Wholesale Pricing and the Telecommunications Act of 1996: Guidelines for Compliance with the Avoided Cost Rule

Alexander C. Larson

Recommended Citation

Larson, Alexander C. (1997) "Wholesale Pricing and the Telecommunications Act of 1996: Guidelines for Compliance with the Avoided Cost Rule," *University of Florida Journal of Law & Public Policy*: Vol. 8: Iss. 2, Article 4.
Available at: https://scholarship.law.ufl.edu/jlpp/vol8/iss2/4

WHOLESALE PRICING AND THE TELECOMMUNICATIONS ACT OF 1996: GUIDELINES FOR COMPLIANCE WITH THE AVOIDED COST RULE

*Alexander C. Larson**

I. INTRODUCTION

One of the major objectives of the Telecommunications Act of 1996[1] is to permit competition in all wireline local exchange services. Among others, the Act provides two ways to accomplish this objective: (1) through the resale of a local exchange carrier's (LEC) retail telecommunications services;[2] and (2) through the provision of interconnection to a LEC's

---

    1. Pub. L. No. 104-104, 110 Stat. 56 (codified in scattered sections of 47 U.S.C. (1996)).
    2. *Id.* § 101(a), 110 Stat. at 62 (codified at 47 U.S.C. § 251(b)(1)).

network elements on an unbundled basis at any technically feasible point.[3] Given these means of fostering competition in telecommunications markets, the pricing of resold telecommunications services and of unbundled network elements is an extremely important policy tool in meeting the goals and objectives of the Act.

Under the Act, section 252(d)(3) establishes a standard for the pricing of resold services, when no agreement on pricing can be reached, through the so-called avoided cost rule:

> (3) WHOLESALE PRICES FOR TELECOMMUNICATIONS SERVICES. — For the purposes of section 251(c)(4), a State commission shall determine wholesale rates on the basis of retail rates charge[d] to subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier.[4]

Although the Federal Communications Commission (FCC) issued guidelines on the implementation of section 252(d)(3) in August 1996,[5] the state public utility commissions ultimately are charged with making these pricing decisions. How section 252(d)(3) is implemented will be an important determinant of how well the Act can meet the original goals of Congress.[6]

Section 252(d)(3) will produce its share of contentious issues. However, applied economics provides some useful guidelines that will help ensure that the original goals of Congress are met. This article develops and provides

---

3. *Id.* § 101(a), 110 Stat. at 62-63 (codified at 47 U.S.C. §§ 251(c)(2), (3)).

4. *Id.* § 101(a), 110 Stat. at 68 (codified at 47 U.S.C. § 252(d)(3)).

5. Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98 (FCC Aug. 8, 1996) (first report and order) [hereinafter Interconnection Order]. On October 15, 1996, the Eighth Circuit issued an order staying certain portions of the FCC's August 8, 1996 Interconnection Order. Iowa Utils. Bd. v. FCC, No. 96-3321, 1996 WL 589204, at *7 (8th Cir. Oct. 10, 1996). Generally, the text of the court's order speaks only in terms of staying the "pricing provisions" and the so-called pick and choose, *i.e.*, most favored nation, rulings of the Interconnection Order. *Id.* Specifically, the Eighth Circuit ruled that Appendix B Final Rules §§ 51.501-.515 (inclusive), §§ 51.601-.611 (inclusive), §§ 51.701-.717 (inclusive), § 51.809, and the proxy range for line ports used in the delivery of basic residential and business exchange services (established in the FCC's Order on Reconsideration, dated Sept. 27, 1996) are stayed pending appeal. *Id.* at *7 n.8. This means that, at this writing, the FCC's definition of "avoided cost" has been stayed pending appeal. *Id.* at *7.

6. The Act is intended "[t]o promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." COMM. ON COMMERCE, U.S. HOUSE OF REPRESENTATIVES, 104TH CONG., COMMUNICATIONS ACT OF 1934 AS AMENDED BY THE TELECOMMUNICATIONS ACT OF 1996, at 309 (Comm. Print 1996).

such guidelines for policymakers implementing section 252(d)(3). This author argues that a myopic implementation of section 252(d)(3), without proper recognition of what it is intended to achieve, can result in telecommunications policies that fall short of the original goals of Congress.

II. THE ECONOMIC CONCEPTS EMBODIED IN SECTION 252(d)(3)

A. *Avoided Costs in Economic Terms*

Section 252(d)(3) requires an incumbent LEC (ILEC) to provide resold services at wholesale rates "on the basis of retail rates charge[d] to subscribers for the telecommunications service requested, excluding the portion thereof attributable to any marketing, billing, collection, and other costs that will be avoided by the local exchange carrier."[7] In economics, the *avoided costs* of a given decision or action are: (1) the costs that cease to be incurred if the given decision or action is reversed or ceased; or (2) the costs that will not be incurred if the given decision or action is not pursued. Stated another way, *avoided costs* are those costs that either have not yet been incurred or that can be reversed.[8] By definition, avoided costs do not contain any allocations of common costs or overhead.

The generic economic definition of avoided costs is key to the proper implementation of section 252(d)(3), although a myopic application of this definition can easily lead to problems with inefficient wholesale prices for resold services. Any avoided cost calculation performed in compliance with section 252(d)(3) should be based on the ILEC's transition from being solely a retail provider of certain services to being both a wholesaler and a retailer. Thus, in terms of section 252(d)(3), avoided costs should be defined as the differential between: (1) the ILEC's total costs when offering the retail service only to end users; and (2) the ILEC's costs when functioning as both a seller of wholesale services to resellers *and* a seller of retail services directly to end users. This differential is the costs avoided by no longer providing the pre-resale level of retailing functions, net of any additional costs incurred in the provision of the wholesaling functions.[9] Only in this

---

7. 47 U.S.C. § 252(d)(3).

8. DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 32 (1990) ("Costs, including fixed costs, that can be avoided if operations cease are sometimes called avoidable costs."); THOMAS T. NAGLE & REED K. HOLDEN, THE STRATEGY AND TACTICS OF PRICING 23 (2d ed. 1995).

9. The Interconnection Order defined "avoided costs": "Avoided retail costs shall be those costs that reasonably can be avoided when an incumbent LEC provides a telecommunications service for resale at wholesale rates to a requesting carrier." Interconnection Order, *supra* note 5, app. B Final Rule § 51.609(b). This definition has been stayed pending appeal. *Iowa Utils. Bd.*, 1996 WL 589204, at *7. Interconnection Order ¶ 911 states:

We find that "the portion [of the retail rate] . . . attributable to costs that will be

way can the avoided cost calculation gauge whether society will enjoy a net savings in production costs by encouraging the entry of resellers.

Given the above definition, the avoided costs of resale will include two major components: (1) the costs of providing the service at retail, which cease to be incurred due to the wholesaling of that service to a reseller in lieu of providing the service at retail directly to end users, minus (2) the costs of wholesaling the service to resellers.

B. *The Avoided Cost Rule and the Efficient Component-Pricing Rule*

A common question voiced by attorneys, regulators, and other professionals in telecommunications is: Why should wholesale prices be derived as the retail price minus the avoided costs, that is, what is the rationale behind section 252(d)(3)? The answer to this question may be surprising: the "avoided cost rule" contained in section 252(d)(3) is mathematically equivalent to the wholesale pricing rule known as the *efficient component-pricing rule* (a/k/a the Baumol-Willig rule; the Baumol-Sidak rule; the parity principle; or, simply, the ECPR).[10]

---

avoided" includes all of the costs that the LEC incurs in maintaining a retail, as opposed to a wholesale, business. In other words, the avoided costs are those that an ILEC would no longer incur if it were to cease retail operations and instead provide all of its services through resellers. Thus, we reject the arguments of incumbent LECs and others who maintain that the LEC must actually experience a reduction in its operating expenses for a cost to be considered "avoided" for purposes of section 252(d)(3).

Interconnection Order, *supra* note 5, ¶ 911 (alteration in original).

10. The ECPR is a controversial access pricing rule that has been debated vigorously in the law and economics literature. The FCC voiced its disdain for this pricing rule very clearly in its Interconnection Order, which was required by the Telecommunications Act of 1996:

We conclude that ECPR is an improper method for setting prices of interconnection and unbundled network elements because the existing retail prices that would be used to compute incremental opportunity costs under ECPR are not cost-based. Moreover, the ECPR does not provide any mechanism for moving prices towards competitive levels; it simply takes prices as given.

Interconnection Order, *supra* note 5, ¶¶ 709-10.

The ECPR has its roots in two articles: Robert D. Willig, *The Theory of Network Access Pricing*, in ISSUES IN PUBLIC UTILITY REGULATION 109-52 (Harry M. Trebing ed., 1979) and William J. Baumol, *Some Subtle Pricing Issues in Railroad Regulation*, 10 INT'L J. TRANSP. ECON. 341 (1983). The ECPR was popularized by the writings of Baumol and Sidak. *See* WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 93-116 (1994); William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold to Competitors*, 11 YALE J. ON REG. 171 (1994) [hereinafter Baumol & Sidak, *The Pricing of Inputs*].

Papers supporting the ECPR include the following: Mark Armstrong et al., *The Access Pricing Problem: A Synthesis*, 44 J. INDUS. ECON. 131-47 (1996) (analyzing the meaning of the "opportunity cost" component of the ECPR under various assumptions about demand and supply conditions); William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold to*

The ECPR requires that the price of an upstream productive input equal its average incremental cost, including all pertinent incremental opportunity costs; for example, the optimal input price equals the input's direct, per unit incremental cost plus the opportunity cost to the input supplier of the sale of a unit of input. This is known as the "bottoms-up" version of the ECPR, that

---

Competitors: Rejoinder and Epilogue, 12 YALE J. ON REG. 177 (1995); William J. Baumol et al., *Parity Pricing and Its Critics: Necessary Condition for Efficiency in Provision of Bottleneck Services to Competitors*, YALE J. ON REG. (forthcoming); Jerry A. Hausman & Timothy J. Tardiff, *Efficient Local Exchange Competition*, 40 ANTITRUST BULL. 529 (1995) (advocating the principles behind the ECPR but modifying it to make it more general); Alfred E. Kahn & William E. Taylor, *The Pricing of Inputs Sold to Competitors: A Comment*, 11 YALE J. ON REG. 225 (1994) (commenting on Baumol & Sidak, *The Pricing of Inputs, supra*); Alexander C. Larson & Steve G. Parsons, *An Economic Analysis of Transfer Pricing and Imputation Policies for Public Utilities, in* INCENTIVE REGULATION FOR PUBLIC UTILITIES 65 (Michael A. Crew ed., 1994) (deriving welfare-maximizing and profit-maximizing retail price floors for the vertically integrated firm, subject to separate price caps on wholesale and retail services); Alexander C. Larson & Steve G. Parsons, *Telecommunications Regulation, Imputation Policies and Competition*, 16 HASTINGS COMM. & ENT. L.J. 1 (1993) (advocating the ECPR as the basis of imputation policies); Alexander C. Larson & Dale E. Lehman, *Essentiality, Efficiency, and the Efficient Component Pricing Rule*, J. REG. ECON. (forthcoming) (demonstrating that if the vertically integrated supplier has a stringently defined "bottleneck" wholesale input, the ECPR coincides with the Ramsey rule when applied in the regulation of the integrated supplier's retail and wholesale prices).

The ECPR also has been defended by those who argue that, if an uncompensated taking is to be avoided, regulators should set the price of network access according to the ECPR. *See* J. Gregory Sidak, *When Competition Amounts to Taking*, 18 NAT'L L.J. Apr. 1, 1996, at A19; J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and Breach of the Regulatory Contract*, 71 N.Y.U. L. REV. 851, 978-80 (1996).

Papers critical of the ECPR include: Bridger Mitchell et al., *The Regulation of Pricing of Interconnection Services, in* TOWARD A COMPETITIVE TELECOMMUNICATIONS INDUSTRY: SELECTED PAPERS FROM THE 1994 TELECOMMUNICATIONS POLICY RESEARCH CONFERENCE 95, 99-101 (Gerald W. Brock ed., 1995) (providing strong criticism of the ECPR); Robert Albon, *Interconnection Pricing: An Analysis of the Efficient Component Pricing Rule*, 18 TELECOMM. POL'Y 414 (1994); Nicholas Economides & Lawrence J. White, *Access and Interconnection Pricing: How Efficient Is the "Efficient Component Pricing Rule?,"* 40 ANTITRUST BULL. 557 (1995) (arguing that access pricing at marginal cost, even with inefficient entry, can yield higher welfare effects than pricing access at the ECPR); Jean-Jacques Laffont & Jean Tirole, *Creating Competition Through Interconnection: Theory and Practice*, 10 J. REG. ECON. 227 (1996); Jean-Jacques Laffont & Jean Tirole, *Access Pricing and Competition*, 38 EUR. ECON. REV. 1673, 1693-96 (1994) (mildly criticising the ECPR); William B. Tye & Carlos Lapuerta, *The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand*, 13 YALE J. ON REG. 419 (1996); William B. Tye, *The Pricing of Inputs Sold to Competitors: A Response*, 11 YALE J. ON REG. 203 (1994) (commenting on Baumol & Sidak, *The Pricing of Inputs, supra*); William B. Tye, *Pricing Market Access for Regulated Firms*, 29 LOGISTICS & TRANSP. REV. 39, 48-54 (1993); William B. Tye, *Competitive Access: A Comparative Industry Approach to the Essential Facility Doctrine*, 8 ENERGY L.J. 337 (1987). *But see* Alexander C. Larson, *The Efficiency of the Efficient Component-Pricing Rule: A Comment*, ANTITRUST BULL. (forthcoming) (commenting on Economides & White, *Access and Interconnection Pricing: How Efficient Is the "Efficient Component Pricing Rule"?, supra*); Nicholas Economides & Lawrence J. White, *The Inefficiency of the ECPR Yet Again: A Reply to Larson*, ANTITRUST BULL. (forthcoming).

is, one arrives at the ECPR-based wholesale price by developing it from the ground up, adding up costs sequentially. In contrast, the avoided cost rule sets the wholesale price of resold services equal to the retail price minus the per unit social costs of resale.[11] It is merely the "tops-down" version of the ECPR, that is, it is an equivalent way of computing the ECPR-based wholesale price by subtracting the appropriate costs from the retail price.[12]

Because the avoided cost rule is merely the ECPR in a different guise, it ensures that society can only be made better-off by firms capable of entering markets as resellers. To see why the avoided cost rule (as an alternative version of the ECPR) achieves this result, assume that the retail service offered by firms entering the market as resellers is composed of two components: the *resold* component (productive inputs that a firm chooses to purchase from the ILEC on a wholesale basis) and the *self-supplied* component (productive inputs such firms supply themselves, such as marketing, advertising, etc.). Consumers will have two choices: to purchase the retail service either from the ILEC or from a reseller.

Society can be made better-off if the entrant is more efficient than the

---

11. In this way, the avoided cost rule (because it is a version of the ECPR) requires the ILECs to recover the same level of contribution to joint and common costs from wholesale services as from the comparable retail services.

12. It is not clear where the equivalence of the avoided cost rule to the ECPR was first shown. However, this result can be computed from equation (7) in Armstrong et al., *supra* note 10, at 135. This so-called margin rule states that the margin between the incumbent firm's retail price and the access price should equal the incumbent firm's average incremental cost in the competitive activity. *Id.* The equivalence of the avoided cost rule to the ECPR is also discussed in *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks; Investigation of the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks: Hearings on R.93-04-003 and I.93-04-002 Before the Public Utils. Comm'n of the State of Cal.* 14-15 (June 14, 1996) (prefiled direct testimony of GTE California Inc. witness David S. Sibley) (redacted version); Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket No. 96-98, at app. B (FCC May 16, 1996) (comments of SBC Communications, Inc.); Michael J. Doane et al., *An Empirical Analysis of Pricing Under Sections 251 and 252 of the Telecommunications Act of 1996*, at I-2 to I-3, I-10 (1996) (unpublished manuscript, on file with author); Alexander C. Larson & Dennis L. Weisman, *The Economics of Access Pricing, Imputation, and Essential Facilities, with Application to Telecommunications Policy* (1996) (unpublished manuscript, on file with author). This somewhat surprising fact regarding the avoided cost rule has been acknowledged by FCC Chairman Reed Hundt. *At Senate Oversight Hearing, Federal-State Tensions Exposed; 'Mini' Broadcast Auction Ahead*, TELECOMM. REP., June 24, 1996, at 3 ("Mr. Hundt noted that the Act embraces service resale based on 'efficient-component price rules' as an 'appropriate way to open the local exchange market.'"). Franklin Fisher shows that, in economic terms, the avoided cost rule is merely the ILEC's own derived inverse-demand curve for the resold service, *i.e.*, it yields the price that the ILEC must offer to get resellers to sell any given output of the resold service. FRANKLIN M. FISHER, *Can Exclusive Franchises Be Bad?*, in INDUSTRIAL ORGANIZATION, ECONOMICS AND THE LAW: COLLECTED PAPERS OF FRANKLIN M. FISHER 154, 161 (John Monz ed., 1990).

ILEC in providing the input it self supplies in lieu of purchasing it from the ILEC. Thus, when a reseller purchases the resold component from an ILEC and combines it with its own self-supplied component to provide the retail service to consumers, two things happen: (1) society *avoids* the costs of the ILEC's version of the reseller's self-supplied component, and (2) society *incurs* the entrant's own costs of the self-supplied component of production, plus the added costs required of the ILEC to serve as a wholesaler.

Thus, the avoided costs of resale[13] are what society saves on a net basis when retail service is offered to consumers by a reseller. If the new entrant's costs of the self-supplied component of production exceed this net savings to society, then society is better-off if the ILEC provides the retail service itself, as the sole supplier. Thus, if an entrant can pay the wholesale price for the resold component (as derived from the avoided cost rule) and earn nonnegative profits, society's net cost savings exceed the costs entrants incur. However, if an entrant cannot earn nonnegative profits when paying such a wholesale price, it cannot improve the economic efficiency of the market, and the public interest is not harmed by the lack of such entrants. Stated differently, if the entrant is not more efficient than the ILEC in those self-supplied components, there is no public-interest gain in having the entrant offer the service.

The avoided cost rule is therefore an economically efficient pricing rule for setting the wholesale price of resold services, ensuring that only firms capable of engaging in welfare-increasing competition will enter the market.[14] Because the avoided cost rule is equivalent to the ECPR, it ensures that entrants equally efficient to, or more efficient than, the ILEC (in the component of production that the ILEC avoids when functioning as a wholesaler in lieu of a retailer) will have retail price floors equal to or less than those of the ILEC. These entrants will therefore face no competitive-pricing disadvantage.

III. GUIDELINES FOR THE IMPLEMENTATION OF SECTION 252(d)(3)

A. *Guideline 1*

The standard for determining which costs are properly categorized as "avoided" costs should be based on the differential in the ILEC's costs caused by the ILEC's transition from being solely a retailer to being both a wholesaler and a retailer.

---

13. *See infra* part III.A, discussing the standard for determining avoided costs.

14. In other words, the avoided cost rule ensures that entry will be welfare-enhancing, though it is not necessarily a globally efficient pricing rule.

In terms of section 252(d)(3), avoided costs should be defined as the differential between (1) the ILEC's total costs when offering the retail service only to end users and (2) the ILEC's costs when functioning as both a seller of wholesale services to resellers *and* a seller of retail services directly to end users. Section 252(d)(3) does not specifically address whether costs incurred by ILECs to implement wholesale marketing should be included in the definition of avoided costs.[15] However, if a major intent of the Telecommunications Act of 1996 is to permit competition for all wireline local exchange services in a way that mutes any market power that an ILEC may have in the absence of regulation, these costs incurred by the ILECs should either be included in the definition of avoided costs (and hence the wholesale price of resold services) or recovered via a separate charge to resellers. Otherwise, the avoided cost rule would require ILECs to subsidize resellers. Such an application of this rule is not the way that competitive markets provide for the entry of efficient firms.

The subsidization of resellers would permit the entry of firms that cannot necessarily improve consumer welfare through retail competition on the merits, while doing nothing to lower the cost of providing those retail services. As discussed above, the avoided cost calculation should gauge whether society will enjoy a net savings in production costs by encouraging the entry of resellers. Accounting for the implementation costs of wholesale marketing is a necessary component to ensure only efficient resellers enter the market.

B. *Guideline 2*

The ongoing implementation of section 252(d)(3) should create no opportunity for economically inefficient arbitrage.

Under the Act, prospective entrants into telecommunications markets are not restricted to purchasing ILEC wholesale services and offering them to consumers as resellers.[16] They can also purchase interconnection to ILEC network elements under section 252(d)(1), which states:

(d) Pricing Standards. —
        (1) Interconnection and Network Element Charges. —
Determinations by a State commission of the just and reasonable rate for the interconnection of facilities and equipment for purposes of

---

15. 47 U.S.C. § 252(d)(3) (1996).

16. *Id.* § 252(d)(1).

subsection (c)(2) of section 251, and the just and reasonable rate for network elements for purposes of subsection (c)(3) of such section —
    (A) shall be____
        (i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the interconnection or network element (whichever is applicable), and
        (ii) nondiscriminatory, and
    (B) may include a reasonable profit.[17]

The avoided cost rule in section 252(d)(3) should dovetail with the pricing standards contained in section 252(d)(1); otherwise, arbitrage can occur. Arbitrage exists if it is possible to buy all of the network elements of a particular service under section 252(d)(1) for a sum lower than the cost of the wholesale rate for that service, or vice versa. Arbitrage would be possible if the wholesale price of resold services is set such that new entrants *always* prefer purchasing access to network elements through resale in lieu of (1) the direct purchase of interconnection to ILEC network elements or (2) the building of their own facilities-based networks. This could happen if, for example, avoided costs are defined too broadly in the implementation of section 252(d)(3), resulting in an artificial market for resale that discourages construction of alternative networks and allows resellers to undercut the charges for interconnection set under section 252(d)(1).[18]

Arbitrage, if it becomes possible, can derail the intent of Congress in fostering telecommunications competition by introducing pricing distortions to the options firms have for entering telecommunications markets under the Act. Such distortions could cause the entry of some firms to be favored unduly over the entry of others with equal superiority in efficiency over the ILEC. These distortions could also discourage the efficient development of private networks, for example, if competitors of firms building private networks could always offer unduly low prices to consumers by functioning as only resellers.

To ensure that arbitrage does not take place; that rates derived from sections 252(d)(1) and 252(d)(3) are compensatory; and that both sets of rates will encourage entry only by efficient suppliers, the following guideline should be followed: implementation of section 252(d)(3) should make an ILEC indifferent to selling the retail service itself, wholesaling a service to a reseller, or selling interconnection to unbundled network elements to a competitor under section 252(d)(1). One way to achieve this result is to set the wholesale rates of services for resale using the properly implemented

---

17. *Id.*
18. *Id.*

avoided cost rule of section 252(d)(3), and then to set the rates of unbundled network elements using the ECPR (or a modification thereof, if such a modification results in greater efficiency).[19] In other words, the ECPR should be adopted as a unified method for setting the wholesale price of resold services and for setting the prices of unbundled network elements. If prices are set this way, the possibility for arbitrage is eliminated, rates are compensatory, and prospective entrants are given efficient sets of incentives to lower total industry costs.[20]

C. Guideline 3A

Section 252(d)(3) should be implemented on a service-by-service basis or on the basis of service categories in which the component services are produced jointly.

This guideline represents more of an empirical issue than a conceptual one. However, no averaging of discounts across services or companies is mandated by section 252(d)(3). If there are likely to be large variations in avoided costs across services, a more aggregated approach (*e.g.*, a "standard" percentage discount applied to all services of an entire company, or applied to all companies serving as wholesalers) could produce cross-subsidies between one resold service and another. The correct avoided cost discounts are quite likely to vary across companies, categories of services, and services. To prevent these cross-subsidies, avoided costs may have to be computed on a service-by-service basis. Note, however, that if several services must be produced jointly, they will have the same joint avoided costs. Such services can be grouped into categories of services, with the avoided costs of the services computed on a category basis.

---

19. Sidak and Spulber argue that interconnection at rates less than those dictated by the ECPR is confiscatory. *See* Sidak & Spulber, *supra* note 10, at 978; *see also* Sidak, *supra* note 10, at A19.

20. The FCC originally expressed a reluctance to allow the ECPR to be used as the means of setting interconnection prices under § 252(d)(1):

> We tentatively conclude that use of the ECPR or equivalent methodologies to set prices for interconnection and unbundled network elements would be inconsistent with the section 252(d)(1) requirement that be [sic] based on "cost." We propose that states be precluded from using this methodology to set prices for interconnection and access to unbundled elements.

Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 11 F.C.C.R. 14,171, ¶ 148 (released Apr. 19, 1996). In its subsequent order on interconnection, the FCC attempted to proscribe the use of the ECPR in setting rates for unbundled network elements. Interconnection Order, *supra* note 5, ¶¶ 709-10; *see also supra* note 10 and accompanying text, for a more in-depth discussion of the FCC's disdain for the ECPR.

D. *Guideline 3B*

In arriving at appropriate wholesale prices of resold services, the proper avoided costs should be matched to the proper retail prices and subtracted accordingly.

If the avoided cost rule is to be implemented properly, it must be recognized as the tops-down approach to the ECPR. If the applied avoided cost rule is not equivalent to the tops-down approach to the ECPR, then it is likely to be no more than an inefficient bastardization of the ECPR applied in patchwork fashion.

To illustrate the importance of this guideline, suppose that a reseller wishes to purchase Service *A* from an ILEC and resell it; however, Service *A* is produced jointly with Services *B* and *C*, and if the ILEC resells Service *A*, it is physically prevented from offering Services *B* and *C*. The reseller, however, wishes to resell Service *A* but does not wish to resell Services *B* and *C*. Two important questions emerge from this situation:

1. Because the costs of Services *B* and *C* are avoided when Service *A* is resold, should the avoided costs of Services *B* and *C* be included as components of the avoided cost of Service *A*?

2. Is it correct to derive the wholesale price of Service *A* by subtracting the avoided costs of Services *A*, *B*, and *C* from the retail price of Service *A*?

As will be discussed in this section, the answer to Question 1 is "yes," but the answer to Question 2 is "no." Regarding Question 1, it is clear that if an ILEC must produce Services *A*, *B*, and *C* jointly or not at all, then, if a reseller wishes to resell only Service *A*, the avoided costs of Services *B* and *C* become components of the avoided cost of the ILEC wholesaling *A* in lieu of retailing Services *A*, *B*, and *C*. More importantly, the *opportunity costs* of Services *B* and *C* become components of the opportunity cost to the ILEC of wholesaling *A* in lieu of retailing Services *A*, *B*, and *C*.[21] What this means in practical terms is that the avoided costs of Services *A*, *B*, and *C* should *not* be subtracted from the retail price of Service *A* to arrive at a wholesale rate for Service *A*. Rather, they should be subtracted from the sum of all of the rates of the services avoided (Services *A*, *B*, and *C*). Only in this way can the true avoided costs of the ILEC be matched with the corresponding retail prices, and only in this way can the avoided cost rule account for the opportunity costs to the ILEC when the ILEC functions as a wholesaler/retailer in lieu of functioning as the sole retailer. Applying the

---

21. In economics, the term "opportunity cost" represents the difference between what an economic resource is earning in its current use and the most that it could earn elsewhere.

avoided cost rule in this way is necessary if the rule is to arrive at the results of, and hence boast the same properties as, the ECPR.

Thus, if a reseller wishes to resell Service A, but Service A must be supplied in conjunction with Services B and C, or not at all, the efficient wholesale price of Service A alone is the sum of the retail prices of Services A, B, and C, minus the avoided costs of Services A, B, and C. This latter formula also represents the efficient wholesale price of any other subset of Services A, B, and C. If a reseller wishes to resell only Service A, the reseller may argue that the wholesale price for Service A should equal the retail price of Service A, minus the avoided costs of Services A, B, and C; but this is clearly incorrect. Taking this approach to applying section 252(d)(3) will result in noncompensatory wholesale prices of resold services and inefficient arbitrage opportunities. Applied this way, the avoided cost rule deviates from being a tops-down version of the ECPR, which it *must* if it is to produce economically efficient wholesale prices.

E. *Guideline 4*

The avoided cost rule should not be applied literally to markets in which retail prices are below costs.

Section 252(d)(3) makes no explicit exceptions for retail services priced below cost; but, if the section is applied literally to such services, the wholesale rate itself will be below cost, and the ILECs are required to wholesale their resold services at a noncompensatory price.[22] While such a pricing scheme maintains the proper relationship *between* retail and wholesale rates, it also explicitly requires the ILECs to subsidize their own competitors. Economic analysis indicates that it is inefficient to apply the avoided cost rule blindly to markets in which retail rates are below the corresponding costs.

If retail rates in a market are below costs, there are three economically sound options that regulators can take in implementing section 252(d)(3). The first option is simply to not mandate resale, and hence to not apply section 252(d)(3). It has been argued that resale is an inappropriate policy tool to apply to a subsidized market such as residence basic local exchange service.[23] The root of this argument is that the overarching economic reason for resale is to enhance or enable the competitive process in the retail

---

22. 47 U.S.C. § 252(d)(3).

23. Alexander C. Larson, *Resale Issues in Telecommunications Regulation: An Economic Perspective*, 2 MICH. TELECOMM. & TECH. L. REV., art. 5 (1996) <http://www.umich.edu/ ~mttlr/vol2/larson.html>.

market, *if* the market failure in the retail market is caused by lack of availability of the service to be resold (and if mandating resale can lead to increases in economic efficiency).[24]   In a subsidized market, the raison d'être for resale does not exist, for the problem resale policies were designed to remedy is not present. Because retail prices in residential markets have been set at below-cost levels to pursue universal service objectives,[25] this begs the question of why a regulatory agency would want to pursue resale in the first place. Resale makes sense as a policy only if prices in the retail market are too *high* (due to the possession of market power by the incumbent firm); if the competition that would result from resale curbs that market power; and if the direct regulation of retail prices is considered an ineffective means of correcting this problem. A market in which the retail price has been set at levels below cost is *not* a market in which prices are too high due to market failure, and hence a market which may require a resale policy. It is the *opposite* — a subsidized market.[26]

The second option is to rebalance retail rates to compensatory levels, paying for the rate rebalance by establishing a competitively neutral funding mechanism for the continued subsidization of the market. The market can then be observed, and, if it is determined that additional competition would be beneficial, the regulatory agency can implement the section 252(d)(3) avoided cost rule on the rebalanced (*i.e.*, higher, compensatory) retail rate. The resulting wholesale price for resold services would be above cost and compensatory.

If the state regulatory agency chooses not to rebalance rates, a third option is to implement a system of end-user surcharges on both resold services and unbundled network elements.[27] In this scenario, the wholesale rate itself would not be compensatory, but the end-user surcharge paid by the reseller would neutralize the deficit caused by the ILEC's pricing of wholesale rates at noncompensatory rates.

---

24. *Id.*

25. Publicly available data on the costs of basic local exchange service are difficult to find in the telecommunications industry. *See Petition of BellSouth Telecommunications, Inc., d/b/a Southern Bell Telephone and Telegraph Company for Consideration and Approval of Georgians First: Hearings on Docket No. 5258-U Before the Public Serv. Comm'n of the State of Ga.* 4 (Nov. 7, 1994) (prefiled testimony of BellSouth witness Frank R. Kolb, arguing that, in 1993, the average monthly flat-rate residence basic exchange line provided revenue of $17.83 and the associated incremental cost of the service was $20.22, resulting in a monthly subsidy of $2.39 per residence access line).

26. In fact, the incentives that this situation creates are perverse. For example, it provides an opportunity for new entrants, as resellers, to damage ILECs merely by trying to promote sales of services that are sold at prices below cost, *e.g.*, second access lines in high-cost areas.

27. *See* Doane et al., *supra* note 12, at ii.

F. *Guideline 5*

*The wholesale price of resold services should not be computed via
a permanent, fixed percentage discount off the ILEC's retail price.*

It has been argued that one way resale policies would fail to foster
competition is if the wholesale price of resold service is always based on a
fixed percentage of the incumbent firm's retail price.[28] This argument
proceeds as follows: if the wholesale price is always computed as a fixed
percentage of the ILEC's retail price, the ILEC can never compete on the
merits of its retail pricing.[29] Each time it lowers its retail price, its
competitors' input prices also are lowered.[30] Each time the incumbent firm
attempts to compete on price, it faces competitors whose input prices have
decreased as a result of its own retail price reduction.[31]

Thus, the argument is that if the wholesale price is computed into
perpetuity as a uniform percentage of the ILEC's retail price, the ILEC will
eventually be forced to exit the retail market and become only a wholesaler,
ceding the sale of the retail service to its competitors.[32] If the ILEC cannot
exit the market (due to carrier-of-last-resort responsibility or other legal
reasons), it will needlessly run deficits, and its stockholders would be
subsidizing the entry of resellers.

It is very clear that, at any given time, the avoided cost rule of section
252(d)(3) should be based on the retail price and the forward-looking avoided
costs of the ILEC, as defined above. This allows the avoided cost rule to
"sunset" when it is no longer meaningful. For example, section 252(d)(3)
requires the setting of the wholesale price by subtracting avoided costs from
the retail price.[33] Now suppose that this has been done, and competition
has taken place via the entry of resellers. Assume that this competition has
resulted in a retail-price reduction driven entirely by the amount of the
avoided costs. Once this stage in the competitive process has been reached,
the avoided costs of the ILEC on a forward-looking basis are zero, and the
wholesale price remains at the original retail price less the ILEC's original
level of avoided costs. Readjusting the wholesale price does not change it
in this scenario, because the result would be simply the new, lower retail

---

28. *See* Larson, *supra* note 23. The author must credit a discussion with David Mandy
for sparking the initial idea behind this argument.

29. *See id.*

30. *See id.*

31. *See id.*

32. *See id.*

33. 47 U.S.C. § 252(d)(3) (1996).

price minus zero avoided costs.

Contrast this with a scenario in which the wholesale price is *always* the ILEC's retail price less X %. It is clear that in this latter scenario, the wholesale price ratchets down to levels too low to foster efficient competition.

G. *Guideline 6*

After initial implementation of section 252(d)(3), if the ILEC's technology choice alters the forward-looking avoided cost of resale, then wholesale prices of resold services should be adjusted accordingly.

This guideline may seem rather obvious, but it is necessary to ensure that the avoided cost rule continues to foster both entry and subsequent competition by efficient entrants. As technology changes and hence lowers the ILEC's costs, the ILEC's forward-looking avoided costs of resale may also change, becoming lower. If this is so, the new avoided costs should be used in complying with section 252(d)(3).

At first, this may seem counterintuitive. This is because the wholesale price of resold services will *increase* if the ILEC's avoided costs decrease. Thus, at first glance, it appears that cost reductions due to technological advances merely make the wholesale price of resold services higher for prospective resellers. In other words, such cost reductions, if they lower the ILEC's avoided costs, appear to disadvantage prospective entrants into the retail market. However, this is merely a well-known property of the ECPR, to which the avoided cost rule is equivalent. As Baumol and Sidak have stated, "[T]he [ECPR] offers the prospect of success to entrants who can add efficiency to the supply of the final product, while it ensures that inefficient entrants are not made profitable by an implicit cross-subsidy extracted from the incumbent [firm]."[34] This is no less true for the avoided cost rule in section 252(d)(3).

Decreases in the ILEC's avoided costs can cause the wholesale price to increase, assuming the retail price remains constant. However, as a result, because prospective competitors capable of improving the public interest must, in turn, be at least as efficient, it follows that they must be capable of paying higher wholesale prices if society is to be better-off. In this regard, the avoided cost rule, like the ECPR, is self-adjusting if the proper avoided costs are used. Thus, as the ILEC's avoided costs decrease due to technological advances, cost-reducing innovation, or simply more effective

---

34. Baumol & Sidak, *The Pricing of Inputs, supra* note 10, at 201.

management, the wholesale prices derived through the avoided cost rule should be adjusted accordingly. Efficient wholesale prices should reflect the social costs of resale policies in lieu of retail-market supply provided solely by the ILEC.

IV. SUMMARY AND CONCLUSION

The Telecommunications Act of 1996 requires all carriers to permit resale of their services and obligates the ILECs to offer their retail services to other carriers at wholesale rates.[35] It also requires the ILECs to provide un-bundled access to network elements such that the requesting carrier may combine them in a useful way to provide services.[36] Such obligations, by themselves, are neither good nor bad; what really matters is the pricing of services that ILECs must sell to their competitors.[37]

Congress did not succinctly dictate the ways in which such pricing should be carried out. For example, section 252(d)(3) does not expressly address any added costs ILECs may incur to implement wholesale marketing; it does not address the contingency that retail rates may themselves be below the cost of the retail service; and it does not require a dovetailing with the prices of alternative methods for obtaining the equivalent of a resold service, such as through the purchase of unbundled network elements addressed by section 252(d)(1). However, these issues and others need to be addressed if section 252(d)(3) is to foster telecommunications competition properly and effectively.

Applied economics provides a sensible way of interpreting the Act and pricing resold services in an efficient manner, one that will meet the goals and objectives of Congress and lead to the type of competition that makes consumers better-off. This article has provided six economics-based guidelines that regulatory agencies should use in implementing section 252(d)(3).

These guidelines for implementing section 252(d)(3) provide a blueprint that can be characterized by four general rules. First, recognize that the intent of Congress in passing the Act is to promote competition and reduce regulation to secure lower prices and higher quality services for the U.S. telecommunications consumer.[38] Entry into telecommunications markets should not take place for its own sake. It should take place if telecom-munications markets can be made more efficient due to that entry. This should serve as the overarching guide to implementation of section 252(d)(3).

---

35. Pub L. No. 104-104, 110 Stat. 56 (codified in scattered sections of 47 U.S.C.(1996)).
36. *Id.*
37. PETER W. HUBER ET AL., THE TELECOMMUNICATIONS ACT OF 1996, at 19 (1996).
38. *See* COMM. ON COMMERCE, *supra* note 6, at 309.

Second, define avoided costs properly so that they correctly measure the social costs of making the transition to a retail market in which ILECs will serve as wholesalers to their retail competitors.

Third, do not apply section 252(d)(3) in a vacuum; it is important that the wholesale pricing of resold services dovetail with the pricing of unbundled network elements dictated by section 252(d)(1). To ensure that this dovetailing takes place, both sections 252(d)(1) and 252(d)(3) should be implemented using the ECPR or a similar wholesale pricing rule demonstrated to be efficient. Unbundled network elements should be priced using the "bottoms-up" version of the ECPR; the avoided cost rule is merely the "tops-down" version of the ECPR.

Fourth, apply section 252(d)(3) only where it is really needed, that is, in markets where *welfare-improving* retail competition cannot take place without a resale policy. Curtail the implementation of this section when it is no longer needed.[39]

---

39. For example, if facilities-based competition were in evidence, there would be alternate supplies of wholesale services for resellers, wholesale prices would be determined by the workings of a workable competitive market, and § 252(d)(3) would cease to have meaning.