

Policymakers have begun to recognize that restoring a balance in the treatment of ratepayers will not only prevent abuse but it will create a level playing field for competitor as the information age is opened up to competition.

- o A commitment to reasonable rates based on a cost-based allocation between competitive and monopoly services could begin to address the problem of excess earnings.
- o Structural separations, which prohibit leveraging BOC assets, could begin to address the problem of unequal access to financing.
- o Elimination of market power prior to entry by the Baby Bells into other lines of business, to reduce the leverage over the local bottleneck.

APPENDIX A:
REGULATORY STRUCTURE, INCOME AND
THE DEPLOYMENT OF SPECIFIC TECHNOLOGIES

While the aggregate capital expenditure numbers make it clear that companies have not been using the massive additions in cash flow to fund investment in the network, it is also important to consider the impact of recent changes in cash flow and regulation on investment in specific technologies. In order to isolate the effects of forms of alternative regulation and increased income on technology deployment, a data set was compiled which examines the deployment of four leading edge technologies (digital switches, SS7, ISDN and fiber optic cables) since divestiture. The data is available for the 22 operating companies.

In order to test the impact of regulation and income on the deployment of these technologies, the status of regulation in each jurisdiction was identified for each year. Where one of the reporting operating companies serves more than one state, the regulatory form variable is weighted by the number of lines for each state. Furthermore, the regulatory form variable is weighted by the number of years that alternative regulation has been in place. Six specific forms of alternative regulation were identified -- incentive rates of return, banded rates of return, pricing flexibility, indexed pricing, price freezes, and deregulation.

An econometric analysis was conducted, controlling for the underlying trend of rising deployment of technology and the parent company to assess the independent effect of alternative regulation on local rates. The results depicted in Table A-1 show that alternative regulation does not have a significant positive impact on technology deployment. Banded rates of return show a negative association with the deployment of fiber and SS7. Pricing flexibility and price freezes show a positive association with the deployment of digital switches. Price indexing and deregulation, exhibit no statistically significant associations whatsoever.

The argument that raising the returns enjoyed by the company will increase the deployment of technologies was also tested. Measures of total operating revenue, net operating revenue and net income were regressed on the deployment of the four technologies (controlling for the underlying trend, RBOC and a scale effect). Only three associations are statistically significant and two of them, for the crucial variable of net income, are negative. This is consistent with my observation that the companies tend to take the money and run.

TABLE A-1:
 IMPACT OF ALTERNATIVE REGULATION ON TECHNOLOGY DEPLOYMENT,
 PRICES AND OTHER MEASURES OF COMPANY PERFORMANCE
 Regression Coefficients (Bs) and T values;
 (Statistically significant relationships)

	DIGITAL SWITCH	SS7	ISDN	FIBER
ROR INCENTIVE	-	-	-	-
BANDED ROR	-	-.17 (3.3)	-	-.20 (2.9)
PRICING FLEXIBILITY	.11 (3.3)	-	-	-
INDEXED PRICING	-	-	-	-
PRICE FREEZE	.11 (4.4)	-	-	-
DEREGULATION	-	-	-	-
OPERATING REVENUE	-	-	-	-
NET OPERATING REVENUE	-	-	.88 (2.4)	-
NET INCOME	-.40 (3.5)	-	-.71 (2.8)	-



Consumer Federation of America

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FCC MAIL ROOM

LOCAL EXCHANGE COSTS

AND

**THE NEED FOR A UNIVERSAL SERVICE
FUND**

A CONSUMER VIEW

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EXECUTIVE SUMMARY:

LOCAL EXCHANGE COSTS AND THE NEED FOR
A UNIVERSAL SERVICE FUND

DIFFERING VIEWS OF THE SUBSIDY ISSUE

As Congress moves toward a new telecommunications policy, the Baby Bells and some of their competitors have pushed the idea that preserving universal service in a competitive information age will require a large subsidy/tax pool. The local companies claim that a \$20 billion per year subsidy built into current rates (equal to \$12 per month for every line in the country), must be replaced by a new pool of revenues to be distributed to local exchange carriers, just to maintain voice grade service. Network upgrades will require even more subsidies they claim.

Since the mid-1960s consumer advocates have rejected the so-called "subsidy," attributing it to faulty cost allocation, not real economic factors. The alternative view of the "subsidy" has been expressed in recent cases in Indiana and Maine. In Indiana, for example, the company claimed to be losing \$12.33 per month. As Exhibit E-1 shows, better cost analysis suggests that the bottom line is a net income on local service of between \$5 and \$10 per month.

EXHIBIT E-1:

COST AND REVENUE ESTIMATES FOR RESIDENTIAL EXCHANGE SERVICES
(DOLLARS PER MONTH PER LINE)

	COST	REVENUE	NET INCOME
COMPANY	\$30.27	\$17.94	-\$12.33
CONSUMER COUNSEL Recognize Subscriber Loop as a Joint Input			
Cost Misallocation	-8.16		
Revenue Misallocated		+1.30 TO +6.40	
Misallocation of Costs			
Overhead Allocation	-3.98		
Investment for Non-Res	-1.40		
Centrex Switching Costs	- .67		
Improper Use Allocators	- .90		
Excess Cost of Capital	- .75		
Change to Estimate	-15.86	+1.30 to +6.40	
BOTTOM LINE ON LOCAL EXCHANGE	14.41	19.24 to 24.34	+4.83 to +9.89

UNDERSTANDING THE OVERESTIMATION OF LOCAL EXCHANGE COSTS

Economic analysts come to these widely divergent estimates of costs for a number of reasons.

First, the companies fail to accept that the subscriber loop is a facility used for all services. The companies invoke two fundamentally different cost standards when they analyze services. For purposes of proving that competitive services are not being subsidized, they use an incremental cost standards. For purposes of proving that basic local exchange service is being subsidized, they use a fully distributed or fully allocated cost standard. This gap distorts all further analysis. If one treats toll or vertical services as incremental, they never bear any cost responsibility for the subscriber loop, which they use.

Second, the companies' estimates of costs are based on poor cost causation analysis. The company adopts a series of cost allocators and load factors that do not reflect the actual cost causative characteristics of services. Some examples include the following.

Overhead costs, such as advertising, are allocated to basic service, when there is virtually no advertising associated with basic monopoly telephone service.

Investments to enhance loop quality, which are not primarily used for residential services, are not separated out. These include costs such as equal access (to support toll use), deployment of system signaling 7 to support 800 number access (a business use), Integrated Service Digital Network (ISDN), and design standards for loop that far exceeds those necessary for basic service.

The cost of loop is allocated between business and residence on the basis of the length of the loop (residential loops are longer). However, this allocator fails to reflect other characteristics of the loop such as the type of construction (underground cable used in downtown business areas tends to be much more expensive) or the number of wires (business loops have more).

Third, the application of improper usage based allocators for traffic sensitive costs result in the misallocation of costs. As the information superhighway becomes filled up with data and video uses, the proper estimation of these allocators will become critical. In the Indiana study, the company relied on average minutes of use to allocate traffic sensitive costs. However, on a digital network call frequency is an important determinant of costs. Moreover, busy hour use is the important cost driver. Average minutes of use biases the cost allocation against residential customers because they make fewer call and are less likely to make peak hour calls.

The company's cost estimates were based on assumed capital costs that were too high. These include excess earnings.

THE IMPORTANCE OF GETTING COSTS AND REVENUES RIGHT

Getting the cost/revenue analysis correct is extremely important as the basis for universal service policy in the information age.

First, adopting the subsidy-tax universal service idea ensures that ratepayers will not see the benefits of the expansion of use of the information superhighway in the form of lower rates for basic service. The entire subsidy-tax idea is based on the assumption that basic service ratepayers should pay for the whole network and all other services should get to use it for free (at only incremental cost). This is a terrible deal for consumers. Instead of linking affordable basic rates to a fair allocation of the costs between all the services that use the network, many of which are likely to expand rapidly in the future, affordability is tied to a tax, which is not likely to expand and certain to be the target of repeated attack. The subsidy-tax idea gives up the economically correct and dynamic source of funds to ensure affordability.

Second, the subsidy-tax idea will also inhibit competition. The strategy of any monopolist is to recover the largest part of his costs where competition is weakest. That is exactly what the local exchange companies have done, both across functions (by shifting costs from switching to access) and across segments (by shifting costs from businesses to residences). By underpricing switching and business services, the local exchange companies will be better able to preserve their market power. Since the subsidy-tax idea underwrites this cost misallocation, it will prolong the monopoly hold of the local exchange companies.

Third, avoiding good cost causal analysis through the subsidy-tax idea will also undermine efforts to expand the concept of basic service in consumer friendly, socially responsible directions. Digital services, which are a network functionality over which the local companies have market power, are a perfect example. By combining a philosophy of attributing incremental costs to these services with a philosophy of market pricing, the companies attempt to achieve astronomically high profits on these services (mark-ups of several hundred percent). This frustrates the enhancement of basic service by maximizing profits on service over which the companies possess market power. Thus, abandoning sound cost-causal analysis through the subsidy-tax idea results in a thoroughly anti-consumer pricing pattern. The cost of basic service is driven up. The companies attribute virtually no costs to the really big cost causers, like video services. They underprice those services to eliminate competition, while they overprice network functionalities, like digital service, where they have market power.

Fourth, the subsidy-tax idea ratifies the excess earnings of the companies. The Indiana case shows that there has been a dramatic decline in the cost of telephone service, including local exchange service, but there has been virtually no decline in the price of basic service. Nationwide, the overcharge exceeds \$5 billion per year (including income taxes on excess earnings which are collected from ratepayers). The subsidy tax pool will insulate the companies' bottom lines from competitive pressures.

A PRAGMATIC FEDERAL/STATE APPROACH TO THE "SUBSIDY" ISSUE

These contrary findings about the nature of the subsidy should give policy makers reason to look much more carefully before they leap into a \$20 billion federal tax. What would an appropriate federal role on the "subsidy" be? Federal action should be governed by a few fundamental principles.

First, the Federal government should provide a cost-based mechanism for the information age based on a user pays principle. It should insist that all users of the network pay for all services they use in proportion to the demands they place on the network. The user pays principle should be combined with the principle that the burden on basic service should be minimized. This is the perfect moment for federal regulators to give up the notion that basic service came first and everything else is incremental. Since this is a new age and we are building a new information superhighway, there is no reason to consider plain old telephone service the cost causer which bears the cost of the network, while other services are incrementally priced.

Second, to alleviate pressures on local rates, the federal regulatory agency can move costs currently allocated to the state jurisdiction to the federal jurisdiction. It can require states to reduce the local exchange costs in an amount equal to the costs taken to the federal level.

Third, as a practical matter, whether a subsidy exists and how it should be collected and administered should be left to the states, which is, after all, where 75 percent of the costs of telephone service are recovered.

Fourth, since the subsidy problem, if there is one, is being caused by the growth of competition, the issue should be addressed only as real competition unfolds. From the point of view of enhancing efficiency, even if there is a subsidy, it would be a great mistake to start with a tax. Competition may or may not develop. It may or may not require increases in local rates. It may first result in forcing local exchange company profits back down to reasonable levels and may cause the companies to reconsider their cost allocation approaches. It may cause the companies to be more careful in their investment decisions. If the LEC approach to provision of basic service has become uneconomic, they may have to write down their assets, as firms facing competition frequently do.

Only after the rigors of competition have exposed the true economics of the local exchange market, should we consider subsidies necessary to prevent local rate increases and preserve universal service. Therefore, as the states implement any mandate to promote local competition, the federal government could set broad guidelines for preserving the affordability of universal service. They should be required to conduct a universal service pricing inquiry. They should be encouraged to adopt rigorous cost allocation approaches. The federal government could set guidelines for competition driven rate changes (for example a hold harmless rule, or a maximum rate increase rule). The states should be allowed to decide how to fund those changes (subsidy pools, price changes for non-basic services, even general taxes).

I. THE PUSH FOR A UNIVERSAL SERVICE TAX

As Congress moves toward a rewrite of the Communications Act of 1934 concerns about how to ensure universal service in a competitive information age are frequently expressed.¹ A number of analysts and policymakers claim that local service is subsidized by other services and that this subsidy will come under pressure as competition increases. For example, the Administration offered the following observation on the impact of local competition in its statement on telecommunications policy at UCLA.²

The Administration understands that the growth of competition for local services may require repricing of some local services. Such repricing must not be allowed to cause "rate shock" for consumers.

The stakes are very large, indeed. The local companies claim that the subsidy is \$20 billion per year, or \$12 per month for every line in the country.³

Some who accept this argument believe it will be necessary to set up a large universal service fund to restrain price increases for local service.⁴ Ironically, not only the incumbent monopoly telephone companies that want to set up the pool, but the competitors of the local exchange companies support the creation of such a fund. They want to be able to "compete" for and have "equal access" to the subsidy.⁵ This fund would be created by taxing users of the network in one way or another.⁶ Some call it a fee, others call it a charge, but it amounts to a tax paid by captives of the network to be distributed to local exchange companies.

II. A DIFFERENT VIEW OF THE "SUBSIDY"

A. THE LONG STANDING DEBATE OVER THE "SUBSIDY"

Consumer advocates began expressing a concern for the affordability of universal service long before the companies,⁷ but it was never based on the so-called "subsidy" problem.⁸ Consumer advocates have never accepted the company assertions about the nature or magnitude of the "subsidy."

At least since the mid-1960s there has been a view of the cost question which attributes the so-called subsidies to faulty cost allocation, not real economic factors.⁹ Moreover, as the network carries more services, consumer advocates believe that the cost causation/cost allocation problem becomes more complex and good analysis more important.¹⁰

B. RECENT EXAMPLES OF THE DEBATE OVER THE "SUBSIDY"

The long tradition of an alternative view of the subsidy has been expressed in recent cases in Indiana and Maine. These two cases, particularly Indiana, put this debate into clear focus.¹¹ In Indiana, the company claimed to be losing \$12.33 per month for every residential line -- precisely the figure the national trade association claims.¹² As Exhibit 1 shows, The Office Of Utility Consumer Counselor (OUCC), using three different methodologies, all based on company data, demonstrated that the company was not losing anything; in fact it was earning between \$.44 and \$7.23 per line per month.¹³

The OUCC used two different types of cost causative analysis. One approach builds the costs up from engineering data (the bottom up approach). The company did not conduct this

type of approach. The second approach takes existing costs and allocates them to services (the top down approach). This yields a fully allocated cost. This type of approach was taken by the

EXHIBIT 1:
 COST AND REVENUE ESTIMATES FOR RESIDENTIAL EXCHANGE SERVICES:
 DOLLARS PER MONTH PER LINE

COMPANY	COST	REVENUE	SHORTFALL/EXCESS
TOP DOWN, FULLY ALLOCATED COST	\$30.27	\$17.94	-\$12.33
INDIANA UTILITY CONSUMER COUNSELOR			
POTENTIAL REVENUE		6.40	
BOTTOM UP ENGINEERING	17.11	17.94 - 24.34	+.83 to 7.23
TOP DOWN FULLY ALLOCATED COST	17.50	17.94 - 24.34	+.44 to 6.84
TOP DOWN, COST TRACKING	14.27	17.13	+2.86

SOURCE: Converted to a Monthly per line basis from "Testimony of Trevor R. Roycroft, Public's Exhibit 1," pp. 134-136, "Testimony of David Gable, Public's Exhibit No. 8," Schedule 3; "Testimony of Harold L. Rees, Public's Exhibit No. 3," p. 44, both in State of Indiana, Indiana Utility Regulatory Commission, In the Matter of a Petition of Indiana Bell Telephone and Telegraph Company, Incorporated, for the Commission to Decline to Exercise in Part its Jurisdiction over Petitioner's Provision of Basic Local Exchange Service, to Utilize Alternative Regulatory Procedures for Petitioner's Provision of Basic Local Exchange Service and Carrier Access Service, and to Decline to Exercise in Whole its Jurisdiction Over All Other Telecommunications Services and Equipment Pursuant to IC 8-1-2-6, Cause No. 39075.

company and is quite common. Both of these approaches, when applied by the OUCC, yield costs per line of just over \$17 per month. A separate top down approach applied by the OUCC, but based on the company's own internal cost tracking data, yields a cost of only \$14.

Even without taking additional revenues into account or identifying more complex issues of cost causation, these studies find no "subsidy." Basic service may have a low mark-up compared to other services, but that is entirely consistent with the very definition of basic. Moreover, when careful allocation of costs and revenues is done, it could well show that basic local service is not even a low mark-up service.¹⁴

Similar results have been obtained recently in a number of jurisdictions including Maine, Pennsylvania, Illinois and Tennessee. The hearing examiner in Maine concluded much the same.¹⁵

Throughout this proceeding, NET has suggested that local exchange service is being subsidized by toll rates. Staff has responded that, not only is local service not being subsidized, but that its study shows local service is subsidizing other services.

There are two tests that can be used to determine the existence of an economic subsidy. A service is being subsidized if its rates are below the incremental cost of service. A service is also subsidizing other services if its rates exceed its stand-alone costs.

Based on the evidence presented in this case, we cannot conclude that either basic exchange or toll services are being subsidized or are subsidizing other services. The record shows that, even if 100% of loop costs are assigned to basic service (as done in the NET study), current local exchange revenues exceed the long-run marginal cost of exchange service. Moreover, as we discussed above, the staff's stand-alone study reveals that current exchange revenues (including interstate EUCL revenue) appear to be in the same order of magnitude as its stand-alone costs.

Because a subsidy will occur when a service is priced below its marginal cost of service or above its stand-alone cost, there will be a range of rates within which no subsidy flows from one class of service to others. The most reasonable conclusion to be drawn from the record is that neither local nor toll service is being subsidized. Instead the reasonable conclusion is that revenue from both services is contributing to meet the Company's embedded revenue requirement. As a result, we find no support for NET's proposal to raise local rates due to the alleged current subsidization of exchange service by toll service.

III. UNDERSTANDING THE BASIS OF THE "SUBSIDY" DEBATE

How can economic analysts come up with such widely divergent estimates of costs?

There are really two primary problems.¹⁶

A. FAILURE TO RECOGNIZE THE SUBSCRIBER LOOP AS COMMON PLANT USED FOR ALL SERVICES

First, at a conceptual level, the companies invoke two fundamentally different cost standards when they analyze services.

For purposes of proving that competitive services are not being cross subsidized, they use an incremental cost standards. For purposes of proving that basic local exchange service is being cross subsidized, they use a stand alone cost generally derived from fully distributed or fully allocated cost standard. This gap distorts all further analysis. If one treats toll or vertical services as incremental, they never bear any cost responsibility for the subscriber loop, which they use.

An expert witness for the commission staff in Maine summarized the problem succinctly as follows:¹⁷

All of the current loop cost is assigned to the Basic Exchange Service, while none is assigned to the competitive service classifications.

When one examines how the Company employs these results in rate design, the consequences appear reasonable from the viewpoint of a company seeking to minimize the cost of its competitive services. The Company has developed current costs of an access line. An Access line is not a tariff element, but a common physical plant facility that serves as the mode of carriage for local exchange service, state message toll service, interstate message toll service, and numerous vertical services...

While many services use the loop, NET assigns all loop costs to basic exchange service and no loop costs to its competitive service classifications. This is a gross violation of the principle of cost causation. To add insult to injury, although NET would have basic exchange customers pay for all incremental loop investments, many of those investments are for improving or expanding non-basic service.

At an empirical level, the failure to recognize the subscriber loop as common plant means that significant costs are attributed to local service which should not be and/or significant revenues which are attributed to other services should be attributed to the basic category. The result is to sharply reduce the net income associated with basic service.

As shown in Exhibit 2, this error has a huge impact on the economic evaluation of basic service. In Indiana, the OUCC identified over \$8 per month per line in costs that had been improperly allocated to basic service on the basis of this one error. It identified a minimum of \$1.30 in revenue which had not been attributed to basic service, but should have been. Combined, this one conceptual error accounts for over three-quarters of the so-called "subsidy."

B. LACK OF COST CAUSAL ANALYSIS

The second problem in the company estimate of costs is poor cost causation analysis.¹⁸ The company adopts a series of cost allocators and load factors that do not reflect the actual cost causative characteristics of services. The OUCC identified a number of these costs, but estimated only two of them.

Overhead costs, such as advertising, are allocated to basic service, when there is virtually no advertising associated with basic monopoly telephone service.

EXHIBIT 2:

COST MISALLOCATION IN THE ESTIMATE OF THE BASIC SERVICE "SUBSIDY"
(DOLLARS PER MONTH PER LINE)

	COST REDUCTION	REVENUE INCREASE
COMPANY ESTIMATE	\$30.27	\$17.94
OFFICE OF UTILITY CONSUMER COUNSELOR		
Failure to recognize subscriber loop as a common input		
Cost misallocation	-8.16	
Revenue not allocated		+1.30 to +6.40
Misallocation of costs identified		
Overhead allocation	3.98	
Switching costs for Centrex	.67	
TOTAL CHANGE TO COMPANY ESTIMATE	-12.81	+1.30 - +6.40
NET COST/REVENUE ACCORDING TO OUCC	17.46	+19.24 - +24.34

SOURCE: Converted to a Monthly per line basis from "Testimony of Harold L. Rees, Public's Exhibit No. 3," p. 44, in State of Indiana, Indiana Utility Regulatory Commission, In the Matter of a Petition of Indiana Bell Telephone and Telegraph Company, Incorporated, for the Commission to Decline to Exercise in Part its Jurisdiction over Petitioner's Provision of Basic Local Exchange Service, to Utilize Alternative Regulatory Procedures for Petitioner's Provision of Basic Local Exchange Service and Carrier Access Service, and to Decline to Exercise in Whole its Jurisdiction Over All Other Telecommunications Services and Equipment Pursuant to IC 8-1-2-6, Cause No. 39075.

Investments to enhance loop quality, which are primarily used for business services, are not separated out. The OUCC estimated only the costs associated with Centrex services. These alone were \$10 million and equal to 10 percent of the loop costs attributed to local exchange service.

These two cost misallocations account for an additional \$3.50 which has been wrongly attributed to basic service. The net result of these corrections to the top down analysis is to erase

the "subsidy." Even without conducting a comprehensive analysis of the biases in the company's cost methodology, the OUCC identified almost \$13 of costs that had been improperly attributed to residential exchange service. This is over 42 percent of the total estimate made by the company.

C. THE MAGNITUDE OF OTHER COST MISALLOCATIONS

The Indiana Office of Utility Consumer Counselor could only estimate a part of the cost misallocations. However, there were additional cost misallocations and other errors which afflict the company study that should not be overlooked.

In the company study, the cost of loop is allocated between business and residence on the basis of the length of the loop (residential loops are longer). However, this allocator fails to reflect other characteristics of the loop such as the type of construction (underground cable used in downtown business areas tends to be much more expensive) or the number of wires (business loop has more).

Other costs which have been incurred for purposes other than providing basic service have been included improperly in basic service costs. These include costs such as equal access (to support toll use), deployment of system signaling 7 to support 800 number access (a business use), and Integrated Service Digital Network (ISDN), to name a few. These have been improperly allocated to the basic service category.

The company's cost estimates were based on assumed capital costs that were too high. These include excess earnings.

Other evidence indicates that the cost misallocations which have been identified but not

estimated in Indiana are substantial.

The application of improper usage based allocators for traffic sensitive costs result in a major misallocation of costs. As the information superhighway becomes filled with data and video uses, the proper estimation of these allocators will become critical.

In the Indiana study, the company relied on average minutes of use to allocate traffic sensitive costs. However, on a digital network call frequency is an important determinant of costs. Moreover, busy hour use is the important cost driver. Average minutes of use biases the cost allocation against residential customers because they make fewer, but longer calls and are less likely to make peak hour calls. Exhibit 3 shows that business users make many more calls and many more peak hour calls.

EXHIBIT 3:
RATIO OF MEASURES OF USE, BUSINESS COMPARED TO RESIDENCE

	SMALL BUSINESS	KEY SYSTEMS	PBX
MINUTES OF USE	.98	1.38	3.76
NUMBER OF CALLS	1.75	2.56	5.46
DURATION OF CALLS	.56	.54	.69
PEAK HOUR ATTEMPTS			
MAINE	1.92		
NATIONAL	1.67		

SOURCE: "Testimony of Richard Gable," Appendix VII, State of Maine, Public Utilities Commission, Re: Investigation Into New England Telephone Company's cost of Service and Rate Design, Docket No. 92-130.

This analysis suggests that there has been a significant underestimation of the amount of traffic sensitive costs allocated to business services. Assuming that the company's average use allocator attributes only half as many traffic sensitive costs to the business segment as it should

would shift another \$.90 out of the residential category (see Exhibit 4).

EXHIBIT 4:

ORDER OF MAGNITUDE ESTIMATES OF ADDITIONAL OF COST MISALLOCATIONS

OUCC TOP DOWN MONTHLY COST	\$17.46
Improper Allocators	-.90
Load Factors, Average minutes of use versus peak Holding Time Versus Call Frequency, Bandwidth and Storage Capacity	
Capital Investment for Other Services	-1.40
Pair Gain with empty pairs, Other costs caused by other services, and Excessive design standards	
Construction costs not analyzed	?
Excess cost of capital	-.75
TOTAL ADDITIONAL ADJUSTMENT	-3.05
ORDER OF MAGNITUDE OF LOCAL EXCHANGE COST	14.41

SOURCE: See text for a discussion of the derivation of estimates.

Similarly, with respect to non-traffic sensitive costs in Maine, one staff witness estimated that a significant distortion resulted from adhering to a design standard for loop that far exceeds those necessary for basic service (digital line-carrier on fiber optics at 12,000 feet assumed throughout the network, rather than a least cost approach to loop provisioning).¹⁹ The difference is equal to almost 20 percent of the loop costs. Based upon the Centrex adjustment in Indiana, this would be equal to an additional \$1.40 of costs misallocated to the local category.

An order of magnitude estimate of the impact of excessive capital costs can also be made. The capital cost assumed by the company was ten percent too high, according to the OUCC. Assuming that capital costs (including taxes on net income) are equal to one-third of the total cost of service, which is consistent with the overall company operations, the overstatement of basic

service costs is another \$.75 per month.²⁰

Thus, without getting into the more complex questions of cost causation in the design of the network, we have identified over \$3.00 of additional costs misallocated to basic service. Local exchange costs appear to be about half of the original company estimate. The bottom line cost of just over \$14 per month is very close to the company's internal cost tracking data.

D. CONCLUSION

These two cases make it clear that the subsidy issue is in doubt. The results are only illustrative and actual cost estimates will vary from state to state. However, these analyses send a very strong message on the subsidy issue.

First, while the press and certain federal policymakers who do not deal with local costs have given great prominence to the subsidy, the evidentiary basis has always been weak. This is why state utility commissions have never been very strongly influenced by company arguments on the subsidy.

Second, the Indiana numbers are very close to the national average numbers and the cast serious doubt on the claims made by the industry for the existence and magnitude of the subsidy.

Third, any estimate of the subsidy necessary to support universal service requires thorough cost analysis at the outset to properly identify cost causers, eliminate inefficiencies, and preclude excess profits on funds drawn from the subsidy pool.

IV. DOES IT REALLY MATTER

Consumer advocates resist a proposal which is put forward as a mechanism for relieving the pressure that competition will place on basic local service bills because there are serious, negative consequences of these proposals, if accepted in the form pushed by the telephone companies.

A. TAPPING INTO THE REVENUE STREAM TO KEEP RATES AFFORDABLE

First, adopting the subsidy-tax universal service idea ensures that ratepayers will not see the benefits of the expansion of use of the information superhighway in the form of lower rates for basic service. The entire subsidy-tax idea is based on the assumption that basic service ratepayers should pay for the whole network and all other services should get to use it for free (at only incremental cost).

This means that as the video and data uses of the network expand, they only cover their incremental costs and companies keep the profits. This is the explicit strategy of the telephone companies. It has been articulated in corporate planning documents and in regulatory proceedings at the federal and state levels. The following quote is a most explicit statement of the underlying cost and profit dynamic. It is from an internal document that was circulated at the highest levels of BellSouth.²¹

This offers [1] the opportunity to cover the fixed costs of providing fiber to the home with POTS revenue and selling CATV transport to overbuilder, entrenched CATV operator and pay service vendor (HBO, etc.) alike at probably market prices well in excess of incremental costs. At that time, [2] profit or rate-of-return regulation should have evolved to price regulation either by the current set of state and federal regulators or by the market itself. [3] This means BellSouth

will be able to keep its CATV transport profits despite the relative low level of incremental cost required to provide the service.

Having become "The Guy Who Got Fiber To the Home First", BellSouth's ubiquitous CATV transport will provide the "critical mass" necessary to support transport of the entire spectrum of BISDN services provided by the ESPs [Enhanced Service Providers]. Given the relative low incremental cost of "mining" more of fiber's huge bandwidth capacity to transport the wide variety of BISDN services and the pent-up demand signaled by the McKinsey study, BellSouth's BOCs' profit potential appears good.

This strategy has been implemented by several of the other companies, including Ameritech in Michigan and appears to be the strategy of all the Baby Bells at the Federal Communications Commission in the video dialtone proceeding.²²

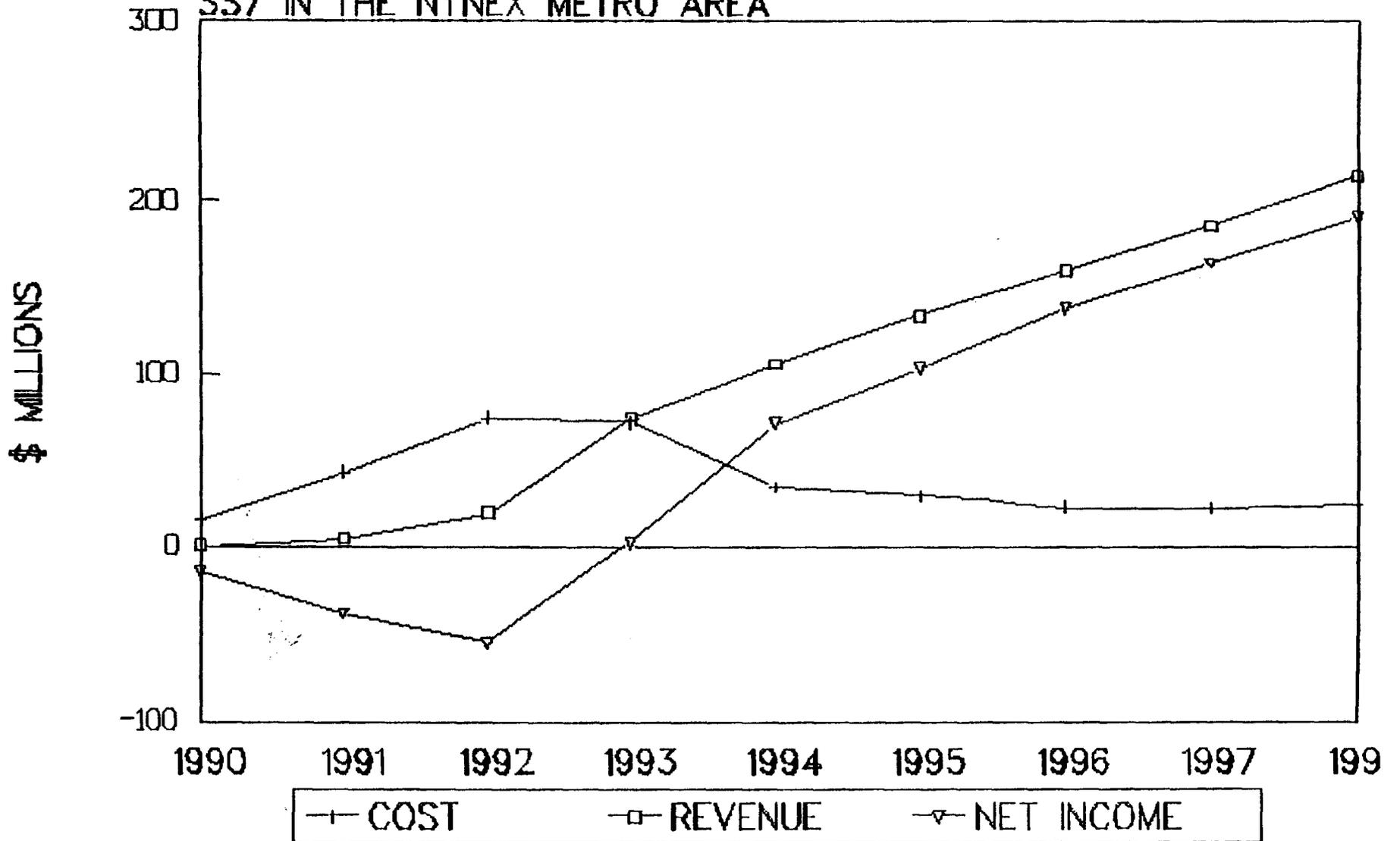
Accepting the company logic underlying the universal service subsidy-tax concept is a terrible deal for consumers. Instead of linking affordable basic rates to a reasonable allocation of the costs between all the services that use the network, many of which are likely to expand rapidly in the future, affordability is tied to a tax, which is not likely to expand and certain to be the target of repeated attack. The subsidy-tax idea gives up the economically correct and dynamic source of funds to ensure affordability.

Exhibit 5 presents the reason that it is so important to tap into the flow of revenues from information age services and not accept a subsidy-tax as the basis for affordable universal service. This graph is from NYNEX projections.

As the figure suggests, the drive to modernize the network is proceeding rapidly. The modern network will soon be fully digitized, equipped with System Signalling 7 (SS7), and have a fiber optic backbone. Such a network is extremely large and very intelligent. Even without fiber to the home, this network can accomplish a great deal. It can deliver a wide array of services with declining quantities of labor. ISDN will be widely available, with the capability

EXHIBIT 5:

CASH FLOW FROM DEPLOYMENT OF
SS7 IN THE NYNEX METRO AREA



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of more than doubling the capacity of all the copper wire already deployed and improving the quality of information services by ten to thirty fold.

Here we are at the beginning of 1994. Revenues are about to take off, while costs are declining. NYNEX has declared its intention to reduce its work force by over one-third, further cutting its costs dramatically, due to the deployment of advanced technologies. Ratepayers have funded this network, basic service should be the primary beneficiary of its success.

B. COMPETITION AND REGULATION

Second, the subsidy-tax idea will also inhibit competition. The strategy of any monopolist is to recover the largest part of his costs where competition is weakest.²³ He or she then has flexibility to preserve his market share of the more competitive parts of his business.

That is exactly what the local exchange companies have done, both across functions (by shifting costs from switching to access) and across segments (by shifting costs from businesses to residences). By underpricing switching and business services, the local exchange companies will be better able to preserve their market power. Since the subsidy-tax idea underwrites this cost misallocation, it will prolong the monopoly hold of the local exchange companies.

C. UNDERMINING THE DISSEMINATION OF NETWORK FUNCTIONALITIES

Third, avoiding good cost causal analysis through the subsidy-tax idea will also undermine efforts to expand the concept of basic service in consumer friendly, socially responsible directions. Digital services are a perfect example.

While the above discussions identify ISDN as one of the cost causers whose burden has

been shifted to residential ratepayers, it must also be said that local exchange companies have tried to make ISDN and other digital services a very high profit center. Digital service is a network functionality over which the local exchange companies possess market power.²⁴

By combining the philosophy of attributing incremental costs to these services with the philosophy of market pricing, the companies attempt to achieve astronomically high profits (mark-ups of several hundred percent).²⁵ This frustrates the enhancement of basic service by maximizing profits on services over which the companies possess market power, which restrict output for these network services.

In Tennessee, for example, ISDN was funded with excess earnings in an explicit attempt to accelerate modernization of the network.²⁶ Ratepayers had already paid the bulk of the costs. The company then tried to price the service at \$35 per month for residential consumers. Even on a fully allocated cost basis, ISDN costs are certainly less than \$10 per month and ISDN or other approaches to digital line service may be even lower, on the order of \$5 per month.²⁷

Abandoning sound cost-causal analysis through the subsidy-tax idea results in a thoroughly anti-consumer pricing pattern. The cost of basic service is driven up. The companies attribute virtually no costs to the really big cost causers, like video services, and they overprice network functionalities, where they have market power.

D. EXCESS EARNINGS

Fourth, the subsidy-tax idea ratifies the excess earnings of the companies. There has been a dramatic decline in the cost of telephone service, including local exchange service. Exhibit 6, also from the OUCC case in Indiana shows that the decline in cost of basic service falls in the

EXHIBIT 6:

COST INDICES FOR LEC SERVICES

