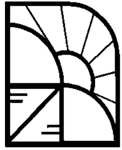

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PHOENIX CENTER POLICY BULLETIN NO. 2

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TELECOMMUNICATIONS STOCKS AND THE FCC'S TRIENNIAL REVIEW

Summary of Findings: The purpose of this POLICY BULLETIN is evaluate the link between the FCC's Triennial Review and the erosion of market cap in the telecommunications industry by applying standard empirical tests to measure the effects of the Triennial Review on the stock returns (and, consequently, the market cap) of the major sectors of the telecoms industry. After review, analysis of the data suggests that *BOC market capitalization may have actually increased by $5.8 billion as a consequence of the Triennial Review.* And, while UNE-P CLECs in general gained about $40 million in market capitalization, CLECs relying heavily on line-sharing – a sector that depending on the final draft of the order appears to consist only of Covad Communications – are found to be net negatively affected by the decision, losing about $120 million in market cap. Other telecommunications sectors, including long distance, mobile and equipment manufacturers, were unaffected.

I. Introduction

On 20 February 2003, the Federal Communications Commission ("FCC") voted to change parts of its unbundling paradigm significantly in its Triennial Review, while retaining some of its rules relatively intact.[1] Although the FCC voted to preserve primary implementation of unbundling mandates with the States, the FCC also voted essentially to de-regulate all of the

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[1] Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338), Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No. 96-98), and Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147).

PHOENIX CENTER FOR ADVANCED LEGAL & ECONOMIC PUBLIC POLICY STUDIES
5335 Wisconsin Avenue, NW, Suite 440
Washington, D.C. 20015
Tel: (+1) (202) 274-0235 Fax: (+1) (202) 244-8257//9342 e-Fax: (+1) (240) 250-0879
www.phoenix-center.org

Bell Operating Company's ("BOCs") "broadband" facilities in what may be a pre-emptive move on state regulators by the federal regulatory agency.[2]

Unhappy with the Commission's decision to retain, subject to state commission review, unbundling requirements for voice telephone service, the BOCs and other critics of the decision have complained that the ruling immediately cost the U.S. telecoms industry (at minimum) $15 billion in market capitalization.[3] These critics have suggested that the decline in market cap by itself demonstrates that the Commission erred by failing to provide the BOCs with full regulatory relief, and this failure led to a decline in the market capitalization of the entire communications industry.[4]

On the day the FCC voted on its Triennial Review, a large portfolio of telecommunications stocks (about 300) did fall by about 2%, a reduction of about $13 billion in market cap.[5] But interpretation of this billion-dollar decline is subject to at least two caveats. First, the Bells

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[2] For an analysis of how FCC's decision provides the BOCs with an enormous ability to engage in strategic anticompetitive conduct and to foreclose rivals from accessing key inputs of production, *see* PHOENIX CENTER POLICY BULLETIN NO. 3 – *The Broadband Loophole: Is Symmetrical Regulation in the Face of Asymmetrical Market Power Good Public Policy?* (forthcoming).

[3] *See, e.g.*, remarks of Chairman Billy Tauzin, CNBC Capitol Report (26 February 2003) (the FCC's "decision cost $15 billion of investment capital on market cap to the telecom sector, and untold damage to … all of the high-tech companies that manufacture for them."); remarks of James Cramer, CNBC's Kudlow and Cramer (26 February 2003) ("On the day the [Triennial Review] was announced, $15 billion in market cap disappeared immediately across the board, in all sectors of the telecoms industry. Another $15 billion has been lost since then."); TR DAILY, *Sen. Brownback Blasts FCC For Creating Market Uncertainty* (5 March 2003) (FCC Triennial Review is to blame "for costing the telecom industry tens of billions of dollars in market capitalization.")

[4] *See, e.g.*, Jonathan Krim, Bells Pledge to Fight New FCC Rules, Washington Post (25 February 2003) (reporting that "[t]wo of the four former Bell companies, SBC Communications Inc. and BellSouth Corp. also renewed promises made after the vote that they would not invest in new, high-speed Internet networks unless the local telephone rules are scuttled."); Julia Angwin and Dennis K. Berman, *Despite Winning Ruling, Bells Shirk DSL Investment Pledge*, WALL STREET JOURNAL (21 February 2003) (according to Verizon Senior Vice President Thomas Tauke, "Any new investment is contingent on a strong financial base and it appears the FCC is undermining that base"); Jessica Hall, *FCC Ruling Unlikely to Boost Baby Bell Spending*, REUTERS (21 February 2003) (while analysts such as Commerce Capital's Anna-Maria Kovacs stated that they "do not expect the (Baby Bells) to increase their capital spending over the next couple of years, while (network access rules) continue to eat away at their cash flow", other analysts recognize that the "Baby Bells also have clamped down on capital investments partly to put pressure on regulators to ease the rules").

[5] This portfolio, consisting of about 300 firms and $800 billion market cap, was constructed by combining the components of the Dow Jones Telecommunications Index (30 large telecommunications firms) and the NAS/NMS Telecommunications Index (271 telecommunications firms traded on the NASDAQ).

constitute about one-third of the portfolio, so large changes in stock prices for the Bells likely will move the entire index. Indeed, Bell market cap declined by nearly $15 billion on February 20, implying the non-Bell stocks in the portfolio were higher on that date. Second, this portfolio exhibits substantial volatility; the same portfolio was up $11 billion on December 6, down $31 billion on December 9, up $23 billion on December 16, down $16 billion on December 18, up $9 billion on December 20, down $12 billion on December 30, up $10 billion on January 2, and so forth – none of these dates coinciding with major FCC decision. In fact, the probability that the market cap of this portfolio changes by $10 million on any given day is about 40%, and a 2% daily return is well within the 90% confidence interval of the portfolio's returns.[6] Obviously, large dollar changes in market cap for large portfolios of telecommunications stocks – representing hundreds of billions in market cap – occur frequently and, therefore, are not necessarily indicative of large, industry-wide market responses to regulatory decisions, particularly when the stock market overall is in a relatively persistent decline.[7] Whether or not a particular regulatory decision (or anything else) is to blame for a decline in market cap of a portfolio of stocks requires an assessment of whether any particular increase or decrease in price is, in some sense, *abnormal* for the portfolio.

The purpose of this POLICY BULLETIN is to evaluate the link between the FCC's decision and the erosion of market cap in the telecommunications industry by applying standard empirical tests to measure the effects of the Triennial Review on the stock returns (and, consequently, the market cap) of the major sectors of the telecoms industry. The sectors appraised include: (1) the Bell Operating Companies (BOCs); (2) the Competitive Local Exchange Carriers (CLECs) that rely almost exclusively on UNE-P to provide service; (3) CLECs that use line-sharing extensively; (4) telecommunications equipment companies; (5) cable television companies; (6) CLECs serving medium to large businesses; (7) mobile telephony carriers; and (8) interexchange carriers (IXCs). As explained more fully below, the stock returns of most sectors of the telecommunications industry were unaffected by the Triennial Review decision; observed price declines in most sectors of the industry are consistent with historical stock volatility and the relationship of the stocks to the overall market. Those sectors directly affected by the decision are the BOCs, CLECs using UNE-P almost exclusively, and CLECs that use line-sharing as a

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[6] On average, a daily return of 1.27% results in a $10 billion swing in market cap, and this size return occurred on 24 of the 60 trading days preceding March 8, 2003. The mean daily return for the index is essentially zero and the standard deviation of the return is 0.0126. The null hypothesis that the daily return is normally distributed cannot be rejected (via Jarque-Bera test).

[7] Over the sixty-day period examined in this BULLETIN, the S&P 500 fell by about 8% and the Dow Jones by 10%.

primary mode of providing service. Since the FCC's decision targeted the business plans of these sectors, the narrow stock market implications are somewhat unsurprising. Despite declines in BOC stocks on the day of the decision, incorporating stock responses on other Triennial Review relevant event dates suggests that *BOC market capitalization may have actually increased by $5.8 billion as a consequence of the Triennial Review.* And, while UNE-P CLECs in general gained about $40 million in market capitalization, CLECs relying heavily on line-sharing – a sector that depending final draft of the order appears to consist only of Covad Communications, are found to be net negatively affected by the decision – losing about $120 million in market cap. Other telecommunications sectors, including long distance, mobile and equipment manufacturers, were unaffected.

II. Analysis

A. *Background*

Stocks go up and stocks go down, so any one-day change in price is meaningless in itself. Absent information on all contributing factors and the general volatility of the stock, changes in price are not compelling evidence of a stock's response to a particular event. If the entire market moves widely, or the stock is relatively volatile, large daily changes in prices and market capitalization may be coincidental and not necessarily indicative of investor reactions to a particular event. It is only "abnormal" price changes that occur coincidental to a particular event that possibly can be attributed to that event; and this assumes that the event of interest is the only one of the day.[8]

Accordingly, in order to determine whether the FCC's actions in its Triennial Review had an "abnormal" effect on stock returns, this BULLETIN summarizes an event study of the stock returns of eight sectors of the communications industry – *i.e.*, (1) the Bell Operating Companies (BOCs); (2) the Competitive Local Exchange Carriers (CLECs) that rely almost exclusively on UNE-P to provide service; (3) CLECs that use line-sharing extensively; (4) telecommunications equipment companies; (5) cable television companies; 6) CLECs serving medium to large businesses; (7) mobile telephony carriers; and (8) interexchange carriers (IXCs).[9] The analysis focuses upon two seminal events: (a) a January 6, 2003 story by the WALL STREET JOURNAL (and matched that same day by financial market-oriented news organizations) reporting that FCC

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[8] For a general discussion of event studies, *see* Peterson, Pamela P. *Event Studies: A Review of Issues and Methodology*, QUARTERLY JOURNAL OF BUSINESS AND ECONOMICS, 28, pages 36-66, 1989.

[9] For the statistical analysis, a value-weighted portfolio of companies representing each of the eight sectors is constructed.

Chairman Michael Powell intended to rapidly terminate the availability of combinations of unbundled network elements called UNE-Platform or UNE-P; and (b) the day of the FCC's vote on the Triennial review itself, which rejected the Chairman's plan by maintaining the availability of the UNE-Platform.

The first event occurred on January 6, 2002, when the WALL STREET JOURNAL reported that FCC Chairman Michael Powell intended to rapidly terminate the availability the UNE-Platform, which represents most of the components of local telephone service (loops, switching, and transport)[10] and has been the most successful form of competitive entry in residential and small business local exchange markets.[11] (For this reason, the availability of UNE-Platform has been a point of contention between the Bell Companies, entrants, and regulators). On news that the principal form of competitive entry into local exchange markets was in peril, Bell Company stocks rose sharply, up about 8.5% in one day of trading – the largest stock price increase in more than a year.[12] When the second event occurred on February 20, 2003 – *i.e.,* the actual vote on the Triennial Review – Bell stocks were down about 6% – the largest stock price decline for the Bells in six months of trading. Since the Bells typically have a market cap of about $250 billion (in the last few months), any large change in the Bell stocks will no doubt impact even large portfolios of telecommunications stocks that include the Bell stocks. Thus, an independent analysis of the effects of the Triennial Review on non-Bell telecommunications stocks is required to decipher the true industry-wide implications of the decision.

What makes this particular case interesting is the ability to observe the market respond essentially to two FCC decisions, one purporting to eliminate UNE-P and one actually maintaining UNE-P, the latter being the actual order. Thus, Bell Company stock declines on February 20 were, in some measure, a correction for the increase in stock prices in response to the January 6 news report, increases that were based on incorrect expectations. As such, judgments regarding the impact of the FCC's decision on market capitalization of the Bells (or other sectors of the industry) must account for both events. The final decision also incorporated a somewhat radical change in the unbundling rules for broadband network and services, relieving the Bell Companies of much of their unbundling obligations on a prospective basis.

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[10] Yochi Dreazen and Shawn Young, *FCC Plans to Erase a Key Rule Aiding Local Phone Competition*, WALL STREET JOURNAL (6 January 2003) at A1.

[11] PACE Coalition, UNE-P Fact Report (Jan. 2003) (http://www.pacecoalition.org/une-p_report_1_2003.pdf).

[12] Measured using a value-weighted portfolio over the time period February 20, 2002 through February 20, 2003.

Stock responses to the final decision, therefore, should reflect the pro-Bell broadband elements of the decision and correct for the misinformation provided earlier on January 6.

B. *Analytical Framework*

The statistical test for measuring abnormal returns around these particular events is summarized as follows:

$$R_S = \alpha_1 + \alpha_2 R_M + \beta_1 JAN3 + \beta_2 JAN6 + \beta_3 JAN7 + \gamma_1 FEB19 + \gamma_2 FEB20 + \gamma_3 FEB21 + \varepsilon$$

where R_S is the daily return on a stock or stock portfolio, R_M is the daily return on a broad market index (the S&P 500), *JAN3, JAN6, JAN7*, *FEB19*, *FEB20*, and *FEB21* are dummy variables that equal 1 on each respective date (year 2003), ε is the econometric disturbance term, and the α, β, and γ are the estimated coefficients of an ordinary least squares regression.[13] Variables *JAN6* and *FEB20* measure the actual event date, whereas the other dates are either minus-one or plus-one trading days from the actual event. Lagged values of the event date (*JAN3*, *FEB19*) detect anticipation and information leaks. Lead values of the event date (*JAN7*, *FEB21*) account for delayed responses as information is disseminated and interpreted.

Abnormal returns for the event are measured as both one-day or three-day returns.[14] One-day returns are measured by the coefficients β_2 and γ_2, where are three-day returns are measured as the cumulative sum of the coefficients β_i and γ_i.[15] Statistical significance for the one-day event is measured by the t-statistics on the coefficients β_2 and γ_2, where the significance of three-day returns are measured by a test of significance of cumulative sum of the βs and γs. The test statistic for this test is an F-statistic, and is based on the Wald test (restricted least squares).[16]

The discussion below focuses on the one-day abnormal returns. Returns on either side of the event date may reflect other important news, so the abnormal returns on these days may be

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[13] This approach mimics G. Bittlingmayer and T. W. Hazlett, *Financial Effects of Broadband Regulation, Working Paper* (October 25, 2001). There was no evidence that lagged or lead values of the market index or the stock itself influenced daily returns.

[14] *See* Bittlingmayer and Hazlett, *id*.

[15] The cumulative return is measured as $(1 + \beta_1)(1 + \beta_2)(1 + \beta_3) - 1$, and likewise for the γs.

[16] *See* D. Gujarati, BASIC ECONOMETRICS (3rd Ed. 1995), pp. 257-8. The null-hypothesis of the test is that the abnormal return equals zero.

contaminated.[17] In this particular case, the event dates are well defined, and the news was mostly unexpected and occurred well before the close of trading.[18] Thus, most of the price adjustment related directly to the event probably occurred on the actual event date. As noted above, BOC stock returns on the two event dates were the largest single-day price movements in at least six-months of trading. The three-day abnormal returns, however, are provided in Table 1.

III. Empirical Results

The statistical test is performed using the most recent 60 trading days for the stocks making up the value-weighted portfolios.[19] The results for each portfolio are summarized in Table 1.

A. *Bell Company Stocks*

The portfolio of Bell Company stocks includes BellSouth (BLS), Verizon (VZ), SBC Communications (SBC), and Qwest (Q).[20] As expected, abnormal returns are large, about 6.4%, and statistically significant on January 6. On February 20, however, abnormal returns equal -5.0% and again are statistically significant. Thus, Bell stocks "gave back" most of their January 6 increase, but not all of it.

The estimated abnormal returns suggest that the decline in Bell stocks after the final decision was smaller than the increase in Bell stocks in response to the ultimately erroneous press reports on January 6. Thus, for the one-day event window, the Triennial Review decision appears to be a positive, overall, for the Bells (about 1.3%), suggesting that the broadband components of the decision more than offset the negative news on the continued availability of the UNE-Platform.[21]

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[17] For example, BellSouth Communications increased its dividend on February 21.

[18] The FCC's final decision was still being formed the evening before the decision. Jeffry Bartash, *FCC to rule on Baby Bell networks: Long-Simmering Feud May be Resolved – or Not*, CBS.MARKETWATCH.COM (Feb. 19, 2003). The stock response to this (and similar) stories related to the FCC's decision on the 20th will be detected by the three-day event window.

[19] The final date of the sample is March 7, 2003.

[20] Excluding Qwest does not materially alter the results.

[21] The Wald F-statistic (1, 52) for the null that the sum of the two coefficients is zero is 0.41, implying the two coefficients are not statistically different despite the difference in the point estimates.

These statistically significant abnormal returns can be translated into changes in market cap. On January 6, the 6.4% abnormal return implies a $17 billion "abnormal" increase in the Bells' market cap. The 5% negative abnormal return on February 20 reduced Bell market cap by $11.2 billion.[22] On net, therefore, Bell market capitalization increased by $5.8 billion (= 17 - 11.2) as a consequence of the Triennial Review (as measured by one-day event windows).[23] Of course, Bell market cap would increase by even more if the UNE-Platform were eliminated, but that would be true for any firm whose primary competitors were eliminated via regulation.

B. *UNE-P CLEC*

The UNE-P CLEC portfolio includes Z-Tel Communications (ZTEL) and Talk America (TALK), the two largest, publicly-traded CLECs that rely almost exclusively on UNE-P to provide service (excluding the interexchange carriers such as AT&T and MCI). As would be expected, the *JAN6* event produced abnormal returns for UNE-P CLECs of about -23%, and the one-day abnormal return is statistically significant. The Triennial Review decision, however, had a positive and statistically significant abnormal return of about 27%. Thus, for the one-day event window, the UNE-P CLECs (at least) recovered on February 20 what was lost on January 6, with the $170 market cap increase on February 20 offsetting the $130 market cap decline on the January 6.[24]

C. *Line-Sharing CLECs*

The Line-Sharing CLEC portfolio consists only of Covad Communications (COVD.OB), the last remnant of this sector of the telecommunications industry. Interpreting the coefficient on *JAN6* for Covad is complicated by the fact that on that day Covad and AT&T reported the continuation of their business agreement.[25] This agreement appears to be the focus of financial

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[22] Based on actual returns rather than abnormal returns, Bell market cap increased $22.3 billion on January 6 and fell $14.6 billion on February 20.

[23] For the three-day window, the estimated abnormal returns are 6.1% and 7.3% respectively, both statistically significant at the 5% level (or better), implying a -$0.9 billion reduction (+$16.1 billion and -$17 billion, respectively) in market cap between the two dates. The (absolute value of the) two abnormal returns are not statistically different; the Wald F-statistic (1, 52) is 0.11.

[24] The Wald F-statistic is 0.11. For the three-day window, the estimated abnormal returns are 26% and 54% respectively (-$190 million and +290 million in market cap, net $100 million), both statistically significant at the 5% level (or better). The two abnormal returns are statistically different; the Wald F-statistic (1, 52) is 6.39.

[25] *Consumers to Have More Choices for High Speed Internet Access: AT&T and Covad Extend Residential DSL Relat*ionship, Press Release (January 6, 2003).

news for Covad on this date. Thus, it is not possible to decipher whether or not the abnormal return on *JAN6* is related to the Triennial Review or the AT&T deal. Nevertheless, Covad shares rose sharply on January 6 (17%). On February 20, however, Covad shares plummeted, with an estimated abnormal return of -42%. This decline represents about a $120 million reduction in market cap for Covad. Obviously, the market views line sharing as an important component of Covad's business plan and considers the FCC's decision on line-sharing legally sustainable.

D. *Equipment Vendors*

The telecommunications equipment portfolio consists of Lucent Technologies (LU), Nortel Networks (NT), Alcatel (ALA), Cisco Systems (CSCO), Corning (GLW), JDS Uniphase (JDSU), Siemens Aktien (SI), and Ciena (CIEN). Equipment stocks exhibit no statistically significant abnormal returns on either date, for either the one-day or three-day event windows. Thus, the Triennial Review had no statistically significant effect on the stock returns for telecommunications equipment vendors.

E. *Cable Television*

The cable television portfolio consists of Liberty Media (L), Comcast Cable (CMCSA), Cablevision (CVC), Insight (ISSI), and Cox Communications (COX). Cable television stocks exhibit no statistically significant abnormal returns on either date, for either the one-day or three-day event windows.

F. *Business CLECs*

CLECs that serve primarily business customers include Allegiance Telecom (ALGX), Time Warner Telecom (TWTC), McLeod (MCLD), and US LEC (CLEC).[26] This portfolio exhibits no statistically significant abnormal returns on either date, for the one-day or three-day event window.

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[26] While there are many CLECs serving business customers, nearly all are bankrupt. We excluded bankrupt firms from the analysis to the greatest extent possible.

G. *Wireless Carriers*

The wireless portfolio contains Sprint PCS (PCS), AT&T Wireless (AWE), and Nextel Communications (NXTL). The two events had no statistically significant effect on stock returns for wireless carriers.

H. *Interexchange Carriers*

The interexchange portfolio consists of AT&T (T), MCI (MCWEQ.PK), and Level 3 (LVLT). Neither event date has a statistically significant effect on stock returns. Importantly, the regression for the interexchange carriers has statistically insignificant explanatory power, and this is true regardless of the portfolio components.

IV. Conclusion

In sum, the Wall Street implications of the FCC's recent decision appear to be restricted to the Bell Companies, UNE-P CLECs, and data CLECs (Covad). There is no evidence that other sectors of the telecommunications industry were either positively or negatively affected by the FCC's decision. Overall, Bell losses in market cap on February 20 appear to be less than or equal to increases in market cap on January 6.

In other words, the focus simply on one-day stock price or market cap movements for large portfolio of telecommunications stocks provides a misleading impression about the impact of the FCC decision on the industry. Whether one agrees or disagrees with the notion that the efficacy of regulatory decisions can be measured by stock price movements, any analysis that attempts to link regulatory action with stock prices must account for all of the relevant factors affecting stock price movements, including the relationship of a stock to the market, the general volatility of the stock, and all potential events that may affect the stock price on any given day. A sector-specific analysis also is required before industry-wide implications can be assessed accurately. When the Triennial Review is subjected to this more expansive analysis, the data and facts reveal a far different conclusion than the one that has been remarked upon by the Bells. Indeed, it is possible to conclude from this analysis that the net impact of two critical events in the final stages of the Triennial Review process reveal that *Bell market cap increased by $5.8 billion*. The only clear loser was Covad, which lost $120 million in market cap (based on abnormal returns) on February 20 as a result of a wholly unexpected change in the policy on line-sharing.

Table 1. Sector Stock Price Changes for Triennial Review Event Dates

	January 6, 2003 Event		February 20, 2003 Event	
	One-Day (t-stat)	Three-Day (F-stat)	One-Day (t-stat)	Three-Day (F-stat)
Bell Company	0.064 (4.21)*	0.061 (6.03)*	-0.050 (-3.42)*	-0.073 (4.80)*
UNE-P CLECs	-0.228 (-5.65)*	-0.259 (11.98)*	0.271 (6.92)*	0.542 (22.27)*
Data CLECs	0.166 (2.91)*	0.087 (3.34)*	-0.424 (-7.66)*	-0.402 (21.27)*
Equipment Vendors	-0.003 (-0.19)	0.009 (0.15)	0.006 (0.45)	-0.0004 (0.11)
Cable Companies	0.007 (0.42)	-0.005 (0.43)	-0.001 (-0.09)	-0.020 (0.70)
Business CLECs	-0.034 (-0.87)	-0.008 (0.48)	0.016 (0.42)	0.063 (0.64)
Wireless Carriers	0.027 (1.12)	0.077 (1.54)	0.021 (0.91)	-0.004 (1.11)
Interexchange Carriers	-0.010 (-0.29)	0.016 (0.33)	-0.004 (-0.11)	0.072 (1.06)

* Statistically-significant at the 5% level or better.