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The Impact of Authorization of the Travel Promotion Act on Hotel Firm Stock Returns

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Abstract

On March 4, 2010, President Obama signed into law the Travel Promotion Act of 2010 (TPA), which established a public–private corporation to promote travel to the United States. Results from a survey of twenty financial analysts who follow the hospitality industry reveal that twelve of them considered TPA when analyzing hotel firms' value at the time the law was signed. Two others had already revised their value assessment in 2009 when they first heard that the act was being considered. These analysts all believed that TPA would have a positive impact on firms in the hotel industry. Consistent with the analysts' expectations, abnormal stock market returns indicate that publicly traded hotel firm stock prices increased by approximately 1.93 percent, on average, at the time of the TPA signing. Results of cross-sectional analyses of the abnormal stock returns indicate that hotel firms with a larger proportion of rooms in the upper chain-scale tier benefited more from TPA, and real estate investment trusts (REITs) would experience greater gains from TPA than C corps. Finally, we find that firms with a substantial portion of their rooms outside North America gained no more, nor less, than other hotel firms did from the TPA.

Keywords

Corporate Finance; Investments; Event Study; Abnormal Returns, Travel Promotion Act

Signed into law by President Obama on March 4, 2010, the Travel Promotion Act of 2010 (TPA) received considerable attention from both supporters and detractors. Proponents believed that it would encourage international travel to the United States and improve lodging firms' revenues, after two years of recession (*India-West* 2010; Stutz 2010; Volpe 2010). However, opponents viewed the TPA as another instance of government overreach. As a result, Ernst and Young analysts predicted that TPA would be one of the top three issues confronting the hotel industry in 2011 (Fishbin 2011).

The TPA created the Travel Promotion Board, a quasi-government agency that was tasked with advertising and promoting academic and business travel to the United States. Public statements supporting TPA are abundant. For example, West Virginia Senator Jay Rockefeller argued, "Increased tourism [because of TPA] would boost the hospitality industry, increase the number of individuals eating in American restaurants, encourage additional spending in retail stores, and expand the use of all forms of transportation" (Congressional Documents 2010). The *Tribune Business News* stated that TPA would create 12,000 jobs in Nevada alone (Stutz 2010). Roger Dow, president and CEO of the U.S. Travel Association concluded, "The need for travel promotion has never been greater . . . the Travel Promotion Act is a win-win for our economic and diplomatic efforts" (Anderson 2009, page 1). However, South Carolina's Senator Jim DeMint argued against TPA for two reasons. One, he asserted that government is less efficient at most activities, including advertising and promotion, when compared with private corporate endeavors. Two, little additional benefit would accrue from TPA activities because large corporations already devote significant resources to effective promotional campaigns (Congressional Record 2009-2010, page1). In a similar tone, it was suggested in the *Wall Street Journal* (2010) that TPA is a part of a liberal agenda that adds little value to an industry that can fend for itself.

With that controversy, it is worth examining how stock analysts reacted to the passage of the TPA, based on their revisions of expected stock performance. Two studies in 2009 estimated the prospective costs and benefits of TPA by projecting growth in travel demand. In one study, the

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Congressional Budget Office (CBO) (Congressional Budget Office 2009, pages 4-6) estimated that additional increased travel fees and tax revenues associated with increased tourism would reduce the federal deficit by $425 million over ten years. In the other, Oxford Economics, a business consulting and forecasting company, estimated that a successful national promotion would yield $4 billion in new spending annually, create 40,000 new jobs, and generate $321 million in new tax revenue each year (Freeman 2012;).

Our study provides results from two related analyses that assess the importance of TPA to the hotel industry by looking at stock values, rather than revenues or room-nights. We first provide survey evidence about the relative importance of government regulation and TPA, as assessed by financial analysts who conduct lodging equity research and make recommendations to potential investors. We find that these analysts expected the TPA to have a positive impact on hotel firms' value. We then examine whether the analysts' expectations were realized, as evidenced by positive stock market reactions to events associated with the passage of TPA.

Although the structure of the hotel industry is diverse, consistent with our focus on how U.S. equity analysts and U.S. equity markets assess the impact of TPA, we examine publicly traded U.S.-based hotel real estate investment trusts (REITs) and publicly traded U.S. C corps in Standard Industrial Code (SIC) 7011, which is the code that the U.S. Securities and Exchange Commission assigns to hotels and motels. The publicly traded firms in our study manage or own 38 percent of the hotel rooms in the United States (see Exhibit 7).

We conduct an event study in which we examine press announcements and the *Congressional Record* to identify informational events that provided investors with value-relevant information about the content of the TPA and the likelihood of its passage. We then use the capital asset pricing model to determine whether the TPA caused abnormal returns for hospitality firms. We calculate the normal returns for firms over the relevant informational event period, which is the time of the TPA's authorization, and then define abnormal returns as the actual returns minus the normal returns predicted by the model. The abnormal returns measure the overall change in the market value of hotel firms as a result of TPA's adoption. We also conduct cross-sectional analyses of the abnormal returns to determine how the wealth effects of TPA vary with individual firm characteristics.

Our two-pronged approach provides evidence of the TPA's potential effects on the industry. The analyst survey provides an assessment of the relative importance of TPA compared with other value determining factors in the marketplace. The market analysis provides investors' assessments of the TPA's expected net benefits. Our analysis also gives evidence on whether investors expected REITs and C Corps to benefit equally from the TPA. Finally, cross-sectional variation in the impact of TPA on firms in the hotel industry provides a potential explanation for controversy that surrounds TPA.

The TPA

The TPA established the Corporation for Travel Promotion, a nonprofit entity that is now known as Brand USA, to promote leisure, business, and scholarly travel to the United States, as well as to communicate U.S. government policies and requirements for travel to the United States by citizens of other countries. The TPA authorizes the Secretary of Commerce, in consultation with the Secretary of State and the Department of Homeland Security, to appoint the corporation's board of directors, review and approve the corporation's annual objectives, and transmit its annual report to Congress. The eleven travel promotion board members are overseen by the Commerce Department.

As explained on the TPA website, initial funding for the corporation came from the collection by the Department of Homeland Security of a $10 travel promotion fee assessed on travelers from the forty-eight so-called visa-waiver roadmap countries.[1] These are the thirty-eight countries with which the United States has a visa-waiver agreement and ten other countries that have applied to become visa-waiver countries. Funding would also come from a program of private-sector contributions that would match up to $100 million of the travel promotion fees. In Year 1, the corporation's budget was to be no more than $10 million of the travel promotion fees collected in the first year. In Year 2, the budget increased to no more than $100 million, with a 50-percent match by industry. Eighty percent of the industry match could be in-kind, but 20 percent must be in cash. In Years 3, 4, and 5, the budget was set at $100 million, with a 100-percent industry match. In Year 6 (2015) and beyond funding of the corporation would be by industry assessment only. The TPA fee assessment sunset in 2014. (The U.S. House of Representatives passed a reauthorization and revision bill in 2014, but the bill did not pass in the U.S. Senate.) The way the law stands at this writing, private-sector companies and other organizations that benefit from increases in international travel will be asked to make voluntary contributions. However, the legislation provides a mechanism by which members of the industry can vote to create a more formal means of collecting private-sector contributions. In the event that members of the industry choose to explore this avenue, no industry assessment can be enacted without a majority of the members voting in favor of it (ITA, Office of Travel and Tourism Industries 2009).

After we discuss the results of a survey of financial analysts about the perceived impact of government regulation and TPA on the valuation of hotel firms, we review the event study literature and the regulatory events associated with the

Exhibit 1:
Important Factors in the General Environment: Theoretical Background for Interpreting Financial Analyst Survey.

Economic	Social-Cultural	Technological	Political-Regulatory	Ecological
GNP growth	Population growth	R&D activity	Wage/price controls	Water quality
Purchasing power	Population shifts	New product development	Social legislation	Solid waste
Inflation	Population aging	Productivity improvements	Tax policy	Air quality
Interest rates	Consumer activism	Product life cycle changes	Government stability	Conservation
Savings rate	Environmental concerns	Patents	Zoning regulation	Source reduction
Energy costs	Cultural attitudes		Licensing	Recycling
Disposable income			Import regulation	
Unemployment			Protectionism	
Money supply				

Source. Olsen, Tse, and West (2008).
Note. GNP = gross national product.

passage of the TPA, as well as the likely impact of each of the events on the law's passage. We explain the research design and methodology for our event study, and discuss the types of hotel firm expected to receive the greatest benefit from TPA, followed by an analysis of the actual effects of the law.

Survey of Hotel Equity Research Firms

In 2013, we sent a short e-mail survey to equity analysts at leading research firms that follow publicly traded gaming and lodging companies, asking them to rate the relative importance of various general environment factors expected to influence the performance and equity values of hotel firms (Olsen, Tse, and West 2008). Among other questions, the survey asked about the analysts' familiarity with the TPA and whether they considered its likely effects when analyzing the hotel stocks in their portfolio of companies (Exhibit 1). Olsen et al.'s five general factors are economic, socio-cultural, technological, political-regulatory, and ecological (see Exhibit 1). Several authors have used these factors in analyses of the impact of general industry conditions on earnings and firm value (see, for example, Bridoux and Stoelhorst 2014; Goyal 2013; Kim and Kim 1992; Memdani 2013).

Twenty hotel analysts from twenty equity research firms completed our survey, as shown in Exhibit 2. As we discuss in the following section, the analysts ranked economic factors as most important, followed by political-regulatory factors, socio-cultural factors, and technology and innovation factors. Environmental factors were considered to be the least important of the five critical factors.

As a government-sponsored initiative, the TPA can be placed into the political-regulatory category. But if the TPA is successful, it will be because of the response of international consumers to the promotions sponsored by the government, and that response will be influenced by both socio-cultural and economic factors. As government promotion of travel under the TPA fits into the three categories perceived as most important by analysts, we expect that analysts will consider the TPA to be important when evaluating financial performance and valuing firms in the hotel industry.

As shown in Exhibit 4, our prediction is partly correct. Consistent with the implications of Exhibit 3, twelve of the twenty analysts considered the impact of the TPA when assessing performance and firm value. Exhibit 5 summarizes analysts' beliefs about the likely impact of TPA on the equity values of hotel firms. Each of the dozen analysts who considered TPA to be important also thought that the impact of TPA would be positive, consistent with favorable early press coverage of the act. Although no analyst follows all twenty-three stocks on our list, their collective judgment shows that the TPA would benefit the industry.

Exhibit 6 shows that analysts learned about the TPA in 2010, which is primarily when changes occurred in the market valuation of the hotel firms. Richard Santiago, former director of Global Insights and Innovation for Brand USA, concurred that the buzz on the street around the TPA occurred in 2010.

In summary, a majority of the analysts we contacted think that the TPA has had a positive impact on firms in the hotel industry and incorporated their expectations about the TPA into their analyses beginning in 2010. Next, we conduct an event study analysis to determine whether the analysts' perceptions were accurate. We also examine the magnitude of the TPA's impact, as well as the characteristics of firms expected by the market to benefit the most from the passage of the TPA.

Exhibit 2:
The Twenty Equity Research Firms Responding to Survey and the Lodging Firms Known to Be Analyzed by the Respondent Equity Research Firms.

Research Firm Number	Equity Research Firms Surveyed	Hotel Firms Followed by the Research Firm
1	Oddo Securities	Marriott, Starwood, Choice
2	Morgan Stanley	Marriott, Strategic Hotels, Diamond Rock, Host, Starwood, Choice
3	Deutsche Bank	Marriott, Strategic Hotels, Lasalle, Felcor, Hersha, Host, Sunstone, Starwood, Choice
4	RBC Capital	Diamond Rock, Lasalle, Hospitality Property Trust, Host, Sunstone
5	Tag Telsey Advisory Group	Not specified
6	FBR Investment Bank	Diamond Rock, Lasalle, Felcor, Hersha, Ashford, Host, Sunstone, Starwood, Choice
7	MLV & Company	Marriott, Ashford, Diamond Rock, Hersha, Hospitality Property Trust, Host, Lasalle, Starwood, Strategic Hotels, Sunstone
8	Goldman Sachs	Diamond Rock, Lasalle, Felcor, Host, Sunstone, Starwood, Choice
9	Bank of America Merrill Lynch	Marriott, Strategic Hotels, Diamond Rock, Lasalle, Felcor, Hersha, Host, Sunstone, Starwood, Choice, MHI Hospitality Corp.
10	JP Morgan Securities	Marriott, Strategic Hotels, Lasalle, Felcor, Host, Sunstone, Starwood, Choice
11	Raymond James & Associates	Marriott, Strategic Hotels, Diamond Rock, Lasalle, Hersha, Host, Sunstone, Starwood
12	Montgomery S	Diamond Rock, Lasalle, Hersha, Hospitality Property Trust, Starwood, Choice
13	Lazard	Marriott, Starwood
14	KeyBanc Capital Markets	Diamond Rock, Lasalle, Felcor, Ashford
15	Green Street Advisors	Strategic Hotels, Diamond Rock, Sunstone
16	Credit Suisse	Marriott, Ashford, Choice
17	Robert W. Baird & Co	Marriott, Strategic Hotels, Diamond Rock, Lasalle, Felcor, Hersha, Hospitality Property Trust, Supertel, Ashford, Host, Sunstone, Choice
18	Gabelli & Company	Starwood
19	Citigroup	Marriott, Lasalle, Felcor, Host, Starwood, Choice
20	Cantor Fitzgerald	Marriott, Host, Ashford, Starwood

Hospitality Event Studies

The usefulness of event study methodology is well established, examining such topics as the wealth effects of initial public offerings in the hospitality industry (Canina 1996), acquisitions in the lodging industry (Canina 2001; Ma, Zhang, and Chowdry 2011), and the impact of terrorism on hospitality stocks (Chang and Zeng 2011). Although we found no published papers that have used event study methodology to examine the impact of legislation on hospitality firm value, we did discover numerous examples of event studies that have examined the effects of regulation on other industries.[2]

We develop four hypotheses about the economic impact of the TPA on hotel firms. To test the hypotheses, we measure changes in the value of the firms' equity. We also identify firm-specific factors that help to explain the size of a given firm's stock return effects relative to those experienced by other firms in the industry.

Individual Events and the Effect of Regulatory Change

Although the analysts responding to our survey (and commentators) expected benefits for the industry from the TPA, they were uncertain about the magnitude of those benefits. Moreover, we must address the stance that the industry would not benefit from a government-supported

Exhibit 3:

Critical Factors in the General Environment: Equity Analyst's Perspective on the Relative Importance of General Environmental Factors in Hotel Firm Performance and Valuation.

Factors in General Environment of Hotel Firms	Rank (M)[a,b]	Standard Deviation
Economic (e.g., GNP growth, inflation, interest rates, unemployment rates, labor, disposable income, cost of and capital availability)	1.0	1
Political-regulatory (e.g., government regulation, taxes, wage controls, industry promotion and strength of lobbying, environmental regulations)	2.45	.59
Socio-cultural (e.g., population growth and aging, consumer activism, cultural attitudes)	3.05	.68
Technological and innovation (e.g., new product development, productivity improvement, expenditure on IT and distribution infrastructure)	3.45	.83
Environmental and ecological (e.g., environmental regulations; quality of air, water; solid waste recycling and disposal infrastructure; environmental activism; corporate social responsibility)	4.65	.22

Source. Olsen, Tse, and West (2008).
Note. GNP = gross national product.
a. N = 20 respondents from equity research firms.
b. Importance rank: 1 = most important; 5 = least important or NA if not applicable.

Exhibit 4:

The Twenty Equity Analysts Respond to the Following Question: Did You Consider the Impact of TPA When Analyzing Lodging Stocks?

TPA Impact	Responses
Yes	12
No	7
NA	1
Total	20

Note. The survey was conducted during calendar year 2013. TPA = Travel Promotion Act.

Exhibit 5:

Twenty Equity Analysts' Response to the Following Question: What Was Your Expectation on the Direction of TPA's Impact on Stock Returns?

Direction of TPA Impact	Responses
Positive	12
Negative/No	0
NA	8[a]
Total	20

Note. The survey was conducted during calendar year 2013. TPA = Travel Promotion Act.
a. Represents responses of those who did not consider impact of TPA.

program on the grounds that private corporations are better at advertising and promotion than a quasi-government agency would be. This line of reasoning suggests that corporations are better served through direct corporate expenditures rather than through a government-created third party. Our study can test those notions by relating the effect on hotel stock prices when the TPA was authorized.

Exhibit 6:

The Twenty Equity Analysts Respond to the Following Question: When Did You Hear About TPA?

Year	Responses
2009	2
2010	9
2011	8
NA	1
Total	20

Note. The survey was conducted during calendar year 2013. TPA = Travel Promotion Act.

A major difficulty associated with measuring the stock return effects of regulation is the selection of the appropriate informational events. We need to know specifically at what times and in what form the market receives information useful to the forming of expectations about future firm values. Given that all but two of the analysts we surveyed were unaware of the TPA until 2010, we searched for informational events that occurred in 2010. We concluded that the most significant informational event in 2010 was when President Obama signed the law. Admittedly, testing only the signing of the TPA will provide a conservative measure of its impact on the industry, and we will not know specifically what effect the law had in the following four years. Reinforcing our expectation of a conservative result is the fact that only two of our survey respondents knew about TPA in 2009. One of the earliest stories about the TPA

Exhibit 7:

Ticker Symbols, Number of Rooms, and Financial Analyst Coverage Status for the Twenty-Three C Corps and REITs in the Final Sample.

Firm Number	Firm Name	Ticker Symbol	Number of Rooms[a,b]	Known to be Covered by Financial Analysts Listed in Exhibit 2?
1	Diamond Rock Hospitality	DRH	9,586	Yes
2	Lasalle Hotel Properties	LHO	8,494	Yes
3	MHI Hospitality Corp.	MDH	42,880	Yes
4	Strategic Hotels and Resorts	BEE	8,002	Yes
5	Felcor Lodging Trust	FCH	23,295	Yes
6	Hersha Hospitality Trust	HT	9,392	Yes
7	Hospitality Properties Trust	HPT	42,880	Yes
8	Host Hotels and Resorts	HST	64,305	Yes
9	Sunstone Hotel Investors	SHO	13,979	Yes
10	Supertel Hospitality	SPPR	10,028	Yes
11	Marriott International Inc.	MAR	595,461	Yes
12	Starwood Hotels and Rest Worldwide	HOT	298,500	Yes
13	Choice Hotels International	CHH	4,906	Yes
14	Ashford Hospitality Trust	AHT	22,483	Yes
15	Full House Resort Inc.	FLL	2,162	No
16	Great Wolf Resorts Inc.	WOLF	4,340	No
17	MGM Mirage	MGM	50,765	No
18	Marcus Corp.	MCS	5,192	No
19	Morgans Hotel Group Co.	MHGC	4,720	No
20	Red Lion Hotels Corp.	RLH	8,671	No
21	Sonesta International Hotels	SNSTA	900	No
22	Vail Resorts Inc.	MTN	2,534	No
23	Wyndham Worldwide Corp.	WYN	597,674	No
Firms 1-23[c,d]			1,831,149	
U.S. firms			4,762,0952	
Sum of 23/Total U.S.			38.45%	
Confounded firm No. 1[d]	Interstate Hotels and Resorts	IHN	NA	No
Confounded firm No. 2[d]	Lodgian Inc.	LGN	NA	No

Note. REIT = real estate investment trust.

a. Based on 2009 annual reports, this represents the most current information available to market participants at the time of the signing of Travel Promotion Act (TPA) by President Obama.

b. Based on the 2010 Lodging Industry Profile by the American Hotel and Lodging Association, year end 2009 data, this represents the most current information available to market participants at the time of the signing of TPA by President Obama.

c. Sample selection criteria are the following: (1) The firm was headquartered in the United States at the time of presidential signing of the Travel Promotion Act. (2) The firm was a publicly traded C corp or REIT that had significant assets in the hotel industry. (3) Stock price returns were available from CRSP (Center for Research in Security Prices) for the model estimation period and testing periods.

d. Stock price data for Interstate Hotels and Resorts and Lodgian Inc. were available from CRSP. However, these firms were not included in the analysis because they had confounding events. Interstate completed a merger with two other hotel firms during the first quarter of 2010. Lodgian Inc. went private in 2010 after acquisition by a joint venture comprised of Thayer Lodging Group and Jin Jiang Hotels. Hotel room numbers for these firms were not available from the 2009 annual reports because these reports were not filed with the SEC (Securities and Exchange Commission).

appeared in *Trade Week* on October 8, 2009 (Aenderson 2009). So, even if 2010 was the primary time that TPA affected hospitality stocks, the market is likely to have incorporated at least some information about TPA in 2009.

Hypotheses

With that background, our first hypothesis is as follows:

> **Hypothesis 1:** The signing of the TPA into law by President Obama is associated with a positive impact on lodging firm stock performance.

Cross-Sectional Determinants of Market Reaction

We also develop three hypotheses about how the impact of the TPA on a given firm will vary with the firm's competitive situation. The first competitive factor is whether the firm is a REIT or a C corp. Howton et al. (2012) provides evidence that REITs and C corps have different cost structures and that REITs have greater potential growth. Thus, we predict Hypothesis 2:

> **Hypothesis 2:** Ceteris paribus, REITs will gain more from passage of TPA than C corps.

The second competitive factor that is expected to influence the magnitude of the impact of TPA on hotel firms' performance is the proportion of a hotel firm's assets in upper tier chain-scale segments, as defined by Smith Travel Research (www.strglobal.com/resources/glossary/en-gb). These are hotel firms with a relatively larger proportion of their hotels in luxury, upper upscale, or upscale segments. To capture a firm's position in upper tier chain-scale segments, we use the common industry measure, revenue per available room (RevPAR). Furthermore, because Ismail, Dalbor, and Mills (2002) indicate that the relationship between a hotel firm's financial return and news events is nonlinear with respect to RevPAR, we use the square of RevPAR to account for this nonlinearity. Thus, a higher square of RevPAR may be associated with a greater impact from the TPA's adoption.

In this regard, we predict the following:

> **Hypothesis 3:** Ceteris paribus, firms with higher revenue per room will benefit more from the passage of TPA.

The third competitive factor is the degree to which the firm does business in North America. Proponents of the TPA believed that the act would lead to an increase in international travel to the United States, as well as some substitution to the United States from destinations elsewhere in the world. We extend this argument to all of North America, as some travelers may visit Mexico or Canada once they travel to the United States. Thus, one possible view is that firms with a larger proportion of hotel rooms in North America, relative to the rest of the world may benefit more from adoption of the TPA. A second possible view is that the fact that a firm has more rooms outside North America may make it more salient for international travelers to visit that firm's North America accommodations. Of these two effects, we do not know which is likely to be dominant.

Thus, a third possibility is that either there is no effect relating to rooms outside North America or the two effects exist but would roughly cancel each other out. To sort this out, we predict that having more than 10 percent of a firm's rooms outside North America will have a nonzero effect on value, and we test to see whether the variable's coefficient is equal to zero. The results of the cross-sectional analysis are discussed below.

> **Hypothesis 4:** Ceteris paribus, firms with more than 10 percent of their rooms outside North America will benefit either more or less from the passage of the TPA compared with firms without many rooms outside North America.

Event Study Research Design

As we indicated above, our initial sample consisted of all of the U.S.-based publicly traded C corps in SIC code 7011 and all REITs holding hotel assets for which the Center for Research in Security Prices (CRSP) stock price data were available during the study period—a total of twenty-five firms. We had to drop two of the firms due to significant confounding events during the event testing period. We dropped Interstate Hotels and Resorts because it agreed to merge with two other hotel firms by the end of the first quarter of 2010 (PR Newswire 2009). We eliminated the second firm, Lodgian Inc., because it was taken private in April 2010 (PR Newswire 2010). This left us with a sample size of twenty-three hotel firms for event testing, eleven REITs and twelve C corps.

As we stated at the outset, these twenty-three firms represent approximately 38 percent of hotel rooms in the United States and more than 90 percent of total market capitalization of public lodging firms (Compustat data 2009). Furthermore, these firms represent all of the major global hotel brands with geographic representation in the primary travel destinations in the United States, including all the gateway cities (see Exhibit 7). If the TPA has any effect at all on hotels' cash flows, these firms feel that impact. Among the data shown in Exhibit 7 is the number of rooms per firm at year end 2009, which is information that would have been available to market analysts at the time of the signing of the TPA.

Test of Market Reaction

The first hypothesis is tested by examining the overall industry market reaction to authorization of the TPA, as

determined by measuring daily abnormal returns of the event period. To control for the effects of marketwide fluctuations, the market model is used to measure expected returns:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it},$$

where,

R_{it} is the return for the ith hotel firm on day t,
α_i is the intercept for the ith hotel firm,
β_i is the slope coefficient for the ith hotel firm,
R_{mt} is the return on an equal-weighted market portfolio on day t, and
e_{it} is the error term with mean zero.

Following the conventions of previous studies (e.g., Hughes, Magat, and Ricks, 1986; Jarrell and Peltzman, 1985; Johnson, Niles, and Suydam 1998) and the findings of Brown and Warner (1980, 242-43; Brown and Warner 1985, 12; Binder and Summer 1985, 173), an equal-weighted market index is used as a proxy for the market rate of return. The parameters α_i and β_i were estimated for the event by using 255 trading days of daily return data. Generally speaking, in event studies, we want the parameters of the model to be estimated over a short time period before the event occurs. This involves a trade-off. The closer the estimation period is to the event period, the less likely it is that sample firm betas have changed due to changes in leverage, management strategy, and firm investments. But estimation data from a period too close to the event period may be contaminated by abnormal returns that were caused during previous regulatory announcements or proceedings. To avoid the likelihood of confounding information, we estimate the parameters of the model using 255 days of data prior to, 2009. We started before 2009 because of the two analysts who knew about TPA in 2009 and because the article by Anderson makes it apparent that discussion of TPA was occurring in trade publications in 2009.

Once the parameters α_i and β_i have been estimated for each firm, the daily prediction errors (abnormal returns) for firm i were calculated as follows:

$$AR_{it} = R_{it} - \left[\alpha_i + \mathrm{B}_i R_{mt}\right],$$

where AR_{it} is the abnormal return for firm i on day t.

We examine abnormal returns for the three-day window that includes the event day and the trading day immediately before and after the event. Inclusion of the trading day prior to the event controls for information leakage that may occur if some market participants are privy to discussions among policymakers prior to public announcement of policy actions. Inclusion of the trading day after the event accounts for late arrival of information to the market or adjustment to information that requires time for market participants to interpret. A window that is too large will include extraneous information. A window that is too small may not fully capture the effects of information leakage or slow market adjustment. Our relatively brief three-day window means that our results are conservative and may underestimate the impact of TPA. The three-day cumulative abnormal returns for each firm were computed as below:

$$CAR_i = \sum_{t=-1}^{+1} AR_{it},$$

where,

CAR_i is the cumulative abnormal return for firm I,
AR_{it} is the abnormal return for firm i on day t, and
$t = 0$ is the day the TPA was signed by President Obama.

To determine the average overall impact of the event on the industry, we calculate the three-day cumulative average abnormal return for the sample cumulative average abnormal return (CAAR) by summing across the twenty-three firms in the sample and then dividing by that number as follows:

$$CARR = \sum_{\mathrm{i}=1}^{23} CAR_{\mathrm{i}},$$

where,

$CAAR$ is the cumulative average abnormal return across all twenty-three firms in the sample and
CAR_i is the three-day cumulative return for firm i around the event.

To examine whether each informational event had a significant average return effect on the industry, we conduct a test using a z statistic of the null hypothesis that the three-day cumulative average abnormal return across firms equals zero.

Cross-Sectional Analysis

Cross-sectional analysis uses multiple regression to test the remaining hypotheses that differences in abnormal returns across firms are explained by underlying differences in the firms' competitive positions, including the three firm characteristics outlined below that are predicted to explain some of the variation across firms.

The first explanatory variable is a dummy variable that equals one if the firm is a REIT and zero if it is a C corp. Based on the work of Howton et al., we expect different results for REITs and C corps due to their substantial diversity. First, REITs are on average more upscale and more likely than C corps to own properties that are full-service providers. Second, REITs have, in the past, performed better than C corps in terms of operating profit margin,

Exhibit 8:
Elasticity of Firm Level RevPAR for a 1% Change in Industry RevPAR, as Reported by Ismail, Dalbor, and Mills (2002).

Chains-Scale[a]	Elasticity[b]
Luxury	1.24
Upscale	0.93
Mid-price	0.76
Economy	0.51
Budget	0.40

Note. RevPAR = revenue per available room.
a. Chain-scale refers to the general quality of the hotel.
b. The % change in the chain-scale RevPAR in response to a 1% change in the industry RevPAR index as reported by Ismail, Dalbor, and Mills (2002).

occupancy, and growth. Third, REITs often have lower insurance costs due to their bargaining power with insurers. Finally, some C corps earn revenue from gaming and food sales, in addition to their room divisions.

The second independent explanatory variable is the firm's RevPAR squared, drawn from the annual reports of the twenty-three firms for the fiscal year ending 2009, which would have been the most recent data available to investors when President Obama signed the TPA.

In addition to measuring a hotel's profitability, RevPAR indicates the hotel's chain-scale. Ismail et al. argue that most investors and analysts in the hotel industry use RevPAR to determine firm value. Results of the analysis by Ismail and his colleagues show that luxury hotels have greater RevPAR elasticities than budget hotels, so that high-end hotels' RevPAR changes more than does that of lower scale firms in response to economic changes. As shown in Exhibit 8, Ismail et al. estimated elasticity for luxury firms at about 1.24, as compared with 0.40 for budget hotels. One way to look at this is that good news is better news for high-end firms than for low-end firms. But then bad news hits the high-end properties much harder than low chain-scale firms. For this reason (and from the research cited above), we expect a nonlinear relationship between RevPAR and stock market reaction to President Obama's signing of the TPA. That is, if the TPA is good news, the percentage increase in RevPAR for high-end firms should be much greater than that for low-end firms. In addition, the abnormal returns should be higher for the high-end firms than for lower end firms.

The third independent explanatory variable is one we label *Dout*, which refers to the percentage of rooms a hotel company owns that are outside North America. Dout equals one if more than 10 percent of the firm's hotel rooms are outside of North America and zero otherwise. The argument here is that more rooms a firm has outside North America, the fewer rooms that can benefit from TPA. Moreover, the fact that a firm has a substantial number of rooms outside North America may make booking that firm's accommodations more salient for international travelers (reducing the effect of TPA). The number of rooms was obtained from the annual reports of the twenty-three firms for the fiscal year ending 2009 in the same way that RevPAR was collected.

Exhibit 9:
CAAR over a Three-Day Event Window around the Presidential Signing of TPA for the Sample of Twenty-Three Publicly Traded REITs and C Corps in the Hotel Industry.

Event Tested	3-Day CAAR[a]	Pos/ Neg[b]	Generalized z Statistic (*p* Value)
Signing by President Obama	1.93%	16/7	2.102[c] (.0178)[c]

Note. CAAR = cumulative average abnormal return; TPA = Travel Promotion Act; REIT = real estate investment trust.
a. CAAR is the average abnormal return for the twenty-three firms over the three-day event window, day before day of and day after the signing by President Obama. Abnormal returns are calculated using an equal-weighted market index.
b. Number of the firms had positive returns over the three-day event window relative to the number of firms with negative.
c. This is the *z* statistic that tests the Hypothesis that the 3-Day CAAR=0. The CAAR of 1.93% is significant at the 1.78% level of confidence.

We estimate the following multiple regression model for all available observations in the sample:

$$\text{Model: } CAR_i = \gamma_0 + \gamma_1 + REIT_i + \gamma_2 Sqrevpar_i + \gamma_3 Dout_i,$$

where,

CAR_i is the three-day cumulative return for firm i,
$REIT_i$ is a dummy variable that equals one if the firm is a REIT and zero if the firm is a C corp,
$Sqrevpar_i$ is the square of revenue per room for the firm,
$Dout_i$ is a dummy variable that equals one if firm i has more than 10 percent of its rooms outside North America and zero otherwise, and
γ_0, γ_1, γ_2, γ_3, are the estimated intercept and three slope coefficients.

To review, our first hypothesis predicts that the estimated coefficient on REIT, γ_1, will be positive; our second hypothesis predicts that the estimated coefficient on Sqrevpar, γ_2, will be positive; our third hypothesis predicts that the estimated coefficient on Dout, γ_3, will be nonzero.

Results of Event Testing

As shown in Exhibit 9, our analysis shows that hotel firms enjoyed increased stock returns when the TPA was signed, supporting H1.

Exhibit 10:
Descriptive Statistics and Correlations on the Independent Variables for a Sample of Twenty-Three Publicly Traded REITs and C Corps in the Hotel Industry.

Panel A: Descriptive Statistics for the Independent Variables Used in the Cross-Sectional Regression Analysis.

	M	Minimum	Maximum	Median
REIT[a]	0.478261	0	1	0
Sqrevpar[b]	9544.473	872.6116	24,025	8,667.61
Dout[c]	0.086957	0	1	0

Panel B: Correlation among the Independent Variables Used in the Cross-Sectional Regression Analysis.

	REIT	Sqrevpar	Dout
REIT[a]	1.0		
Sqrevpar[b]	−0.02601	1.0	
Dout[c]	−0.29547	−0.20591	1

Note. REIT = real estate investment trust.
a. REIT is a dummy variable that equals 1 if the entity is a REIT and 0 otherwise for the year end 2009.
b. Sqrevpar is the square of the average revenue per room on a firm by firm basis for the year end 2009.
c. Dout is a dummy variable equal to 1 if the firm has more than 10% of its rooms outside the United States and 0 otherwise.

$$CARR = \sum_{i=1}^{23} CAR_i,$$

where,

as before, $CAAR$ is the cumulative average abnormal return for the sample of twenty-three firms and
CAR_i is the cumulative abnormal return for firm i over the event window.

The CAAR for the signing of the TPA is 1.93 percent, at a level of significance of .0178 for the *z* statistic. This positive abnormal return is the average for all publicly traded REITs and C corps in our sample. Again, as we are testing just one informational event in a long legislative process, we believe that this 1.93-percent estimate is a conservative measure of the legislation's benefit for the industry.

Results of Cross-Sectional Analysis

Exhibit 10 provides a summary of descriptive statistics and correlation coefficients for the independent variables used in the cross-sectional analysis. Panel A presents the mean, maximum, and minimum values for the independent variables. Mean REIT is .4783, reflecting that eleven of the twenty-three firms in the sample are REITs. There is significant variation in the square of RevPAR, Sqrevpar, which ranges from a low of 872.6116 (RevPAR = 29.54) to a high of 24,025 (RevPAR = 155). The presence of low-tier and high-tier firms in our sample allows us to investigate the hypothesis that high-tier firms benefit more from increases in international travel in response to TPA.

Panel B of Exhibit 10 shows that REIT and Sqrevpar have almost no correlation in our sample. This coincides with the fact that our sample of REITs and our sample of C corps include both high- and low-RevPAR firms. Dout is slightly negatively correlated with both Sqrevpar and REIT. Therefore, our regression is unlikely to have multicollinearity problems.

Exhibit 11 shows the results of our cross-sectional regression. First, we find that REIT firms' stock values gained more from the passage of the TPA than did those of C corps, supporting Hypothesis 2. This result is significant at the 1.4-percent level. This result fits well with the idea that REITs have a different cost structure than C corps.

While we see that the regression indicates that higher chain-scale firms, as measured by Sqrevpar, benefit more from TPA than lower chain-scale firms, we must temper this conclusion because the coefficient is significant only at the 10-percent level. This gives us only modest evidence to support the idea that higher chain-scale firms benefit more from TPA than lower chain-scale firms.

Finally, we do not find evidence to support our third hypothesis, because the *p* value for γ_3 is .495. This indicates that firms with more than 10 percent of their assets outside of North America were neither better nor worse off than other firms during the three days of the TPA event. This may be a result of two possible cases. The first case is that both increased revenue exposure and easier access by international travelers occurs for firms with significant assets outside North America. If this is the case, the two effects offset each other so that the total effect is approximately equal to zero. The second case is that neither effect is significantly different from zero. In either case, we conclude that, with regard to the TPA, there is no significant advantage or disadvantage to having a significant number of rooms outside North America.

Summary and Conclusion

We estimate that the simple signing of the TPA improved the hotel industry's equity value by about 2 percent. This cumulative average abnormal return represents approximately a $1 billion increase in the value of publicly traded hotel firms. Although the entire industry saw higher equity values, REITs benefited more from the TPA than did C corps, and firms with higher RevPAR (presumably high-end properties) also benefited more from the TPA signing than did other firms.

Exhibit 11:

Multiple Regression of Three-Day CAR$_i$[a] around the Presidential Signing of TPA on REIT Status and the Square of Revenue per Room for Twenty-Three Publicly Traded REITs and C Corps in the Hotel Industry.

	Coefficient	*SE*	*t*-Statistic[b]	*p* Value
Intercept	−.03115	.020326	−1.53727	.141832
REIT[c]	.051464	.018931	2.718463	.013635
Sqrevpar[d]	.00000249	.00000142	1.752167	.095869
Dout[e,f]	.023837	.034285	0.69525	.495315
R^2 = .342049				
Adjusted R^2 = .238162				
Regression significance *F* = .042983				

Note. TPA = Travel Promotion Act; REIT = real estate investment trust.
a. CAR$_i$ is the three-day cumulative abnormal return for firm *i* around the presidential signing of TPA.
b. This is a two-tailed *t* test of the hypothesis that the slope coefficient is not equal to zero; *p* values give the level of confidence for the *t* test.
c. REIT is a dummy variable that equals 1 if the entity is a REIT, 0 otherwise, for the year end 2009.
d. Sqrevpar is the square of the average revenue per room on a firm basis for the year end 2009.
e. Dout is a dummy variable equal to 1 if the firm has more than 10% of its rooms outside the United States and 0 otherwise.
f. When the percentage of rooms outside North America is used in place of Dout, the regression results are qualitatively similar with respect to coefficient sign and significance.

The message for managers from our results is that the industry did, in fact, benefit from the signing of the TPA, particularly REITs and high chain-scale hotels. We must leave it to a subsequent study to determine whether the optimism shown by the analysts and the stock market was justified. Given the promising start when the TPA was signed, it may make sense for hotel firms to increase their investment in Brand USA to take full advantage of the opportunities brought forth by the TPA. In that regard, further analysis of the TPA should provide an indication of whether the act continued to benefit the industry after its initial boost.

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Notes

1. The Department of Homeland Security's Electronic System of Travel Authorization was developed to streamline the process of entering the United States. The fee was to be collected every two years when travelers to the United States from visa-waiver countries register online for travel authorization. For a list of these countries, see http://travel.state.gov/content/visas/english/visit/visa-waiver-program.html.
2. Studies of the impact of regulations on shareholder wealth include analysis of a variety of topics : Occupational Safety and Health Administration (OSHA)–imposed dust standards on textile firms (Hughes, Magat, and Ricks 1986), the impact of product recalls (Jarrell and Peltzman 1985), the effect of dividend announcements (Kalay and Lowenstein 1985), the effects of the Bank Holding Company Act of 1970 (Aharony and Swary 1981), deposit ceilings (Dann and James 1982), merger regulations (Schipper and Thompson 1983), and environmental regulation and disclosure (Blacconiere and Patten 1994), to name a few.

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