

Section 2: The Treatment of Joint Costs in LRSIC Studies

C. The Simplistic Cost-Causer Argument

Q. Dr. Taylor defends his placing of 100% of loop costs on local service “on a cost-causative basis.” [CBT, Response to OCC Interrogatory 290.] Would you discuss this point?

A. Yes. Dr. Taylor is apparently arguing that the cost of the access line is effectively “caused” by the act of subscribing to local exchange service, and that all other services that may be provided over the line are made available costlessly and are thus economically irrelevant. That is, because you can’t purchase local service usage (generally unlimited) without getting a dial tone line and vice versa, from a cost-causation standpoint that artifact of the tariff structure should control the analysis. Simply because the line is provided by the phone company on a bundled basis, in conjunction with local exchange service, it is argued that the full cost of that line should be attributed to the local exchange category.

Q. Do you accept this reasoning?

A. No. This is a simplistic view of causation, one that can lead to misleading conclusions. In fact, if we want to really examine causation, the cost of a local loop as physical plant is incurred when someone--perhaps an aspiring subscriber in years past, perhaps a real estate developer or home builder, perhaps a phone company executive--makes a decision to install loop plant along a particular route. Some of this plant is dedicated to a particular neighborhood, or house, and other plant serves a broader geographic area. The decisions that lead to the act of installing these facilities can be seen as the proximate cause of the cost. Subsequently, if consumers don’t decide to purchase telephone service, the plant will often sit idle; if they do decide to purchase service, it will be utilized. The actual loop cost incurred by the phone company may not vary much either way. The investment in loop plant accumulates carrying charges until a further

decision is made to activate the circuit and supply the dial tone that enables the line to become an active part of the public switched network. At that time a billing cycle is initiated, and the cost of the loop begins to be recovered.

Of course, once cause and effect are broken down into this much detail, one can quickly lose sight of the important economic issues. Proximate causes like the act of subscribing are not necessarily very interesting or revealing--what counts are the underlying causes or factors that explain patterns of behavior and the resulting impact on the firm's costs and revenues. That is where the disagreements come in, because that is where we must settle on a method of cost recovery. My view is that retail subscribers don't demand dial tone; they demand the ability to make and receive telephone calls, both local and long distance, and to enjoy the various ancillary services that carriers can provide. Attempts to define "dial tone access" as a separate service are inconsistent with the way most customers view the services they receive, as well as the historical pricing patterns within the industry. In any event, such definitional gymnastics does not change the underlying economics of the situation, any more than defining "cows" as the output changes the joint nature of cattle feeding costs with respect to the various retail services demanded by customers (e.g, hamburgers and leather gloves).

In general, consumer motivation and "cause and effect" reasoning does not have any impact on the manner in which joint costs are recovered in competitive markets. To the contrary, all of the joint products contribute to the joint costs, with the relative proportions being determined by the relative strength of demand. Cause and effect is essentially irrelevant. Consider, for example, cotton and cotton seed. Cotton seed is a mere byproduct of the production of cotton, and people buying cottonseed oil arguably don't "cause" cotton to be grown, while the consumers of cotton cloth arguably do "cause" the various costs of growing raw cotton to be incurred. Nevertheless, consumers of both cottonseed oil and cotton clothing contribute to the cost of growing and harvesting cotton. The mere fact that the planting of cotton is "caused" by demand for cotton cloth does not result in all of the joint costs being recovered from the clothing market, and none from the ancillary products like cottonseed oil. Customers in

both markets share the joint costs, in proportions that are determined by the relative strength of demand for cotton cloth and cottonseed oil.

Q. In support of the “cost-causation” principle it has been argued that if telecommunications systems are “information highways,” shared by many, then loops are like private cars, since they are “driven” by a specific household. Do you accept this analogy?

A. No. It would be more meaningful and somewhat more accurate to draw an analogy between cars and the customer premises equipment (CPE) that subscribers use to place calls. The particular color, shape, brand, and other characteristics of the telephone is largely a personal decision, with little or no impact on others. But this isn't true of the subscriber loop, which affects many people besides the immediate household that it is connected to. Physically, one might draw an analogy between the *drop* connecting the customer to the telephone network and the driveway which the car uses to reach the public street system. But the bulk of the loop facilities are fundamentally different. They are not permanently connected to any single premise, nor in any sense dedicated to the use of any single customer. The same loop can be reassigned to another premise and, more significantly, it is frequently used by other customers on a routine basis, (e.g., when they place calls to that premise). The loop is thus more closely analogous to the stretch of road or street in front of one's house.

While I agree that the exchange networks are comparable to our system of roads and highways, the analogy should be carried through. The cost characteristics and social benefits of roads are fairly similar to those of the exchange network--including the local loops. Both networks are part of the basic infrastructure of our society. Both involve high initial investment costs, most of which become sunk costs once the roads or subscriber loops are installed. The incremental costs imposed by another person using the road are typically very low, just as the incremental cost of connecting another subscriber to the network is usually low (relative to the average cost).

Furthermore, both systems involve benefits in consumption which are non-exclusive: drivers (and passengers) do not benefit just from the road in front of their house, or from the road they use in driving to work daily; they benefit from the entire interconnected road system, which not only allows them to drive anywhere they want, but also allows delivery trucks to reach the supermarkets where they buy food, the buses to carry their children to school, etc. Except during times of unusual congestion, one person's enjoyment of the road system does not prevent another person from benefiting as well. In a similar vein, customers benefit from more than just the subscriber loop that is connected to their particular telephone; they benefit from the entire network, which allows them to reach any other subscriber in the exchange and, via interexchange carriers, to reach practically anyone in the world. Conversely, other customers also benefit from that subscriber's loop. For example, telemarketing companies and other large users of telephone service obviously receive immense value from the subscriber networks, and each subscriber added to the network marginally increases that value. Furthermore, one person's use of the local network does not preclude others from also enjoying its benefits.

Q. But you are speaking of benefits, not costs. Is this not a confusion of cause and effect?

A. No. The motive behind the incurrence of a cost is anticipation of the associated benefit. Where the decision maker receives only part of the benefit, an economically sound conclusion will not be reached if the benefits to others are ignored. A subscriber joins the network in order to enjoy the services that he or she can receive in no other way. However, that does not mean that the cost that is caused by the decision to join the network must necessarily be borne entirely by that particular subscriber. The loop is properly a joint cost of the various services that make use of it--it is a means, not an end. Although it is technically right to distinguish costs from cost recovery, it is wrong to take too narrow a view of the act that causes the costs or to let this decision point dominate the analysis to the exclusion of other, more meaningful considerations. The costs of a new loop may be occasioned by the addition of a discrete subscriber to the

network, but joining the network is not like buying a commodity for one's private and exclusive use; it is a complex act with many ripple effects, affecting many people. Others benefit from the decision of each household to join the network, and it is appropriate to consider these benefits in studying whether or not a customer is being "subsidized" if that customer pays only a portion of the full cost of the loop that connects him or her to the rest of the network. This is the effect of the current pricing system, in which a portion of the loop costs is recovered from toll carriers, and thus from those who will be placing long distance calls to the new subscriber.

Q. Is there any evidence that customers consider more than the "dial tone" rate/service in making decisions to subscribe?

A. Yes. It should be obvious that local usage is valuable to customers, and the rate charged for this service is also important. Similarly, results of penetration/price elasticity studies suggest that toll services can also be important. Anticipated use of the loop for the origination of toll calls is a significant factor in many subscribers' decisions to join, stay on, or leave the switched network. Although I do not know of any studies of the subject, I would not be surprised to learn that many computer-owning subscribers who order a second telephone line do so specifically to maintain an on-line connection to the Internet, just as some subscribers (and I am among them) currently have a second line largely dedicated to a fax machine. Thus, the revenues that can be anticipated from these ancillary sources (e.g., switched access charges paid by toll carriers, line charges paid by Internet providers) must also be evaluated in judging whether an incremental subscriber will generate enough revenue to offset the additional costs he or she will impose.

In short, assigning costs on the basis of a guess about the intention of ratepayers when they make a purchase is not a sound basis for economic analysis. Undoubtedly, many consumers want to obtain and use an entire array of telecom services, including local, toll and custom calling. Any attempt to trace "cost causation" to these individual services on the basis of consumer motivation is bound to be meaningless, since the loop costs are actually "caused" by the desire to use the full array of services, and the chain of causality cannot be uniquely traced

to any single service within this array. If the dial tone line were bundled with toll service, and local service were priced as an optional add-on, many consumers would still acquire the dial tone line, to ensure that they can place and receive toll calls. Under these circumstances, it might appear that the dial tone line is a direct cost of toll, and thus one could plausibly argue that the entire cost should be attributed to the toll category. However, this type of reasoning is not economically valid, regardless of which service is bundled with the dial tone line, and regardless of which service provides the dominant or primary motivation for acquiring the dial tone line. So long as numerous different services require the use of the line, economic theory suggests that all of these different services will contribute towards the cost of the line.