Impacts of the Fair and Equitable Tobacco Reform Act of 2004 on Shareholders' Wealth in the Tobacco Industry

Kelly J. Tiller

Department of Agricultural Economics, University of Tennessee, 209-B Forest Products Center, 2506 Jacob Drive, Knoxville, TN 37996-4570, (865) 946-1130 (865) 946-1109 (FAX)
ktiller@tennessee.edu

Shiferaw T. Feleke

Department of Agricultural Economics, University of Tennessee, 309 Morgan Hall, 2621 Morgan Circle, Knoxville, TN 37996-4519, (865) 974-7469, (865) 974-7298 (FAX)
sfeleke@utk.edu

Brian C. Carver

Center for Corporate Governance, University of Tennessee, 511 Stokely Management Center, 916 Volunteer Boulevard, Knoxville, TN 37996, (865) 974-8455
bcarver3@utk.edu

Abstract

This study examines the impact and efficiency of the design of the Fair and Equitable Tobacco Reform Act of 2004 in deregulating the tobacco production industry. Results offer a number of policy implications of which deregulation of an economically challenged industry can be achieved without the use of taxpayer funds.

Introduction

For decades, the federal tobacco regulations administered under the 1938 Agricultural Adjustment Act effectively protected tobacco growers from downward price adjustments resulting from surplus production and led to the development of valuable assets that belonged to tobacco producers; however, in recent years, these regulations artificially inflated the price of U.S. leaf tobacco relative to foreign tobacco causing demand for U.S. grown tobacco to decline. The resulting loss of tobacco revenue led to calls by legislators from tobacco growing states to terminate the existing federal tobacco program.

As Congress sought to deregulate the tobacco industry, two major issues surfaced. The first concerned the source of funds to facilitate the purchase of tobacco quotas owned by growers and the second involved the authority of the Food and Drug Administration (FDA) to regulate the content and marketing of tobacco products. On each issue, the House and Senate took differing positions with the tobacco manufacturers generally favoring the House position to supply funds from the Treasury to purchase quotas and to not regulate the marketing and content of tobacco products. The major dissention among manufacturers was on the issue of market and product regulation, which Philip Morris supported. When the conference report was released, Congress had failed to give the FDA regulatory authority over the marketing and content of tobacco products; however, Congress determined that the settlement would be funded through an assessment on

tobacco manufacturers and importers; potentially erasing any gains to manufacturers from lower input prices.

The final bill passed by Congress became the Fair and Equitable Tobacco Reform Act of 2004 and was signed into law on Oct. 22, 2004 as part of the Jobs Creation Act of 2004 (H.R.4520). This legislation resulted in the most significant change in tobacco policy in U.S. history and represents one of the most dramatic and rapid policy changes experienced by any agricultural commodity (Tiller et al., 2006).

This study examines the effect of this legislation on the tobacco industry, as well as the efficiency of its design using standard market model-event study methodology. This research methodology has commonly been used in other disciplines [Ball and Brown (1968), Fama (1969), Rendleman, Jones and Latane (1982), Jensen and Ruback (1983), MacKinlay (1997), Ikenberry and Ramnath (2002), and Liljeblom (2006)]. The employment of this research methodology requires the identification of dates on which news announcements or events were unanticipated by market participants. In this study, we identify three important dates in the legislative process of this law that were unanticipated by the market. Two of these dates provide for a direct examination of the effect of the key elements of the law and the overall efficiency of its design.

On the first of these dates, June 14, 2004, the U.S. House of Representatives added the quota buyout provision to its corporate tax bill, effectively ensuring an end to the tobacco quota system. The elimination of this means of production control was designed to create a competitive market structure, increase efficiency, and drive down the price of domestically produced tobacco leaves. As a result, tobacco manufacturers would benefit from reduced input costs leading to an increase in expected future earnings.

After the House passed its version of this bill, the U.S. Senate passed its own version, which differed substantially. These bills then went to Conference Committee for reconciliation, and, on October 6, 2004, the Conference Committee released its report. The Conference report contained the elimination of the tobacco quota system and denied the FDA the regulatory authority it sought over tobacco products; however, unlike the House version of the bill, it required tobacco manufacturers and importers to fund the purchase of tobacco quotas. As a result, the future benefits derived by tobacco manufacturers from lower input prices were, to some degree, offset by the quota funding requirements, and U.S. taxpayers were relieved of the burden to fund the purchase of tobacco quotas.

Following the passage of the Fair and Equitable Tobacco Reform Act of 2004, President Bush, in an unexpected move before the 2004 Presidential election, signed the bill into law on October 22, 2004. This move by President Bush put an end to a hotly debated political issue and ended any remaining uncertainty concerning the deregulation of the tobacco industry.

The remainder of the paper is organized as follows. The next section presents the hypothesis tested to assess the effect of the legislation on the tobacco industry. Section III presents the event study methodology. Section IV presents the descriptive statistics and empirical results of the hypotheses testing. Finally, conclusions and implications would be presented.

Background and Hypothesis Development

The Fair and Equitable Tobacco Reform Act of 2004 permanently and significantly altered the production and marketing of US tobacco by eliminating tobacco quota assets and tobacco price supports and by removing geographical restrictions on the production of tobacco. The elimination of tobacco quotas would allow producers to grow sufficient amounts of tobacco to meet market demand, while the removal of geographical restrictions on the production of tobacco would allow the means of production to flow into geographical regions that can produce tobacco more efficiently. In addition, the removal of the price support program would allow domestic leaf prices to settle at a price-level that the market could support. These measures, taken together, would result in lower input prices for tobacco manufacturers and would likely increase earnings for those manufacturers.

As the House considered legislation concerning the tobacco industry, it introduced measures to eliminate the federal tobacco program instituted under the 1938 Agricultural Adjustment Act on June 14, 2004. While this idea had been bantered about in Congress prior to this date, the tobacco industry had not expected it to be added to the legislation under consideration. As a result, we develop the following hypothesis:

H1: Inclusion of legislative measures to eliminate the federal tobacco program on June 14, 2004 resulted in positive, significant returns accruing to shareholders of tobacco manufacturers.

When the House introduced the elimination of the federal tobacco program, it proposed that Treasury would supply the necessary funds to purchase tobacco quotas and to provide transitional payments to active tobacco producers. The Senate, likewise, agreed to the elimination of the federal tobacco program, but it proposed that tobacco

manufacturers and importers would provide the funds required to accomplish this

purpose. In addition, the Senate additionally proposed that the FDA be allowed

regulatory authority over the marketing and content of tobacco products. While the

Senate's proposals were, overall, less favorable to tobacco manufacturers, the final

outcome was uncertain until the Conference Committee released its report on October 6,

2004. On this date, it became known that tobacco manufacturers and importers would be

required to provide $9.6 billion in funding to pay for the purchase of tobacco quotas and

to provide for transition payments to active producers. On the other hand, the FDA was

denied regulatory authority over the marketing and content of tobacco products. While

the exclusion of this proposal from the final bill benefited most tobacco manufacturers, it

did not alter the regulatory environment in which tobacco manufacturers operated and,

thus, had little impact on future earnings. The requirement for manufacturers to fund the

elimination of the federal tobacco program would, however, cost firms real dollars and,

therefore, negatively affect future earnings. As a result, we develop the following

hypothesis:

H2: The release of the conference report denying the FDA regulatory authority over the
content and marketing of tobacco products and requiring tobacco manufacturers and
importers to fund the elimination of the federal tobacco program on October 6, 2004
resulted in negative, significant returns accruing to shareholders of tobacco
manufacturers.

The deregulation of the tobacco industry became a politically charged issue

during the tightly contested Presidential campaign of 2004. As a result, the Jobs Creation

Act of 2004, which contained the Fair and Equitable Tobacco Reform Act of 2004, was

expected to remain on the desk of President Bush until after the conclusion of the

Presidential race. However, in a somewhat politically risky move, President Bush signed

the bill into law on October 22, 2004. The signing of this bill codified into law the deregulation of the tobacco industry and cemented the responsibility of tobacco manufacturers in this process. Overall, this finalized what was seen as a positive development to the tobacco industry; however, it provides little additional information that would impact shareholder value. As a result, we develop the following hypothesis (stated in null form):

H3: The unexpected signing of the Fair and Equitable Tobacco Reform Act of 2004 by President Bush did not result in significant returns accruing to shareholders of tobacco manufacturers.

The Agricultural Adjustment Act of 1938 had, for decades, limited the free market adjustments of both tobacco prices and supplies. The full effect of these market restrictions, however, was not felt until the quality of foreign produced tobacco improved, and manufacturers began to substitute it for domestically produced tobacco. This led to declining demand for U.S. tobacco and declining revenues for producers. In order to correct this problem, Congress eliminated the market restrictions imposed by the Agricultural Adjustment Act of 1938. This, in theory, would benefit tobacco manufacturers by lowering input prices; however, as part of its legislative efforts, Congress required tobacco manufacturers and importers to fund the elimination of the tobacco quota system. In essence, Congress had determined that the tobacco industry was to fund its own deregulation. As a result, the efficiency of the design of the Fair and Equitable Tobacco Reform Act of 2004 depended on whether or not the cost borne by the tobacco manufacturers and importers outweighed the potential benefits derived from lower input prices. Therefore, the design of the final piece of legislation should neither

be onerous nor provide excessive benefits to tobacco manufacturers. Based on this

discussion, we develop our final hypothesis, in the null form:

H4: The sum of the market reaction to events in the legislative process of the Fair and
Equitable Tobacco Reform Act of 2004 will be approximately equal to zero.

Methodology

Event study methodology is widely used in financial economics and provides a

useful means of examining the actual effect of new legislation on a group of firms or, in

this case, a particular industry by measuring the impact of the new legislation on the

value of firms composing the group or industry.[1] This methodology is predicated upon

the efficient markets hypothesis, which posits that all available information is impounded

in current stock prices, and the relation between the value of a firm, as measured by its

current price, $P_{i,t}$, and its future cash flows, with the relation being defined as:

$$P_{i,t} = \sum_{k=1}^{\infty} \frac{d_{i,t+k}}{(1+r)^k} \tag{1}$$

where $d_{i,t+k}$ is the expected future cash flow to firm i at time $t+k$, and r is the discount

rate. Under the efficient markets hypothesis, the value of firm i changes as the result of

unexpected events related to the development, passage, or implementation of legislation

that causes investors to revise estimates of future cash flows and/or the riskiness of those

cash flows.

In order to examine the effect of these unexpected events on firm value, the stock

price both before and after revisions to estimates of future cash flows and/or the discount

rate must be determined. These prices, however, cannot both be measured at the same

time; therefore, stock returns, defined as:

---

[1] For a more thorough explanation of event study methodology please refer to Schwert (1981), MacKinlay
(1997), and Dasgupta, et al. (Working Paper).

$$R_{i,t} = \frac{(P_{i,t} + d_{i,t} - P_{i,t-1})}{P_{i,t-1}}, \tag{2}$$

must be compared to a measure of normal returns that would have been expected in the absence of the unexpected legislative developments in order to estimate their actual impact on the firm. The difference between actual and normal returns, known as abnormal returns, measures the change in price after the legislative development relative to that before. The abnormal returns were calculated for three event dates and nine tobacco companies listed in Panel A and B of Table 1, respectively.

Insert Table 1

We calculated normal returns using the market model:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t} \tag{3}$$

where $R_{m,t}$ is the equal-weighted return on a portfolio of all marketable securities at time t and $e_{i,t}$ is the error term for firm i at time t and has an expected value of zero and a variance equal σ_{ei}^2. Estimating equation (3) over the period extending from 255 days from 21 days before the event provides the out of sample estimate of normal returns for firm i. Comparing these with the actual returns of firm i provides a measure of abnormal returns, which, based on the efficient markets hypothesis, are the result of unexpected events impacting the value of firm i. This can be represented by the expression:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \tag{4}$$

where $AR_{i,t}$ is the abnormal return for firm i at time t and is equal to $e_{i,t}$.

Under the null hypothesis that the events under consideration do not impact returns, $AR_{i,t}$, conditional on event window market returns, is joint normally distributed and has a conditional mean of zero and a conditional variance $\sigma^2(AR_{i,t})$ where:

$$\sigma^2(AR_{i,t}) = \sigma_{ei}^2 + \frac{1}{L}\left[1 + \frac{(R_{m,t} - \bar{R}_m)^2}{\bar{\sigma}_m^2}\right]. \tag{5}$$

From equation (5), $\sigma^2(AR_{i,t})$ has two separate components; the first being the variance

from equation (3) and the second being additional variance due to sampling error in α_i

and β_i. This sampling error results in abnormal returns being serially correlated;

however, as L, the number of days in the estimation window, becomes large, the second

component approaches zero and $\sigma^2(AR_{i,t})$ becomes σ_{ei}^2, allowing abnormal return

observations to become independent over time. Thus, the sampling distribution of an

abnormal return observation is:

$$AR_{i,t} \sim N(0, \sigma^2(AR_{i,t})). \tag{6}$$

In order to make inferences about each event date, abnormal returns must be

aggregated across both the days in the event window, which in this case is the three-day

period beginning the day of the event and ending two days after the event, and across

firms. We begin by obtaining the cumulative abnormal return, $CAR_i(T_1, T_2)$, for each

firm i across the event period (T_1, T_2):

$$CAR_i(T_1, T_2) = \sum_{t=T_1}^{T_2} AR_{i,t} . \tag{7}$$

Asymptotically, as L increases, the variance of $CAR_i(T_1, T_2)$ is:

$$\sigma^2(T_1, T_2) = (T_2 - T_1 + 1)\sigma_{ei}^2, \tag{8}$$

thus, under the null hypothesis, cumulative abnormal returns have the distribution:

$$CAR_i(T_1, T_2) \sim N(0, \sigma^2(T_1, T_2)). \tag{9}$$

The distribution in (9) allows for tests of the null hypothesis to be conducted;

however, tests involving only one firm are not likely to be useful and, therefore, the

cumulative abnormal returns for each event period must be aggregated across firms. Aggregating these cumulative abnormal returns across N firms yields the average cumulative abnormal return for each event date, $\overline{CAR}(T_1,T_2)$, defined as:

$$\overline{CAR}(T_1,T_2) = \frac{1}{N}\sum_{i=1}^{N} CAR_i(T_1,T_2) \qquad (10)$$

with variance:

$$\sigma^2(\overline{CAR}(T_1,T_2)) = \frac{1}{N^2}\sum_{i=1}^{N} \sigma_i^2(T_1,T_2) \,. \qquad (11)$$

Inferences can now be drawn about the cumulative abnormal returns for each event period using:

$$\overline{CAR}(T_1,T_2) \sim N[0,\, \sigma^2(\overline{CAR}(T_1,T_2))\,] \qquad (12)$$

to test the null hypothesis that cumulative abnormal returns are zero for each event date. From this, the Z-statistic can be calculated as:

$$Z = \frac{\overline{CAR}(T_1,T_2)}{(\sigma^2(\overline{CAR}(T_1,T_2)))^{\frac{1}{2}}} \sim N(0,1)\,. \qquad (13)$$

This result is asymptotic with respect to both the number of securities, N, and the length of the estimation window, *L*.

The design of our study, however, introduces the possibility that event-induced variance exists. This is due to the fact that our sample firms all belong to the same industry and that the event dates are common across the firms. As a result, we use the standardized cross-sectional Z test developed by Boehmer, et al. (1991) to test the null hypothesis that average abnormal performance is equal to zero.

Empirical Results

Descriptive Statistics

Table 2 presents descriptive statistics, as of 2004, for the nine tobacco companies included in our study. Total assets range in size from $69.5 million to $101.65 billion, with vast differences existing between firms within this range. Total sales, likewise, broadly range from $30.6 million to $65.6 billion; however, the seven smallest firms, based on assets, range between $30.6 million and $6.44 billion, while the two largest firms had total sales of $63.96 billion and $65.63 billion. The profitability of tobacco manufacturers in 2004 was generally strong, with reported earnings per share for the seven most profitable firms ranging between $1.45 per share and $5.62 per share. Overall, these descriptive statistics indicate vast differences between tobacco manufacturers with Philip Morris/Altria Group, Inc. possessing a substantial advantage in available resources over its competitors both individually and in aggregate. Such indicates that Philip Morris/Altria Group, Inc. may have possessed the greatest ability to influence the legislative process, even though Congress sided with the other manufacturers on the issue of FDA regulation.

Insert Table 2

Impacts on the Tobacco Industry

Column 2 of Table 3 presents the mean abnormal return of the tobacco industry on each of the eleven trading days surrounding our first event date, June 14, 2004.[2] Our results indicate that the market reacted favorably to the addition of the tobacco quota buyout to the House corporate tax bill, posting significant, positive abnormal gains on the

---

[2] In Columns 2-4 of Table 3, trading day 0 is our event date. Consequently, we present the mean abnormal return for the 5 trading days preceding the event date (t=-5 through t=-1) and the 5 trading days subsequent to the event date (t=+1 through t=+5).

post-event trading days t=+2 and t=+4 (1.10% and 0.61%, respectively). In addition, the generalized sign test (not presented) indicates that tobacco manufacturers were more likely to have positive abnormal returns on the post-event trading days t=+2 and t=+4, as well as the event date itself (t=0, abnormal return is 0.51%, but is insignificant).[3] Moreover, our results indicate that the market reacted in a significant, negative manner on the trading day prior to our event date (t=-1, abnormal return is -0.22%) and the market reacted in an insignificant manner on the individual trading days t=-5 through t=-2. This final result further indicates that the addition of the quota buyout provision to the corporate tax bill in the House was unexpected. Overall, these results indicate initial support for our first hypothesis.

Insert Table 3

Column 3 of Table 3 presents the mean abnormal return of the tobacco industry for the eleven trading days surrounding our second event date, October 6, 2004. Our results indicate that the market reacted in a negative manner to the release of the conference report that required tobacco manufacturers and importers to fund the deregulation of the tobacco industry. On both the event date (t=0) and the subsequent date (t=+1), significant, positive abnormal gains accrued to shareholders of tobacco manufacturers (-1.10% and 0.99%, respectively). On none of the five trading days preceding the event date did the market experience significant abnormal returns. The only other trading day on which the market posted a significant abnormal return was on trading day t=+5, when the market experienced a significant, positive abnormal return of

---

[3] The generalized sign test is used to compare the percentage of positive abnormal returns to the percentage of negative abnormal returns during the estimation period. The null hypothesis in this test is that the percent of positive returns in the estimation period is equal to the percent of negative returns in the estimation period.

0.13%. These results, similar to our first event, suggest that the event was unanticipated by the market, and, overall, our results indicate initial support for our second hypothesis.

Column 4 of Table 3 presents the mean abnormal return of the tobacco industry on each of the eleven days surrounding our third event date, October 22, 2004. Our results indicate that positive, significant abnormal returns were posted on trading days $t=+3$ and $t=+4$ and that negative, significant abnormal returns were posted on trading day $t=-4$; however, no significant abnormal returns accrued to shareholders on any other trading day surrounding our event date. In particular, the reported abnormal returns on each of the individual trading days $t=0$ through $t=+2$ were insignificant and mixed in sign. Similar to the results presented for our first two event dates, the abnormal returns on the individual dates prior to our third event date suggest that it was unanticipated. In addition, our results indicate a lack of support for the rejection of our third hypothesis, stated in the null.

Table 4 presents the cumulative average abnormal return for each of our three event dates and the corresponding cross-sectional Z-values. Our results indicate that the tobacco manufacturing industry experienced a significant, positive abnormal return of 2.32% (p-value = 0.074, two-tailed) during the three-day event window (0,+2) surrounding our first event date and that the tobacco manufacturing industry posted a significant, negative abnormal return of 2.00% (p-value < 0.01, two-tailed) during the three-day event window (0,+2) surrounding our second event date. These results suggest support for our first two hypotheses. Our results for the three-day event window (0,+2) surrounding our third event date, however, do not indicate the presence of significant

14

abnormal returns (p-value = 0.074, two-tailed), suggesting that our third hypothesis cannot be rejected.

Insert Table 4

Overall, our results indicate that returning the tobacco industry to a market in which the fundamental principles of economics are allowed to work benefited the industry as a whole. These benefits are derived from allowing market supplies to adjust, unimpeded, to existing market demand at market clearing prices, while allowing production resources to flow to geographic areas where the production of tobacco is most efficient. Our results further suggest that Congress understood that tobacco manufacturers would benefit from this return to a free market environment and, as a result, determined that tobacco manufacturers and importers, rather than taxpayers, would fund the deregulation of the tobacco industry. Given the lack of significant abnormal returns surrounding the signing of the bill into law, a comparison of the positive, significant returns surrounding the first event and the negative, significant returns surrounding the second event suggests that Congress designed the bill in such a manner as to "use up" most of the benefits derived from deregulation to pay for the deregulation itself. As a result, the design of this bill could be categorized not only as being efficient but also equitable to the tobacco industry and the U.S. taxpayer alike.

Conclusion

The study assessed the impact on the tobacco industry of the Fair and Equitable Tobacco Reform Act of 2004 and the efficiency of its design using standard market model-event study methodology. Our results indicate that the tobacco industry benefited from the House of Representatives adding provisions to its corporate tax bill to eliminate

the regulation of the production and sale of U.S. tobacco. Our results further indicate that the tobacco industry suffered significant, negative abnormal returns when the House and Senate released its conference report, which required tobacco manufacturers to fund the deregulation of the tobacco industry. A comparison of these results further suggests that Congress was able to take advantage of the economic benefits of deregulation to require the tobacco industry, rather than taxpayers, to fund the deregulation. This comparison also indicates that the funding requirements placed on manufacturers and importers was not onerous in nature, but rather approached, in magnitude, the economic benefits expected to be realized by tobacco manufacturers from the deregulation itself.

This study's results offer a number of research and regulatory implications. While most of the literature concerning the Fair and Equitable Tobacco Reform Act of 2004 has concentrated on the implementation of the Act, our study is the first to explore the effect that the implementation of this Act will have on the tobacco industry; suggesting that the Act's implementation was an economically neutral event. Secondly, our study introduces the event study methodology that has commonly been used in financial economics to agricultural economics literature. Finally, our study suggests that returning product markets to their original state, where the fundamental principles of economics are allowed to work freely, is beneficial and can be achieved without the use of taxpayer funds.

References

Ball, R and Brown, P. "An Empirical Evaluation of Accounting Income Numbers."
        Journal of Accounting Research 6 (1968):159–178.

Boehmer, E., Musumeci, J., Poulsen, A. "Event-study Methodology under
        Conditions of Event-induced Variance." *Journal of Financial Economics* 30,
        (1991):253-272.
Fama, E.F. "The Adjustment of Stock prices to New Information." *International
        Economic Review* 10 (1969):1–21.

Ikenberry, D. L. and Ramnath, S. "Under Reaction to Self-Selected News Events: The
        Case of Stock Splits." *Review of Financial Studies* 15(2002):489-526

Jensen, M.C. and Ruback, R.S. "The Market for Corporate Control: The Scientific Evidence."
        Journal of Financial Economics 11(1983):5-50.

Liljeblom, E. "The Informational Impact of Announcements of Stock Dividends and
        Stock Splits." *Journal of Business, Finance and Accounting* 16 (2006):681-97

MacKinlay, C.A. "Event Studies in Economics and Finance." *Journal of Economic
        Literature* 35 (1997): 13–39.

Rendleman, R. J., Jr., Jones, C. P., & Latane, H. A. "Empirical Anomalies Based
        on Unexpected Earnings and the Importance of Risk Adjustment." *Journal of
        Financial Economics* 10(1982):269-287.

Schwert, G. W. "Using Financial Data to Measure Effects of Regulation." *Journal of
        Law and Economics*, 15 (1981): 121-158.

Tiller, K. J., Capehart, T.C., and Tegenge, F. *Tobacco Quota Buyout: Impacts on
        Tobacco Households, Industry, and Tobacco-Growing Regions.* U.S. Department
        of Agriculture, Economic Research Service, Cooperative Agreement No. 43-
        3AEK-9, 2002.

Table 1 Tobacco Companies and Description of Events that Led to the Fair and Equitable
Tobacco Reform Act of 2004

Firms	Event Number	Information Event and Date
Philip Morris/Altria Group Inc British American Tobacco Plc	E1	Tobacco buyout was added to the House corporate tax bill (HR 4520) on the 14th of June, 2004
RJR/Reynolds American Imperial Tobacco Group Plc Gallaher Group Plc	E2	The congressional conference committee agreement report was released on the 6th of October, 2004
Loews Corp US Smokeless Tobacco Inc Vector Group Ltd Star Scientific Inc	E3	President Bush signed the bill into law on the 22nd of October, 2004

Table 2 Descriptive Statistics on Tobacco Companies

Firms	Total assets (MM)	Sales (MM)	Net Income (MM)	EPS (Diluted)
Philip Morris/Altria Group Inc	101,648.00	63,963.00	9,416.00	4.57
British American Tobacco Plc	33,867.22	65,632.58	387.03	1.45
RJR/Reynolds American	14,428.00	6,437.00	688.00	5.62
Imperial Tobacco Group Plc	11,630.06	5,484.89	805.01	2.21
Gallaher Group Plc	7,867.10	4,885.80	555.64	4.40
Loews Corp	2,778.20	3,347.80	545.90	3.15
US Smokless Tobacco Inc	1,659.48	1,788.95	530.84	3.23
Vector Group Ltd	535.90	323.19	6.73	0.10
Star Scientific Inc	69.52	30.58	-16.58	-0.28

Table 3
Mean Abnormal Returns on Individual Trading Days Surrounding Each Event Date in the Legislative Process of the Fair and Equitable Tobacco Reform Act of 2004.

	Mean Abnormal Returns					
Trading Day	Day 0 = June 14, 2004		Day 0 = October 6, 2004		Day 0 = October 22, 2004	
-5	0.68%		-0.03%		0.43%	
-4	0.10%		0.41%		-0.81%	***
-3	0.24%		0.07%		0.09%	
-2	-0.46%		-0.55%		0.11%	
-1	-0.22%	*	0.22%		-0.66%	
0	0.51%		-1.10%	***	0.66%	
1	0.72%		-0.99%	***	-0.18%	
2	1.10%	***	0.09%		0.23%	
3	0.66%		0.40%		0.47%	***
4	0.62%	**	-0.06%		1.22%	***
5	0.17%		0.13%	*	-0.02%	

_____

*,**,*** Significant at the .1, .05, and .01 levels, respectively, based on two-tailed tests.

Notes:

Market Model Using Equally Weighted Market: $R_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t}$ where $R_{i,t}$ is the actual return on the stock of firm i on day t; $R_{m,t}$ is the CRSP equally weighted market return on day t and $e_{i,t}$ is the error term for firm i on day t varying independently of the market return $(R_{m,t})$ and has an expected value of zero $E(e_{i,t}) = 0$ and a variance equal to $Var(e_{i,t}) = \sigma_{e_t}^2$.

$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t})$ where $AR_{i,t}$ is the abnormal return for firm i at time t.

Table 4
Mean Abnormal Returns for the Three-Day Post-Event Window, Including the Event Date, for Each Event Date in the Legislative Process of the Fair and Equitable Tobacco Reform Act of 2004.

Event Date	Cumulative Average Abnormal Return	Z-value
June 14, 2004	2.32%	1.787 *
October 6, 2004	-2.00%	-9.010 ***
October 22, 2004	0.71%	0.915

_____
*,**,*** Significant at the .1, .05, and .01 levels, respectively, based on two-tailed tests.

Notes:

Market Model Using Equally Weighted Market: $R_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t}$ where $R_{i,t}$ is the actual return on the stock of firm i on day t; $R_{m,t}$ is the CRSP equally weighted market return on day t and $e_{i,t}$ is the error term for firm i on day t varying independently of the market return $\left(R_{m,t}\right)$ and has an expected value of zero $E\left(e_{i,t}\right) = 0$ and a variance equal to $Var\left(e_{i,t}\right) = \sigma_{e_t}^2$.

$AR_{i,t} = R_{i,t} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{m,t}\right)$ where $AR_{i,t}$ is the abnormal return for firm i at time t.