MacAvoy makes a similar argument about the PCS license announcement that confounds his 9/17/93 rate increase, claiming that it cannot have been "news" because the FCC issued a Notice of Proposed Rulemaking in January, 1992 (p. 54, footnote 66). This, of course, contradicts RBOC affiant Lehn, whose original analysis was predicated on the assumption that the PCS event in question actually contained important news. More importantly, the mere fact that there was a prior Notice of Proposed Rulemaking does not mean that the timing and specific content of the September 1993 announcement were properly anticipated.

MacAvoy's 9/17/93 event was also confounded by the California PUC's decision to open up interLATA markets. MacAvoy dismisses this as "the same announcement" as the prior statement by the California PUC, discussed above (p. 54). He is incorrect. The first event was a statement of intent, while the second was an actual ruling. To equate the two is obviously improper. To understand this point, consider the following example. An election is held between candidate A and candidate B. Three days before the election, a newspaper reports the results of a poll which forecasts victory for candidate A. Indeed, candidate A wins the election. MacAvoy would evidently argue that the election results contain no news because the forecast was correct. However, it is perfectly clear that the election does contain news, if for no other reason than it resolves uncertainty and rules out the possibility that B might win.

In our first report, we also criticized MacAvoy's methodology on the grounds that it is unscientific (p. 160). The analysis in MacAvoy's original affidavit did not include all relevant events, and he made no attempt to explain or justify his selection criterion. We also pointed out that his findings are not typical of other more pertinent events, and we cited the introduction of AT&T's "*i* plan" as an example. According to the contemporaneous business press, the announcement of this plan pushed AT&T's share price higher while sending MCI and Sprint's share prices lower, contrary to MacAvoy's findings (see our first report,

p. 160). This event is particularly important, since it involves discounting, rather than basic rates, and therefore affects a segment of the long distance market for which competition is not directly distorted by regulation. With respect to this critical example, MacAvoy is once again conspicuously silent.

MacAvoy instead focuses in his reply on a list of additional rate increases that were mentioned in the affidavit of Hubbard and Lehr. His response only serves to demonstrate the point that the selection of his events was based on highly subjective and questionable judgment, rather than on explicit, scientifically justifiable criteria. MacAvoy simply dismisses a number of events on the grounds that they are "insignificant." The significance or insignificance of an event is something that ought to be resolved through the analysis of data, and not through the arbitrary decision of the analyst. MacAvoy also excludes Hubbard and Lehr's 7/17/90 event because it coincides with a delay of Sprint's merger with United Telecom. Yet this is exactly the kind of confounding development that he derides in the context of his own events.

Finally, it is evident that MacAvoy has missed the point of this argument. Our claim here is not so much that he has ignored a particular set of events, but rather that his analysis is not based on a precisely articulated, systematic, and scientifically valid selection criteria. We have not set out to "fix" MacAvoy's study by formulating a valid selection criterion, or by producing a comprehensive list of events (since, as we have explained above, we regard the study as fundamentally unfixable). Rather, we simply attempted to evaluate MacAvoy's implicit selection criterion, and found abundant evidence that it was arbitrary. Consequently, the problem cannot be remedied through a selective culling of additional events.

In our first report (pp. 160-161), we also mentioned that, although MacAvoy's analysis is hopelessly flawed, it may nevertheless be possible to shed some light on profitability and market power through other uses of asset price data. We noted in particular that Hubbard and Lehr had prepared estimates of Tobin's q for AT&T, MCI, and Sprint, and had found little or no evidence of market power.

In his reply affidavit, MacAvoy criticizes the use of Tobin's q in two ways. First, he argues that Tobin's q relies on potentially inaccurate accounting data for the measurement of replacement costs (p. 49). It is hard to imagine, however, that replacement costs are significantly more difficult to measure properly than marginal costs, which are the focus of MacAvoy's analysis. With marginal costs, one confronts similar problems of data quality, as well as the difficult task of evaluating the manner in which each cost component varies with output. MacAvoy evidently anticipates this response, arguing (immediately before the start of section B on page 49) that the measurement of price-cost margins is not problematic because prices are tariffed, and because costs are reported in regulatory settings. We have already answered these assertions. In addition, it is important to emphasize that the estimation of Tobin's q does not require one to measure output price. Thus, it avoids many of the pitfalls associated with price-cost margins, discussed above.

Second, MacAvoy criticizes Tobin's q on the grounds that it measures the ratio of market value to replacement cost for the entire firm, rather than for long distance operations alone (pp. 50-51). He characterizes Hubbard and Lehr's findings as contaminated by other lines of business, noting that long distance accounts for roughly half of AT&T and Sprint's total revenue.

MacAvoy correctly points out that the Tobin's q (henceforth "q") for any firm is, in effect, a weighted average of qs for each of the firm's separate operational divisions. However, economic theory also implies that companies will not invest past the point where q (properly measured) is less than unity (as MacAvoy himself acknowledges, p. 49). Consequently, if one finds that q is consistently near unity for an entire firm, one can be reasonably confident that q is not significantly greater than unity for any large component of the firm's activities. Since long distance is an extremely large component of the activities for Sprint and AT&T, it is therefore doubtful that the qs for this activity substantially exceed unity.

In addition, it should be recalled that, according to other RBOC witnesses, AT&T has market power in other operational divisions, such as equipment. To the extent such allegations are correct, the

contamination resulting from the inclusion of these other operations would bias the measured value of q upwards, away from unity, rather than towards unity.

We do not regard Hubbard and Lehr's measures of q as perfect indicators of market power. Nevertheless, we believe that in this instance, on balance, q is more reliable than the measures proposed by the RBOCs' witnesses.

11. Other issues

Conclusion #55: *Additional claims appearing in the most recent submission by Taylor and Zona do not shed light on the existence or absence of market power in long distance services.*

In their most recent report, Taylor and Zona point to several other alleged factual patterns which, they claim, support the inference that long distance services are not competitive. We have already dealt with some of these (e.g. those concerning the role of advertising) in the course of discussing other issues. We now take up three remaining issues. On examination, the evidence and associated inferences are easily dismissed.

(i) Productivity growth. Taylor and Zona's discussion of productivity growth provides a striking illustration of their ability to take both sides of the same argument simultaneously, without any apparent pangs of conscience. When arguing that long distance prices have not declined fast enough since the Decree, they interpret their data as indicating that "there is certainly no evidence that telecommunications productivity growth has slowed in the 1985-1995 period" (p. 34). But in the very next paragraph, they conclude that competition has not created pressure for AT&T to reduce costs because "productivity growth has not accelerated since divestiture" (p. 35). These arguments might be reconciled if their data proved the absence of *any* change in productivity growth. Yet they readily concede that their productivity data is "too volatile" to permit reliable inferences (p. 34).

Even a reduced rate of productivity growth would not establish the absence of vigorous competition. This argument is susceptible to the same criticisms that we raised in the context of Taylor's

previous (and similar) analysis of price trends -- criticisms that Taylor and Zona have simply ignored. Productivity gains might well have slowed, rather than merely remained constant, in the absence of the MFJ.

(ii) Quality. Taylor and Zona argue that quality has improved at essentially the same rate in areas with and without equal access (pp. 35-36). Their analysis is based on one narrow aspect of quality: rates of blockage on outbound calls. There is no way of knowing whether these findings are representative of other potentially more important dimensions of quality.

In addition, Taylor and Zona's premise, that competitive pressures should have improved quality more rapidly in areas with equal access, is highly suspect. AT&T was acutely aware that equal access was inevitable in all locations, and therefore may have found it most efficient to adopt a general program of quality improvement in anticipation of this eventuality. It is also not at all clear that AT&T was, in general, able to predict with accuracy the timing of equal access implementation in any given area. Finally, in many cases AT&T may have been incapable of distinguishing between areas with and without equal access. For example, the same POP (and therefore the same outbound trunk) may, in some instances, have served areas with equal access, as well as areas where equal access had not yet been implemented.

(iii) Reseller entry. Taylor and Zona claim that evidence of persistent entry by resellers indicates the presence of above normal returns (pp. 38-41). In making this argument, they attempt to turn generally accepted economic principles on their heads. The more common and appropriate inference to be drawn from evidence of frequent entry is that incumbents cannot earn abnormal returns, other than on a transitory basis.

Taylor and Zona would evidently make much of the fact that high rates of entry have persisted. To see that persistent entry does not, as a matter of economic logic, indicate the existence of non-transitory profits, consider the following example. Imagine an industry in which technology involves some minimum

efficient scale. Imagine also that this minimum efficient scale does not change over time, but that demand grows. In that case, one would expect to observe persistent entry, even with perfect competition.

One can also appreciate the absurdity of Taylor and Zona's argument by standing it on its head, and asking what the absence of recent entry would prove. No doubt, the RBOC witnesses would also seize on the absence of recent entry as "evidence" of market power (indeed, Hausman incorrectly makes this very claim). Taylor and Zona themselves attempt to play both sides of this argument. In particular, they insinuate that the recent decline in entry by resellers reflects the erection of entry barriers by AT&T (p. 41). But their original argument, if correct, would imply that a decline in the rate of entry indicates the disappearance of excess profits. In short, the Taylor and Zona would apparently interpret any entry pattern as evidence of market power.

VII. THE POTENTIAL BENEFITS OF VACATING THE DECREE

A. THE POTENTIAL BENEFITS OF NEW ENTRY INTO INTERLATA MARKETS

Conclusion #56: *The potential gains from removing the interLATA prohibition would be minor, even if the RBOCs refrain from abusive practices.*

We have explained previously that there will be a strong tendency for the RBOCs to exercise mutual forbearance by specializing in their regional markets (see our first report, p. 173). As a consequence, the total impact would roughly amount to the addition of six carriers with regional facilities. Given the current state of excess capacity, the absence of barriers to consolidation among carriers with limited existing facilities, the ease of entry through resale, and the intensity of rivalry among existing IXCs, it is hard to imagine that the competitive character of the industry would be noticeably affected.

Hausman argues in his reply affidavit (p. 28) that the RBOCs would bring unique competitive advantages to the long distance market due to the existence of economies of scope. However, the potential for such economies was considered at the time of the Decree, and was not viewed as sufficiently important

to overcome this risks of competitive harm. Moreover, the realization of these alleged economies would appear to require the extensive use of joint facilities and activities. It is difficult to imagine how this could be accomplished without opening the door to competitive abuses, and without simultaneously handing the RBOCs ready-made rationalizations of these abuses based on the purported efficiencies of integration.

As noted in our first report (p. 148), Hausman's position on the likely competitive impact of the RBOCs contradicts statements made elsewhere in his affidavits. Specifically, he argues that the RBOCs would become regional facilities-based providers, using resale outside of their regions to complete their networks. But in his analysis of long distance competition, he takes the position that only national facilities-based carriers are relevant for the competitive picture, despite the fact that existing regional carriers can also complete national networks through resale (see section VI for further details).

Finally, Hausman argues that "long distance prices have decreased faster in intrastate markets where BOCs are permitted to compete with AT&T, MCI, and Sprint for intraLATA long distance traffic" (p. 29). We have not investigated the factual basis for this claim because, even if true, it is of no relevance. Hausman has carefully worded his claims concerning intraLATA service to obscure the fact that the RBOCs -- rather than the IXCs -- were the incumbents, and that it was the IXCs -- and not the RBOCs -- that were recently allowed (in many cases) to compete. Thus, Hausman's analysis demonstrates only that, in the context of long distance, confronting the RBOC monolith with some competition from the IXCs places *some* limit on the RBOC's ability to exploit market power. This does not imply that the effects of permitting the RBOCs to compete against the IXCs for interLATA traffic would have symmetric effects, and indeed there is every reason to believe that this would not be the case.

It is also important to point out an important inconsistency between the vision of regulatory vigilance described by RBOC witnesses such as Rivera, Firestone, and Halprin, and the advantages to removing the line of business restrictions claimed by other RBOC witnesses. For the sake of argument, suppose for the moment (counterfactually) that it is possible to prevent all discrimination and cost shifting

by insisting on complete openness, modularity, structural separations of local and distance operations, and the like. Those who claim that the RBOCs will exploit important synergies do not appear to have this regulatory framework in mind. Indeed, if regulation eliminates the risk of abuses, it is hard to see how it would not also eliminate the potential for synergies. Even if the RBOCs did have unique potential as long distance carriers, the necessity of imposing invasive and stifling regulations would render them at best on a par with other potential entrants.

B. THE SPILLER STUDY

Conclusion #57: Spiller's analysis of the likely economic gains from removal of the line of business restrictions is hopelessly flawed as a matter of theory and empirical methodology, and proves nothing.

The RBOCs' original submission included a study by Spiller, purporting to measure the likely benefits that follow from the removal of the MFJ's line of business restrictions. Our first report demonstrated that this study was hopelessly flawed, both as a matter of theory and empirical methodology. We review here our central objections to the Spiller study, and evaluate the responses set forth in Spiller's reply affidavit.

(1) Spiller's exclusive focus on consumer surplus is conceptually incoherent (p. 180). Spiller would count an individual's gains and losses if they were received as a telecommunications customer, but not count that same individual's gains and losses if they were received as a shareholder. Businesses -- including telecommunications firms -- are also telecommunications customers. Thus, Spiller would count the gains and losses to the shareholder of a given company if these changes in value were induced by the company's activities as a consumer of telecommunication services, but would not count those same shareholder's gains and losses if these changes in value resulted from the same company's activities as a producer of telecommunication services.

Spiller begins his response by stating that the primary objective of regulation is the protection of consumers, and not competitors (p. 3). We believe that regulators ought to promote economic efficiency

while protecting the interests of consumers. But this cannot be accomplished through an exclusive focus on consumer surplus. If one holds out the maximization of consumer surplus as the exclusive objective of regulation, then this would justify policies designed to expropriate shareholder value without compensation. One could also justify distortions of any magnitude, provided that consumers come out at least slightly ahead.

Spiller's primary response to our conceptual criticism is a series of knee-jerk citations to Bork. He simply never comes to grips with the substance of our arguments. Moreover, in his discussion of Bork's treatise, he appears to equate the terms "consumer welfare" and "consumer surplus." This leads to analytical error in the current context. A regulatory development may adversely affect the welfare of consumers precisely because a consumer is also a shareholder, just as we argued in our first report.

(2) Spiller's method of measuring changes in consumer welfare is completely erroneous. Our original report provided the following transparent example to illustrate the proposition that the losses to competitors do not provide a lower bound on the gains in consumer surplus (p. 180):

> "Consider the following possibility: Y initially sells substantial quantity at some price P, and earns significant profits. X restructures, and as a result, in the new equilibrium, is able to attract all of Y's customers at a price only slightly less than P In that case, the gains to consumers are tiny, while the losses to Y are large."

Spiller implicitly concedes that his original theoretical analysis was in error, but refers to the kind of objection described above as a "minor second order effect" (p. 5). He then engages in a lengthy discussion (pp. 7-16) intended to defend his measure of consumer surplus, and to establish that the "second order effects" in question are small. Yet nowhere in this discussion does he respond to our simple example (above).

It is a simple matter to demonstrate that Spiller's entire discussion of this matter is utterly and completely misguided. Nowhere in this analysis does he undertake or refer to any formal theoretical

analysis that establishes the central "theorem" upon which his analysis is based. This is because the "theorem" is wrong.

Consider the following simple numerical example of oligopolistic competition. Two firms, A and B, produce a perfectly homogeneous good. For simplicity, production is characterized by a fixed cost (the value of which matters little for our purposes) and a constant marginal cost. The marginal cost for firm A is 50, while the marginal cost for firm B is 75. The demand curve is described by the function $P = 100 - bQ$, where P is price, Q is total quantity, and b is some positive number (so that the demand curve slopes downward).

Since Spiller does not qualify his analysis by specifying that his conclusion is predicated on a particular theory of price determination, we are presumably free to supply our own theory. For this example, we assume that the firms are "Cournot competitors." This is one of the classic assumptions concerning oligopolistic interaction. It is a simple matter to compute the Cournot equilibrium for this model. One can also easily calculate consumer surplus and profits for either firm.

Imagine next that the marginal costs for firm B decline to $74, perhaps as the result of a merger or joint venture with some other company. It is not difficult to derive the new equilibrium, and in doing so one can also compute both the gain in consumer surplus and the loss to firm A. *For this example, the ratio of the gain in consumer welfare to the decline in the competitor's profits is 0.507, indicating that lost profits are nearly twice as large as increased consumer welfare -- a clear violation of Spiller's lower bound.* Moreover, by choosing the parameters of the model appropriately, one can make this ratio as small as one wants. Thus, in general, nothing can be learned about consumer surplus from an examination of competitor's profits.

This example serves to demonstrate that numerous specific assertions in Spiller's reply affidavit are fallacious. For example, on page 7, he argues that the criticisms of his analysis are inapplicable in cases with homogeneous products, unless one considers the effects of new entry. In the preceding

example, the lower bound is violated despite the fact that products are homogeneous, and no new entry is envisioned. Similarly, his reply affidavit contains an extended discussion of price elasticities (pp. 11-14). But in the preceding example, the price elasticity varies with the parameter b. Note that the ratio of the gain in consumer welfare to the decline in the competitor's profits -- 0.507 -- is completely independent of b, and hence independent of demand elasticity.

We have numerous other quibbles with this portion of Spiller's affidavit. For example, it is extremely difficult to see how the post-divestiture experience could prove that entry does not result in declines in quantity for incumbents (given that the effects of entry on incumbents have been offset by growth in total demand).[98] Based on the analysis of section VI, it should also be obvious that we take exception to Spiller's assertion (pp. 15-16) that "[t]here is therefore considerable room for large price declines" in long distance. We will, however, forego a more detailed point-by-point refutation of the material in this portion of Spiller's affidavit, since this would only distract attention from the central and fatal theoretical flaw in his analysis.

Ultimately, Spiller is forced to fall back on the assertion that his estimates are conservative not because he has correctly calculated a lower bound on consumer welfare in each instance, but rather because (1) he has not analyzed all relevant events, and (2) the RBOCs might be better suited than other large telecommunications companies for certain activities (p. 6). The implicit supposition that the RBOCs would, if freed from the line of business restrictions, reproduce every relevant event since the Decree, let alone the events studied by Spiller, is purely fanciful, and entirely without foundation in either theory or fact. The notion that the RBOCs could capitalize on their allegedly unique attributes without running afoul

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[98]On this same point (changes in the output of incumbents), Spiller misinterprets the results of Michael Whinston's academic article on the airline industry. As Whinston himself notes, incumbents may have expanded their output in response to the entry of People's Express as a short-term predatory move (see Michael D. Whinston and Scott C. Collins, "Entry and competitive structure in deregulated airline markets: an event study analysis of People's Express," *RAND Journal of Economics* 24(4), Winter 1992, p. 460). It is very unlikely that United's output expansion was a permanent move resulting from an outward shift in demand induced by the entry of People's Express.

of regulations designed to prevent abuses is also highly speculative. In the end, the study must stand or fall on the details of its formal analysis. It falls.

(3) Spiller's analysis is based on the assumption that the entry of the RBOCs would be beneficial to long distance. As indicated in our first report (p. 181), Spiller "simply assumes away all of the potential harms to long distance competition that the MFJ is designed to prevent." Spiller's response to this observation is a superficial description of the regulatory protections discussed at length in section IV (pp. 16-17). This amounts to a clear concession that his analysis has not taken potential anticompetitive consequences into account. In other words, he "proves" that the MFJ is detrimental by assuming at the outset that it has no benefits.

(4) The events considered in Spiller's empirical analysis are contaminated by other simultaneous developments that may well have affected the values of telecommunications companies (p. 181). We provided in our original report a long list of confounding events, and noted that one of Spiller's event windows actually contains an episode studied by another RBOC affiant (pp. 181-182). Despite the serious nature of this criticism, Spiller offers no refutation.

(5) Spiller misinterprets many of the events considered in his study (p. 182). For example, the market's reaction to British Telecom's investment in MCI probably had more to do with implications for global competition, than with implications for domestic long distance competition. In his reply affidavit, Spiller attempts to defend his interpretation of each event, but his analysis is, at best, strained. For example, in the case of the BT-MCI deal, he concedes that "[o]bviously, one feature of this event is increased competition for international service," but he asserts that removal of the MFJ restrictions would make the RBOCs more attractive partners for joint ventures in international service, as well as domestic service (pp. 20-21). Moving from this assertion to the conclusion that, absent the MFJ, an RBOC would enter into a similar transaction, with comparable implications for competition and consumer welfare, is nothing less than a leap of blind faith. In cases where foreign countries are served by one PTO (or, as in

the case of the UK, a small number of competitors), it is also difficult to see how partnering arrangements could be duplicated. While the RBOCs might displace AT&T or MCI as an international partner of some foreign PTO, this would have very different implications for consumer welfare than the *de novo* combinations studied by Spiller.

The scarcity of foreign PTOs suggests that Spiller's analysis of the BT-MCI event is flawed for yet another reason. Prior to the consummation of this deal, both MCI and AT&T were maneuvering for an alliance with BT. Thus, a significant part of the losses to AT&T associated with the announcement of this event may have reflected the realization that AT&T would not benefit from a potential partnership arrangement with BT, rather than the effects of increased competition from a more vigorous MCI.

(6) Spiller makes a variety of critical and unsupported assumptions about the events in question (see our first report, p. 182). For example, by making a strict comparison between the Time-Warner-USWest and Cox-Southwestern Bell mergers, he ignores a variety of important differences, including the fact that the Cox-Southwestern Bell deal involved almost twice as much value as the Time Warner-US West deal. Spiller responds that the "dominant features of these events are the same," and that "[t]hey are of similar order of magnitude" (p. 22). It is difficult for us to fathom the practice of treating $2.5 billion as essentially the same as $4.9 billion. The difference between these numbers strikes us as large in both absolute ($2.4 billion) and relative (nearly 100%) terms. But perhaps Spiller's clients have more loose change than we had previously imagined.

(7) In our first report, we criticized Spiller for failing to spell out explicitly the set of selection criteria that he used to identify the particular subset of events considered in his study. To his credit, and in contrast to Lehn, he offers in his reply affidavit an explicit description of the process by which he arrived at these events, rather than an *ex post* rationalization. Yet much of the process was evidently highly judgmental, and open to dispute. For example, he dismisses certain mergers because he considers them more closely related to entertainment (p. 25). But this is much like saying that the BT-MCI venture was

more closely related to international competition -- by Spiller's logic, the end of the MFJ might also make the RBOCs more desirable partners in the entertainment field (indeed, one RBOC affiant -- Hazlett -- sounds precisely this theme in his original affidavit). Spiller is also primarily concerned in this portion of his reply affidavit with explaining why he chose to study one deal rather than another. He never explains his reasons for feeling constrained to limit the number of events studied in the first place. Even under a sympathetic reading of this material, one is left with the impression that, at best, Spiller arbitrarily excluded potentially relevant information.

C. OTHER RBOC-SPONSORED STUDIES

Conclusion #58: *The WEFA study is essentially irrelevant in the context of this proceeding.*

As we explained in our first report (pp. 178-179), the core of the study is concerned with quantifying the importance of telecommunications for the macroeconomy, rather than with evaluating the impact of the MFJ on telecommunications. The study simply *assumes* that MFJ relief would benefit telecommunications markets. If one assumes on the contrary (as argued here and in our original report) that the removal of the MFJ line of business restrictions would harm telecommunications markets, then the same analysis would imply disastrous macroeconomic consequences following MFJ relief. No response has been offered.

Conclusion #59: *An RBOC-sponsored study conducted by Rubin, purporting to quantify the costs and benefits of the Decree's waiver process, is based entirely on invented numbers that have no foundation in either fact or formal analysis. Moreover, the cost-benefit analysis described in that study pertains to a hypothetical scenario that is of no practical relevance whatsoever.*

Our first report pointed out a number of fatal flaws with the Rubin study (pp. 184-185). Since no responses have been offered, we will not repeat our arguments here.

SAMPLE: 1986-1993

DEPENDENT VARIABLE: Local Rate, no SLC

EXPLANATORY VARIABLES: Population, Population squared, Density, Density squared, New York City or Philadelphia Dummy, State Dummies where REOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4054.07948	47	86.2570102	Number of obs	= 640
Residual	749.695996	592	1.26637837	F(47, 592)	= 68.11
				Prob > F	= 0.0000
Total	4803.77547	639	7.5176455	R-square	= 0.8439
				Adj R-square	= 0.8315
				Root MSE	= 1.1253

Rate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Pop	-1.43e-07	1.88e-07	-0.763	0.446	-5.11e-07	2.25e-07
Pop2	4.26e-14	3.77e-14	1.130	0.259	-3.15e-14	1.17e-13
Den	.0003373	.0000595	5.664	0.000	.0002203	.0004542
Den2	-1.68e-08	3.82e-09	-4.389	0.000	-2.43e-08	-9.27e-09
NYPH	1.087065	.4723004	2.302	0.022	.1594774	2.014654
AL	3.548108	.5138529	6.905	0.000	2.538912	4.557305
AR	2.218652	.4167247	5.324	0.000	1.400214	3.037091
AZ	-1.285925	.4999519	-2.572	0.010	-2.26782	-.3040301
CA	-4.535041	.3184673	-14.240	0.000	-5.160504	-3.909578
CO	-.9246167	.3752561	-2.464	0.014	-1.661612	-.1876216
DC	.927387	.4952825	1.872	0.062	-.0453375	1.900112
FL	-2.302233	.4036598	-5.703	0.000	-3.095012	-1.509453
GA	1.213198	.4141922	2.929	0.004	.3997332	2.026663
IL	-1.650904	.3758823	-4.392	0.000	-2.389129	-.9126795
IN	-.2694223	.5173	-0.521	0.603	-1.285389	.7465441
KY	2.600426	.488826	5.320	0.000	1.640382	3.56047
LA	.5199456	.4096566	1.269	0.205	-.2846115	1.324503
MA	-2.221904	.3689822	-6.022	0.000	-2.946577	-1.49723
MD	1.62209	.4933015	3.288	0.001	.6532556	2.590923
ME	-.1452293	.4938445	-0.294	0.769	-1.11513	.824671
MI	-2.837391	.3644582	-7.785	0.000	-3.553179	-2.121603
MN	.4554303	.4095747	1.112	0.267	-.3489658	1.259826
MO	-2.088445	.3772691	-5.536	0.000	-2.829394	-1.347496
MS	3.335279	.5022221	6.641	0.000	2.348925	4.321633
MT	.9315089	.528687	1.762	0.079	-.1068214	1.969839
NC	-.7889262	.4369389	-1.806	0.071	-1.647065	.0692127
NE	1.896123	.5003207	3.790	0.000	.913504	2.878743
NJ	-5.188682	.4896696	-10.596	0.000	-6.150383	-4.226981
NM	1.671404	.503267	3.321	0.001	.6829978	2.65981
NY	1.800623	.3485721	5.166	0.000	1.116035	2.485212
OH	1.154165	.3476496	3.320	0.001	.4713888	1.836942
OR	1.598708	.4031409	3.966	0.000	.8069472	2.390468
PA	-2.365005	.3365998	-7.026	0.000	-3.026081	-1.70393
RI	1.825484	.493133	3.702	0.000	.856981	2.793987
TN	-.1988019	.432641	-0.460	0.646	-1.0485	.650896
TX	-2.746351	.3541447	-7.755	0.000	-3.441883	-2.050818
UT	-.650247	.4965686	-1.309	0.191	-1.625497	.3250034
VA	.4531212	.4916992	0.922	0.357	-.5125658	1.418808
WA	-1.729261	.4879798	-3.544	0.000	-2.687643	-.7708791
WV	7.056633	.4905427	14.385	0.000	6.093217	8.020049
Y87	-.565106	.1779319	-3.176	0.002	-.9145606	-.2156514
Y88	-1.195195	.1779815	-6.715	0.000	-1.544747	-.8456425
Y89	-1.754184	.1779847	-9.856	0.000	-2.103743	-1.404626
Y90	-2.21969	.1779894	-12.471	0.000	-2.569257	-1.870122
Y91	-2.22233	.1779955	-12.485	0.000	-2.571909	-1.87275
Y92	-2.456098	.1780032	-13.798	0.000	-2.805693	-2.106504
Y93	-2.654347	.1780123	-14.911	0.000	-3.00396	-2.304734
_cons	11.45084	.3679677	31.119	0.000	10.72816	12.17352

SAMPLE: 1986-1993

DEPENDENT VARIABLE: Log of Local Rate, no SLC

EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS
Model	41.9069902	45	.931266449
Residual	6.01397788	594	.010124542
Total	47.9209681	639	.07499369

Number of obs	= 640
F(45, 594)	= 91.98
Prob > F	= 0.0000
R-square	= 0.8745
Adj R-square	= 0.8650
Root MSE	= .10062

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0374572	.0038845	9.643	0.000	.0298283	.0450862
NYC	-.1654109	.0445961	-3.709	0.000	-.252996	-.0778257
Phil	.0211408	.0410085	0.516	0.606	-.0593985	.1016801
AL	.2354738	.0435923	5.402	0.000	.1498601	.3210876
AR	.1956399	.0362099	5.403	0.000	.1245249	.2667548
AZ	-.1921893	.0436231	-4.406	0.000	-.2778635	-.106515
CA	-.5640023	.027876	-20.233	0.000	-.6187499	-.5092548
CO	-.1237935	.0324755	-3.812	0.000	-.1875743	-.0600128
DC	.0858598	.0437352	1.963	0.050	-.0000347	.1717542
FL	-.2348922	.0356059	-6.597	0.000	-.304821	-.1649633
GA	.067586	.035589	1.899	0.058	-.0023095	.1374816
IL	-.1771919	.0324764	-5.456	0.000	-.2409744	-.1134093
IN	-.1311206	.0438068	-2.993	0.003	-.2171555	-.0450856
KY	.2039785	.0435749	4.681	0.000	.1183988	.2895582
LA	.0028281	.0356049	0.079	0.937	-.0670987	.0727549
MA	-.2091681	.0326061	-6.415	0.000	-.2732053	-.1451309
MD	.1292077	.0438062	2.950	0.003	.0431739	.2152416
ME	-.0117543	.0438501	-0.268	0.789	-.0978743	.0743657
MI	-.2971929	.0324756	-9.151	0.000	-.360974	-.2334119
MN	.0591202	.0360722	1.639	0.102	-.0117244	.1299648
MO	-.24218	.0325594	-7.438	0.000	-.3061255	-.1782344
MS	.301062	.0443725	6.785	0.000	.2139159	.3882082
MT	.0559979	.0441987	1.267	0.206	-.0308068	.1428026
NC	-.1075725	.0372537	-2.888	0.004	-.1807375	-.0344076
NE	.1808798	.0441045	4.101	0.000	.0942601	.2674996
NJ	-.5228188	.0447921	-11.672	0.000	-.6107889	-.4348488
NM	.1588608	.0443383	3.583	0.000	.071782	.2459396
NY	.1920389	.0315328	6.090	0.000	.1301096	.2539682
OH	.0875757	.0308299	2.841	0.005	.0270269	.1481246
OR	.1339152	.0356299	3.759	0.000	.0639393	.2038911
PA	-.2090974	.0302215	-6.919	0.000	-.2684514	-.1497435
RI	.2053986	.0435922	4.712	0.000	.1197849	.2910122
TN	-.1190183	.0357421	-3.330	0.001	-.1892146	-.0488221
TX	-.3757656	.0292124	-12.863	0.000	-.4331378	-.3183934
UT	-.0608886	.0442321	-1.377	0.169	-.1477589	.0259818
VA	.0230779	.0435723	0.530	0.597	-.0624966	.1086524
WA	-.1773234	.0436819	-4.059	0.000	-.2631131	-.0915337
WV	.5407029	.0439184	12.312	0.000	.4544487	.6269572
Y87	-.0457366	.0159095	-2.875	0.004	-.0769824	-.0144908
Y88	-.1083825	.0159138	-6.811	0.000	-.1396366	-.0771283
Y89	-.1634968	.0159138	-10.274	0.000	-.1947509	-.1322426
Y90	-.2177637	.0159138	-13.684	0.000	-.2490178	-.1865096
Y91	-.2136716	.0159138	-13.427	0.000	-.2449257	-.1824175
Y92	-.2394453	.0159138	-15.046	0.000	-.2706995	-.2081912
Y93	-.2627547	.0159138	-16.511	0.000	-.2940088	-.2315005
_cons	2.082651	.0551691	37.750	0.000	1.9743	2.191001

SAMPLE: 1986-1993

DEPENDENT VARIABLE: Log of Local Rate, no SLC

EXPLANATORY VARIABLES: Log of City Density in Population/Sq. Mile, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	41.4184701	45	.920410447	Number of obs =	640
Residual	6.50249796	594	.010946966	F(45, 594) =	84.08
				Prob > F =	0.0000
				R-square =	0.8643
				Adj R-square =	0.8540
Total	47.9209681	639	.07499369	Root MSE =	.10463

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnden	.0373369	.0058048	6.432	0.000	.0259366	.0487373
NYC	-.036343	.0425905	-0.853	0.394	-.1199893	.0473032
Phil	.0897908	.0413975	2.169	0.030	.0084875	.171094
AL	.2890805	.0464879	6.218	0.000	.1977799	.3803812
AR	.1786624	.0377407	4.734	0.000	.104541	.2527838
AZ	-.1406283	.045558	-3.087	0.002	-.2301026	-.0511539
CA	-.5315006	.0288632	-18.414	0.000	-.588187	-.4748142
CO	-.0941304	.0341091	-2.760	0.006	-.1611195	-.0271412
DC	.103735	.0453987	2.285	0.023	.0145735	.1928965
FL	-.2319636	.0370889	-6.254	0.000	-.304805	-.1591222
GA	.0976064	.037503	2.603	0.009	.0239518	.171261
IL	-.1667204	.0338302	-4.928	0.000	-.2331619	-.100279
IN	-.0467905	.0457401	-1.023	0.307	-.1366225	.0430416
KY	.2220165	.045342	4.896	0.000	.1329663	.3110667
LA	.0443151	.0372355	1.190	0.234	-.0288142	.1174444
MA	-.2255184	.0338182	-6.669	0.000	-.2919361	-.1591006
MD	.1572247	.0453715	3.465	0.001	.0681165	.2463328
ME	-.031406	.0455146	-0.690	0.490	-.1207952	.0579831
MI	-.2891945	.0337833	-8.560	0.000	-.3555437	-.2228452
MN	.1050727	.0403408	2.605	0.009	.0258447	.1843006
MO	-.2269532	.0342757	-6.621	0.000	-.2942694	-.1596369
MS	.2668042	.0458844	5.815	0.000	.1766888	.3569197
MT	.1653749	.0533333	3.101	0.002	.0606302	.2701196
NC	-.0749547	.0405814	-1.847	0.065	-.1546553	.0047458
NE	.1573578	.0457841	3.437	0.001	.0674394	.2472762
NJ	-.6152952	.0453211	-13.576	0.000	-.7043042	-.5262862
NM	.1285343	.045939	2.798	0.005	.0383117	.2187569
NY	.141251	.0321094	4.399	0.000	.0781892	.2043128
OH	.1101787	.0320862	3.434	0.001	.0471626	.1731948
OR	.1352161	.0371272	3.642	0.000	.0622996	.2081326
PA	-.2303836	.0312811	-7.365	0.000	-.2918186	-.1689486
RI	.1782405	.0453556	3.930	0.000	.0891637	.2673173
TN	-.0354195	.0378088	-0.937	0.349	-.1096746	.0388357
TX	-.313988	.0306058	-10.259	0.000	-.3740968	-.2538793
UT	-.0996276	.0456267	-2.184	0.029	-.1892368	-.0100183
VA	.039923	.0454235	0.879	0.380	-.0492873	.1291333
WA	-.1479395	.0453053	-3.265	0.001	-.2369175	-.0589615
WV	.5058579	.0453952	11.143	0.000	.4167032	.5950126
Y87	-.0454773	.0165431	-2.749	0.006	-.0779675	-.0129872
Y88	-.1076048	.0165482	-6.502	0.000	-.1401049	-.0751046
Y89	-.1624326	.0165487	-9.815	0.000	-.1949336	-.1299316
Y90	-.2164015	.0165492	-13.076	0.000	-.2489036	-.1838993
Y91	-.2119963	.01655	-12.809	0.000	-.2445	-.1794926
Y92	-.2374347	.0165511	-14.346	0.000	-.2699404	-.204929
Y93	-.2603778	.0165524	-15.730	0.000	-.2928862	-.2278694
_cons	2.219019	.0580876	38.201	0.000	2.104937	2.333101

SAMPLE: 1986

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	5.09558057	38	.134094226	Number of obs =	80
Residual	.420304427	41	.010251327	F(38, 41) =	13.08
				Prob > F =	0.0000
				R-square =	0.9238
				Adj R-square =	0.8532
Total	5.515885	79	.069821329	Root MSE =	.10125

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0327935	.0112652	2.911	0.006	.010043	.0555441
NYC	-.1555753	.1274521	-1.221	0.229	-.4129701	.1018195
Phil	.0672244	.116876	0.575	0.568	-.1688115	.3032603
AL	.1214818	.1240539	0.979	0.333	-.1290502	.3720137
AR	.0172026	.103019	0.167	0.868	-.1908484	.2252537
AZ	-.2204489	.124119	-1.776	0.083	-.4711123	.0302145
CA	-.6189255	.0786843	-7.866	0.000	-.7778317	-.4600194
CO	-.5706015	.0924274	-6.174	0.000	-.7572624	-.3839407
DC	-.0511593	.1245465	-0.411	0.683	-.302686	.2003675
FL	-.3325905	.1013182	-3.283	0.002	-.5372068	-.1279743
GA	-.09695	.101266	-0.957	0.344	-.3014607	.1075608
IL	-.4447378	.0924274	-4.812	0.000	-.6313988	-.2580768
IN	-.1347799	.1247028	-1.081	0.286	-.3866224	.1170625
KY	.1555117	.1240357	1.254	0.217	-.0949834	.4060069
LA	-.2004415	.101401	-1.977	0.055	-.405225	.004342
MA	-.4560194	.0928023	-4.914	0.000	-.6434374	-.2686014
MD	.0393222	.1247572	0.315	0.754	-.2126301	.2912744
ME	.1670447	.1248277	1.338	0.188	-.0850499	.4191393
MI	-.3456665	.0924329	-3.740	0.001	-.5323386	-.1589944
MN	-.0286954	.1027061	-0.279	0.781	-.2361145	.1787237
MO	-.369858	.0926276	-3.993	0.000	-.5569232	-.1827928
MS	.2131965	.1259926	1.692	0.098	-.0412508	.4676437
MT	-.1357978	.1258391	-1.079	0.287	-.389935	.1183395
NC	-.0985861	.1240273	-0.795	0.431	-.3490643	.1518921
NE	.0284665	.1255482	0.227	0.822	-.2250833	.2820163
NJ	-.6739537	.1275005	-5.286	0.000	-.9314462	-.4164613
NM	.1227666	.1261963	0.973	0.336	-.1320921	.3776253
NY	-.075008	.0897921	-0.835	0.408	-.2563467	.1063307
OH	-.0385087	.0877588	-0.439	0.663	-.2157412	.1387238
OR	.1073229	.1014634	1.058	0.296	-.0975866	.3122325
PA	-.3572802	.0859222	-4.158	0.000	-.5308036	-.1837568
RI	.1184132	.1240671	0.954	0.345	-.1321454	.3689718
TN	-.2310604	.1017688	-2.270	0.029	-.4365867	-.0255341
TX	-.5106589	.0832	-6.138	0.000	-.6786846	-.3426332
UT	.0276684	.126127	0.219	0.827	-.2270502	.282387
VA	-.0421772	.1240043	-0.340	0.735	-.292609	.2082546
WA	-.227019	.1243133	-1.826	0.075	-.4780747	.0240367
WV	.4308874	.1249004	3.450	0.001	.1786459	.6831288
_cons	2.267401	.1561301	14.523	0.000	1.95209	2.582712

SAMPLE: 1987

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4.42797787	38	.116525733	Number of obs	= 80
Residual	.358815271	41	.008751592	F(38, 41)	= 13.31
				Prob > F	= 0.0000
Total	4.78679314	79	.060592318	R-square	= 0.9250
				Adj R-square	= 0.8556
				Root MSE	= .09355

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0385565	.010418	3.701	0.001	.0175169	.0595961
NYC	-.379346	.117773	-3.221	0.003	-.6171934	-.1414985
Phil	.0242958	.108011	0.225	0.823	-.1938368	.2424284
AL	.0967261	.114625	0.844	0.404	-.1347637	.328216
AR	.0386768	.0952157	0.406	0.687	-.1536152	.2309688
AZ	-.3322021	.1146925	-2.896	0.006	-.5638282	-.1005759
CA	-.6246391	.0727181	-8.590	0.000	-.7714962	-.477782
CO	-.3482004	.0853993	-4.077	0.000	-.5206679	-.1757329
DC	-.0634613	.1150623	-0.552	0.584	-.2958342	.1689117
FL	-.3243269	.0936198	-3.464	0.001	-.513396	-.1352578
GA	-.0679884	.0935712	-0.727	0.472	-.2569593	.1209824
IL	-.3918485	.085399	-4.588	0.000	-.5643153	-.2193816
IN	-.249969	.1152218	-2.169	0.036	-.4826641	-.0172739
KY	.064721	.114599	0.565	0.575	-.1667164	.2961584
LA	-.1069395	.0936731	-1.142	0.260	-.2961162	.0822372
MA	-.4470089	.0857493	-5.213	0.000	-.6201832	-.2738347
MD	.013507	.115257	0.117	0.907	-.2192593	.2462733
ME	-.1810836	.1153382	-1.570	0.124	-.4140138	.0518467
MI	-.3417084	.0854029	-4.001	0.000	-.5141829	-.1692338
MN	-.0171931	.0949021	-0.181	0.857	-.2088518	.1744656
MO	-.3548189	.0855967	-4.145	0.000	-.527685	-.1819528
MS	.178912	.1165062	1.536	0.132	-.056377	.414201
MT	-.1076471	.1162794	-0.926	0.360	-.3424782	.1271839
NC	-.1264008	.1145908	-1.103	0.276	-.3578215	.10502
NE	.1107061	.1160135	0.954	0.346	-.1235879	.3450002
NJ	-.6472315	.1178411	-5.492	0.000	-.8852163	-.4092466
NM	.1119707	.1166245	0.960	0.343	-.1235572	.3474987
NY	-.0182636	.0829753	-0.220	0.827	-.1858357	.1493086
OH	-.0403309	.0810827	-0.497	0.622	-.2040807	.1234189
OR	.005627	.0937331	0.060	0.952	-.1836709	.194925
PA	-.3380609	.0794261	-4.256	0.000	-.4984651	-.1776567
RI	.0720972	.1146339	0.629	0.533	-.1594106	.3036049
TN	-.2248036	.0940249	-2.391	0.021	-.4146908	-.0349163
TX	-.5043181	.0768634	-6.561	0.000	-.6595469	-.3490893
UT	.0498536	.1164915	0.428	0.671	-.1854058	.285113
VA	-.0633813	.114576	-0.553	0.583	-.2947722	.1680097
WA	-.3324092	.1148668	-2.894	0.006	-.5643874	-.1004309
WV	.4519806	.115438	3.915	0.000	.2188489	.6851123
_cons	2.147369	.1444308	14.868	0.000	1.855685	2.439053

SAMPLE: 1988

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4.95656153	38	.13043583	Number of obs =	80
Residual	.247780896	41	.006043436	F(38, 41) =	21.58
Total	5.20434242	79	.065877752	Prob > F =	0.0000
				R-square =	0.9524
				Adj R-square =	0.9083
				Root MSE =	.07774

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0419366	.0084768	4.947	0.000	.0248172	.0590559
NYC	-.1327687	.0974338	-1.363	0.180	-.3295403	.0640029
Phil	-.0043832	.0895822	-0.049	0.961	-.1852982	.1765318
AL	.0880672	.0952544	0.925	0.361	-.1043028	.2804373
AR	.0451433	.0790892	0.571	0.571	-.1145807	.2048672
AZ	-.3333129	.0953139	-3.497	0.001	-.5258032	-.1408227
CA	-.7048349	.0610721	-11.541	0.000	-.8281726	-.5814973
CO	-.3491152	.0709665	-4.919	0.000	-.492435	-.2057954
DC	-.0356701	.095588	-0.373	0.711	-.2287139	.1573737
FL	-.4111024	.0777999	-5.284	0.000	-.5682225	-.2539822
GA	-.0661828	.0777614	-0.851	0.400	-.2232252	.0908596
IL	-.3871857	.0709666	-5.456	0.000	-.5305057	-.2438656
IN	-.3032941	.0957267	-3.168	0.003	-.4966181	-.10997
KY	.0440457	.0952267	0.463	0.646	-.1482684	.2363599
LA	-.1274645	.0778243	-1.638	0.109	-.2846339	.0297049
MA	-.4846251	.0712477	-6.802	0.000	-.6285128	-.3407375
MD	.0098575	.095743	0.103	0.918	-.1834993	.2032143
ME	-.1796067	.0958202	-1.874	0.068	-.3731194	.0139061
MI	-.4813363	.0709682	-6.782	0.000	-.6246594	-.3380131
MN	-.0749888	.0788197	-0.951	0.347	-.2341684	.0841908
MO	-.3527525	.0711337	-4.959	0.000	-.49641	-.209095
MS	.1832534	.0968269	1.893	0.065	-.0122925	.3787994
MT	-.0548088	.0965742	-0.568	0.573	-.2498444	.1402268
NC	-.2471818	.0790479	-3.127	0.003	-.4068223	-.0875414
NE	.0539389	.096365	0.560	0.579	-.1406742	.248552
NJ	-.6390846	.0978386	-6.532	0.000	-.8366736	-.4414956
NM	.1261672	.096861	1.303	0.200	-.0694475	.321782
NY	-.0239532	.068892	-0.348	0.730	-.1630833	.115177
OH	-.0425509	.0673745	-0.632	0.531	-.1786165	.0935147
OR	.002728	.0778741	0.035	0.972	-.154542	.159998
PA	-.3263031	.0659923	-4.945	0.000	-.4595772	-.193029
RI	.0731774	.0952587	0.768	0.447	-.1192014	.2655561
TN	-.2277769	.0781128	-2.916	0.006	-.3855289	-.0700249
TX	-.5071624	.0638481	-7.943	0.000	-.6361061	-.3782186
UT	.0198985	.0967021	0.206	0.838	-.1753955	.2151924
VA	-.0967781	.0952132	-1.016	0.315	-.2890651	.0955089
WA	-.3467599	.0954483	-3.633	0.001	-.5395217	-.1539981
WV	.4574866	.0959264	4.769	0.000	.2637594	.6512139
_cons	2.064343	.1181046	17.479	0.000	1.825826	2.30286

SAMPLE: 1989

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4.91429256	38	.129323488	Number of obs =	80
Residual	.243900157	41	.005948784	F(38, 41) =	21.74
				Prob > F =	0.0000
				R-square =	0.9527
				Adj R-square =	0.9089
Total	5.15819272	79	.065293579	Root MSE =	.07713

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.04236	.0084107	5.036	0.000	.0253743	.0593457
NYC	-.1353758	.0966624	-1.401	0.169	-.3305894	.0598379
Phil	-.0024434	.0888896	-0.027	0.978	-.1819597	.1770728
AL	.218844	.0945089	2.316	0.026	.0279795	.4097085
AR	.155334	.0784898	1.979	0.055	-.0031794	.3138474
AZ	-.344438	.0945735	-3.642	0.001	-.5354331	-.1534429
CA	-.6230523	.0606051	-10.281	0.000	-.7454468	-.5006578
CO	-.2167359	.0704087	-3.078	0.004	-.3589292	-.0745426
DC	.0679888	.0948252	0.717	0.477	-.1235146	.2594922
FL	-.2648927	.0771932	-3.432	0.001	-.4207875	-.108998
GA	.0808788	.0771557	1.048	0.301	-.0749404	.2366979
IL	-.2776722	.0704099	-3.944	0.000	-.4198679	-.1354766
IN	-.1789516	.0949743	-1.884	0.067	-.3707561	.0128529
KY	.1537086	.0944747	1.627	0.111	-.0370869	.3445041
LA	-.0242139	.0772	-0.314	0.755	-.1801224	.1316946
MA	-.3736703	.07069	-5.286	0.000	-.5164317	-.2309089
MD	.0872031	.0949788	0.918	0.364	-.1046105	.2790166
ME	-.0694211	.0950677	-0.730	0.469	-.2614142	.1225719
MI	-.3233223	.0704094	-4.592	0.000	-.4655171	-.1811275
MN	.0281857	.0782027	0.360	0.720	-.1297479	.1861193
MO	-.2653525	.0705848	-3.759	0.001	-.4079015	-.1228036
MS	.2898575	.0961466	3.015	0.004	.0956855	.4840296
MT	.063538	.0958197	0.663	0.511	-.1299739	.2570499
NC	-.1376427	.0783957	-1.756	0.087	-.2959661	.0206807
NE	.1642909	.0956148	1.718	0.093	-.0288071	.3573888
NJ	-.5264581	.0970933	-5.422	0.000	-.7225421	-.3303741
NM	.2109036	.0961158	2.194	0.034	.0167938	.4050134
NY	.0998733	.068357	1.461	0.152	-.0381766	.2379231
OH	.0665648	.0668423	0.996	0.325	-.0684261	.2015556
OR	.08658	.0772515	1.121	0.269	-.0694326	.2425925
PA	-.2409947	.0655031	-3.679	0.001	-.3732809	-.1087084
RI	.1824347	.0945103	1.930	0.061	-.0084326	.3733021
TN	-.1182854	.0774934	-1.526	0.135	-.2747865	.0382157
TX	-.3966457	.0633376	-6.262	0.000	-.5245586	-.2687327
UT	-.1891641	.0959075	-1.972	0.055	-.3828532	.0045251
VA	-.0113765	.0944663	-0.120	0.905	-.2021551	.179402
WA	-.2372381	.0947024	-2.505	0.016	-.4284934	-.0459828
WV	.5063332	.0952004	5.319	0.000	.314072	.6985943
_cons	1.905263	.1172365	16.251	0.000	1.668499	2.142027

SAMPLE: 1990

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	5.91118931	38	.155557613	Number of obs =	80
Residual	.276940761	41	.006754653	F(38, 41) =	23.03
Total	6.18813007	79	.07833076	Prob > F =	0.0000
				R-square =	0.9552
				Adj R-square =	0.9138
				Root MSE =	.08219

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0415965	.0089616	4.642	0.000	.0234981	.0596948
NYC	-.1332699	.1029938	-1.294	0.203	-.3412702	.0747303
Phil	.0027153	.0947314	0.029	0.977	-.1885987	.1940293
AL	.1104196	.1007108	1.096	0.279	-.0929699	.3138091
AR	.1077439	.0836613	1.288	0.205	-.0612135	.2767014
AZ	-.453407	.1007856	-4.499	0.000	-.6569476	-.2498664
CA	-.8346774	.0645934	-12.922	0.000	-.9651265	-.7042284
CO	-.2747347	.0750265	-3.662	0.001	-.4262539	-.1232156
DC	-.0660112	.1010323	-0.653	0.517	-.27005	.1380276
FL	-.3676412	.0822611	-4.469	0.000	-.5337709	-.2015115
GA	-.0272171	.0822226	-0.331	0.742	-.193269	.1388349
IL	-.2745112	.0750296	-3.659	0.001	-.4260366	-.1229858
IN	-.2561764	.1012031	-2.531	0.015	-.4605601	-.0517926
KY	.0460855	.1006675	0.458	0.650	-.1572166	.2493876
LA	-.1391109	.0822505	-1.691	0.098	-.3052191	.0269974
MA	-.4830859	.0753286	-6.413	0.000	-.6352151	-.3309566
MD	-.019832	.1011956	-0.196	0.846	-.2242007	.1845367
ME	-.1784025	.1013032	-1.761	0.086	-.3829885	.0261835
MI	-.4566808	.0750265	-6.087	0.000	-.6081999	-.3051618
MN	-.0816748	.0833341	-0.980	0.333	-.2499714	.0866218
MO	-.3740995	.0752253	-4.973	0.000	-.5260201	-.2221788
MS	.1746558	.1025434	1.703	0.096	-.0324349	.3817465
MT	-.0469534	.1021086	-0.460	0.648	-.2531658	.159259
NC	-.2490098	.0835056	-2.982	0.005	-.4176528	-.0803669
NE	.0537335	.1018931	0.527	0.601	-.1520437	.2595107
NJ	-.6377368	.1034859	-6.163	0.000	-.8467308	-.4287428
NM	-.051704	.1024364	-0.505	0.616	-.2585785	.1551705
NY	.0259554	.072847	0.356	0.723	-.121162	.1730729
OH	-.041194	.0712234	-0.578	0.566	-.1850326	.1026447
OR	.0131236	.0823076	0.159	0.874	-.1530999	.1793471
PA	-.3239219	.0698314	-4.639	0.000	-.4649491	-.1828946
RI	.0730486	.1007091	0.725	0.472	-.1303375	.2764347
TN	-.2954827	.0825697	-3.579	0.001	-.4622357	-.1287297
TX	-.5049621	.0674825	-7.483	0.000	-.6412458	-.3686785
UT	-.2686264	.1021622	-2.629	0.012	-.4749472	-.0623055
VA	-.1395373	.100664	-1.386	0.173	-.3428323	.0637577
WA	-.3069315	.1009179	-3.041	0.004	-.5107393	-.1031237
WV	.3977435	.1014748	3.920	0.000	.192811	.602676
_cons	1.969129	.1249764	15.756	0.000	1.716734	2.221524

SAMPLE: 1991

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4.96472065	38	.130650543	Number of obs =	80
Residual	.290564842	41	.007086947	F(38, 41) =	18.44
Total	5.25528549	79	.066522601	Prob > F =	0.0000
				R-square =	0.9447
				Adj R-square =	0.8935
				Root MSE =	.08418

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0359271	.0091776	3.915	0.000	.0173926	.0544616
NYC	-.135682	.1054867	-1.286	0.206	-.3487167	.0773527
Phil	.021374	.0970457	0.220	0.827	-.1746138	.2173618
AL	.4131128	.1031622	4.004	0.000	.2047726	.6214531
AR	.4030719	.085719	4.702	0.000	.2299589	.5761848
AZ	.0484429	.1032447	0.469	0.641	-.1600641	.2569499
CA	-.3637162	.0661766	-5.496	0.000	-.4973627	-.2300698
CO	.2472142	.07685	3.217	0.003	.0920125	.402416
DC	.2610308	.1034755	2.523	0.016	.0520578	.4700038
FL	-.065332	.0842659	-0.775	0.443	-.2355105	.1048465
GA	.251278	.0842286	2.983	0.005	.081175	.421381
IL	.0855925	.0768559	1.114	0.272	-.0696211	.2408062
IN	.0373401	.1036624	0.360	0.721	-.1720104	.2466906
KY	.3884186	.1031111	3.767	0.001	.1801814	.5966557
LA	.2107435	.0842375	2.502	0.016	.0406225	.3808646
MA	.0948004	.0771618	1.229	0.226	-.061031	.2506319
MD	.2911105	.1036424	2.809	0.008	.0818003	.5004206
ME	.1175446	.1037656	1.133	0.264	-.0920143	.3271036
MI	-.1537139	.0768494	-2.000	0.052	-.3089143	.0014865
MN	.213448	.0853616	2.501	0.016	.0410568	.3858393
MO	-.0728723	.0770654	-0.946	0.350	-.2285092	.0827645
MS	.4624731	.1051347	4.399	0.000	.2501493	.6747969
MT	.2468584	.1045944	2.360	0.023	.0356258	.4580909
NC	.0450808	.0855038	0.527	0.601	-.1275976	.2177592
NE	.348338	.1043766	3.337	0.002	.1375452	.5591308
NJ	-.3478263	.1060256	-3.281	0.002	-.5619495	-.1337032
NM	.2173032	.1049427	2.071	0.045	.0053671	.4292394
NY	.5169361	.0746242	6.927	0.000	.3662295	.6676427
OH	.2647602	.0729516	3.629	0.001	.1174315	.4120889
OR	.3137123	.084298	3.721	0.001	.143469	.4839555
PA	-.0272175	.0715622	-0.380	0.706	-.1717404	.1173054
RI	.3754	.103157	3.639	0.001	.1670701	.5837299
TN	.0467828	.08457	0.553	0.583	-.1240098	.2175754
TX	-.1959444	.0691132	-2.835	0.007	-.3355213	-.0563674
UT	-.0378233	.1046102	-0.362	0.720	-.249088	.1734414
VA	.1644384	.1031132	1.595	0.118	-.0438029	.3726797
WA	-.0059509	.103375	-0.058	0.954	-.214721	.2028192
WV	.6954311	.1039732	6.689	0.000	.4854529	.9054092
_cons	1.692702	.1280533	13.219	0.000	1.434094	1.951311

SAMPLE: 1992

DEPENDENT VARIABLE: Log of Local Rate, no SLC
EXPLANATORY VARIABLES: Log of City Population, New York City Dummy, Philadelphia Dummy, State Dummies where RBOCs Operate, All Year Dummies, and a constant

Source	SS	df	MS		
Model	4.995306	38	.131455421	Number of obs	= 80
Residual	.330341621	41	.008057113	F(38, 41)	= 16.32
				Prob > F	= 0.0000
				R-square	= 0.9380
				Adj R-square	= 0.8805
Total	5.32564762	79	.067413261	Root MSE	= .08976

lnrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnpop	.0335633	.0097825	3.431	0.001	.0138072	.0533194
NYC	-.1275768	.1124625	-1.134	0.263	-.3546994	.0995458
Phil	.0294763	.1034879	0.285	0.777	-.1795219	.2384744
AL	.4173606	.1100012	3.794	0.000	.1952086	.6395126
AR	.399106	.0914241	4.365	0.000	.2144712	.5837408
AZ	.048843	.1100954	0.444	0.660	-.1734992	.2711851
CA	-.3741144	.0705749	-5.301	0.000	-.5166433	-.2315855
CO	.2620564	.0819418	3.198	0.003	.0965716	.4275412
DC	.2863737	.1103182	2.596	0.013	.0635816	.5091659
FL	-.0568188	.089855	-0.632	0.531	-.2382847	.1246472
GA	.2329465	.0898181	2.594	0.013	.0515552	.4143378
IL	.1274514	.0819518	1.555	0.128	-.0380536	.2929565
IN	.0253871	.1105301	0.230	0.819	-.1978329	.2486071
KY	.3891716	.10994	3.540	0.001	.1671433	.6112
LA	.2068378	.0898068	2.303	0.026	.0254692	.3882063
MA	.1798694	.0822766	2.186	0.035	.0137084	.3460303
MD	.2946687	.1104958	2.667	0.011	.0715179	.5178195
ME	.1154443	.1106408	1.043	0.303	-.1079993	.3388878
MI	-.1381743	.0819406	-1.686	0.099	-.3036567	.0273081
MN	.2100007	.091019	2.307	0.026	.0261841	.3938173
MO	-.074276	.0821844	-0.904	0.371	-.2402507	.0916987
MS	.4543003	.1122127	4.049	0.000	.2276821	.6809184
MT	.2421013	.1115281	2.171	0.036	.0168658	.4673369
NC	.0409906	.0911365	0.450	0.655	-.1430633	.2250446
NE	.3442494	.1112993	3.093	0.004	.119476	.5690228
NJ	-.354953	.1130756	-3.139	0.003	-.5833139	-.1265921
NM	.2310466	.111913	2.065	0.045	.0050336	.4570595
NY	.5059556	.0795753	6.358	0.000	.34525	.6666612
OH	.2653352	.0777819	3.411	0.001	.1082514	.4224189
OR	.273166	.0898732	3.039	0.004	.0916634	.4546687
PA	-.029608	.0763404	-0.388	0.700	-.1837805	.1245645
RI	.3741719	.109992	3.402	0.002	.1520385	.5963052
TN	.0484991	.090166	0.538	0.594	-.1335947	.2305929
TX	-.193502	.0736823	-2.626	0.012	-.3423064	-.0446976
UT	-.0436783	.1115052	-0.392	0.697	-.2688676	.181511
VA	.1650895	.1099484	1.502	0.141	-.0569558	.3871347
WA	-.0107291	.1102287	-0.097	0.923	-.2333404	.2118823
WV	.6926991	.1108971	6.246	0.000	.4687379	.9166603
_cons	1.692916	.1365653	12.396	0.000	1.417117	1.968715