

(b) Participation in Commission or court proceedings relating to access charge tariffs, the billing and collection of access charges, the distribution of access charge revenues, or the operation of a billing and collection pool on an untariffed basis shall be deemed to be authorized association activities.

(c) Upon the incorporation and commencement of operations by the association's independent subsidiary that, pursuant to Part 54, will administer temporarily specified portions of the universal service support mechanisms, the association shall no longer administer the Universal Service charge, including the direct billing to and collection of associated revenues on a monthly basis from interexchange carriers pursuant to Part 54 and the distribution of these revenues to qualified telephone companies based on their share of expenses assigned to the Universal Service Factor portion of the interstate allocation pursuant to § 36.631. Such functions shall be assumed by the independent subsidiary of the association as provided in Part 54. Commencing on January 1, 1998, the billing and collection of universal service support for high cost areas shall be performed in a manner consistent with § 54.709 of this chapter.

(d) Upon the incorporation and commencement of operations by the association's independent subsidiary that, pursuant to Part 54, will administer temporarily specified portions of the universal service support mechanisms, the association shall no longer administer the Lifeline Assistance charge, including the direct billing to and collection of associated revenues on a monthly basis from interexchange carriers pursuant to Part 54, and the distribution of these revenues to qualified telephone companies based on their share of expenses assigned to the Lifeline Assistance Fund pursuant to § 36.741 and of End User Common Line charges associated with the operation of Part 54. Such functions shall be assumed by the independent subsidiary of the association as provided in Part 54. Commencing on January 1, 1998, the billing and collection of Lifeline support shall be performed in a manner consistent with § 54.709.

(e) Upon the incorporation and commencement of operations by the association's independent subsidiary that, pursuant to Part 54, will administer temporarily specified portions of the universal service support mechanisms, the association shall no longer compute, in accordance with Part 54, the mandatory Long Term Support payment of telephone companies that are not association Common Line tariff participants, bill or collect the appropriate amounts on a monthly basis from such telephone companies, or distribute Long Term Support revenue among association Carrier Common Line tariff participants. Such functions shall be assumed by the independent subsidiary of the association as provided in Part 54. Commencing on January 1, 1998, the computation, billing, and collection of Long Term Support shall be performed in a manner consistent with § 54.303.

(f) The association shall also prepare and file an access charge tariff containing terms and conditions for access service and a form for the filing of rate schedules by telephone companies that choose to reference these terms and conditions while filing their own access rates.

(g) The association shall divide the expenses of its operations into two categories. The first category ("Category I Expenses") shall consist of those expenses that are associated with the preparation, defense, and modification of association tariffs, those expenses that are associated with the administration of pooled receipts and distributions of exchange carrier revenues resulting from association tariffs, those expenses that are associated with association functions pursuant to §§ 69.404(c)-(g), and those expenses that pertain to Commission proceedings involving Subpart D of Part 69 of the Commission's rules. The second category ("Category II Expenses") shall consist of all other association expenses. Category I Expenses shall be sub-divided into three components in proportion to the revenues associated with each component. The first component ("Category I.A Expenses") shall be in proportion to the Universal Service Fund and Lifeline Assistance revenues. The second component ("Category I.B Expenses") shall be in proportion to the sum of the association End User Common Line revenues, the association Carrier Common Line revenues, the association Special Access Surcharge revenues, the Long Term Support payments and the Transitional Support payments. The third component ("Category I.C Expenses") shall be in proportion to the revenues from all other association interstate access charges.

(h)(1) The revenue requirement for association tariffs shall not include any association expenses other than Category I.A Expenses.

(2) The revenue requirement for association tariffs shall not include any Association expenses other than Category I.B Expenses.

(3) The revenue requirement for association tariffs shall not include any association expenses other than Category I.C Expenses.

(4) No distribution to an exchange carrier of Universal Service Fund and Lifeline Assistance revenues shall include adjustments for association expenses other than Category I.A Expenses.

(5) No distribution to an exchange carrier of revenues from association End User Common Lines Or Carrier Common Line charges, Special Access Surcharges, or Long Term Support or Transitional Support payments shall include adjustments for association expenses other than Category I.B Expenses.

(6) No distribution to an exchange carrier of revenues from association interstate access charges other than End User Common

Line and Carrier Common Line charges and Special Access Surcharges shall include adjustments for association expenses other than Category I.C Expenses.

(7) The association shall separately identify all Category I.A, I.B and I.C Expenses in cost support materials filed with each annual association access tariff filing.

**§ 69.405 Billing and collection of access charges.**

(a) Telephone companies shall bill and collect all access charges except those charges specified in Part 54.

(b) All access charges shall be billed monthly.

**§ 69.406 Reporting and distribution of pool access revenues.**

(a) Access revenues and cost data shall be reported by participants in association tariffs to the association for computation of monthly pool revenues distributions in accordance with this Subpart.

(b) Association expenses incurred during the month that are allowable access charge expenses shall be reimbursed before any other funds are disbursed.

(c) Except as provided in paragraph (b) of this Section, payments to average schedule companies that are computed in accordance with § 69.407 shall be disbursed before any other funds are disbursed. For purposes of this Part, a telephone company that was participating in average schedule settlements on December 1, 1982, shall be deemed to be an average schedule company except that any company that does not join in association tariffs for all access elements shall not be deemed to be an average schedule company.

(d) The residue shall be disbursed to telephone companies that are not average schedule companies in accordance with §§ 69.408 through 69.411.

(e) The association shall submit a report on or before February 1 of each calendar year describing the association's cost study review process for the preceding calendar year as well as the results of that process. For any revisions to cost study results made or recommended by the association that would change the respective carrier's calculated annual common line or traffic sensitive revenue requirement by ten percent or more, the report shall include the following information:

(1) the name of the carrier;

- (2) a detailed description of the revisions;
- (3) the amount of the revisions;
- (4) the impact of the revisions on the carrier's calculated common line and traffic sensitive revenue requirements; and
- (5) the carrier's total annual common line and traffic sensitive revenue requirement.

**§ 69.407 Computation of average schedule company payments.**

(a) Payments shall be made in accordance with a formula approved or modified by the Commission. Such formula shall be designed to produce disbursements to an average schedule company that simulate the disbursements that would be received pursuant to § 69.408 by a company that is representative of average schedule companies.

(b) The association shall submit a proposed revision of the formula for each annual period subsequent to December 31, 1986, or certify that a majority of the directors of the association believe that no revisions are warranted for such period on or before December 31 of the preceding year.

**§ 69.408 Disbursement of carrier common line residue.**

(a) The association shall compute a monthly net balance for each member telephone company that is not an average schedule company. If such a company has a negative net balance, the association shall bill that amount to such company. If such a company has a positive net balance, the association shall disburse that amount to such company.

(b) The net balance for such a company shall be computed by multiplying a hypothetical net balance for such a company by a factor that is computed by dividing the Carrier Common Line residue by the sum of the hypothetical net balances for such companies.

(c) The hypothetical net balance for each company shall be the sum of the hypothetical net balances for each access element. Such hypothetical net balances shall be computed in accordance with § 69.409 - § 69.411.

**§ 69.409 Carrier common line hypothetical net balance.**

The hypothetical net balance shall be equal to a Carrier Common Line revenue requirement for each such company.

**§ 69.410 End user common line hypothetical net balances.**

(a) If the company does not participate in the association tariff for such element, the hypothetical net balance shall be zero.

(b) If the company does participate in the association tariff for such element, the hypothetical net balance shall be computed by multiplying an amount that is computed by deducting access revenues collected by such company for such element from an End User Common Line revenue requirement for such company by a factor that is computed by dividing access revenues collected by all such companies for such element by an End User Common Line revenue requirement for all such companies.

**§ 69.411 Other hypothetical net balances.**

(a) The hypothetical net balance for an access element other than a Common Line element shall be computed as provided in this Section.

(b) If the company does not participate in the association tariff for such element, the hypothetical net balance shall be zero.

(c) If the company does participate in the association tariff for such element, the hypothetical net balance shall be computed by deducting access revenues collected for such element from the sum of expense attributable to such element and the element residue apportioned to such company. The element residue shall be apportioned among such companies in the same proportions as the net investment attributable to such element.

(d) The element residue shall be computed by deducting expenses of all participating companies attributable to such element from revenues collected by all participating companies for such element.

Subpart F - Competitive Responses By Non-Price Cap ILECs

§ 69.501 Voluntary network opening by non-price cap incumbent local exchange carriers.

(a) This section applies only to non-price cap incumbent local exchange carriers (referred to herein for purposes of this section as non-price cap ILECs).

(b) A non-price cap ILEC may elect to open its network to competitive entry consistent with subsection (c) hereunder, before receiving a request from a telecommunications carrier pursuant to sections 251(b) or (c) of the Communications Act. Once a non-price cap ILEC provides notice of such network opening pursuant to subsection (d) hereunder, it shall be afforded competitive pricing flexibility as defined in subsection (e) hereunder.

(c) A non-price cap ILEC is considered to have elected to open its network to competitive entry for purposes of this section if, before receiving a request from a telecommunications carrier pursuant to sections 251(b) or (c) of the Communications Act:

(1) The non-price cap ILEC publishes a list of unbundled network elements consistent with the unbundling requirements of §§ 51.305 through 51.321 of this chapter (excluding §§ 51.305(a)(4), 51.311(c), 51.315(c)-(f), and 51.317), with prices therefore that are reasonably related to prices for such elements offered by similarly situated ILECs. Such unbundled network elements must be available to telecommunications carriers at the time of such publication.

(2) The non-price cap ILEC commits to provide local number portability to any competitive entrant in a timely manner consistent with a state commission's approval of an interconnection agreement between the non-price cap ILEC and that entrant pursuant to section 252 of the Communications Act.

(d) The non-price cap ILEC must notify the Commission, the affected state commission(s), and the general public in writing of its election to open its network as described in subsection (c) above. Notification to the Commission and the state commission(s) should include a copy of the publication described in subsection (c)(1) above and a general description of compliance with subsection (c) above.

(e) In all areas for which the non-price cap ILEC complies with subsections (c) and (d) of this section, it shall be permitted to engage in tariffing and pricing of interstate telecommunications services on an individual case basis, and it shall be permitted to file contract-based

tariffs for such services. For purposes of this section, a contract-based tariff is defined in § 61.2(i) of this chapter.

**§ 69.502 Regulatory status of non-price cap incumbent local exchange carriers subject to competition**

A non-price cap ILEC that has obtained state commission approval of one or more interconnection agreements in any portion of its service territory shall be treated as a nondominant carrier by the Commission. Such treatment shall be the same as that accorded to other nondominant local exchange carriers by the Commission prior to the effective date of this rule so that such non-price cap ILECs shall not be required to base tariffs on the rate of return principles described in this chapter.

# **PART XX**

**USTA  
BIENNIAL REVIEW PETITION  
SEPTEMBER 30, 1998**

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Rule	Action	Justification
New	<b>PART XX - RULES FOR INCUMBENT LOCAL EXCHANGE CARRIERS SUBJECT TO PRICE CAP REGULATION</b>	New Part XX is created from existing sections of Part 61 and Part 69 to combine price management and appropriate access charges for Incumbent Local Exchange Carriers subject to price cap regulation.
New	<b>Subpart A - General</b> Creates new section. Also incorporates the following: <ol style="list-style-type: none"> <li>1. Eliminates study area averaging rule for price cap LECs.</li> <li>2. Eliminates public interest petition filing requirement for price cap LECs.</li> </ol>	General rules for LECs subject to price cap regulation are duplicated and moved from Parts 61 and 69, and then revised. Section 61.41 moved to XX.1 and revised. Revisions made due to competitive environment and to incorporate previous USTA positions.

Rule	Action	Justification
New	<p><b>Subpart B - Price Cap Regulation and Computation of Charges for Price Cap LECs</b></p> <p>Creates new section and includes the following:</p> <ol style="list-style-type: none"> <li>1. Incorporates USTA proposed price cap basket/band structure: <ol style="list-style-type: none"> <li>a. Network Services Basket <ol style="list-style-type: none"> <li>i. Service Categories <ol style="list-style-type: none"> <li>a. Tandem Switching and Transport</li> <li>b. Local Switching</li> <li>c. Database Services</li> <li>d. Common Line and Marketing</li> </ol> </li> <li>ii. Pricing zones for Tandem Switching and Transport, Local Switching, Common Line and other service categories based upon equivalent demonstration.</li> </ol> </li> </ol> </li> <li>2. Eliminates codified rate structure requirements for all price cap services. <ol style="list-style-type: none"> <li>a. Models new language after special access rule (current 69.114).</li> </ol> </li> <li>3. Exogenous adjustments limited to those permitted or required by rule, waiver, or declaratory ruling. Includes LFAM.</li> <li>4. Eliminates CCL charge and revises max. SLC calculation to be common line revenue per line. PICC charge revised to be difference between max. SLC and any SLC cap imposed. PICC caps deleted.</li> <li>5. Residual TIC now recovered through a new flat-rated trunk port charge.</li> </ol>	<p>The following sections form Part 61 are consolidated in Part XX, Subpart B: 61.42, 61.45, 61.46 and 61.47. Subpart C is moved from Part 69 and consolidated in Part XX, Subpart B and then greatly revised. Revisions are made due to competitive environment and to incorporate previous USTA positions.</p>

Rule	Action	Justification
New	<p><b>Subpart C - Pricing Flexibility</b>            Creates new rules to allow price cap LECs, based upon demonstration that appropriate criteria (to be determined) have been satisfied, to:</p> <ol style="list-style-type: none"> <li>1. Offer Volume and Term discounts, including customer specific contracts.</li> <li>2. Provide promotional offerings.</li> <li>3. Offer optional service packages and arrangements.</li> <li>4. Remove services from price cap regulation.</li> <li>5. Be granted forbearance from regulation for services/areas.</li> </ol>	<p>Incorporates USTA Pricing Flexibility proposal contained in Schmalensee/Taylor paper.</p>

USTA BIENNIAL REVIEW PROPOSAL

CODE OF FEDERAL REGULATIONS

TITLE 47 - TELECOMMUNICATIONS

CHAPTER I

FEDERAL COMMUNICATIONS COMMISSION

PART XX - RULES FOR INCUMBENT LOCAL EXCHANGE CARRIERS

SUBJECT TO PRICE CAP REGULATION

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Subpart A - General

§ XX.1 Application of Rules for Incumbent Local Exchange Carriers Subject to Price Cap Regulation.

(a) Charges for access services provided by incumbent local exchange carriers (ILECs) subject to price cap regulation shall be computed, assessed and collected as provided in this Part. Access service tariffs shall be filed and supported as provided under Part 61 of this chapter.

(b) Section XX.1 shall apply as follows:

(1) Only to such ILECs, as defined in Section 251(h) (1) and as specified by Commission Order and only to services offered in non-competitive areas.

(2) On an elective basis, to ILECs, other than those specified in paragraph (b) (1) of this section, that are neither participants in any Association tariff, nor affiliated with any such participants, except that affiliation with average schedule companies shall not bar a carrier from electing price cap regulation provided the carrier is otherwise eligible.

(c) If an ILEC, or any one of a group of ILEC affiliates, files a price cap tariff in one study area, that ILEC and its ILEC affiliates, except its average schedule affiliates, must file price cap tariffs in all their study areas.

(d) The following rules apply to ILECs subject to price cap regulation which are involved in mergers, acquisitions, or similar transactions.

(1) Any ILEC subject to price cap regulation that is a party to a merger, acquisition, or similar transaction shall continue to be subject to price cap regulation notwithstanding such transaction.

(2) Where an ILEC subject to price cap regulation acquires, is acquired by, merges with, or otherwise becomes affiliated with an ILEC that is not subject to price cap regulation, the latter ILEC shall become subject to price cap regulation no later than one year following the effective date of such merger, acquisition, or similar transaction and shall accordingly file price cap tariffs to be effective no later than that date in accordance with the applicable provisions of Part 61.

(3) Notwithstanding the provisions of § XX.1(d)(2) above, when an ILEC subject to price cap regulation acquires, is acquired by, merges with, or otherwise becomes affiliated with an ILEC that qualifies as an average schedule company, the latter company may retain its average schedule status or become subject to price cap regulation in accordance with § 61.51(e)(3) and the requirements referenced in that section.

**§ XX.2 Definitions.**

(a) *Access Minutes* or *Access Minutes of Use* is that usage of exchange facilities in interstate or foreign service for the purpose of calculating chargeable usage. On the originating end of an interstate or foreign call, usage is to be measured from the time the originating end user's call is delivered by the telephone company and acknowledged as received by the interexchange carrier's facilities connected with the originating exchange. On the terminating end of an interstate or foreign call, usage is to be measured from the time the call is received by the end user in the terminating exchange. Timing of usage at both the originating and terminating end of an interstate or foreign call shall terminate when the calling or called party disconnects, whichever event is recognized first in the originating and terminating end exchanges as applicable;

(b) *Access Service* includes services and facilities provided for the origination or termination of any interstate or foreign telecommunication;

(c) *Act.* The Communications Act of 1934 (48 Stat. 1004; 47 U.S.C. chapter 5), as amended.

(d) *Actual Price Index (API).* An index of the level of aggregate rate element rates in a basket, which index is calculated pursuant to § XX.105.

(e) *Band.* A zone of pricing flexibility for a service category, which zone is calculated pursuant to § XX.106.

(f) *Base period.* For ILECs subject to price cap regulation, the 12-month period ending six months prior to the effective date of annual price cap tariffs. Base year or base period earnings shall not include amounts associated with exogenous adjustments to the PCI for the lower formula adjustment mechanism.

(g) *Basket*. Any class or category of tariffed service or charge:  
(1) Which is established by the Commission pursuant to price cap regulation;

(2) The rates of which are reflected in an Actual Price Index;  
and

(3) The related costs of which are reflected in a Price Cap Index.

(h) *Change in rate structure*. A restructuring or other alternation of the rate components for an existing service.

(i) *Charges*. The price for service based on tariffed rates.

(j) *Commission*. The Federal Communications Commission.

(k) *Concurring carrier*. A carrier (other than a connecting carrier) subject to the Act which concurs in and assents to schedules of rates and regulations filed on its behalf by an issuing carrier or carriers.

(l) *Connecting carrier*. A carrier engaged in interstate or foreign communication solely through physical connection with the facilities of another carrier not directly or indirectly controlling or controlled by, or under direct or indirect common control with, such carrier.

(m) *End Office* means the ILEC office from which the end user receives exchange service.

(n) *End User* means any customer of an interstate or foreign telecommunications service that is not a carrier except that a carrier other than an ILEC shall be deemed to be an "end user" when such carrier uses a telecommunications service for administrative purposes and a person or entity that offers telecommunications services exclusively as a reseller shall be deemed to be an "end user" if all resale transmissions offered by such reseller originate on the premises of such reseller;

(o) *Expenses* include allowable expenses in the Uniform System of Accounts, Part 32, apportioned to interstate or international services pursuant to the Separations Manual and allowable income charges apportioned to interstate and international services pursuant to the Separations Manual;

(p) *GDP Price Index (GDP-PI)*. The estimate of the "Fixed Weight Price Index for Gross Domestic Product, 1997 Weights" published by the United States Department of Commerce, which the Commission designates by Order.

- (q) *Incumbent Local Exchange Carrier (ILEC)*. Any carrier that is engaged in the provision of telephone exchange service or exchange access as defined in Section 251(h)(1) of the Act.
- (r) *Line or Trunk* includes, but is not limited to, transmission media such as radio, satellite, wire, cable and fiber optic means of transmission;
- (s) *Local interconnection trunk*. A trunk which connects the networks of two competing local exchange carriers for the purpose of exchanging switched traffic (originating and terminating).
- (t) *Price Cap Index (PCI)*. An index of costs applying to carriers subject to price cap regulation, which index is calculated for the Network Services basket pursuant to § XX.104.
- (u) *Price cap tariff*. Any tariff filing involving a service that is within the Network Services price cap basket, or that requires calculations pursuant to § XX.104, XX.105 and XX.106.
- (v) *Productivity factor*. An adjustment factor used to make annual adjustments to the Price Cap Index to reflect the margin by which a carrier subject to price cap regulation is expected to improve its productivity relative to the economy as a whole.
- (w) *Rate*. The tariffed price per unit of service.
- (x) *Regulations*. The body of carrier prescribed rules in a tariff governing the offering of service in that tariff, including rules, practices, classifications, and definitions.
- (y) *Restructured service*. An offering which represents the modification of a method of charging or provisioning a service; or the introduction of a new method of charging or provisioning that does not result in a net increase in options available to customers.
- (z) *Service Band Index (SBI)*. An index of the level of aggregate rate element rates in a service category, which index is calculated pursuant to § XX.106.
- (aa) *Service category*. Any group of rate elements subject to price cap regulation, which group may be subject to a band.
- (bb) *Serving Wire Center* means the telephone company central office designated by the telephone company to serve the geographic area in which the interexchange carrier or other person's point of demarcation is located.

(cc) *Tariff*. Schedules of rates and regulations filed by common carriers.

(dd) *Tariff year*. The period from the day in a calendar year on which a carrier's annual access tariff filing is scheduled to become effective through the preceding day of the subsequent calendar year.

(ee) *United States*. The several States and Territories, the District of Columbia, and the possessions of the United States.

(ff) *WATS Access Line* means a line or trunk that is used exclusively for WATS service.

**Subpart B - Price Cap Regulation and Computation of  
Charges for Price Cap Local Exchange Carriers**

**§ XX.101 Applicability.**

(a) This subpart shall apply only to local exchange carriers (LECs) which are subject to the price cap regulations set forth in this chapter.

(b) Each ILEC subject to price cap regulation shall exclude from the Network Services basket, described in § XX.102 below, such services or portions of such services as the Commission has designated or may hereafter designate by order; new services; and those services removed from price cap regulation pursuant to § XX.204.

**§ XX.102 Price Cap Basket and Service Categories.**

(a) Each local exchange carrier subject to price cap regulation shall establish a Network Services price cap basket with the following service categories:

(1) A service category for common line interstate access charges including those in §§ XX.108 and XX.109 of this chapter, and that portion of the interstate access charge described in § XX.111 of this chapter that recovers common line interstate access revenues;

(2) A service category for Database interstate access charges, including charges for the use of equipment or facilities that are associated with Information, Database access services, Line Information Database (LIDB), and Billing Name and Address (BNA) services.

(3) A service category for local switching interstate access charges for the use of equipment or facilities that are associated with local switching services and local switching trunk ports.

(4) A service category for tandem switching and transport interstate access charges and that portion of the interstate access charge described in § XX.110 of this chapter that recovers residual interconnection charge revenues;

(b) Pricing zones, as described in § XX.113, may be established for individual services or appropriate service categories.

**§ XX.103 Exogenous Adjustments.**

(a) Exogenous Adjustments are included as a term in Price Cap Index (PCI) and Service Band Index (SBI) formulas. The exogenous changes represented by the term "Δ Z" in the formula detailed in §§ XX.104 of this section shall be limited to those changes that the Commission shall permit or require by rule, rule waiver, or declaratory ruling.

(1) Subject to further order of the Commission, those exogenous changes shall include changes caused by:

(i) Retargeting the PCI to the level specified by the Commission for carriers whose base year earnings are below the level of the lower adjustment mark.

(2) Exogenous changes within the Network Services price cap basket shall be apportioned on a cost-causative basis between the appropriate service categories.

(b) ILECs subject to price cap regulation shall file adjustments to the PCI for the Network Services basket as part of the annual price cap tariff filing, and shall maintain an updated PCI to reflect the effect of any mid-year exogenous changes.

**§ XX.104 Adjustments to the PCI for the Network Services Basket.**

(a) Subject to paragraphs (b) and (c) of this section, adjustments to the ILEC Network Services basket PCI shall be made pursuant to the following formula:

$$PCI_t = PCI_{t-1} [1 + w(GDPPI - X) + \Delta Z/R]$$

where:

GDPPI = the percentage change in the GDPPI between the quarter ending six months prior to the effective date of the new annual tariff and the corresponding quarter of the previous year,

X = productivity factor of 6.5%,

$\Delta Z$  = the dollar effect of current regulatory changes when compared to the regulations in effect at the time the PCI was updated to  $PCI_{t-1}$ , measured at base period level of operations,

$R$  = base period quantities for each rate element "i", multiplied by the price for each rate element "i" at the time the PCI was updated to  $PCI_{t-1}$ ,

$w$  =  $R$ (access rate in effect at the time the PCI was updated to  $PCI_{t-1}$  times base period demand) +  $\Delta Z$ , all divided by  $R$ ,

$PCI_t$  = the new PCI value, and

$PCI_{t-1}$  = the immediately preceding PCI value.

(b) The "w(GDPPI - X)" component of the PCI formula shall be employed only in the adjustment made in connection with the annual price cap filing.

(c) In the event that a price cap tariff becomes effective, which tariff results in an API value (calculated pursuant to § XX.105) that exceeds the currently applicable PCI value, the PCI value shall be adjusted upward to equal the API value.

**§ XX.105 Adjustments to the API for the Network Services Basket.**

(a) Except as provided in paragraph (b) of this section, in connection with any price cap tariff filing proposing rate changes, the carrier must calculate an API for the Network Services basket pursuant to the following formula:

$$API_t = API_{t-1} \frac{\sum_i (r_t)_i}{\sum_i (r_{t-1})_i}$$

where:

$API_t$  = the proposed API value,  
 $API_{t-1}$  = the existing API value,  
 $r_t$  = the proposed revenue for rate element "i",  
 $r_{t-1}$  = the existing revenue for rate element "i".

(b) Any price cap tariff filing proposing rate restructuring shall require an adjustment to the API pursuant to the general methodology described in paragraph (a) of this section. This adjustment requires the conversion of existing rates into rates of equivalent value under the proposed structure, and then the comparison of the existing rates that have been converted to reflect restructuring to the proposed restructured rates. This calculation may require use of carrier data and estimation

techniques to assign customers of the preexisting service to those services (including the new restructured service) that will remain or become available after restructuring.

**§ XX.106 Adjustments to SBIs in the Network Services Basket;  
Service Bands.**

(a) In connection with any price cap tariff filing proposing changes in the rates of each affected service category or pricing zone, the price cap ILEC must calculate an SBI value for each affected service category or pricing zone pursuant to the following formula:

$$SBI_t = SBI_{t-1} \frac{\sum_i (r_t)_i}{\sum_i (r_{t-1})_i}$$

where:

$SBI_t$  = the proposed SBI value,

$SBI_{t-1}$  = the existing SBI value,

$r_t$  = the proposed revenue for rate element "i" ,

$r_{t-1}$  = the existing revenue for rate element "i" .

(b) Any price cap tariff filing proposing rate restructuring shall require an adjustment to the affected SBI pursuant to the general methodology described in paragraph (a) of this section in the same manner described in § XX.105(b).

(c) Service bands shall be established each tariff year for each affected service category and pricing zone within the Network Services basket as specified below. Each service band shall limit the pricing flexibility of the service category or pricing zone, as reflected in the SBI, to an annual increase of a specified percent (listed below), relative to the percentage change in the PCI for the Network Services basket, measured from the levels in effect on the last day of the preceding tariff year. Service bands are not required at the service category level when pricing zones are implemented.

(1) No lower service band limit for all service categories and pricing zones.

(2) 10% upper service band limit for all service categories, except for common line, and for all pricing zones.

**§ XX.107 Allowable Common Line Revenues**

Allowable common line revenues are calculated as follows:

$$R_t = ((R_{t-1}) (PCI_t/PCI_{t-1}))$$

where:

$R_t$  = the proposed revenue for the service category, and

$R_{t-1}$  = the existing revenue for the service category.

**§ XX.108 End User Common Line Charges.**

(a) A charge that is expressed in dollars and cents per line per month shall be assessed upon end users that subscribe to local exchange telephone service. Such charge shall be assessed for each line between the premises of an end user, or public telephone location, and a Class 5 office that is or may be used for local exchange service transmissions.

(b) Except as provided in paragraphs (d) through (h) of this section, the maximum subscriber line rate or charge shall be computed:

(1) By dividing the allowable common line revenue, as calculated in § XX.107, by the total number of local exchange service subscriber lines in use during the the base period.

(2) Provided, however, that the charge for each local exchange service subscriber line shall not exceed \$9.00 as adjusted by the inflation factor computed under paragraph (j) of this section.

(c) The charge for each subscriber line associated with a public telephone shall be equal to the monthly charge computed in accordance with paragraph (b) of this section.

(d) Beginning January 1, 1998, the maximum monthly charge for each primary residential or single line business local exchange service subscriber line shall be the charge computed in accordance with paragraph (b) of this section, or \$3.50, whichever is lower.

(e) The maximum monthly charge for each non-primary residential local exchange service subscriber line shall be the lower of:

(1) The maximum charge computed in accordance with paragraph (b) of this section; or

(2) \$5.00. On January 1, 1999, this amount shall be adjusted by the inflation factor computed under paragraph (j) of this section, and increased by \$1.00. On July 1, 2000, and on each subsequent July 1 thereafter, this amount shall be adjusted by the inflation factor computed under paragraph (j) of this section, and increased by \$1.00.

(3) Where the ILEC provides a residential line to another carrier so that the other carrier may resell that residential line to a residence that already receives a primary residential line, the ILEC may collect the non-primary residential charge described in paragraph (e)(1) and (e)(2) above from the other carrier.

(f) The charge for each primary residential local exchange service subscriber line shall be the same as the charge for each single line business local exchange service subscriber line.

(g) A line shall be deemed to be a residential subscriber line if the subscriber pays a rate for such line that is described as a residential rate in the local exchange service tariff.

(h) A line shall be deemed to be a single line business subscriber line if the subscriber pays a rate that is not described as a residential rate in the local exchange service tariff and does not obtain more than one such line from a particular ILEC.

(i) No charge shall be assessed for any WATS access line.

(j) (1) On January 1, 1999:

(i) The ceiling for multi-line business subscriber lines under paragraph (b)(2) of this section will be adjusted to reflect inflation as measured by the change in GDPPI for the 18 months ending September 30, 1998.

(ii) The ceiling for non-primary residential subscriber lines under paragraph (e)(2) of this section will be adjusted to reflect inflation as

measured by the change in GDPPI for the 12 months ending September 30, 1998.

(2) On July 1, 2000, the ceiling for multi-line business subscriber lines and non-primary residential subscriber lines will be adjusted to reflect inflation as measured by the change in GDPPI for the 18 months ending on Dec 31, 1999.

(3) On July 1 of each subsequent year, the ceiling for multi-line business subscriber lines and non-primary residential subscriber lines will be adjusted to reflect inflation as measured by the change in GDPPI for the 12 months ending on Dec 31 of the year prior to the year the adjustment is made.

(k) (1) ILECs shall assess no more than one end user common line charge as calculated under the applicable method under paragraph (e) of this section for Basic Rate Interface integrated services digital network (ISDN) service.

(2) ILECs shall assess no more than five end user common line charges as calculated under paragraph (b) of this section for Primary Rate Interface ISDN service.

**§ XX.109 Presubscribed Interexchange Carrier Charge (PICC).**

(a) A charge expressed in dollars and cents per line may be assessed upon the subscriber's presubscribed interexchange carrier to recover the difference in the maximum subscriber line rate set forth in § XX.108(b)(1) and the maximum subscriber line rates set forth in §§ XX.108(b)(2), XX.108(d) and XX.108(e).

(b) If an end-user customer does not have a presubscribed interexchange carrier, the ILEC may collect the PICC directly from the end user.

(c) ILECs shall assess no more than one PICC as calculated under the applicable method under paragraph (a) of this section for Basic Rate Interface integrated services digital network (ISDN) service.

(d) ILECs shall assess no more than five PICCs as calculated under the applicable method under paragraph (a) of this section for Primary Rate Interface ISDN service.

(e) If an ILEC receives low income universal service support on behalf of a customer under § 54.403(d) of this chapter, and the subscriber elects toll blocking, then the ILEC shall not recover a primary residential presubscribed interexchange carrier charge from that end-user customer or its presubscribed interexchange carrier. Any amounts recovered under § 54.403(d) of this chapter by the ILEC shall be treated as if they were recovered through the presubscribed interexchange carrier charge.

**§ XX.110 Interconnection Charge.**

(a) ILECs may recover the residual interconnection charge through a flat-rated trunk port charge assessed upon interexchange carriers or competitive access providers, as appropriate.

(b) To the extent that the ILEC has a non-service related TIC, the ILEC will target all price cap productivity factor reductions to this charge until it is eliminated.

(c) Targeting of productivity factor reductions will not be applied to tandem switching revenues recovered in the TIC.

**§ XX.111 Marketing Expenses.**

(a) ILECs shall recover interstate marketing expenses pursuant to § 32.6610 of this chapter by including these expenses in the common line service category.

**§ XX.112 Connection Charges for Expanded Interconnection.**

(a) Appropriate connection charges shall be established for the use of equipment and facilities that are associated with offerings of expanded interconnection for special access and switched transport services, as defined in Part 64, Subpart N of this chapter. To the extent that the same equipment and facilities are used to provide expanded interconnection for both special access and switched transport, the same connection charges shall be used.

(1) A cross-connect charge shall be established for the cross-connect cable and associated facilities connecting the equipment owned by or dedicated to the use of the interconnector with the ILEC's equipment and facilities used to provide interstate special or switched

access services. Charges for the cross-connect charge shall not be deaveraged within a study area that is used for purposes of jurisdictional separations.

(2) Charges associated with physical collocation or virtual collocation, other than the charge described in paragraph (a)(1) of this section and charges recovering the cost of the virtual collocation equipment described in § 64.1401(e)(1) of this chapter, may reasonably differ in different central offices.

(b) Connection charges shall be initially computed based upon the costs associated with the equipment and facilities that are included in such charges, including no more than a just and reasonable portion of the ILEC's overhead costs.

(c) Connection charges shall be assessed upon all interconnectors that use the equipment or facilities that are included in such charges.

(d) Except as provided in paragraphs (e) and (f) of this section, ILECs shall not offer direct-trunked transport rates based on term discounts or volume discounts for multiple DS3s or any other service with higher volume than DS3.

(e) Except in the situation set forth in paragraph (f) of this section, ILECs may offer term and volume discounts in direct-trunked transport charges within each study area, in which interconnectors have taken either:

(1) At least 100 DS1-equivalent cross-connects for the transmission of switched traffic (as described in paragraph (a)(1) above) in offices in the study area that the ILEC has assigned to the lowest priced pricing zone (zone 1) under an approved pricing zone plan as described in § XX.113 of this section; or

(2) An average of at least 25 DS1-equivalent cross-connects for the transmission of switched traffic per office assigned to the lowest priced pricing zone (zone 1).

(f) In study areas in which the ILEC has implemented pricing zones, but no offices have been assigned to the lowest priced pricing zone (zone 1), ILECs may offer term and volume discounts in direct-trunked transport charges within the study area when interconnectors have taken at least 5 DS1-equivalent cross-connects for the transmission of switched traffic (as

described in paragraph (a)(1) above) in offices in the study area.

(g) Connection charges for expanded interconnection shall not be subject to price cap regulation.

**§ XX.113 Pricing Zones.**

(a) ILECs may establish a reasonable number of pricing zones within each study area for the Common Line, Local Switching, Tandem Switching and Transport service categories and for other service categories as appropriate.

(b) Pricing zones may vary by service or by service category.

(c) Such a system of pricing zones shall be designed to reasonably reflect cost-related characteristics, such as the density of total interstate traffic in central offices located in the respective zones.

(d) The establishment of the same initial prices within the pricing zones in a study area shall be based on traffic density. The establishment of different initial prices within the pricing zones in a study area for End User Common Line charges shall be based upon a demonstration of costs.

(e) Pricing zones shall be established using the following criteria:

(1) Common Line and Local Switching: At least one local interconnection trunk is operational.

(2) Switched Transport: At least one interconnector has taken a cross-connect for Switched Transport.

(3) Special Access: At least one interconnector has taken a cross-connect for Special Access.

(4) Equivalent criteria must be demonstrated to establish pricing zones in other service categories.

## Subpart C - Pricing Flexibility

### § XX.201 General.

(a) This section is applicable to price cap ILECs which have made a demonstration that the appropriate criteria described herein have been sufficiently satisfied so that pricing flexibility is warranted.

### § XX.202 Pricing Flexibility Criteria.

For services and areas for which an ILEC subject to price cap regulation complies with §§ XX.202(a), (b), (c), (d), (e) and (f) below, additional pricing flexibility shall be granted as described in §§ XX.203, XX.204 and XX.205 for those services and areas.

(a) [HERE DESCRIBE PHASE 1 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

(b) [HERE DESCRIBE PHASE 1 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

(c) [HERE DESCRIBE PHASE 2 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

(d) [HERE DESCRIBE PHASE 2 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

(e) [HERE DESCRIBE PHASE 3 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

(f) [HERE DESCRIBE PHASE 3 CRITERIA AND CONDITIONS UPON WHICH CRITERIA HAVE BEEN SUFFICIENTLY SATISFIED]

### § XX.203 Phase 1 Pricing Flexibility.

(a) Price cap ILECs which comply with §§ XX.202(a) and (b) shall be allowed to offer volume and term discounts (including customer-specific contracts), optional service packages and arrangements, and promotional offerings.

**§ XX.204 Phase 2 Pricing Flexibility**

(a) Price cap ILECs which comply with §§ XX.202(c) and (d) shall be allowed to remove such services and areas from price cap regulation.

**§ XX.205 Phase 3 Pricing Flexibility**

(a) Price cap ILECs which comply with §§ XX.202(e) and (f) shall be granted forbearance from regulation for such services and areas.

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**ECONOMIC STANDARDS  
FOR THE BIENNIAL REVIEW OF  
INTERSTATE TELECOMMUNICATIONS REGULATION**

by

**Robert W. Hahn  
and  
William E. Taylor**

**September 30, 1998**

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*Consulting Economists*

# ECONOMIC STANDARDS FOR THE BIENNIAL REVIEW OF INTERSTATE TELECOMMUNICATIONS REGULATION

Robert W. Hahn and William E. Taylor<sup>1</sup>

## I. EXECUTIVE SUMMARY.

The 1996 Telecommunications Act launched a complex set of proceedings to open local telecommunications markets and interLATA long distance markets to competition. To balance this regulatory complexity, Section 11 of the Act requires that

[i]n every even-numbered year (beginning with 1998) the Commission (1) shall review all regulations issued under this Act in effect at the time of the review that apply to the operations or activities of any provider of telecommunications service; and (2) shall determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service. The Commission shall repeal or modify any regulation it determines to be no longer necessary in the public interest. (47 U.S.C. 161)

We have been asked by the United States Telephone Association to supply a set of practical economic principles for identifying rules that should be eliminated or modified and to provide an assessment of the likely economic benefits from this endeavor.

As observed by A.E. Kahn, there are two key circumstances in which regulation could enhance economic welfare: where the persistence of monopoly requires continued regulation

- to protect captive, principally residential and small business customers; [and]

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- to ensure fair and efficient competition between the integrated utility companies and challengers dependent upon access to their monopolized or partially-monopolized facilities, including safeguarding against cross-subsidization of that competition by the incumbent utilities at the expense of their monopoly customers.<sup>2</sup>

While it is possible to justify particular regulations having these intentions in particular circumstances, that fact does not imply that such regulations have net positive welfare effects in general or that rules that were cost-effective at one point in time will remain cost-effective. Just as regulation attempts to correct market failures, there are *regulatory failures* in which well-intentioned government policies lead to reductions in economic welfare.

In telecommunications, one important source of such failure is changes in technology and market structure that undermine the original reason for the regulatory rule. This rationale is cited in Section 11 of the Telecommunications Act, which requires that rules that are “no longer necessary in the public interest as a result of meaningful economic competition between providers of such service” be repealed or modified.

There is widespread agreement among economists that regulation of entry and prices has entailed substantial costs. What is surprising is the magnitude of these estimated losses. Overall annual benefits from economic deregulation—generally from moving prices towards costs—have been estimated to be between \$32 and \$43 billion per year.

Studies of the effects of regulatory reform in specific industries paint a consistent picture of the relationship among economic regulation, prices, productivity growth and the rate of innovation. Widespread deregulation utterly transformed the U.S. transportation sector. In the airline industry, for example, deregulation resulted in benefits to consumers of \$18 billion from lower prices and higher output. In telecommunications, the limited access charge reform—lowering per-minute carrier access charges and increasing fixed-rate subscriber line charges—fueled a 70 percent reduction in interstate long distance prices and an unprecedented growth in long distance usage.

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<sup>2</sup> Alfred E. Kahn, *Letting Go: Deregulating the Process of Deregulation, or Temptation of the Kleptocrats and the Political Economy of Regulatory Disingenuousness*, MSU Public Utility Papers, 1998 at 17.

Application of principles from the economic regulation literature can lead to further significant benefits in telecommunications through the Biennial Review. The Review should be governed by two objectives: enhancing economic welfare and improving regulatory accountability. The following principles would help achieve these objectives:

- **Principle 1:** The regulatory review should advance the public interest by placing greater emphasis on protecting the economic well-being of consumers and producers.
- **Principle 2:** To ensure that the regulatory review serves the interests of all parties, each regulation under review should be required to pass a broadly defined benefit-cost test. Information on the benefits and costs of regulation prepared for the review should be presented clearly and succinctly for each regulation that is analyzed.
- **Principle 3:** If the expected quantifiable benefits of a regulation do not exceed the expected quantifiable costs, and the regulation is not modified or repealed, then the regulator should be required to present a clear explanation justifying the non-quantifiable reasons for the decision.

Applying these principles in a regulatory review should make it easier for parties to hold unelected and elected officials accountable for regulations imposed on the public. In addition, making the economic rationale for regulatory decisions more transparent could help improve economic welfare.

There are, unfortunately, serious difficulties in applying these principles because there are always strong vested interests wishing to maintain the regulatory status quo. Open proceedings and peer review may help to mitigate these problems in the context of the Review. A better long-term regulatory strategy, however, may be to shift the burden of justifying a regulatory rule or procedure from the regulated entity to the regulator. Such a shift is particularly useful in the current Biennial Review where the costs of regulations that distort technology choice or delay entry of new technologies or firms increase radically once markets have been opened to competition.

These principles can be constructively applied to FCC rules. While the intention of these rules may be to control monopoly power, anticompetitive behavior, inefficient pricing, service quality and market failures, a simple economic analysis may reveal that the costs of such activities far outweigh the benefits. Examples of regulatory distortions brought about by the opening of markets to competition under the Telecommunications Act include:

- **Rules that distort the relationship between prices and costs.** The clearest example is the pricing of carrier access services (in Part 69 of the Commission's Rules) based originally on fully distributed costs. Such prices are increasingly inappropriate and unsustainable as competition intensifies. A second example is the Part 65 Rules, which specify how allowed rates of return and depreciation lives are to be calculated. Differences between the economic

cost of capital and the allowed rate of return—and between regulatory and economic depreciation—result in regulated prices that deviate substantially from economic costs.

- **Rules that raise costs of supplying services.** Rules that impose different costs on entrants and incumbents or on different technological choices can distort investment in the market and impose significant welfare losses on consumers. For example, the cost of regulatory delay is estimated to be substantial. When cellular service began, the cost of delay was estimated to amount to about \$86 billion or 2 percent of GNP in 1983. The cost of regulatory delay in RBOC supply of voice messaging services was estimated to reduce consumer welfare by about \$100 billion in the aggregate. A second example is the unnecessary compliance costs imposed on regulated firms, which ultimately raises costs and prices to consumers. For example, Part 32 accounting rules differ significantly from the accounts that must be kept for SEC reporting, requiring maintenance of two sets of records. As such costs are imposed only on regulated, dominant firms, the cost difference distorts the entry decisions of competitors and the outcome of the competitive process.

Application of our economic principles—or a similar set of principles discussed in USTA’s filing—to the current panoply of interstate telecommunications regulation would help identify major areas of rules that meet the Act’s criterion of being “no longer necessary in the public interest” as a result of the opening of markets to competition. In addition, the economics literature suggests that the welfare gains from reductions in the regulatory burden could be significant. A thorough housecleaning of the rules is called for in Section 11 of the Act, and it makes a great deal of sense from an economic point of view.

**ECONOMIC STANDARDS  
FOR THE BIENNIAL REVIEW OF  
INTERSTATE TELECOMMUNICATIONS REGULATION**

**BY**

**ROBERT W. HAHN AND WILLIAM E. TAYLOR<sup>1</sup>**

**I. INTRODUCTION**

The Telecommunications Act of 1996 sought to establish a “procompetitive, deregulatory national policy framework” for the U.S. telecommunications industry. To further that procompetitive agenda, the industry and its regulators have spent the better part of two years actively implementing procompetitive policies to open the local exchange networks to competition through interconnection, unbundled network elements and resold services, and they appear poised to open the interLATA long distance market to competition from the former Bell Operating Companies. Once—and if—those monumental tasks are accomplished, their work will be half done.

The second half of the program is laid out in Section 11 of the Telecommunications Act in deceptively simple language. It requires that

[i]n every even-numbered year (beginning with 1998) the Commission (1) shall review all regulations issued under this Act in effect at the time of the review that apply to the operations or activities of any provider of telecommunications service; and (2) shall determine whether any such regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service. The

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Commission shall repeal or modify any regulation it determines to be no longer necessary in the public interest. (47 U.S.C. 161)

From the record of the Senate debate<sup>2</sup> it is clear that this section establishes a continuing biennial review process for all existing FCC rules and regulations. While the standards for review are not articulated, the legislation obviously contemplates that the opening of local and long distance markets to increased competition may call into question whether the public interest is served by the continued existence of particular Commission rules and regulations.

We have been asked by the United States Telephone Association to provide an economic rationale for the elimination or streamlining of regulatory rules and procedures, as well as some guidance regarding the costs and benefits of regulation as experienced in the U.S. telecommunications industry, other U.S. industries and foreign economies. In addition, we point out generic ways in which regulation can help or harm customers and increase or decrease economic efficiency. Finally, we provide some economic thoughts on the process of regulatory reform, noting the effects of the different incentives of agency and industry participants on the measures of costs and benefits from deregulation.

## **II. AN OVERVIEW OF REGULATION**

### **A. Definition**

There are many types of regulation. One common classification scheme emphasizes three parts: economic, social and process regulation. Economic regulation refers to restrictions on price, quantity, and entry and exit conditions for specific industries. Social regulation refers to regulations that affect a wide array of industries. Typically, environmental, public health and safety regulation are placed in this category. Finally, process regulation refers to government management of the operation of the public and private sector, such as paperwork requirements and administrative costs incurred by both producers and consumers.<sup>3</sup> In this analysis, we focus primarily on

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<sup>2</sup> 141 Cong. Rec. S7881, June 7, 1995.

<sup>3</sup> There is frequently overlap between process requirements and economic and social regulation.

economic regulation with some attention to process regulation as it applies in the telecommunications industry.

**B. Benefit-cost analysis provides the economic framework for appraising regulation**

Benefit-cost analysis is the basic tool that economists use to determine whether a new regulation should be implemented or an existing regulation retained. While it seems almost tautological that the benefits from regulation should be compared with the costs, current research suggest that more than half of the federal government's significant regulations would fail a strict benefit-cost test using the government's own numbers.<sup>4</sup> In response to these findings—and calculations showing that federal regulation costs on the order of several hundred billion dollars per year—Senator Ted Stevens added an unprecedented amendment to the Omnibus Consolidated Appropriations Act of 1997, which requires the director of the Office of Management and Budget (OMB) to provide Congress with estimates of the total annual benefits and costs of all federal regulatory programs and estimates of the benefits and costs of individual regulations. A similar concern engendered Section 11 of the Telecommunications Act of 1996.

**C. In deciding whether or how to regulate, policymakers should compare the potential for market failure with the potential for “regulatory failure”**

There are several economic arguments supporting regulation.<sup>5</sup> The most common ones are based on correcting for market failure or on equity considerations. In the case of economic regulation, the primary economic rationale has to do with the potential for improving production efficiency. If there are economies of scale or scope, a single firm may, in theory, be able to produce more efficiently than several competing firms, but then its market power may need to be restrained through regulation. In addition, there may be additional value to consumers as more consumers use a network, such as telephones.<sup>6</sup>

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<sup>4</sup>Hahn (1998a).

<sup>5</sup>See MacAvoy (1992).

<sup>6</sup>For example, email will be more useful to a user if more people have email addresses. On the subject of the economics of networks, see Klein (1996), Katz and Shapiro (1991), Liebowitz and Margolis (1994), and White (1998).

While it is possible to provide some economic rationales for regulation for a wide range of economic activity, such rationales are often not persuasive in practice. Just as there is potential for many kinds of "market failure," there is also potential for "regulatory failure"—that is, government policies that lead to reductions in average economic welfare.

Inefficient regulation arises from three intrinsic and largely immutable problems. The economic problem is that it is difficult for a central authority to regulate a company because it lacks the necessary information and the ability to use that information as firms would in unregulated competitive markets. For example, a telephone company might have a good sense of its cost and demand structure, but a regulator typically does not have access to such information. Moreover, firms in unregulated markets learn about costs and demand not by filing studies with headquarters, but rather by offering products and prices and learning from the outcomes. Such information asymmetries frequently make it difficult, if not impossible, for a regulator to regulate efficiently.<sup>7</sup>

Political problems with regulation also lead to inefficient economic results. Since regulation redistributes resources and rents, politicians often use it to secure political gains or further social agendas rather than to correct market failures. A large array of regulatory instruments, such as quotas, licenses, and subsidies, are used to transfer significant amounts of wealth from consumers to small groups of producers. The result is often that regulation is inefficient.

Even if regulations are efficient when enacted, changes in circumstance—e.g., changes in technology, market structure or demand—can reduce the benefits from particular regulations or increase the cost. For example, the economic costs of setting prices based on rate-of-return principles increase sharply when markets are opened to competition because deviations of prices from the market level distort the entry and exit decisions of market participants, reducing dynamic economic efficiency. Similarly, the benefits from detailed regulation of a telephone company's depreciation accounting decrease sharply when prices are no longer controlled in any way by accounting earnings.

This regulatory inertia is the primary source of regulatory inefficiency that Section 11 of the Telecommunications Act directly addresses when it focuses attention on regulations “no longer necessary in the public interest as the result of meaningful economic competition between providers of such service.”

### **III. THE GAINS FROM DEREGULATION AND REGULATORY REFORM**

Economic studies of the effects of regulation generally measure changes in consumer and producer welfare—gains and losses in aggregate economic efficiency—stemming from implementation of the regulations in question. Efficiency is the yardstick of choice for economists because in theory it is possible to divide the gains from a more efficient policy in ways that make each agent at least as well off as under the existing policy, so that there is no need to make interpersonal welfare comparisons.<sup>8</sup> Other measures that economists sometimes use to examine the impact of regulation include changes in employment, market structure, output, prices, technical change and productivity growth, and we emphasize at the outset that there is no “correct” measure. Nonetheless, retention of a regulation that imposes significant welfare losses on society should require that some very important societal benefit be clearly articulated, if not quantified.

#### **A. The overall gains from economic deregulation have been substantial**

Not surprisingly, removal of regulatory constraints has led to large benefits. To date, the overall welfare gains from deregulation—focussed on eliminating entry and exit restrictions and freeing prices to move toward market levels—across sectors in the United States have been substantial. Table 1, taken from Winston (1993), shows estimates for the benefits of deregulation as well the potential gains from further reform.<sup>9</sup> Aggregate welfare gains amounted to \$35 to \$46 billion (1990 dollars) per year. Consumers received

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<sup>7</sup> By “efficient regulation” we mean regulation that produces outcomes (prices, quantities and quality levels, productivity growth) commensurate with what would emerge from the market under competitive conditions.

<sup>8</sup> If every party is at least as well off as before the policy change, then we avoid having to compare states in which one party is somewhat worse off but everyone else is exceedingly better off.

<sup>9</sup>See Winston (1993).

annual gains of \$32 to \$43 billion per year from lower prices and better services, while producers gained about \$3 billion per year from increased efficiency and lower costs. Winston estimates that additional gains from remaining distortions could be in excess of \$20 billion per year. Table 2 shows that the annual efficiency costs of economic regulation are in the billions of dollars, but appear to be much smaller than the costs associated with transfers (e.g., between producers and consumers). The Winston study shows that it is possible to explore systematically the costs and benefits of regulatory activity using standard economic analysis and that though the data is uncertain, such information can be useful in understanding the economic impacts of regulation.

Moreover, there is evidence that the gains from deregulation that economists have estimated are likely to be significantly understated. In a recent paper, Winston observes that the time required for industry to adjust to the new deregulated environment is substantial.<sup>10</sup> Winston notes that although the industry may adjust prices to reflect marginal costs quickly after deregulation, it takes time to optimize production. He argues that policymakers and the public tend to notice only the short-term effects and, therefore, undervalue the benefits of deregulation. Frequently, the positive impact that deregulation has on innovation is overlooked. Innovations in technologies and operations sparked by deregulation increased productivity and reduced operating costs substantially.

### **B. Measures of aggregate impacts of regulation suggest it can have a significant impact on the economy<sup>11</sup>**

Most studies of the overall economic impact of regulation have focused on federal regulation in the United States.<sup>12</sup> The first study to synthesize data on the costs and benefits of regulation was done by Hahn and Hird (1991).<sup>13</sup> In analyzing the cost of economic regulation, the authors distinguish between transfers and efficiency costs.

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<sup>10</sup> Winston, Clifford (1998), "U.S. Industry Adjustment to Economic Deregulation," *Journal of Economic Perspectives*, 12(3), 89-110.

<sup>11</sup> This section and the next section build on Guasch and Hahn (1997).

<sup>12</sup> See Weidenbaum and DeFina (1978); Litan and Nordhaus (1983); Hahn and Hird (1991); Hopkins (1992); Winston (1993); Office of Management and Budget (1997); Weidenbaum and DeFina (1978).

<sup>13</sup> See Hahn and Hird (1991).

Transfers represent payments from one group to another (e.g., producers to consumers); efficiency costs represent net losses in producer and consumer surplus.<sup>14</sup> Both measures are important, but for different reasons. Transfer payments provide a measure of the winners and losers from regulatory change, while changes in net surplus provide an indication of the overall impact on the economy or particular industry under investigation.

Focusing on the cost side of regulation, Hopkins has extended the work of Hahn and Hird. Hopkins' principal insight is that the cost of process regulation is substantial. Table 3 provides estimates of the cost of social, economic, and process regulation as of 1991 and for selected years from 1977-2000. The total cost of regulation in 1991 is estimated at \$542 billion (1991 dollars). The largest component of the regulatory cost was process regulation, or \$189 billion in annual expenditures related to government paperwork requirements, primarily for tax compliance. The tax compliance costs do not necessarily represent efficiency costs, however, because one must consider all aspects of a tax system in evaluating its impact on efficiency. Nonetheless, the sheer magnitude of the process costs suggest that paperwork could be reduced dramatically while improving efficiency.<sup>15</sup>

Outside of the United States, much less work has been done to measure the aggregate benefits and costs of regulation. A tabulation of available results is shown in Table 4. In Australia, the total cost of regulation was estimated to be between 9 and 19 percent of GDP in 1986.<sup>16</sup> Mihlar (1996) provides a preliminary estimate for the costs of regulation in Canada of 12 percent of GDP.<sup>17</sup> Based on an assumed ratio between private

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<sup>14</sup> Consumer surplus is the difference between the price customers pay and the price they would be willing to pay. Producer surplus is the difference between the price customers pay and the cost of supplying the product or service.

<sup>15</sup> Hopkins' estimate for the total cost of regulation includes transfer costs and process costs. Subtracting transfer costs yields an estimate of \$413 billion, or over \$1,500 per person for 1991. If process costs are not included, this figure is reduced by about half. See Hopkins (1992). OMB provides a critique of Hopkins (1992). See Office of Management and Budget (1997). For an overview of the strengths and limitations of estimating the costs and benefits of federal regulation see Hahn (1998a).

<sup>16</sup> Organization for Economic Cooperation and Development (1996), "Regulatory Reform: A Country Study of Australia," PUMA/REG(96)1, Paris.

<sup>17</sup> See Mihlar, Fazil (1996), "Regulatory Overkill: The Costs of Regulation in Canada," Fraser Institute, Vancouver, British Columbia, Canada.

compliance costs and regulatory program spending, Mihlar extrapolated national regulatory costs from federal and provincial administrative budgets. While the calculation is crude, it provides a rough estimate of the size of the regulatory burden. By comparison, the cost of regulation in the U.S. is estimated at between 7.2 and 9.5 percent of GDP.

Three points are worth noting about the regulatory cost estimates in Table 4, since they are often cited without careful analysis. First, the figures are highly uncertain and often incomplete. Yet, estimates as reported in the press and even scholarly papers sometimes fail to reflect this uncertainty. Second, the figures developed using this approach to cost estimation are likely to understate the total impact of regulatory costs because they do not include the adverse impact that regulation typically has on innovation. Third, the cost of regulation as a fraction of GDP is fairly significant for countries where such estimates are readily available, ranging from 7 to 19 percent. In addition, there are significant benefits to deregulation.<sup>18</sup>

Many studies have attempted to estimate the adverse impacts of regulation using measures other than economic cost. For example, Christensen and Haveman (1981) examined the effect of regulation on labor productivity and concluded that over 10 percent of the slowdown of the growth in labor productivity in the mid-1970s was due to the expansion in federal regulation.<sup>19</sup> MacAvoy (1992) examined the long-term growth effects of regulation on eight industries from 1973 to 1987. He found economy-wide losses of 1.5-2.0 percent of U.S. gross national product (GNP).<sup>20</sup> Studies examining environmental, health and safety regulation have yielded qualitatively similar impacts. For example, Jorgenson and Wilcoxon (1990) found the cost of pollution control was associated with a reduction of over 2.5 percent of U.S. GNP over the period between

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<sup>18</sup> The Organization for Economic Cooperation and Development (1997) also estimated that regulatory reform programs could increase GDP in the long run by as much as 3.5 percent in the United Kingdom and by as much as 6 percent in Japan, Germany and France.

<sup>19</sup> Christensen and Haveman (1981). The authors estimated that between 12 and 21 percent of the slowdown in the growth of labor productivity in U.S. manufacturing during 1973-77, as compared with 1958-65, was due to the expansion of federal regulation.

<sup>20</sup> See MacAvoy (1992).

1974 and 1985.<sup>21</sup> In an examination of the impact of environmental and occupational health and safety regulation on the manufacturing sector, Robinson (1995) concluded that the cumulative effect was to reduce multifactor productivity by more than 10% over a twelve year period.<sup>22</sup> Industry-specific regulatory reforms and process reform can improve economic performance

The potential efficiency gains from reforming regulation of pricing and entry decisions in particular industries have been demonstrated worldwide. This subsection reviews the growing body of evidence on the impacts of regulation and also identifies the potential for so-called "process" reform, which aims to streamline regulation.

Studies examining the effect of regulation yield a consistent picture with respect to its adverse impacts on prices, productivity, innovation and economic welfare. For example, Caves, Christensen, and Swanson (1981) undertook a cross-country study to compare total factor productivity growth for U.S. railroads from 1956 to 1974 with the growth achieved by Canadian railroads over the same period. Both industries had access to the same technology, but Canadian railroads were subject to less regulation than U.S. railroads. The authors show that regulation substantially reduced productivity growth and estimate that, if the United States had experienced the same growth as Canada, the cost of providing rail services in 1974 would have been \$13.8 billion (1985 dollars) lower.<sup>23</sup> After railroad deregulation in the United States, Willig and Baumol (1987) estimated that between 1980 and 1985, annual operating expenses dropped 26 percent while traffic volume remained virtually unchanged. Deregulation of the rail sector also led to increases in investment.<sup>24</sup>

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<sup>21</sup> Jorgenson and Wilcoxon (1990). See also Hazill and Kopp (1990).

<sup>22</sup> See Robinson (1995). The incremental impact of regulation grew from a 1.1% annual reduction in multifactor productivity growth in 1974-1975 to a 2.5% annual reduction in 1985-1986.

<sup>23</sup> Caves, Christensen and Swanson (1981). While average total productivity growth for Canadian railroads during the period was 3.3 percent per year, it was only 0.5 percent for U.S. railroads

<sup>24</sup> See Willig and Baumol (1987).

Deregulation of the trucking sector led to major improvements in efficiency.<sup>25</sup> The annual welfare loss due to allocative inefficiency resulting from regulation of rail and motor carriers rates has been estimated to be \$1 billion to \$4 billion (1977 dollars).<sup>26</sup>

A comparison of the pre-and post-deregulated U.S. airline industry also provides striking evidence of regulation's impact on productivity and production costs. Costs per unit of service were reduced by approximately 25 percent and were accompanied by sharp work force reductions<sup>27</sup> with little effect on output in the first few years following deregulation.<sup>28</sup> In addition, excess capacity decreased and productivity increased. Morrison and Winston (1995) estimate the net annual gains to travelers from airline deregulation at \$18.4 billion (1993 dollars).<sup>29</sup>

Driven largely by reductions in carrier access charges, U.S. long-distance telephone rates as of 1996 decreased by more than 70 percent since the divestiture of AT&T in 1984.<sup>30</sup> The examples of cellular telephony and voice messaging in the U.S. illustrate how regulation can also slow the introduction of new products and discourage innovation. While the cellular concept was discussed in the late 1940s and was clearly available in 1973, it was only in 1983 that the FCC began to issue licenses using a non-market mechanism. That delay in licensing cellular telecommunications cost the U.S.

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<sup>25</sup> Average unit costs dropped dramatically after deregulation, from \$0.3 dollars per ton-mile in 1977 (pre-deregulation) to \$0.1 dollars per ton-mile in 1983 (post-deregulation) (1977 dollars). After deregulation, many of the inefficient firms were forced to leave the industry, leaving behind those firms with low unit costs (McMullen and Stanley, 1988).

<sup>26</sup> Braeutigam and Noll (1984) and Winston, Corsi, Grimm and Evans (1990).

<sup>27</sup> For example, work force reductions at American Airlines and United Airlines were 17 and 24 percent, respectively.

<sup>28</sup> See Caves, Christensen, Tretheway and Windle (1987). Under regulation, the 3.0 percent annual decline in unit costs for U.S. airlines was way below the 4.5 percent decline of non-U.S. airlines from 1970 to 1975. Following deregulation, from 1978 to 1983, costs of U.S. airlines fell by 3.3 percent compared to 2.8 percent for non-U.S. airlines.

<sup>29</sup> Morrison and Winston (1986). The authors estimate that consumers are gaining \$12.4 billion annually from lower fares under deregulation and \$10.3 billion from greater flight frequency. While increases in travel restrictions, travel time, load factors and the number of connections have reduced consumer welfare, the annual gains to travelers are substantial.

<sup>30</sup> Taylor and Taylor (1993) and Wall Street Journal (1991). "Special Report: Telecommunications," *Wall Street Journal*, Section R, October 4.

economy more than \$25 billion per year (1983 dollars).<sup>31</sup> These losses were about 2 percent of GDP in 1983 when cellular service began. Similarly, the delay in introducing voice messaging services cost more than \$1.3 billion (1994 dollars) per year.<sup>32</sup>

Similar post-deregulation effects have been observed in other sectors, such as stock exchanges and banking, where deregulation has improved productivity and lowered unit costs. For example, when stock brokerage fees were deregulated, rates dropped by 25 percent<sup>33</sup>, and the overall consolidation and cost reduction were 30 percent in the sector.<sup>34</sup> While firms may have changed the services offered, a number of studies have shown that even after accounting for changes in service, cost reductions were significant.

The productivity gains secured by U.S. banks following partial deregulation of the banking and savings and loan sectors have also been significant. Jobs decreased more than 20 percent in the sector during the 1984-93 period, and productivity (as measured by revenue per employee) increased by more than 300 percent throughout the same period.<sup>35</sup> At the same time, there was a serious problem with the monitoring of financial institutions during this period, which resulted in some major financial losses.<sup>36</sup> The large losses stemmed in part from regulators not taking appropriate actions.

In addition to deregulation of prices and entry, there are several process reforms that would improve economic efficiency. One important step in many regulatory processes involves obtaining a license. Economic licensing is used in many sectors of the economy, such as telecommunications, energy, transportation, and banking. Examples include the Federal Communications Commission requirements for a cable system operator to register before beginning operations and the Federal Energy Regulatory Commission's requirement to obtain a license for the interstate transmission of electricity or the interstate transmission of natural gas. In a forthcoming paper, Huber and Thorne

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<sup>31</sup> Rohlfs, Jackson and Kelly (1991). In addition, the expenditures to obtain those licenses cost society between \$500 million and \$1 billion.

<sup>32</sup> Hausman and Tardiff (1996).

<sup>33</sup> For orders in excess of 10,000 shares, rates fell in excess of 50 percent.

<sup>34</sup> Jarrell (1984). Employment went from 260,000 in 1987 to 190,000 in 1990.

<sup>35</sup> Guasch and Spiller (1998).

<sup>36</sup> White (1991).

(1998) suggest that costs associated with economic licensing could be quite high. Available estimates in the U.S. suggest that these costs are at least \$20 billion annually.<sup>37</sup>

The basic problem is that an applicant for a new or existing license must often face a burdensome review process, which cannot be justified on economic grounds. Huber and Thorne suggest a set of procedural reforms that would shift the burden of proof so that, for example, an applicant for a license would receive that license if the designated government agency did not act in a specified time frame. These reforms would apply to a variety of licensing activities including new applications, renewals, transfers and lifting restrictions on use.

While information on reforms in other developed countries outside the U.S. is less extensive, there is reason to believe that the gains from deregulation of many industries in those countries could be substantial. For example, lifting price and entry restrictions on air travel in Europe could lead to substantial gains for consumers. For example, Table 5 provides some price information for trips of similar length and demand characteristics. The table suggests that fares for trips are roughly twice as expensive in Europe as in the United States. And despite the higher fares, the profitability of many of the European companies is far below that of the U.S. carriers. Indeed, the European high-cost carriers, such as Iberia and Air France (both state owned), have survived until now only with government aid. Good, Röller, and Sickles (1993) argue that liberalization would lead to competition between international carriers and a convergence of cost structures. They estimate that, in 1986, if the European airline industry were as efficient as the U.S. airline industry they would have achieved cost savings of approximately \$4 billion (1986 dollars).<sup>38</sup>

There are also significant opportunities for gains in deregulating electricity markets.<sup>39</sup> For example, strict regulations in Germany require domestic companies to purchase electricity from regional producers, even though lower cost power is often available nearby. The extent of the potential gains for consumers is difficult to estimate,

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<sup>37</sup> Huber and Thorne (1998).

<sup>38</sup> Good, Röller and Sickles (1993).

<sup>39</sup> Electricity Association Services Ltd. (1996).

but in the United Kingdom, energy deregulation resulted in a 70 percent increase in productivity and an 18-21 percent reduction in franchise contract prices.<sup>40</sup> The absence of similar deregulation in other European Union countries has led to firms paying over 50 percent more for their electricity than do their American counterparts. Moreover, the impact of higher energy prices on the overall economy can be quite significant.<sup>41</sup>

### **C. Deregulation and regulatory reform in developing countries is having a positive economic impact**

Economic deregulatory initiatives are not confined to the U.S. or even to the developed countries. As described above, there has been much economic deregulation in developed countries in the late 1970s and early 1980s, particularly in transportation and energy. Since the early 1980s, however, economic regulation has not advanced very rapidly even though there is ample room for further deregulation in areas such as telecommunications, electricity and the financial services.<sup>42</sup> Developing countries have been late entrants in the move toward deregulation, but are quickly catching up. Indeed, some countries, such as Chile, have progressed even further than most developed countries. And some countries in the Latin America and Caribbean region, such as Argentina, El Salvador, Peru and Mexico, are undertaking major economic deregulation initiatives.<sup>43</sup>

While studies of regulatory reform in developing countries are less extensive, they suggest that deregulation could lead to significant efficiency gains. For countries that have deregulated the efficiency gains have been quite significant. For example, deregulation of entry into the long distance telephone market in Chile has cut rates by 50 percent, making them close to U.S. rates.<sup>44,45</sup> Allowing for private sector participation in

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<sup>40</sup> See Organization for Economic Cooperation and Development (1997). Franchise contract prices from generators to distributing companies have fallen by 21 percent in real terms and those to direct industrial and commercial consumers by 18 percent in real terms.

<sup>41</sup> See Navarro (1996). For example, a 30 percent increase in electricity prices tends to raise the price of goods such as paper and pulp, metals, chemicals and glass by roughly 2.5 percent.

<sup>42</sup> Noll (1998).

<sup>43</sup> See Spiller and Cardilli (1997).

<sup>44</sup> Guasch and Spiller (1998).

the telecommunications sector has cut the waiting time for installation of new lines from a minimum of two years to a matter of weeks in Latin American countries. Similarly, in the port sector, the opening of the port terminals in Buenos Aires to competition has led to an 80 percent reduction of the fees. Also, the opening of stevedoring operations to multiple parties in the port of Montevideo has increased productivity by 300 percent.<sup>46</sup> All those results were achieved within a year of deregulation.<sup>47</sup>

Additional examples include public utilities in Argentina and Uruguay. Chisari, Estache and Romero (1997)<sup>48</sup> estimate the gains from privatization and regulation in Argentina amount to about 1.3% of GDP or \$3.3 billion and that all income classes benefit from both privatization and effective regulation (see Table 6). Estache (1996) estimates that Uruguayan firms and consumers are paying an implicit tax of at least 30 percent for water, phone and electricity.<sup>49</sup>

Of particular relevance to the Biennial Review process at the FCC is the observation that developing countries have substantially reduced the costs of various kinds of process regulation. Mexico is currently reviewing regulations for major federal agencies to eliminate unnecessary regulations, simplify regulations that are unnecessarily burdensome, and make the process more transparent. To date, approximately 50 percent of all regulations have been reviewed in seven of twelve ministries. Of the 1008 regulations reviewed to date, 38% are scheduled to be eliminated and an additional 54% are scheduled to be simplified in 1998. The government of Mexico is now implementing a far-reaching program to carefully examine the country's regulatory structure at the federal, state, and local levels. The aims of the Agreement for the Deregulation of Business Activity include streamlining federal regulation, reducing corruption by codifying regulation, and helping to promote more efficient and effective regulation. The

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<sup>45</sup> Crandall and Waverman (1997) estimate the price reduction in long distance service in Chile led to an increase in consumer surplus of \$116 million per year in 1994-1995.

<sup>46</sup> Comparable measures in the port of Guayaquil, Ecuador have decreased costs by 60 percent and increased productivity by 55 percent.

<sup>47</sup> See Guasch (1996).

<sup>48</sup> See Chisari, Estache, and Romero (1997).

<sup>49</sup> Estache (1997).

program, while new, has enjoyed some early successes. Recent legislation simplifies administrative procedures, requires a quicker administrative response time, and reduces paperwork for foreign investors. In addition, a series of legal reforms aims to simplify court proceedings and reduce the costs of commercial lending. As a result of these reforms, Mexico City's Superior Court reports that the number of civil trials filed decreased by 24% from 1995 to 1996. Agency-by-agency rule simplification and elimination is also proceeding swiftly. For example, the approval time for a business requiring health, safety, and environmental controls to begin operation has been reduced from an average of over 200 working days to a maximum of 21 working days. Finally, a complete inventory of federal rules in effect is available on the internet. Making such information more easily accessible should help to reduce corruption and compliance costs.<sup>50</sup>

The available evidence underscores the significant gains that developed and developing countries can secure by further deregulating their economies and reducing the cost of process regulation. Estimates of those gains vary from country to country, but exceed one percent of GDP. The bottom line is that the economic analyses of regulation strongly suggest that there could be significant gains from streamlining some regulatory activities, getting rid of others, and moving toward regulation that is less heavy-handed for those activities where regulation is justified.

#### **IV. ECONOMIC PRINCIPLES FOR A REGULATORY REVIEW.**

This section identifies some key principles from the economic regulation literature that we believe would be useful in implementing the Biennial Review of regulation. Our discussion builds on a growing consensus within the economics community on the need for considering the economic impacts of regulation in public policy decision making.<sup>51</sup>

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<sup>50</sup> Secretaria De Comercio Y Fomento Industrial (1997).

<sup>51</sup> See Arrow, Cropper, Eads, Hahn, Lave, Noll, Portney, Russell, Schmalensee, Smith and Stavins (1996) or Crandall, DeMuth, Hahn, Litan, Nivola, and Portney (1997).