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

In the matter of

American Telephone and	)	
Telegraph Company	)	
	)	
Reclassification of AT&T	)	CC Docket No. 79-252
as a Nondominant Carrier	)	

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attached to its recent <u>Ex Parte</u> Presentation[4] an FTC Bureau of

Economics Staff Report[5] ("Staff Report") that attempts to measure

AT&T's market power. Subsequently, Bell Atlantic, BellSouth, SBC,

and Pacific Telesis attached to their comment a study by NERA[6]

("NERA Study") that purportedly tests and rejects a key assumption

of the Staff Report, using data generated from the Staff Report.

This reply comment suggests that NERA may have inappropriately

generated its data using estimates from the Staff Report, and that

had appropriate data been used, the results of the NERA Study

might have been consistent with those of the Staff Report.

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[4]<u>Ex Parte</u> Presentation in Support of AT&T's Motion for
Reclassification as a Nondominant Carrier CC Docket no. 79-252
(April 20, 1995).

[5]Michael R. Ward, <u>Measurements of Market Power in Long
Distance Telecommunications</u>, FTC Staff Report (April 1995). The
Report was filed by AT&T as Attachment T of its <u>Ex Parte</u>
presentation in support of AT&T's Motion for Reclassification as
a Nondominant Carrier. An earlier version of this report was
submitted by the FTC staff to the FCC in this proceeding
(Submission of the Staff of the Bureau of Economics of the
Federal Trade Commission regarding Reclassification of AT&T as a
Nondominant Carrier (CC Docket 79-252) (November 23, 1993)).

[6]William E. Taylor and J. Douglas Zona, "An Analysis of the
State of Competition in Long-Distance Telephone Markets," (May
1995).

II. Expertise of the Staff of the Federal Trade Commission

The FTC is an independent administrative agency charged with maintaining competition and safeguarding the interests of consumers.[7] The staff of the FTC, upon request, often analyzes the competitive or economic efficiency implications of regulatory or legislative proposals. In the course of this work, as well as in antitrust and consumer protection research and litigation, the staff applies established principles and recent developments, both empirical and theoretical, to competition and consumer protection issues. For example, the staff submitted a comment to the FCC on its proposals to modify the regulations concerning the local transport of interstate long distance traffic[8] and the economic

regulations on long distance telephone service,[10] and estimates of market power in the long distance industry (Staff Report).

III. NERA's Pricing Behavior Test Overstates the Likelihood of Collusion

The Staff Report empirically assessed the competitiveness of the U.S. long distance telephone market by estimating firm-specific long-run residual demand elasticities for AT&T and its rivals. Measurement of a firm's residual demand elasticity provides an estimate of its market power.[11] To calculate residual demand elasticities, the Staff Report estimated the degree of product substitutability by consumers (i.e., Marshallian demand elasticities) and assumed that AT&T's rivals would increase their output in response to an attempted AT&T price increase rather than increase their prices.[12]

The NERA Study's test of the validity of this assumption employs a time series of AT&T's elasticities, constructing these elasticities from estimates in the Staff Report.[13] The Staff

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[10]See Alan D. Mathios and Robert P. Rogers, <u>The Impact of State Price and Entry Regulation on Intra-State Long Distance Telephone Rates</u>, FTC Bureau of Economics Staff Report (November 1988).

[11]Landes, William M. and Richard A. Posner, "Market Power in Antitrust Cases," <u>Harvard Law Review</u> 94 (1984) 937-983.

[12]For an explanation of this assumption, <u>see</u> Staff Report, pp. 19-22.

[13]NERA, III.B. <u>Pricing Behavior</u>, pp. 27-32. This comment pertains to the implementation of the NERA Study's test and makes

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Report calculates AT&T's firm-specific demand elasticity for the period 1988-1991 using the equation $\eta_{11} = w_1(1-\eta^{LD})\epsilon + \eta_1$, where a firm's elasticity, η_{11}, is determined by the values of the industry elasticity, η^{LD}, a conditional firm-specific elasticity, η_1, and an income elasticity, ϵ.[14] The estimates of these parameters in the Staff Report represent averages over the 1988-1991 time period. NERA constructs a time-series of elasticities by substituting into this equation a time series of AT&T's market shares, w_1, covering the period that AT&T was regulated under price-caps (i.e., 1989 to present). In creating the elasticity series, NERA also uses unchanging estimates of the industry level demand elasticity, η^{LD}, the firm-specific conditional elasticities, η_1, and the income elasticity, ϵ, generated in an earlier version of the Staff Report.[15]

In assuming an unchanging estimate of, η_1, NERA implicitly assumes no change in the substitutability between firms (such as AT&T, MCI and Sprint), when substitutability likely continued to increase.[16] If the substitutability continued to increase,

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no claims as to the validity of the test itself.

[14]This is equation (3) in the Staff Report, p. 14.

[15]NERA used short-run parameter estimates from an earlier version of the Staff Report that was submitted to the FCC in this proceeding in November, 1993.

[16]In equation (3) of the Staff Report, the substitutability between firms is measured by the firm-level conditional

estimates of the firm-level conditional demand elasticities, η_1, at different points in time would be required to appropriately construct a sample of elasticities. However, NERA uses the same value of η_1 for every elasticity constructed.

The impact of NERA's assumption about constant substitutability on estimated firm demand elasticities is suggested by Table I, which presents NERA's estimated AT&T elasticity values, η_{11}. The elasticity values are generated from equation (3), by assuming constant values for η^{LD}, η_1 and ϵ, and values of w_1 for the 1989-1994 time period. By the 1988-1991 period, AT&T's rivals had made greater use of "1+" dialing, resolved early billing problems, and extended service throughout the U.S. These improvements made AT&T's rivals' services better substitutes for AT&T's service causing AT&T's Marshallian elasticity to fall an average of 0.45 per year from 1970 to 1990.[17]

optional calling plans (e.g., Friends and Family) have become common, increased information about carrier options has reduced switching costs, and the rate at which customers switch carriers has doubled.[18] Nevertheless, even a tenfold reduction in the rate of change in AT&T's elasticity (to 0.045 per year) would still be larger than the range of elasticity values (maximum value minus minimum value) predicted by the NERA Study in Table I (at most 0.035 over five years). In this case, the NERA Study still understates the range of elasticities by more than a factor of six.[19]

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[18]AT&T, MCI, and Sprint have introduced over 100 new calling plans since 1989. Increased consumer information is indicated by a doubling of both industry advertising and the number of telemarketers employed since 1992. The number of residential customers who switched long distance carriers increased from 12 million in 1991 to 27 million in 1994 (Ex Parte Petition, Attachment O).

[19]With a tenfold reduction in the rate of change in firm substitutability, the annual rate of would become 0.045. The range of elasticities over five years (1989 to 1994) would be 0.225 which is almost six and a half times the range of 0.035 in Table I.

Table I
NERA's Estimated AT&T Elasticity Values from Equation (3)
Assuming Constant η^{LD}, η_1 and ϵ

Year	AT&T Market Share w_1	Staff Report $\eta^{LD} = -0.70$ $\eta_1 = -10.78$ $\epsilon = 1.0$	Nov. 1993 Version $\eta^{LD} = -0.65$ $\eta_1 = -3.15$ $\epsilon = 1.0$
1989	69.3%	-10.572	-2.907
1990	66.4%	-10.581	-2.918
1991	64.3%	-10.587	-2.925
1992	62.6%	-10.592	-2.931
1993	60.2%	-10.599	-2.939
1994	59.3%	-10.602	-2.942
Range		0.030	0.035

If NERA has constructed an inappropriately narrow range of elasticity values, its test would tend to be biased in favor of finding collusion. NERA tests for the presence of collusion among AT&T and its rivals by computing a test statistic, θ. This is a producer pricing parameter with larger values associated with more collusive behavior (NERA study, pp. 28-32). Since θ is estimated in a regression as the coefficient of the inverse of AT&T's elasticity ($1/\eta_{11}$), its estimated value tends to decrease as the range of elasticity values increases. To illustrate, suppose that the measured values of η_{11} used by the econometrician varied from -2.907 in 1989 to -2.942 in 1994, (a range of 0.035, see Table I), but that the true value of η_{11} varied from -2.907 to -3.162, (a range of 0.225, see footnote 19). Even with the rate of change in

η_{11} falling by a factor of ten (to 0.045), the value of θ would

likely fall to approximately one-sixth its estimated value or

about 0.4 rather than 2.55.[20]

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[20]In a simple linear regression of Y_i on X_i, the coefficient of X_i (β) is equal to the ratio of the covariance of X_i and Y_i divided by the variance of X_i (i.e., $\beta = cov(X_i,Y_i)/var(X_i)$). If the range of X_i were to increase sixfold (e.g., by multiplying each observation of X_i by 6), then $cov(X_i,Y_i)$ would increase sixfold and var(X

IV. Conclusion

The NERA Study purportedly tests and rejects the validity of a key assumption of the Staff Report. To conduct this test the NERA study uses estimates from the Staff Report to construct a time series of AT&T's demand elasticity assuming that the substitutability between firms has been constant since 1989.