43-55, (Author listing: R. S. Billingsley. R. E Lamy, and G. R. Thompson).

"Valuation of Primary Issue Convertible Bonds," *The Journal of Financial Research,* Vol. *9. No.* 3. Fall 1986, pp. 25 I-259, (Author listing: R. S. Billingsley, R. E Lamy, and G. R. Thompson).

Abridged Reprint: *The CFA Digest*, Vol. 17, No. 2, Spring 1987. pp. 18- I9

"The Reaction of Defense Industry Stocks to World Events." *Akron Business and Economic Review.* Vol. 18, No. 2, Summer 1987. pp. 40-47, (Author listing: R. S. Billingsley. R. E. Lamy, and G. R. Thompson).

"Listed Stock Options and Managerial Strategy," *Strategy and Executive Action, No. 4,* Fall 1986, pp 17-20. 28, (Author listing: R. S. Billingsley and D M. Chance).

"Reevaluating Mortgage Refinancing "Rules of Thumb," *Journal of the Institute of Certified Financial Planners*, Vol. 7. No. I, Spring 1986, pp. 37-45, (Author listing: R. S. Billingsley and D. M. Chance).

"Explaining Yield Savings on New Convertible Bond Issues," *Quarterly Journal of Business und Economics,* Vol. 24, No. 3, Summer 1985, pp. 92-104, (Author listing: R. S. Billingsley, R. E. Lamy, M. W. Marr, and G. R. Thompson).

Abstract: *Journal of Economic Literature,* Vol. 24. No. 2, June 1986, p. 1083

"Options Market Efficiency and the Box Spread Strategy," *The Financial Review,* Vol. 20. *No.* 4. November 1985, pp. 287-301, (Author listing: R. S Billingsley and D. M. Chance).

Reprint: *CFA Readings in Derivative Securities,* pp. 217-231, Charlottesville, VA: The Institute of Chartered Financial Analysts, 1988.

"Determinants of Stock Repurchases by Bank Holding Companies," *Journal of Bunk Research,* Vol. 16. No. 3, Autumn 1985, pp. 128-35, (Author listing- R. S. Billingsley and G. R. Thompson).

"The Informational Content of Unrated Industrial Bonds," *Akron Business and Economic Review,* Vol. 16. No. 2, Summer 1985, pp. 53-58, (Author listing: R. S Billingsley and R. E. Lamy).

"Split Ratings and Bond Reoffering Yields," *Financial Management*, Vol. 14. No. 2, Summer 1985, pp. 59-65, (Author listing: R. S. Billingsley, R. E. Lamy, M. W Marr. and G. R. Thompson).

"Determinants of Bank Holding Company Bond Ratings." *The Financial Review,* Vol. 19, No. 1, March 1984, pp. 5.5-66, (Author listing: R. S. Billingsley and D. R Fraser).

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"Managing Portfolios Using Index Options," *Futures,* Vol. 14, No. 9. September 1985. pp. 70-74, (Author listing: D. M. Chance and R. S. Billingsley)

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Fare Box and Public Revenue: How to Finance Public Transportation. State Department of Highways and Public Transportation, Texas Transportation Institute. February 1980, (Author listing: R. S. Billingsley, P. K. Guseman and W. F. McFarland)

Proceedings

"Bankruptcy Avoidance as a Merger Incentive: An Empirical Study of Failing Firms," *The Financial Review*, Vol. 18, No. 3, 1983, p. 94. (Author listing: R. S. Billingsley, D. J. Johnson, and R. P. Marquette).

"A Multivariate Analysis of the Ratings of Bank Holding Company Debt Issues," *The Financial Review*, Vol. 17, No. 2, July 1982, p. 57. (Author listing: R. S. Billingsley and D. R. Fraser).

Editor

"Corporate Decision Making and Equity Analysis." Seminar Proceedings, Charlottesville, VA: The Association for Investment Management and Research. (Author listing: R. S. Billingsley, Editor), 1995

"Industry Analysis: The Telecommunications Industry." Seminar Proceedings, Charlottesville. VA: The Association for Investment Management and Research. (Author listing: R. S. Billingsley, Editor), 1994.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

"Further Evidence on the Gains from Diversification in Multi-Manager Programs." (Author listing: R. S. Billingsley and D. M. Chance). Presented at Managed Account Reports' conference, *Alternative Investment Strategies*, Chicago, Illinois. June 1995.

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"Estimation Bias in the Application of the Quarterly Discounted Cash Flow Model to Public Utility Cost of Capital Analysis," (Author listing: R. S. Billingsley and V. .A. Bonomo).
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"Firm Value and Convertible Debt Issues: Signalling vs. Agency Effects," (Author listing: R. S. Billingsley, R. E. Lamy, and D. M. Smith). Presented at the Eastern Finance Association Meetings, Hot Springs, Virginia, April I99 I.

"The Valuation of Simultaneous Debt and Equity Offerings," (Author listing: R. S. Billingsley, R. E. Lamy. and D. M. Smith). Presented at the Financial Management Association Meetings, Orlando, Florida, October 1990.

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"The Informational Content of Unrated Industrial Bonds." (Author listing: R. S. Billingsley and R. E. Lamy). Presented at the Financial Management Association Meetings Atlanta, Georgia, October 1983. (Subsequently published in *Akron Business and* Economic *Review*, see article citation.)

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