RECEIVED

AUG 27 2001

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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

In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration	)	CC Docket No. 00-218
In the Matter of Petition of Cox Virginia Telecom, Inc., etc.	)	CC Docket No. 00-249
In the Matter of Petition of AT&T Communications of Virginia Inc., etc.	)	CC Docket No. 00-251

VERIZON VIRGINIA INC.

REBUTTAL TESTIMONY OF DR. JAMES VANDER WEIDE ON COST CAPITAL

AUGUST 27, 2001

TABLE OF CONTENTS

Page

I. INTRODUCTION (JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C) 1

II. SUMMARY (JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C) 2

- A. Economic Principles 2
- B. Risk 3
- C. Capital Structure 4
- D. Cost of Equity 5
  - 1. Proxy Companies 5
  - 2. Discounted Cash Flow ("DCF") Model 7
  - 3. Growth 7
  - 4. Flotation Costs 8
  - 5. Capital Asset Pricing Model ("CAPM") 8
- E. Tests of Reasonableness 10
  - 1. AT&T's Internal Forward-Looking Cost of Capital Estimate 10
  - 2. Risk vs. Return 11

III. REBUTTAL OF MR. HIRSHLEIFER (JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C) 12

- A. Economic Principles 12
- B. Risk 20
- C. Capital Structure 24
- D. Cost of Equity 37
  - 1. Proxy Group 37
  - 2. DCF Model 40
  - 3. Growth 43
  - 4. Flotation Expenses 47
  - 5. Capital Asset Pricing Model ("CAPM") 49
- E. Tests of Reasonableness—Comparisons to Other Sources 61
  - 1. AT&T's Internal Estimate of the Forward-Looking Cost of Capital 61

2. Analysts Discount Rates 62

F. Tests of Reasonableness -- Internal Consistency 71

1 **I. INTRODUCTION**
2 **(JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C)**

3 **Q. What is your name and business address?**

4 A. My name is James H. Vander Weide. I am Research Professor of Finance and
5 Economics at the Fuqua School of Business of Duke University. I am also President of
6 Financial Strategy Associates, a firm that provides strategic and financial consulting
7 services to clients in the electric, gas, insurance, telecommunications, and water
8 industries. My business address is 3606 Stoneybrook Drive, Durham, North Carolina.
9

10 **Q. Are you the same James H. Vander Weide that previously filed Direct Testimony in**
11 **this proceeding?**

12 A. Yes, I am.
13

14 **Q. What is the purpose of your rebuttal testimony?**

15 A. Verizon Virginia Inc. ("Verizon VA") asked me to review the direct testimony of Mr.
16 John I. Hirshleifer on behalf of AT&T and MCI WorldCom and to respond to his
17 recommended 9.54 percent estimate of the appropriate cost of capital input for use in
18 Verizon VA's unbundled network element ("UNE") cost studies.
19

20 **Q. What are your conclusions regarding Mr. Hirshleifer's 9.54 percent estimate of the**
21 **cost of capital input for use in Verizon VA's UNE cost studies?**

22 A. I conclude that Mr. Hirshleifer has significantly underestimated the appropriate cost of
23 capital input for use in studies of the forward-looking economic cost of providing

unbundled network elements ("UNEs") in Virginia. My studies indicate that the correct cost of capital input for use in Verizon VA's UNE cost studies is at least 12.95 percent.

II. SUMMARY (JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C)

Q. What are your major criticisms of Mr. Hirshleifer's testimony?

A. My major criticisms of Mr. Hirshleifer's testimony are summarized as follows:

A. Economic Principles

Mr. Hirshleifer's estimate of Verizon VA's UNE cost of capital is inconsistent with the Commission's forward-looking economic cost principles for UNE cost studies.[1] In the Local Competition Order, the Commission stated that the forward-looking economic costs determined in UNE cost proceedings should replicate, to the extent possible, "the conditions of a competitive market," and that UNE rates should "*approximate what the incumbent LECs would be able to charge if there were a competitive market for such offerings*."[2] [Emphasis added.] Contrary to the Commission's guidelines, Mr. Hirshleifer's estimate of Verizon VA's UNE cost of capital relies heavily on his incorrect assumption that Verizon VA is a monopoly provider of unbundled network elements. UNE cost studies could never produce rates that "approximate what the incumbent LEC would be able to charge if there were a competitive market for such offerings" with Mr. Hirshleifer's monopoly cost of capital as an input.

---

[1] The Commission established these principles in its *First Report and Order In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996* ("Local Competition Order").

[2] Local Competition Order at ¶ 679 and ¶ 738.

1 **B. Risk**

2 Mr. Hirshleifer's faulty "low-risk, monopoly" assumption is not only contrary to
3 the Commission's forward-looking economic cost principles, but also contrary to the
4 evidence that Verizon VA already faces significant facilities-based competition and that
5 competition is likely to increase rapidly in the future. Facilities-based competition will
6 intensify as customers increasingly use Internet and wireless telephony as substitutes for
7 Verizon VA's wireline service, and competitors build their own facilities for offering
8 local exchange service. Indeed, the experience in New York, Texas, and Massachusetts
9 indicates that local exchange competition will increase dramatically once Verizon VA
10 receives Section 271 approval. Any rational forward-looking model must take into
11 account the risk of both current and *future* competition.
12
13 Mr. Hirshleifer's low-risk assumption is also contrary to the actual risk an
14 investor would face in constructing the network assumed in the AT&T/WorldCom UNE
15 cost model. As Dr. Tardiff explains, the AT&T/WorldCom Model attempts to
16 instantaneously configure a hypothetical telecommunications network with the most
17 efficient technology to satisfy a known and fixed level of demand, without any
18 recognition that both the level of demand and the most efficient technology will change.
19 The AT&T/WorldCom Model completely ignores the reality that telecommunications
20 companies configure telecommunications networks over time to meet uncertain demand
21 in a world of rapidly changing technology.
22
23 Contrary to Mr. Hirshleifer's assumption that providing UNEs is a low-risk
24 endeavor, the business of providing UNEs in AT&T/WorldCom's hypothetical model is

an especially high-risk endeavor. In the AT&T/WorldCom model, investors are asked to make a large, long-term, sunk investment in a fixed telecommunications network designed to provide UNEs to customers who have the option to abandon their use of the network at any time once they have completed their own competing facilities. Investors would certainly recognize the prohibitively high risk of investing in a fixed telecommunications network when: (1) customers are given a free option to abandon their use of the network at any time; (2) the most efficient technology continuously changes; and (3) prices are reset every few years using a new model that assumes an even more advanced technology. In such a world, investors are unlikely to recover their initial investment, and they certainly will not earn an adequate return on their investment if the depreciation and cost of capital inputs in the UNE cost model do not correctly reflect the high operating risk in the model.

Finally, Mr. Hirshleifer's low-risk monopoly assumption is completely at odds with the competitive market assumption his clients use to estimate the expense and investment inputs in their cost model. AT&T and WorldCom's use of Mr. Hirshleifer's monopoly market assumption to estimate the cost of capital input—at the same time that they use a competitive market assumption to estimate the expense and investment inputs in their cost model—is illegitimate and should be rejected by the Commission.

C. Capital Structure

Mr. Hirshleifer calculates Verizon VA's weighted average cost of capital for forward-looking economic cost study purposes using both book and market value capital

structure weights.[3] The use of book value capital structure weights is inconsistent with: (1) the principle that the cost of providing unbundled network elements should be measured on the basis of forward-looking economic costs, not accounting costs, and (2) the economic and financial theory of corporate valuation. Economic and financial theory incontrovertibly requires the sole use of market value capital structure weights to calculate a company's weighted average cost of capital. Because book value equity weights are significantly lower than market value equity weights, the use of book value equity weights, by itself, causes Mr. Hirshleifer to underestimate Verizon VA's weighted average cost of capital input by at least 37 basis points. Of course, if Mr. Hirshleifer had used more appropriate estimates of the cost of equity, the effect of his use of book value weights would be even greater.

D. Cost of Equity

1. Proxy Companies

Mr. Hirshleifer applies DCF and CAPM methodologies to a small group of four or five telecommunications holding companies to estimate Verizon VA's UNE cost of capital. These holding companies are poor proxies for the purpose of estimating Verizon VA's UNE cost of capital because they do not satisfy the basic stability assumptions of the traditional DCF, CAPM, and risk premium models. In addition, there are only three large telecommunications holding companies that provide regulated local exchange service, and local exchange service is an ever-decreasing portion of their business. A sample of only three companies is simply too small a sample for the purpose

[3] As I explained more fully in my direct testimony at pp. 14 - 22, book value capital structure weights are based on the accounting values of debt and equity shown on a company's accounting books, while market value capital structure weights are based on the market values of debt and equity.

of estimating the cost of equity. Mr. Hirshleifer could have avoided the deficiencies associated with applying the DCF and CAPM Models to the holding companies by relying entirely on a broad group of competitive firms such as the S&P Industrials.

Furthermore, Mr. Hirshleifer's cost of capital estimate is intended to be used as an input to AT&T/WorldCom's forward-looking economic cost studies, which, according to the Commission, should produce rates that replicate the results of a competitive telecommunications market. AT&T and WorldCom rely heavily on the Commission's competitive market standard to justify their low estimates of operating expenses and investment in their UNE cost model. However, if the competitive market assumption is used to value Verizon VA's operating expenses and investment in network facilities on a going-forward basis, the competitive market assumption must also be used to measure the forward-looking cost of capital associated with these facilities. In contrast, Mr. Hirshleifer's cost of capital estimate relies heavily on his assumption that the market for unbundled network elements is monopolistic.

On the other hand, if, as Mr. Hirshleifer recommends, the competitive market assumption is *not* used in measuring the cost of capital, the resulting forward-looking economic cost studies *will not replicate* the results of a competitive market. Indeed, since the resulting forward-looking economic costs would then be less than the costs competitors would face in building their own networks, there would be no incentive for facilities-based competition. Thus, the basic competitive market assumption of forward-looking economic cost studies—as well as the reality that Verizon VA faces the risks of

competition, technological obsolescence, and regulatory uncertainty—provides further support for the use of competitive firms such as the S&P Industrials to measure the cost of capital component of the long-run incremental cost of providing network elements.

2. Discounted Cash Flow ("DCF") Model

Mr. Hirshleifer uses an Annual DCF Model to estimate Verizon VA's cost of equity, even though the companies in his analyses all pay dividends quarterly. His Annual DCF Model combines an annual dividend with a market price that necessarily includes investor's knowledge that dividends are paid quarterly. Because an investor attributes some value to the quarterly payment of dividends, a firm's stock price will be higher when it pays dividends quarterly than when it pays the same amount of dividends annually. Even though Mr. Hirshleifer uses the higher price that reflects the quarterly payment of dividends, he does not similarly reflect quarterly dividends in calculating the dividend component of the DCF cost of equity. This error creates a clear mismatch of data sets which causes Mr. Hirshleifer to understate Verizon VA's cost of equity by an additional 25 basis points.

3. Growth

Mr. Hirshleifer employs a three-stage DCF model in which his proxy companies' earnings and dividends are expected to grow in line with Value Line's dividend growth forecast in year one, and the I/B/E/S analysts' earnings growth forecast in years two through five. After this initial five-year period, Mr. Hirshleifer arbitrarily assumes that his proxy companies' earnings growth will decline over a 15-year period to his expected growth in the GNP of 6.29 percent, and then grow at 6.29 percent forever.

Mr. Hirshleifer's basic growth assumptions are not only arbitrary, but also inconsistent with the evidence that a company's earnings can grow at rates greater than the economy-wide growth rate for many years. Mr. Hirshleifer's incorrect and arbitrary assumptions regarding future growth causes him to significantly underestimate Verizon VA's cost of equity.

4. Flotation Costs

Mr. Hirshleifer fails to include an allowance for flotation costs[4] in his estimates of the forward-looking costs of debt and equity, even though AT&T's and WorldCom's cost studies are designed to measure the forward-looking economic cost of building a new telecommunications network for the purpose of offering unbundled network elements. No firm could raise the millions of dollars in new debt and equity capital required to finance the construction of a new local exchange network without paying substantial fees to the investment bankers who help them issue debt and equity securities. Mr. Hirshleifer's failure to include flotation costs causes him to underestimate the forward-looking economic cost of capital by an additional 15 basis points.

5. Capital Asset Pricing Model ("CAPM")

The CAPM approach requires estimates of the required rate of return on a risk-free security, estimates of a company-specific risk factor, or beta, and estimates of the required rate of return on the market portfolio. Mr. Hirshleifer's CAPM analysis is

---

[4] "Flotation costs" are the costs associated with selling securities in the capital markets, including, but not limited to, underwriters' fees, legal fees and printing expense. These costs are either withheld from the proceeds of the debt or equity sale or are paid separately and recovered over the life of the issue.

compromised by his procedure for estimating his proxy companies' average beta and the expected rate of return on the market portfolio. It is also compromised by his failure to recognize the widespread evidence that the CAPM underestimates the cost of equity for companies that have an estimated beta of less than 1.0. To estimate his proxy companies' betas Mr. Hirshleifer simply uses the BARRA betas, which are significantly lower than the more widely available Value Line betas used by investors. If Mr. Hirshleifer had used the Value Line betas, rather than the BARRA estimated betas for his proxy companies, his cost of equity estimates using the CAPM would have increased by 44 to 66 basis points.[5]

Mr. Hirshleifer works at Charles River Associates with Professor Bradford Cornell, and they have collaborated in preparation of cost of capital testimony for AT&T and WorldCom in proceedings regarding implementation of the Telecommunications Act. Mr. Hirshleifer and his colleague Professor Cornell estimate the expected return on the market portfolio from historical risk premium data on returns to stock and bond investors. Prior to his testimony for AT&T and WorldCom, Professor Cornell recommended in his published work the use of the commonly accepted arithmetic mean risk premium advocated by Ibbotson Associates. The Ibbotson Associates' arithmetic mean risk premium at the time of Mr. Hirshleifer's June 2000 studies was 8.1 percent. In his testimony for AT&T and WorldCom in this proceeding, Mr. Hirshleifer recommends a risk premium that is approximately 250 basis points less than the Ibbotson risk premium his colleague Professor Cornell previously recommended in his published work.

---

[5] This estimate is derived by changing only the beta, but not Mr. Hirshleifer's estimates of the risk-
(continued . . .)

Mr. Hirshleifer's use of BARRA betas, rather than the Value Line betas, and of a significantly lower risk premium than the widely-accepted Ibbotson risk premium, cause him to significantly underestimate Verizon VA's CAPM cost of equity. A correct application of the CAPM at June 30, 2000, would produce a cost of equity estimate equal to 14.4 percent, approximately 380 basis points higher than Mr. Hirshleifer's 10.60 percent CAPM estimate of the cost of equity for Verizon (see Mr. Hirshleifer's Attachment JH-9).

E. Tests of Reasonableness

1. AT&T's Internal Forward-Looking Cost of Capital Estimate

The best test of the reasonableness of Mr. Hirshleifer's 9.54 percent estimate of Verizon VA's forward-looking cost of capital is to compare his recommendation to the cost of capital AT&T itself has used in its own internal studies of the forward-looking cost of its telecommunications network. AT&T has stated that it has used a cost of capital of 15.306 percent in its Total Incremental Cost Model. Mr. Hirshleifer's 9.54 percent estimate of the forward-looking cost of money for investments in telecommunications networks are very much less than his client's own estimate of the forward-looking cost of money for investments in its telecommunications network. This is an especially important test of reasonableness because AT&T has a strong economic incentive to employ an accurate estimate of the cost of capital in its own internal cost studies. On this basis alone, the Commission should reject Mr. Hirshleifer's cost of capital estimate for Verizon VA as being unjustifiably low.

(. . . continued)
free rate and the risk premium on the market portfolio.

1 **2. Risk vs. Return**

2 Mr. Hirshleifer's three-stage DCF Model produces cost of capital estimates that
3 fail the common sense standard that the cost of capital should increase with the risk of an
4 investment. Mr. Hirshleifer's estimates fail to conform to this standard in several areas.
5 First, financial analysts generally recognize that telecommunications companies and other
6 industrial companies are more risky than natural gas and electric companies. Yet,
7 Mr. Hirshleifer's methodology produces an average DCF result of 11.56 percent for the
8 natural gas companies in the S&P 500 and 12.17 percent for the electric utilities in the
9 S&P 500, as compared to 10.02 percent for the companies providing local exchange
10 service in the S&P Industrials, and 8.71 percent for the remaining industrial companies in
11 the S&P 500.[6/]
12
13 Second, Mr. Hirshleifer claims that beta is a measure of risk, and that companies
14 with higher betas are more risky than companies with lower betas. Therefore, companies
15 with higher betas should have a higher cost of capital than lower beta companies. Yet,
16 Mr. Hirshleifer's three-stage DCF methodology produces the opposite result: namely,
17 the companies in his DCF analysis with higher betas generally have lower DCF results
18 than companies with lower betas.
19
20 Third, companies with high dividend yields are generally recognized as having
21 lower risk than companies with low dividend yields. However, once again,

---

[6/] See Section III.F of this testimony. These data are obtained using Mr. Hirshleifer's three-stage methodology applied to the S&P 500 at June 30, 2000, using stock price and dividend information from the Value Line Investment Survey, the source for Mr. Hirshleifer's September 1999 S&P 500 analysis. Mr. Hirshleifer did not update his September 1999 S&P 500 analysis.

Mr. Hirshleifer's DCF methodology produces a result contrary to expectations: companies with higher dividend yields have higher DCF results than companies with lower dividend yields.

Fourth, financial practitioners generally recognize that companies with higher expected growth are more risky than companies with lower expected growth and are thus expected to have a higher cost of capital. Contrary to a reasonable expectation, the companies in Mr. Hirshleifer's analysis with higher expected growth have lower DCF results than the companies with lower expected growth.

These anomalous results provide convincing evidence that Mr. Hirshleifer's DCF methodology simply does not provide reasonable cost of equity estimates.

III. REBUTTAL OF MR. HIRSHLEIFER (JDPL ISSUES II-1-A; II-1-C; II-2-A; II-2-C)

A. Economic Principles

Q. Are you familiar with the economic principles the Commission cites in support of its total element long run incremental cost ("TELRIC") methodology for determining the cost of providing unbundled network elements?

A. Yes, I am. The Commission cites three economic principles in support of its TELRIC methodology for measuring the cost of providing UNEs. First, the Commission cites the principle that UNE costs must be forward-looking. Second, the Commission cites the principle that UNE costs must approximate the cost the incumbent LEC would be expected to incur in a competitive market for unbundled network elements. Third, the

Commission cites the principle that UNE rates provide correct economic signals for new entrants and incumbents in their decisions to invest in telecommunications facilities.

Q. What are the basic components of the forward-looking economic cost of providing UNEs?

A. The forward-looking economic cost of providing UNEs includes both capital costs and expenses. The capital costs, in turn, include three elements: the LEC's incremental investment in the telecommunications facilities required to provide UNEs; the economic depreciation on these facilities; and the required rate of return, or cost of capital, associated with these facilities.

Q. Why did the Commission choose to measure the cost of providing UNEs using its TELRIC cost methodology, rather than a historic cost methodology?

A. The Commission chose to use the TELRIC cost methodology to measure the cost of UNEs because, in its opinion, TELRIC best "approximate[s] what the incumbent LECs would be able to charge if there were a competitive market for such offerings." [¶ 738 of the Local Competition Order] As noted on pages 7-8 of my direct testimony, the Commission's opinion that the TELRIC methodology replicates the results of a competitive market is also clearly stated in ¶ 679 of the Local Competition Order and in ¶ 42 of the FCC's Memorandum, Opinion, and Order in CC Docket No. 01-9, FCC 01-130, adopted April 16, 2001 (the "Massachusetts 271 Order").

1 **Q. Do Mr. Hirshleifer's clients AT&T and WorldCom agree with the Commission's**
2 **conclusion that the TELRIC methodology should produce rates that "approximate**
3 **what the incumbent LEC would be able to charge if there were a competitive**
4 **market for such offerings"?**
5 A. Yes. AT&T and WorldCom have repeatedly supported this statement in their testimony
6 regarding UNE rates throughout the country.
7
8 **Q. Is Mr. Hirshleifer's cost of capital estimate consistent with the Commission's**
9 **principle and his clients' statements that forward-looking economic costs should**
10 **produce rates that "approximate what the incumbent LEC would be able to charge**
11 **if there were a competitive market for such offerings"?**
12 A. No. Mr. Hirshleifer's cost of capital estimate violates the principle that forward-looking
13 economic costs should produce rates that "approximate what the incumbent LEC would
14 be able to charge if there were a competitive market for such offerings" in several
15 important respects. First, Mr. Hirshleifer incorrectly assumes in estimating Verizon VA's
16 UNE cost of capital that Verizon VA is a *monopoly* provider of unbundled network
17 elements. In making this monopoly assumption, Mr. Hirshleifer fails to recognize that
18 both the Commission and his clients have stated that one must estimate UNE costs using
19 the assumption that the market for UNEs is fully competitive. If one estimates the cost of
20 capital based on the assumption that Verizon VA is a monopoly provider of UNEs, UNE
21 rates cannot possibly reflect what the incumbent LEC would be able to charge if there
22 were a competitive market for UNEs. In addition, Mr. Hirshleifer fails to recognize that:
23 (1) Congress passed the Telecommunications Act specifically for the purpose of making

local service competitive; (2) Verizon VA currently faces significant local service competition; and (3) local service competition will increase dramatically in the future. Local competition is likely to increase as CLECs continue to develop their own facilities, wireless and Internet telephony are increasingly being used as substitutes for wireline service, and the IXCs begin to compete more vigorously (as they have in New York) once Verizon VA enters the long distance market.

Second, Mr. Hirshleifer's cost of capital estimate is partially based on the average book value capital structure of his proxy companies, even though his clients claim to have accepted the Commission's forward-looking economic costing principle that unbundled network element costs must be forward looking and must reflect the market values, not the embedded or historical costs, of a company's investments in telephone plant and equipment. Because the value of a company's assets must equal the sum of its liabilities and equity, Mr. Hirshleifer's book value capital structures necessarily reflect the embedded or historical costs of his proxy companies' investments in telephone plant and equipment.

Third, Mr. Hirshleifer's cost of capital estimate does not include the flotation costs that would undoubtedly be incurred in order to finance an investment in a new telecommunications network to supply unbundled network elements. Mr. Hirshleifer's failure to include flotation costs is not consistent with his clients' position that cost estimates must be measured relative to a hypothetical situation in which the supplier does

not currently provide network elements and thus must construct the facilities required to provide unbundled network elements for the first time.

Q. Does Mr. Hirshleifer recognize anywhere in his direct testimony that the Commission has specifically stated in ¶ 679 and ¶ 738 of the Local Competition Order and ¶ 42 of the Massachusetts 271 Order that forward-looking economic costs are designed to replicate the conditions of a competitive market?

A. No. Mr. Hirshleifer never mentions these paragraphs, which clearly state that the Commission's overriding goal in choosing forward-looking economic costs as the cost standard for use in determining rates for UNEs is to replicate conditions in a competitive market.

Q. Does Mr. Hirshleifer recognize anywhere in his direct testimony that his clients, AT&T and WorldCom, have consistently cited the Commission's goal that UNE rates reflect conditions in a competitive market to justify their own extreme assumptions with respect to potential cost savings in estimating the expense and investment components of its forward-looking economic cost studies?

A. No. Mr. Hirshleifer fails to recognize the need for consistency in the assumptions used to estimate the components of the forward-looking economic cost of providing unbundled network elements. In this proceeding, the purpose is to estimate the appropriate cost of capital input to be used in studies of the forward-looking economic cost of providing unbundled network elements. In conducting such studies, it is essential that a consistent set of assumptions regarding the level of competition be used throughout: if one uses the

1 competitive market assumption to estimate the expense and investment components of
2 the forward-looking cost of providing unbundled network elements, then the competitive
3 market assumption must also be used to estimate the depreciation and cost of capital
4 components of these studies.
5
6 **Q. If the Commission were to adopt Mr. Hirshleifer's monopoly assumption in setting**
7 **the cost of capital, at the same time that it used the competitive market assumption**
8 **in setting the expense and investment components of UNE costs, would the resulting**
9 **rates approximate the rates that would be charged in a competitive market for**
10 **UNEs?**
11 A. No. The resulting rates would undoubtedly be less than the rates that would be charged
12 in a competitive market for UNEs.
13
14 **Q. What would be the economic effect of setting rates for UNEs that are less than the**
15 **rates that would be charged in a competitive market for UNEs?**
16 A. If the Commission were to set rates that were less than the rates that would be charged in
17 a competitive market for UNEs, it would send incorrect economic signals both to CLECs
18 with respect to entry decisions and to incumbents with respect to investment decisions.
19 Indeed, since CLECs would then find it cheaper to purchase UNEs than to build their
20 own network facilities, the Commission would be discouraging the very competition that
21 it seeks to promote.
22

1 **Q. In other jurisdictions, Mr. Hirshleifer has cited ¶ 250 of the Commission's Universal**
2 **Service Order to support his position that the cost of capital in UNE cost studies**
3 **should be based on the assumption that the market for UNEs is monopolistic. Does**
4 **the universal service order support Mr. Hirshleifer's opinion?**
5 A. No. In the Universal Service Order, the Commission simply adopted its previously
6 authorized 11.25 percent cost of capital as the appropriate cost of capital for use in
7 universal service cost studies in an effort to avoid an extended debate about the
8 appropriate rate of return. Nowhere in the Universal Service Order does the Commission
9 state that the cost of capital to be used in universal service cost studies is the appropriate
10 cost of capital to be used in UNE cost studies. Indeed, as Dr. Tardiff explains in his
11 rebuttal testimony, the Commission's Synthesis Model was created to determine the
12 *relative* cost differences among states for the sole purpose of distributing national high-
13 cost support -- it was not designed to calculate the absolute levels of specific state or
14 company forward-looking costs of providing UNEs.
15
16 Moreover, nowhere does the Commission even intimate that it is appropriate to
17 estimate a new cost of capital input on the basis of Mr. Hirshleifer's monopoly
18 assumption. Indeed, the Commission surely recognizes that such an assumption would
19 be totally inconsistent with its own fundamental TELRIC principle that rates for UNEs
20 should approximate the rates that the incumbent LEC would be able to charge if there
21 were a competitive market for UNEs.
22

Q. In previous testimonies, Mr. Hirshleifer has also cited ¶ 702 of the Local Competition Order as support for estimating the cost of capital on the basis of the assumption that the market for UNEs is monopolistic. Does ¶ 702 of the Local Competition Order, in fact, support Mr. Hirshleifer's monopoly assumption in his cost of capital calculation?

A. No. In fact, the Commission has explicitly rejected that idea in its reply brief filed recently in the TELRIC cases now pending before the Supreme Court. That brief states:

> Although the FCC stated that existing determinations provide "a reasonable starting point for TELRIC calculations," *Local Competition Order* (para. 702), J.A.__, the FCC was merely offering tentative guidance at a time when state commissions had to make large numbers of ratemaking determinations under the short time frames established in Section 252. The statement does not alter the governing standard, set forth in the rules, that requires state commissions to determine the true economic depreciation rate and risk-adjusted cost of capital. 47 C.F.R. 51.505(b)(2) and (3). Indeed, the FCC specifically directed state commissions to depart from the previously established depreciation and cost of capital determinations when incumbents show that those determinations do not comply with that standard. *Local Competition Order* (para. 702), J.A. ___.[7]

In a footnote to this paragraph, the Commission also noted: "Moreover, an appropriate cost of capital determination takes into account not only existing competitive risks...but also risks associated with the regulatory regime to which a firm is subject."[8] Thus, the cost of capital determined in this proceeding must reflect not merely the current competitive risks ("not only existing competitive risks"), but the fully competitive environment that the Commission's rules presuppose (*i.e.*, "also risks associated with the regulatory regime to which a firm is subject").

---

[7] Reply Brief for Petitioners United States and the FCC, *Verizon Communications, Inc. et al. v. FCC et al.* (Nos. 00-551, 00-555, 00-587, 00-590, and 00-602) at 11 - 12.

[8] *Id.* at 12 n.8.

Q. In summary, what is your view of AT&T's and WorldCom's attempt to invoke the competitive market standard in estimating the expense and amount of investment components in their TELRIC cost studies, while invoking a monopoly assumption in their estimate of the cost of capital for use in TELRIC cost studies?

A. AT&T's and WorldCom's use of the competitive market assumption to estimate the expense and investment components in their TELRIC cost studies and a monopoly assumption to estimate the cost of capital component is both inconsistent and disingenuous. AT&T and WorldCom simply cannot have it both ways. If they want to invoke the Commission's TELRIC principle that rates should approximate those that would be charged in a competitive market in estimating the expense and investment inputs in their TELRIC cost model, they must also use this assumption in estimating the cost of capital input. As a result, there is no basis for AT&T and WorldCom to use Mr. Hirshleifer's estimate of the cost of capital in their cost model or in any forward-looking UNE cost model.

B. Risk

Q. What is Mr. Hirshleifer's view of the business for which the cost of capital is being estimated in this proceeding?

A. On page 40 of his testimony, Mr. Hirshleifer states:

> The business for which the cost of capital is being estimated in this case is essentially the business of "leasing" local exchange telephone network elements to retail providers. This business should have relatively low risk compared to many of the risky business endeavors being pursued by the telephone holding companies.

Q. Does Mr. Hirshleifer attempt to distinguish the risk of the network element leasing business from the risk of providing basic local service?

A. Yes. On page 42 of his testimony, Mr. Hirshleifer states,

> Whereas those Verizon units involved in providing local service are in businesses that (if prices are set appropriately in these proceedings) will be faced with new competitors, the unit involved in leasing the network which all the competitors need to use has virtual monopoly power and faces much less risk.

Thus, Mr. Hirshleifer believes that the network element leasing business is significantly less risky than the local exchange service business.

Q. Do you agree with Mr. Hirshleifer's assessment on page 43 of his direct testimony that "the unit involved in leasing the network which all the competitors need to use has virtual monopoly power?"

A. No. Mr. Hirshleifer fails to recognize that facilities-based local exchange service is a direct substitute for Verizon VA's network element leasing business. Whenever competitors offer facilities-based local exchange service, they are self-supplying their own UNEs. Hence, they have no need to purchase UNEs from Verizon VA. Thus, facilities-based competition for local exchange service is the same thing as competition for unbundled network elements. Mr. Hirshleifer also fails to recognize that significant facilities-based competition already exists for local exchange services in Virginia, and investors expect future competition to increase rapidly.

1 **Q. Do you have any evidence that facilities-based competition for local exchange**
2 **service already exists in Virginia?**
3 A. Yes. Mr. West provides extensive evidence in his Direct Testimony of the vigorous
4 facilities-based competition in Virginia.
5
6 **Q. In estimating risk, are investors more concerned with the current level of**
7 **competition or with the future level of competition?**
8 A. In estimating risk, investors are concerned with the level of risk over the entire life of
9 their investment.
10
11 **Q. Do you have an opinion as to whether the level of competition in the local exchange**
12 **market will increase or decrease in the future?**
13 A. Yes. Local exchange competition will undoubtedly increase over its current levels. In
14 their efforts to keep Verizon VA out of the long distance market, long distance
15 competitors such as AT&T and WorldCom have chosen not to compete extensively in the
16 local exchange market. The Commission's most recent report on the status of local
17 competition, released May 21, 2001, provides compelling evidence that AT&T,
18 WorldCom, and other long distance providers will compete more vigorously in the local
19 exchange market once Verizon and other incumbent LECs can provide long distance
20 service.[9/] In addition, competition from CLECs generally is increasing, and wireless and

---

[9/] The report summary notes that New York and Texas, the states with long distance approval during the reporting period, showed the most competitive activity. For example, CLECs captured 20% of the market in New York, and their lines increased by more than 130% in the 12-month period following the approval of Verizon's long distance application in December 1999. In Texas, CLECs gained 12% of the market, and their lines increased by 60% in the six-month period following the acceptance of SBC's long distance application. The report summary also notes that CLEC market shares in New York and Texas

(continued . . .)

1 Internet technologies are increasingly used as substitutes for Verizon VA's wireline local
2 exchange network.
3
4 **Q. Does Mr. Hirshleifer's risk analysis reflect the risks of investing in the facilities**
5 **necessary to provide UNEs in the economic environment AT&T and WorldCom**
6 **assume in their forward-looking economic cost model?**
7 A. No. Mr. Hirshleifer's risk analysis is based on his assumptions that Verizon VA can
8 provide UNEs on its existing network with little or no additional investment, and that
9 Verizon faces little or no competition for provision of UNEs. In contrast, AT&T's and
10 WorldCom's forward-looking economic cost model is based on their assumptions that
11 Verizon must raise millions of dollars to build a new telecommunications network for the
12 provision of UNEs and that the market for the provision of UNEs will be highly
13 competitive. Mr. Hirshleifer also fails to recognize in his risk analysis that AT&T and
14 WorldCom are asking the Commission to set UNE rates based on a cost model that
15 unrealistically assumes that: demand for telecommunications services is known with
16 certainty; the location of customers is known precisely; Verizon will be able to increase
17 its fill factors significantly above any previously achieved level; and Verizon will be able
18 to reduce its network operations expense by 50 percent and its customer operations
19 expense by 70 percent. Thus, Mr. Hirshleifer's risk analysis utterly fails to reflect the
20 high risk of investing in the facilities necessary to provide UNEs in the economic
21 environment AT&T/WorldCom assume in their UNE cost model. If the Commission

---

(. . . continued)
exceed the national average by 135% and 45%, respectively. "Local Telephone Competition: Status as of December 31, 2000," Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, May 2000.

establishes rates based on the highly unrealistic assumptions of the AT&T/WorldCom model, and fails to recognize the increased risk and required return associated with the AT&T/WorldCom model, Verizon will certainly have no opportunity to recover its investment, much less to earn an adequate return on its investment.

Q. Why is it necessary that Mr. Hirshleifer's risk analysis be consistent with the assumptions in AT&T's and WorldCom's cost model?

A. AT&T and WorldCom are asking the Commission to adopt its model of the forward-looking economic cost of providing UNEs. Mr. Hirshleifer's testimony and risk analysis provides a key input in AT&T's and WorldCom's cost model. A fundamental requirement of an economically meaningful cost model is that the assumptions be consistent. Because Mr. Hirshleifer's assumptions are not consistent with the other assumptions AT&T and WorldCom use in their cost model, his estimate of the cost of capital cannot legitimately be used in their cost model, or in any other UNE cost model.

C. Capital Structure

Q. How does Mr. Hirshleifer attempt to calculate Verizon VA's forward-looking economic cost of capital?

A. Mr. Hirshleifer attempts to calculate Verizon VA's forward-looking economic cost of capital by computing a weighted average of what he postulates is Verizon VA's forward-looking cost of debt and its forward-looking cost of equity.