3. The services provided by an ISP may involve the transmission of information over the Internet beyond the local calling area in which the ISP modem is located, and may, in fact, span the globe.

4. The movement of data over the Internet is separate and distinct from the transmission of telecommunications over the public switched telephone network with respect to the structure of the network, the mode of transmission, the nature of the service provider, and the nature of the service rendered, and the costs of rendering the service.

5. The requirement for reciprocal compensation for call termination in interconnection agreements under the provisions of the Act only applies to local telephone traffic originating and terminating within the same local calling area.

6. Under the 1996 Act, state regulatory commissions have the responsibility to determine which calls will be defined as or treated as "local" calls for purposes of making reciprocal compensation applicable to such calls when handled by more than one carrier within parameters established by the FCC.

7. The determination of whether a call is local is predicated upon identifying the point at which the call is "terminated" as defined by the Act.

8. Under the Act, "termination" is defined as "the switching of traffic that is subject to Section 251(b)(5) at the terminating carrier's end office switch (or equivalent facility) and delivery of that traffic from that switch to the called party's premises."

9. The function of end office switching is only performed by a telecommunications carrier over the public switched telephone network, and no such switching is performed by an ISP after the call is delivered to the ISP modem.

10. To the extent an ISP requires telecommunications services for transport of its information service, the ISP does not provide such service, but separately obtains such service from an underlying interexchange carrier.

11. There are no end offices located at or connected to any Internet web sites that are switched or otherwise manipulated by the ISP in the processing of information service functions.

12. Unlike a calling party using the services of an interexchange telecommunications carrier, a calling party connecting to an ISP modem does not do so for the purpose of originating or terminating telephone toll service, and incurs no separate charge for toll service by calling the ISP.

13. In a Declaratory Ruling released February 26, 1999, the FCC used an "end-to-end" analysis to conclude that calls placed to ISPs are interstate, and thus that reciprocal compensation is not required under the Act for such calls.

14. The end-to-end analysis underlying the FCC Declaratory Ruling presumed that the termination point of an ISP call is the location of the web site(s) ultimately accessed by the originating caller, rather than the end office switch serving the modem connection by which the call is delivered to the ISP.

15. Because a call to an ISP may frequently involve accessing multiple web sites or Internet destinations, the single end-to-end analogy derived from descriptions of long distance toll calls is not schematically accurate in the context of ISP-bound calls.

16. On March 24, 2000, the D.C. Circuit Court vacated and remanded the Declaratory Ruling on the grounds that the FCC failed to explain why its end-to-end analysis was applicable to determining whether reciprocal compensation was owed for a carrier's termination of a call to an ISP.

17. Since the FCC has to date failed to provide an explanatory rationale in response to the D.C. Circuit directive to justify its end-to-end analysis in the context of reciprocal compensation, those FCC findings have no binding authority with respect to this decision.

18. Internet communications utilizing dial-up telephone connections is composed of two discrete functions: (1) a telecommunications service provisioned by a local exchange carrier by which the end user connects to the ISP modem through a local call, and (2) an information service which is provisioned by the ISP either through its own web site or over the Internet.

19. Under the Act, "telecommunications" is defined as the "transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." (47 USC 153(43).)

20. The Act defines "information services" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control or operation of a telecommunications system or the management of a telecommunications service." (47 USC 153(20).)

21. As part of the information service provided by the ISP, the ISP converts the customer's analog messages into data packets which are individually routed through its modem to host computer networks located throughout the world.

22. The relevant determinant of whether ISP traffic is local is whether the rate centers associated with the telephone number of an originating caller and the telephone number dialed to connect to the ISP modem are both located in the same local exchange.

23. If the rate centers associated with the telephone number of the end user originating the call and the telephone number used to access the ISP modem lies within a single local calling area, then such call is a local call.

24. The traffic-sensitive telecommunications network functions that are required for a typical CLEC to terminate ISP traffic are no different from the

traffic-sensitive functions required to terminate local calls of any other end user of the CLEC.

25. The fact that ISP traffic flows predominantly in one direction does not reduce or eliminate the costs involved in terminating such traffic, nor justify the denial of reciprocal compensation to any carrier (either ILEC or CLEC) terminating such traffic.

26. Reciprocal compensation treats carriers fairly since each carrier only pays (and is compensated for) the actual traffic flows that a carrier terminates on behalf of a separate originating carrier.

27. Although no party provided precise measures of the volume of ISP traffic terminated by particular carriers, it is generally true that CLECs, as a group, terminate much greater volumes of ISP-bound traffic than do the ILECs.

28. Among the CLECs that actively participated in this proceeding, there is a greater market concentration in serving business customers, with particular focus on ISPs, as opposed to serving residential customers.

29. The fact that specialized market niches may develop, such as service to ISPs, is not necessarily anticompetitive, but merely reflects the workings of a competitive market.

30. The payment of reciprocal compensation for the termination of ISP traffic in accordance with the provisions of the Act does not result in incentives to impair competition, to avoid implementing new technologies to serve customers seeking Internet access, or otherwise impair the technological development of the competitive infrastructure in California.

31. The elimination of reciprocal compensation for ISP traffic would deny CLECs their present source of funding for terminating ISP calls, thereby impairing CLECs' competitive incentive to serve ISPs, or else, could result in higher charges to ISPs for phone service which might be passed on to end users.

32. With less competitive options for obtaining local exchange service, ISPs could become more dependent on ILECs for their service, thereby reducing competition and potentially impairing ISP service options or increasing ISP charges passed through to its end use subscribers.

33. The payment of reciprocal compensation to CLECs for the termination of ISP traffic in accordance with the provisions of the Act does not result in "windfall" profits.

34. The only relevant costs for purposes of evaluating whether reciprocal compensation rates are excessive are traffic-sensitive costs incurred in the transport and switching of terminating traffic.

35. In accordance with the Act, the termination costs of the ILEC are used as a proxy of CLEC termination costs for purposes of reciprocal compensation.

36. In accordance with the Act, the proper cost standard for reciprocal compensation is TELRIC which is not disaggregated by class of customer, but rather uniformly applies to all customers served over the same facilities.

37. CLECs do not serve ISPs using different terminating facilities than they use for terminating local traffic of other customers.

38. While CLECs' network facilities may be configured differently from those typically used by the ILECs, those facilities are used to serve customers connecting to the CLEC system. Since any cost differences relating to those facilities are attributable to originating traffic, not terminating traffic, those differences do not impact reciprocal compensation.

39. While the ILECs failed to quantify a reasonably precise measure of the average duration of ISP-bound calls in comparison to voice-related calls, they generally established that ISP-bound calls tend to have a longer duration than voice calls.

40. Even to the extent ISP-bound calls have a longer duration than the average of all local calls, reciprocal compensation rates do not overcompensate for such longer duration as long as the fixed cost of call set up is separately charged on a per-call basis rather than a per-minute basis.

41. Pacific's reciprocal compensation rate separately applies the fixed call set up costs on a per call basis while Verizon's reciprocal compensation rate applies only a single blended rate on a per-minute basis.

42. There is no basis to find that ISP calls necessarily experience a higher call completion rate compared with calls to other service-oriented businesses where call completion is important.

43. There is no basis to find that trunk-to-trunk switching is used exclusively to terminate ISP calls, or that any related cost differentials impact traffic-sensitive termination costs subject to reciprocal compensation.

44. There is no basis to find that alleged differences in line concentration in the termination of ISP traffic compared with other local traffic results in lower traffic-sensitive termination costs subject to reciprocal compensation.

45. There is no basis to find that the switches utilized by the CLECs have less complete functionality than do ILEC switches, or that CLEC switches are unable to perform call origination functions.

46. To the extent that the ILEC may not fully recover reciprocal compensation payments for ISP traffic through residential charges, the appropriate remedy is not to relieve the ILEC of its obligations to pay third parties for services rendered, including call termination of ISP traffic.

47. Although ILECs have the obligation to pay reciprocal compensation of termination of ISP traffic, they also have the opportunity to increase their profitability by pursuing their own market opportunities to tap into the Internet market and other advanced technology options.

48. Even if the ISPs currently served by the CLECs were instead served by the ILECs, the ILECs would still incur costs to terminate such ISP calls on its own facilities.

49. The ILEC proposed bill-and-keep approach to recover any ISP call termination costs fails to produce symmetrical treatment of carriers.

50. Bill-and-Keep produces asymmetrical results since CLECs would render (at no charge to the ILEC) a disproportionately greater volume of ISP call termination for the benefit of ILEC customers compared with the volume of ISP call termination rendered by ILECs (at no charge) on behalf of CLEC customers.

51. The FCC has recognized that bill-and-keep may be an appropriate substitute for reciprocal compensation where originating and terminating traffic flows are roughly in balance.

52. Since ISP traffic flows are not in balance, the use of bill-and-keep would not be consistent with FCC criteria for the use of such an alternative.

53. The use of bill-and-keep would be inconsistent with the underlying principle of cost causation that the carrier serving the originating caller is responsible for compensating the carrier serving the called party for terminating the call for the benefit of the originating caller.

54. The proponents of the bill-and-keep alternative have failed to provide a practical implementation methodology by which ISP-related terminating minutes could be properly identified and excluded from the billing base subject to reciprocal compensation.

Conclusions of Law

1. This proceeding is not intended to revisit issues of whether ISP traffic is interstate or intrastate for state or federal jurisdictional purposes.

2. This proceeding has been bifurcated, with the first phase limited to consideration of whether the existing Commission policy calling for reciprocal compensation to apply to ISP-bound calls should continue or be replaced with an alternative approach.

3. Issues relating to the propriety of disparate rating and routing points for ISP-related calls (as well as for other categories of calls) is outside the scope of Phase 1 of this proceeding, but has been deferred to a subsequent phase of the proceeding.

4. To the extent that outstanding questions may remain concerning the specific rates to be applied for reciprocal compensation, those issues are deferred to a subsequent phase of the proceeding.

5. While this proceeding generally considered whether ILECs are financially disadvantaged by the payment of reciprocal compensation for ISP calls, the question of whether or how ILECs may seek adjustment of end user rates to offset ISP reciprocal compensation payments is excluded from Phase 1 of the proceeding. Parties were left with the opportunity to seek to raise this issue, if deemed necessary, in addressing the scope of a later phase of the proceeding.

6. In accordance with the authority delegated to the states under the Act, this Commission has discretion to determine whether or not ISP-bound traffic should be treated as local traffic subject to reciprocal compensation.

7. ISP-bound traffic meets the criteria prescribed under the Act to be treated as local traffic subject to reciprocal compensation on the same basis as for other local traffic.

8. Even if reciprocal compensation were found not to be required for ISP traffic by law under the Act, this Commission still may prescribe that reciprocal compensation be paid for such traffic on the same basis as for other local traffic if warranted by a review of relevant facts.

9. As a preferred outcome in negotiations among carriers, the reciprocal compensation provisions applicable to interconnection agreements should apply to the termination of calls to ISPs as they do to any other local calls in the manner prescribed under the Act.

10. There is nothing discriminatory in requiring that reciprocal compensation apply to the ISP termination of calls to by CLECs since the obligation for reciprocal compensation applies to all carriers, not just to the ILECs.

11. It is not confiscatory merely to require the ILEC to compensate the CLEC for terminating such calls in conformance with the reciprocal compensation provisions of applicable interconnection agreements.

12. The question of whether ILECs incur additional originating transport costs related to CLEC-served ISPs does not eliminate the right of CLECs to be compensated for their costs of terminating ISP traffic.

O R D E R

IT IS ORDERED that:

1. The Commission hereby affirms as a preferred outcome that reciprocal compensation provisions of interconnection agreements shall apply to the terminating traffic sent by competitive local exchange carriers (CLECs) to Internet Service Providers (ISPs) in the same manner that those provisions are applied to other local terminating traffic.

2. All carriers subject to interconnection agreements containing reciprocal compensation provisions are directed to make the appropriate reciprocal payment called for in such agreements for the termination of ISP traffic which would otherwise qualify as a local call based on the rating of the call measured by the distance between the rate centers of the telephone number of the calling party and

the telephone number used to access the ISP modem until such agreements are ended.

3. The ALJ is directed to promptly issue a ruling directing parties to file comments concerning the scope and disposition of any remaining issues that may require resolution in this rulemaking.

This order is effective today.

Dated _____, at San Francisco, California.

CALIFORNIA'S INTERNET SERVICE PROVIDERS

VIEW RECIPROCAL COMPENSATION,

AFFORDABLE INTERNET ACCESS & RURAL INTERNET ACCESS

An Analysis of Survey Results

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December 2000

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EXECUTIVE SUMMARY

Currently, local telephone companies in California compensate each other when one carrier completes a call that originates on the network of another carrier. This system recognizes the complex, interconnected nature of the state's telephone network, with local carriers of widely differing sizes covering the various regions of the state. Local calls throughout California are supported by these inter-carrier payments, although only the calling party is billed by the originating carrier.

Over time, the nature of the traffic on the network has changed. This has been the result of both changes in technology— direct dialing, fax machines, and Internet— and a general reduction in and restructuring of telephone tariffs. Questions have arisen about the appropriateness of the reciprocal compensation system for calls to Internet Service Providers (ISPs), and this issue is currently being debated at both the state and federal levels. This survey has been designed to present the views of California's ISPs on reciprocal compensation and the likely effects that ending reciprocal compensation would have on the ISPs and the communities they serve.

A sample of 103 of the approximately 750 Internet Service Providers in California were surveyed in late October and early November 2000 to determine their views on reciprocal compensation. The survey focused on the likely effects that would occur if the current system of reciprocal compensation for intrastate telephone calls was ended.

While the precise response of competitive phone companies to the elimination of reciprocal compensation can't be known, we find it reasonable to assume that CLECs will turn to Internet Service Providers to cover the shortfall.

Specifically, the ISPs were asked if they would pass cost increases on to their subscribers and, if so, how much they would raise their rates. They were also asked about the impacts this change would have on their customers and on the communities in which they live and work. The overwhelming majority (almost 86%) of the ISP respondents stated that they would pass the cost increases on to their customers, and the average expected rate increase was approximately 20%.

Approximately three-quarters (77% of those responding) of the ISPs serve rural areas. These ISPs were then asked about the "risks" faced by those communities— higher prices for Internet access than in urban areas, lack of affordable access, local toll charges for access, and less choice for ISP service. In each case over 50% of the ISPs stated that these risks applied to the rural communities that they serve. Another question asked if the ISPs might become unable to offer service to rural communities if CLECs were to pass on the termination costs. Approximately 45% of the ISPs stated that they might discontinue service to rural communities. Follow-up questions elicited the names of specific communities that faced each of these risks. (We have organized these lists and include them in the Appendices.)

In general, the ISPs rate the impact of the Telecommunications Act of 1996 positively, and believe competition in local telephone service has had a positive impact on their business.

We also used the answers to one question to break down the answers to others, obtaining additional insights into how ISPs view the specific issues. Those ISPs that serve rural communities stated that they are more likely to raise rates than did those ISPs that do not provide rural service.

We believe that the survey results accurately reflect the views of California's ISPs. Reviewing the survey and the responses, one comes away with the view that the ISPs understand the issues and the likely negative effects that the end of reciprocal compensation will have on their businesses. They foresee negative effects on their subscribers, especially those in rural communities. These negative effects will be especially strong in the rural areas of the state; competition among ISPs will decline and the cost of Internet access can be expected to increase. Some communities face the complete loss of local access to the Internet.

ABOUT THE SURVEY

About the authors

Yale M. Braunstein is a professor in the School of Information Management and Systems at the University of California at Berkeley. Professor Braunstein has a Ph. D. in Economics from Stanford University. He is the author or co-author of over 40 articles in economics and information science and has served as a consultant to the Federal Communications Commission, the National Telecommunications and Information Administration, and regulatory agencies in Israel and Sweden, as well as to a number of corporations and non-profit organizations. Professor Braunstein also has an appointment in Berkeley's Health Services and Policy Analysis Group.

Prior to coming to Berkeley, Professor Braunstein was a member of the economics departments at New York University and Brandeis University. He has taught courses on the economics of information, regulation, and econometrics. He has been a visiting scholar and lecturer at the East-West Center and in China and Germany.

Rashmi Sinha is a lecturer in the School of Information Management and Systems at the University of California at Berkeley. Dr. Sinha has a Ph. D. in Experimental Psychology from Brown University. Prior to coming to SIMS, Dr. Sinha was a postdoctoral fellow in the Department of Psychology, UC Berkeley. Her research interests include human cognitive processes and the usability of computer interfaces. She is currently teaching a course on quantitative methods for SIMS.

About the survey

We assumed that there are approximately 750 ISPs in California. As there is no complete, authoritative list of ISPs, or official definition of what an ISP is, determining the exact number may be difficult. This estimate is based on the testimony of the California Internet Service Providers Association before the California Public Utilities Commission, referencing confidential data provided by the major telephone companies in the state. The California Internet Service Providers' Association (see http://www.cispa.org/) sent a mailing to all the known ISPs requesting contact information. There were 270 responses to this request, and each was contacted by telephone on October 19 or 20 to schedule a time to complete the survey. If the ISP requested, the survey was made available online, and a password was e-mailed to the respondent. The online version was made available during the period from October 26 to November 2.

The survey consisted of 18 questions that called for a mix of categorical, quantitative, and open-ended responses. We estimate that it took the respondents an average of approximately 10 minutes to complete the survey. There were 75 responses obtained by telephone, and 28 ISPs completed the online version, for a total of 103 responses.

A note about the margin of error

The margin of error for responses to a survey depends on the size of the sample, the breakdown of the responses, and the desired confidence level. This survey was designed so that the response to one question would determine which additional questions were asked of the respondent. As a result there are changes in the number of responses as the survey progressed. We have calculated and reported the margins of error for several key questions using a 95% confidence level.

SURVEY RESULTS

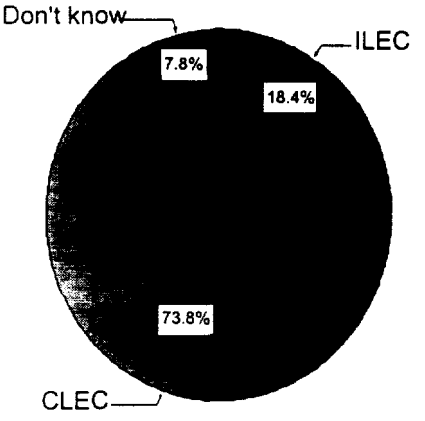
Categorical and quantitative questions

This section presents the results to those questions that called for a categorical or quantitative response. These results provide a good introduction to California's ISPs and to their views on the question of reciprocal compensation. The focus is both on the effects that the possible end of reciprocal compensation will have on the ISPs and on their customers. We will present additional analyses that relate the responses to two or more questions in the next section.

The survey started by asking the ISPs which type of carrier provided their service and whether they were familiar with the term "reciprocal compensation."

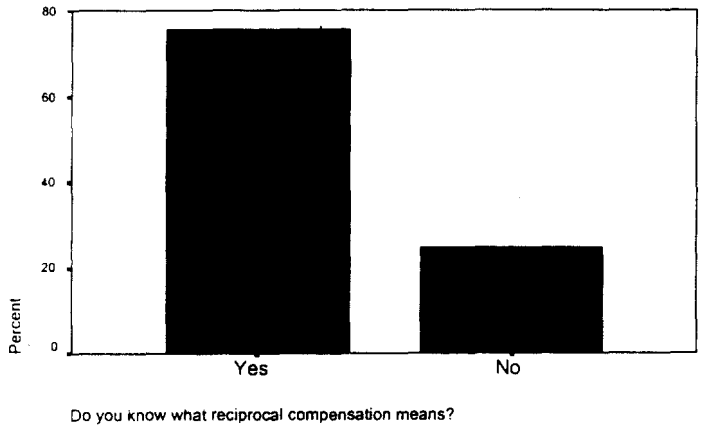
The ISPs surveyed are mostly served by CLECs (73.8%). Only 18.4% of the ISPs surveyed are served by ILECs, and 7.8% of the respondents did not know whether they are served by CLECs or ILECs.

Exhibit 1: Are you currently being served by an ILEC or a CLEC?



The respondents who stated they were served by a CLEC or did not know whether they were served by a CLEC or an ILEC were then asked a set of additional questions. The first of these was whether they were familiar with the term "reciprocal compensation." Of those responding, three-quarters (75%) were familiar with the term reciprocal compensation; the remaining quarter was not. If the respondent answered "no," a short definition of reciprocal compensation was given.

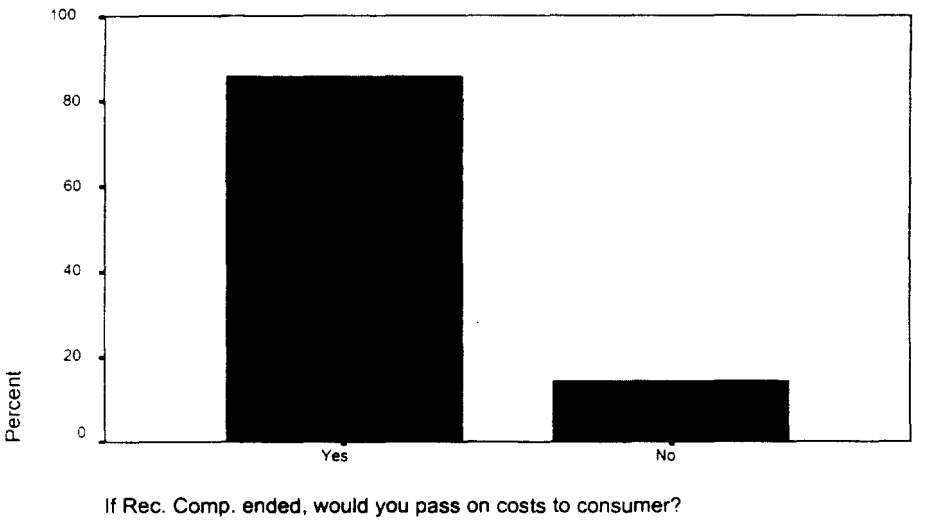
Exhibit 2: Do you know what the term "reciprocal compensation" means?



The end of reciprocal compensation is likely to lead to widespread increases in consumer costs. The vast majority (86%) of the ISPs responding yes or no stated that in the event that reciprocal compensation were ended, they would pass on the costs to terminate ISP bound calls to consumers. The margin of error for this response is plus or minus 8%. Very few (14%) have decided not to pass on the costs. Ten ISPs were undecided or did not know what their course of action would be.

If we ignore the undecideds and "did not knows," we can be 95% certain that at least 78% (86% - 8%) of the ISPs served by CLECs expect to pass on to consumers the costs from the discontinuation of reciprocal compensation. Even if we count all the undecideds and "did not knows" with the negative responses, we still have 76% (with a margin of error of plus or minus 9%), or a minimum of 67% that expect to pass the costs on to consumers. It appears to us that most ISPs understand the issue of reciprocal compensation and will respond to the end of reciprocal compensation by passing on the costs to consumers.

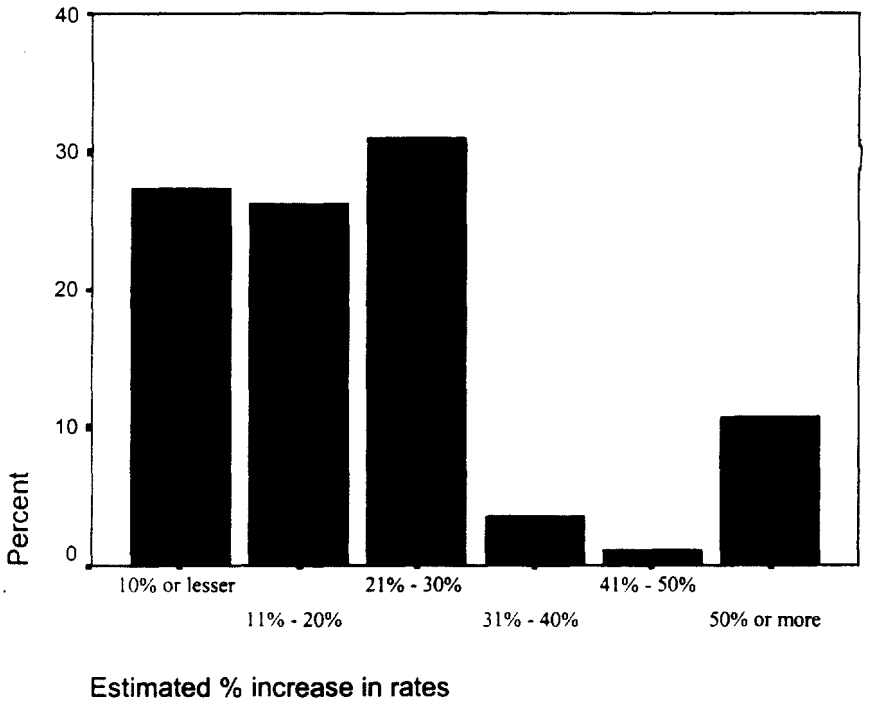
Exhibit 3: Suppose reciprocal compensation were ended and CLECs started passing on to you the cost terminate ISP bound calls. Would you have to pass on those costs to your consumers?



Those ISPs who answered "yes" to the previous question were then asked, if they did pass the cost increase on to their subscribers, to estimate the extent to which they expected their rates to increase. There is a wide range of anticipated rate increases, but most ISPs (84.5% of those responding) have decided to stay within 30% rate increases. The most common responses were in the 21 to 30% range, but some (8.7 %) are anticipating increasing rates by 50% or more.

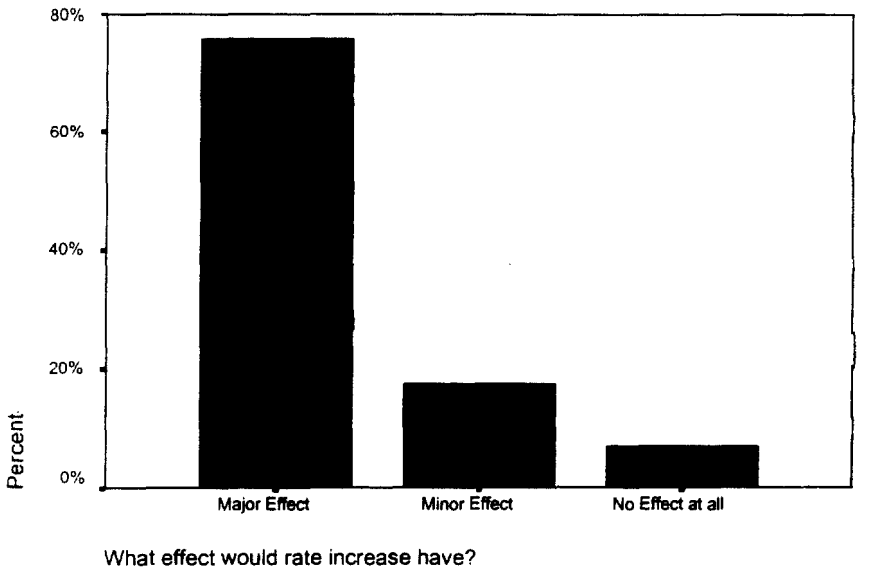
We divided the responses into two groups, those estimating rate increases of 0 to 30% (84.5% of those responding) and those estimating rate increases greater than 30% (15.5% or those responding). The margin of error for this breakdown is plus or minus 8%. In other words, we can be 95% certain that between 7.7% and 23.2% of the ISPs that expect to raise their rates to consumers will do so by over 30%.

Exhibit 4: If you did start passing on the cost to terminate ISP bound calls to your customers, how much do you estimate you would have to increase your rates to cover the cost?



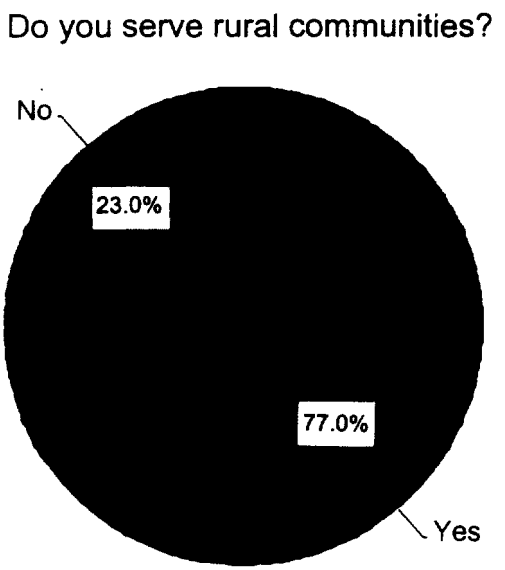
The next question asked the respondents to describe the impact these rate increases would have on their customers. Most ISPs (75.7%) anticipate that these rate increases will have a major impact on their customers. Only 6.8% anticipate no impact at all.

Exhibit 5: What effect do you think such a rate increase would have on your customers?



The questions then focused on rural service by the ISPs. Most of the respondents (77%) serve rural communities. 23% of the ISPs do not serve rural communities.

Exhibit 6: Do you serve rural communities?



Those respondents who indicated that they served rural areas were then asked a series of additional questions about the likely impacts on rural areas. The first set addressed four types of hardships that rural communities might face: higher prices than urban communities, being unable to afford Internet access, paying toll charges to the nearest big city and having less choice for ISP service. Each of these issues was seen as a potential problem by at least 50% of the ISPs surveyed. Less choice for ISP service was seen as the most probable (65.8% of the ISPs said yes, while only 21.9% of the ISPs said no). Almost as great a percentage saw the payment of local toll charges (62.7%) and rural subscribers paying higher rates than urban subscribers (61.3%) as likely risks. About half (50.7 %) stated that subscribers in rural communities might be unable to afford Internet access.

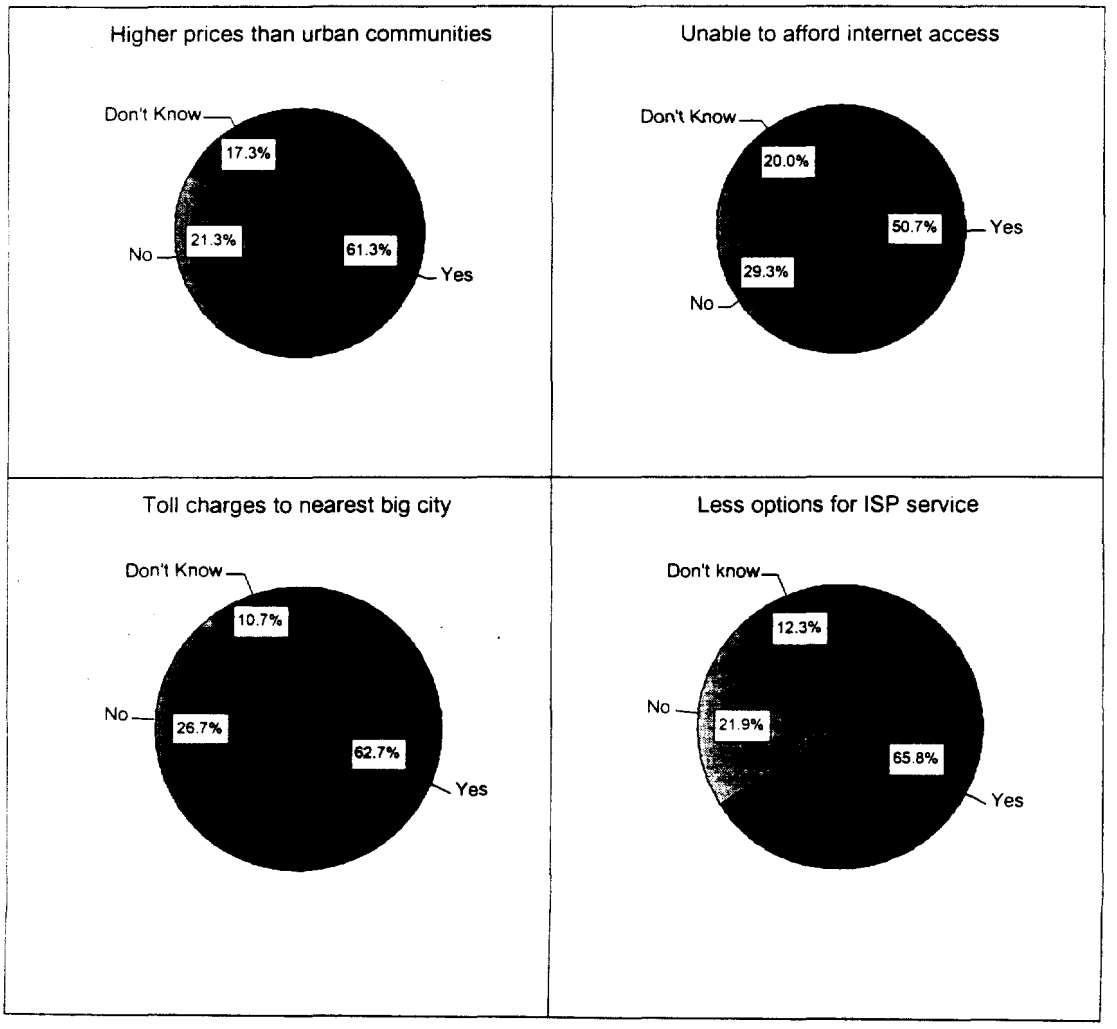



Exhibit 7: Now thinking of the rural communities you serve, which, if any, of the following issues would you say those communities are at the risk for facing: