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USPJEŠNOST OGLAŠAVANJA U HOTELSKOJ I TURISTIČKOJ INDUSTRIJI

ADVERTISING EFFICIENCIES
IN THE HOSPITALITY AND TOURISM INDUSTRY

SAŽETAK: Oglašavanje osigurava rast prodaje novih usluga i proizvoda. Hotelska se industrija snažno oslanja na oglašavanje putem putnih časopisa, priloga o putovanjima u tiskanim medijima, putem televizije i interneta. Hotelska industrija obuhvaća hotele, krstarenja, zabavne parkove i ljetovališta. Motivacija za ovu studiju proizlazi iz vjere da se menadžeri u četiri gore navedena segmenta industrije mogu koristiti njenim rezultatima da bi utvrdili promotivnu strategiju koja se temelji na djelotvornosti. Ovaj se rad bavi istraživanjem dugoročnog odnosa između računovodstveno definiranih promjena prihoda i promjena troškova oglašavanja putem procjene stupnja utjecaja oglašavanja - mjere slične stupnju ukupnog utjecaja. Ova studija razmatra i mjeri dohodovnu elastičnost troškova oglašavanja (u daljnjem tekstu koristimo englesku skraćenicu DAL) koristeći log-linearni model. Cilj je izmjeriti sveukupni povrat u oglašavanje uz istovremeno povećanje novčane uštede i smanjenje tehnološke ekonomije razmjera u oglašivanju. Intenzitet oglašavanja varira od niskih 2,5% za kockarnice i trkaće staze do 5% za krstarenja i preko 10% za hotele. Rezultati pokazuju uspješnost oglašavanja kao alata za maksimiziranje zarade i vrijednost tvrtke u turizmu.

KLJUČNE RIJEČI: stupanj utjecaja oglašavanja (DAL), hotelska industrija, turizam.

SUMMARY: Advertising provides growth in sales volume for the new products and services. The hospitality industry relies heavily on advertising through travel journals and travel sections of print media, television media, and the internet. The hospitality industry encompasses hotels, cruise lines, theme parks and holiday resorts. The motivation for this study stems from the belief that the results can be used by managers in the four segments of the industry to establish promotional strategy based on efficacy. The focus of this paper is to investigate the long-term relationship between accounting defined changes in earnings and changes in advertising expenditure by estimation of the degree of advertising leverage – a measure similar to degree of total leverage. This study develops and measures the earnings elasticity of advertising expenditures (coined the degree of advertising leverage or DAL) using a log-linear model. The aim of the study is to measure overall returns to advertising effort when increasing pecuniary economies and decreasing technological economies of scale in advertising are concomitantly present. Advertising intensity varies in the industry from a low of about 2.5% for Casinos and Speedways to 5% for Cruise Lines and over 10% for Hotels. The findings show the effectiveness of advertising as a tool for maximizing earnings and company value in tourism-related industries.

KEYWORDS: Degree of Advertising Leverage (DAL), hotel industry, tourism

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1. UVOD

Gospodarska važnost turizma i rekreativnih centara stalno dobiva na važnosti. Prema U.S. Travel Data Center (Centra za prikupljanje podataka o putovanjima) turizam je vodeći poslodavac u 15 država. Svaka država i tvrtka odvajaju novac za promociju. Povrat uloženog u turističku promociju mjeri se konverzijskim studijama konverzije i upitnicima koji prate svjesnost, pamćenje, namjere putovanja te ostvarena putovanja. Ove studije pokazuju odnos između specifične forme promocije i njenog utjecaja na ukupnu turističku potrošnju. Novi pravac stručne marketinške literature promatra oglašavanje kao ulaganje koje stvara nevidljive vrijednosti. Ove nevidljive vrijednosti izoliraju tvrtke od promjena na burzovnom tržištu te tako smanjuju sistemske rizike kod takvih tvrtki. Ulaganje u istraživanje i razvoj osigurava razvoj novih proizvoda, a ulaganje u oglašavanje osigurava rast prodaje svih proizvoda.

Cilj je ove studije izmjeriti utjecaj troškova korporativnog turističkog oglašavanja na prihode javno izlistanih tvrtki u hotelskoj i turističkoj industriji. Posebno se bavimo procjenom elastičnosti prihoda od oglašavanja kod javno izlistanih hotela, kockarnica, i trkačkih staza, te tvrtki koje nude krstarenja u okviru hotelijerstva, rekreacije i industrije slobodnog vremena.

Postojeća literatura o troškovima oglašavanja niti postulira neki određen odnos između prihoda računovodstveno određenih prihoda i ulaganja u oglašavanje niti empirijski testira postojanje takvog odnosa u hotelskoj i turističkoj industriji. Elastičnost oglašavanja može biti korisna mjera za menadžere, zakonodavce, financijske analitičare i direktore u industriji oglašavanja. Mjera oglašavanja je generički termin koji uključuje većinu oblika marketinške komunikacije te uključuje promociju i ostale ele-

I. INTRODUCTION

The economic importance of tourism and recreational outlets has been gaining importance. Tourism is a leading employer in fifteen states according to U.S. Travel Data Center. Every state and business allocates funds for promotional efforts. The returns to tourism advertising are measured by conversion studies and surveys tracking awareness, recall, travel intentions and trips undertaken. These studies provide relationship between a specific form of promotion and its impact on total tourism expenditures. A new strand of literature in the field of marketing views advertising as an investment that creates intangible assets. These intangible assets insulate firms from the gyrations of the stock market and hence reduce the systematic risk of such firms. Investment in Research and Development develops new products and investment in Advertising provides growth in sales for all products.

The objective of this study is to measure the impact of corporate tourism advertising expenditures on earnings of publicly traded firms in the hospitality and tourism industry. Specifically, we estimate the earnings elasticity of advertising of publicly traded firms in hotel, casino and speedways, and cruise line segments of the hospitality, leisure and recreational industries.

Extant literature on advertising expenditures neither postulates a definite relationship between accounting defined earnings and investment in advertising nor empirically tests the existence of such a relationship in the tourism and hospitality industry. The elasticity of advertising may be a useful measure for managers, lawmakers, financial analysts and advertising industry executives. The measure "advertising" is a generic term and includes most forms of marketing communications and includes sales promotions and other elements deployed by marketers to reach target markets.

mente kojima se marketingaši koriste da bi dosegli svoja ciljana tržišta.

Ova je studija slična prethodnom istraživanju na polju industrijske organizacije (IO) jer se ponovno vraća na odnos ulaganja u oglašavanje i njegov povrat ulagačima. Ovo je prošireni rad u odnosu na onaj prethodno napravljen u IO i marketingu jer primjenjuje novu paradigmu u hotelskoj i turističkoj industriji s ciljem mjerenja utjecaja oglašavanja na profite firmi.

2. PRIKAZ LITERATURE

Oglašivačke poruke moraju utjecati, informirati, motivirati i uvjeriti kako bi se kreirala svjesnost o marki, pokusna prodaja i prihvatljiva slika marke. Prodajna promocija je tip marketinške komunikacije čiji je cilj ohrabriti djelovanje. American Marketing Association definira prodajne promocije kao medijski i nemedijski pritisak koji se primjenjuje na prethodno određeni ograničeni vremenski period kako bi se stimuliralo pokusno i impulzivno kupovanje, povećala potražnja potrošača ili poboljšala kvaliteta proizvoda. Prodajne promocije su sklop tehnika koje potiču članove tri ciljne skupine – potrošače, prodajne predstavnike i trgovinu – kako bi odmah počeli djelovati.

Ekonomija oglašavanja

Diferencijal kratkoročne oglašivačke snage (STAS) je mjera kupnje robne marke uslijed jednokratne izloženosti oglašivačkim porukama i stanja neizloženosti. Učinak diferencijala kratkoročne oglašivačke snage može jačati ako je oglašivačka aktivnost u skladu sa promotivnim aktivnostima. Kratkoročni utjecaj oglašavanja stvara utjecaj na ponašanje i generira unutrašnji zamah marke. Unutrašnji zamah je spoj potrošačevog iskustva s robnom markom i dodanih vrijednosti izgrađenih prethodnim oglašavanjem. Jones (1995) odbacuje ideju da taj spoj rezultira međusobnim pojačanjem –

This study is similar to prior research in the field of Industrial Organization (IO) as it revisits the notion of a relationship between advertising investment and its returns to stakeholders. It is an extension of prior work done in IO and Marketing as it applies a new paradigm in the hospitality and tourism industry setting to measure the impact of advertising efforts on corporate profits.

This paper is organized as follows. In Section II a review of the literature related to advertising in economics, and hospitality and tourism industry is done. Section III discusses the model and the empirical tests conducted. In Section IV the results are discussed and the conclusion is provided in Section V.

II. LITERATURE REVIEW

Advertising messages must influence, inform, motivate, and persuade to create brand awareness, trial sales, and a likeable brand image. Sales promotion is a type of marketing communication. The objective of sales promotions is to encourage action. The American Marketing Association defines sales promotions as media and non-media marketing pressure applied for a predetermined, limited period of time in order to stimulate trial and impulse purchase, increase consumer demand, or improve product quality. Sales promotions are a set of techniques that prompt members of three target audiences - consumers, sales representatives, and the trade - to take immediate action.

Economics of Advertising

The Short-Term Advertising Strength (STAS) differential is a measure of a brand's purchase between a single exposure to advertising messages and no exposure state. The effectiveness of the STAS differential can grow stronger if advertising activity is concomitant with promotion activity. The short-term advertising effect creates a behavioral effect and

odzvanjanju – što opet rezultira rastom. Rast unutrašnjeg zamaha može utjecati na prodaju robne marke tijekom vremenskog razdoblja koje se često može mjeriti desetljećima.

Jones (1995) je analizirao stotine oglasa koji su koristili samo jedan izvor podataka (informacije o korištenju medija i proizvoda kupljenih u jednom domaćinstvu) i zaključio da najjače oglašivačke kampanje mogu utrostručiti prodaju, dok najslabije mogu doprinijeti padu prodaje više od 50%. O internom zamahu razmišlja ovako: kako raste tržišni udio robne marke troškovi njezinog oglašavanja rastu sve manjom stopom, jer kako robna marka raste njezini ju potrošači sve više cijene. Stoga marka treba sve manju promotivnu podršku koja se crpi iz profita kako bi se održala i povećala prodaja, a to opet rezultira sve većim povratom na ulaganje prema oglašivačkoj ljestvici.

Stigler (1958) je vrlo rano proučavao odnos između oglašavanja kao postotka prodaje (u daljnjem tekstu se definira kao oglašivački intenzitet) i prosječne veličine tvrtke kod 48 proizvodnih industrija. Prije više od 50 godina industrije potrošačkih dobara oglašivale su se gotovo četiri puta više nego proizvođači mjereno oglašivačkim intenzitetom. Ali unutar svake grupe male su tvrtke nešto snažnije oglašivale nego velike tvrtke. Schmalensee (1972) tvrdi da ako, na niskim nivoima proizvodnje, sukcesivno povećanje troškova oglašavanja utječe na povećanje prodaje, onda oglašavanje etabliranih tvrtki može povisiti razinu učinkovitog ulaska na tržište, a time proizvesti i dodatne prepreke ulasku na tržište.

Studija Benjamina i drugih (1960) pokazuje opadajući povrat u odnosu na učestalost. Proširenje djelovanja neminovno mora povećati frekventnost s dodavanjem novih medija u raspored komunikacijskih aktivnosti. Stoga, povećanje troškova ulaganja mora dovesti do smanjenog povrata. Dakle, empirijski dokazi u ekonomskom polju industrijske organizacije pokazuju da oglaša-

generates internal momentum of a brand. Internal momentum is a compound of consumers' experience of the brand and the added values built by previous advertising. Jones (1995) supplants the notion that the compound results in a mutual reinforcement - a resonance - resulting in growth. As the internal momentum grows, it can influence the brand's sales over periods of time that are often measured in decades.

Jones (1995) analyzed hundreds of ads using single source data (information about media use and products purchased by a single household) and concluded that the strongest ad campaigns can triple sales, whereas the weakest can contribute to sales falling by more than 50 percent. He makes a couple of observations about internal momentum. As a brand grows in market share, its advertising expenditure tends to increase at a decreasing rate. As the brand grows, its consumers hold it in increasing esteem. As a result the brand needs less profit-draining promotional support to maintain and boost sales resulting in increasing returns to advertising scale.

Stigler (1958) very early on examined the relationship between advertising as a percentage of sales (defined hereafter as advertising intensity) and the average size of companies in 48 manufacturing industries. More than fifty years ago the consumer goods industries advertised almost four times as much as producer goods as measured by advertising intensity. But within each group small firms advertised slightly more heavily than large firms. Schmalensee (1972) states that if, at low levels of output, successive increments to advertising spending have increasing effect on sales, advertising by established firms may increase the scale at which efficient entry must take place and thereby add to barriers to entry.

A study by Benjamin et. al. (1960) shows diminishing returns to frequency. Expansion of reach is bound to increase in frequency as media are added to the communication schedule. Hence, increase in advertising spending must

vanje ne dovodi do povećanja minimalne veličine tvrtke, bilo u nekoj općoj ili pak specifičnoj industriji. Nema direktnih dokaza pomoću vremenskih serija. Istraživači kao Schmalensee također vjeruju da nema razloga sumnjati u postojanje niza u kojem sukcesivne oglašivačke poruke imaju povećavajući učinak niti da su troškovi oglašavanja nekim tvrtkama dozvolili da stvore tržišne prepreke.

Nešto recentnije, McAlister, Srinivasan i Kim (2007) stupnjuju troškove oglašavanja i istraživanja i razvoja prema prodaji, te nalaze da oni kod tvrtki umanjuju sistemske rizike, što pak umanjuje trošak kapitala i poboljšava vrijednost firme. Oni uključuju podatke o 644 javno izlistane tvrtke u periodu između 1979. i 2001. godine. Singh, Faircloth i Nejadmalayeri (2005) izvještavaju o značajnom negativnom odnosu između oglašavanja tvrtke i sistemskih rizika na uzorku najboljih tvrtki iz baze podataka Stern-Stewart u periodu između 1998. i 2001. godine. Povećani troškovi oglašavanja povezani su s nižim sistemskim rizicima.

Nelson (1970) je bio prvi koji je tvrdio da ponovljeno kupovanje već iskušane robe (gdje se kvaliteta prepoznaje tek nakon kupovine i upotrebe) može stvoriti različite povrate oglašivanju za različite kvalitete. Kod Nelsonovog modela oglašavanja jednako povećava početnu prodaju kod svih marki, ali kasnije više povećava ponovnu kupnju kod visokokvalitetnih marki. Stoga je početna prodaja, *ceteris paribus*, vrjednija tvrtkama s visoko kvalitetnim proizvodima, a te su tvrtke i spremne uložiti u oglašavanje. Ovime se stvara temelj za pozitivnu korelaciju kvalitete i net pogodnosti koje donosi oglašavanje.

Lavidge i Steiner (1961) postuliraju hijerarhijski niz utjecaja počevši sa svjesnošću o oglašivanju: napredovanje kroz svjesnost, sklonost, uvjerenje i namjeru. Prema Butterfieldu i drugima (1998), njihov nastup je precizan izraz mišljenja koja su dugo vre-

incur diminishing returns. Thus, the empirical evidence in the industrial organization field of economics shows no support to the notion that advertising increases minimum company size, either in general or in any particular industry. No direct evidence has been provided by time-series studies. Also researchers like Schmalensee believe that there is no reason to suspect the existence of a range in which successive advertising messages have increasing effects and that advertising outlays have permitted some firms to create barriers to entry.

More recently, McAlister, Srinivasan, and Kim (2007) scale the firm's advertising and R&D expenditures by its sales and find that they reduce the firm's systematic risk. This in turn tempers the cost of capital and enhances firm value. They include panel data on 644 publicly traded firms between 1979 and 2001. Singh, Faircloth and Nejadmalayeri (2005) report a significant negative relationship between a firm's advertising and systematic risk for a sample of best performing firms from the Stern-Stewart database for the period between 1998 and 2001. Greater advertising expenditures are associated with lower systematic risk.

Nelson (1970) was the first to argue that repeat purchases of an experience good (where quality is learned only after purchase and use) can create different returns to advertising for different qualities. In Nelson's model, advertising increases the initial sales of all brands equally, but later it increases repeat purchases of high-quality brands more. Thus an initial sale is, ceteris paribus, more valuable to firms with a high-quality product, and they are willing to spend on advertising. This provides the basis for the positive correlation of quality with the net benefits of advertising.

Lavidge and Steiner (1961) postulated a hierarchical sequence of effects beginning with awareness of advertising: proceeding through knowledge, preference, conviction, and intention. Their approach is a precise expression of views that have been held widely for many years in advertising circles, according to

mena bila prisutna u oglašivačkim krugovima. Problem kod gore navedene i sličnih studija jest mogućnost određivanja ispravnih modela odnosa oglašavanja i prodaje, a da se u potpunosti ne objasne detalji hijerarhije psiholoških stanja koja opisuju prijelaz od saznanja do konačne odluke.

Djelotvornost oglašavanja u hotelskoj i turističkoj industriji

Djelotvornost turističkog oglašavanja mjeri se korištenjem upitnika za praćenja svjesnosti imidža, promjena, odnosa i konačna namjera putovanja. Prema Turou i Dryju (1993), najčešće proučavanje marketinške procjene bazira se na istraživanju konverzije. Konverzijske studije mjere udio osoba koje su imale upit o turističkoj destinaciji te su je uistinu i posjetili. Butterfield i drugi (1988) opisuju mnoge ekonometrijske modele načinjene kako bi se objasnila potražnja za međunarodnim turizmom, s potražnjom izraženom brojem turista ili kroz turističku potrošnju (Witt 1980; Loeb 1982; Stronge i Redman, 1982; Witt i Martin, 1987; Kliman, 1981).

Witt i Martin (1987) nalaze da je procijenjena elastičnost potražnje za odmorom u stranoj zemlji obično znatno jača u podatcima iz Velike Britanije nego iz Njemačke. Ovo može implicirati da su Britanci skloniji smatrati odmor u inozemstvu "luksuzom" dok ga Nijemci više smatraju "potrebom". Također opažaju kako se pomak zavisne varijable pojavljuje samo u jednom modelu za podatke iz Njemačke, ali i kako se za podatke iz Velike Britanije pomaci zavisne varijable pojavljuju u čak 25 modela. Ovo može implicirati da upornost navike igra puno važniju ulogu u Velikoj Britaniji nego u Njemačkoj. Autori sugeriraju da se poboljšanja kod empirijskih rezultata mogu postići dodatnim poboljšanjem predstavljenih modela. Mi vjerujemo da bi rekonstrukcija varijabli za procjenu potražnje uporabom prihoda tvrtki i njihovog operativnog prihoda koristeći rezultirajuće mjere elastič-

Butterfield et al. (1998). At issue in the above and similar studies is whether it is possible to specify correct models of the advertising-sales relationship without fully accounting for the details of the hierarchy of psychological states that describe the transition from knowledge to commitment.

Advertising Effectiveness in the Hospitality and Tourism Industry

The effectiveness of tourism advertising has been measured by using tracking surveys to monitor awareness, recall, image, changes, attitudes, and travel intentions. Inquiry conversion research is the most common marketing assessment study, according to Turco and Dry (1993). The conversion studies measure the proportion of those persons who inquired about a tourism destination that have become actual visitors to the area. Butterfield et. al (1988) describe many studies in which econometric models have been constructed to explain demand for international tourism, with demand expressed in number of tourists or in terms of tourist expenditures (Witt 1980; Loeb, 1982; Stronge and Redman, 1982; Witt and Martin, 1987; Kliman, 1981).

Witt and Martin (1987) find the estimated income elasticity for demand for foreign holidays is usually considerably higher for U.K.-originated data than for Germany-originated data. This could imply that the British are more likely to consider foreign holidays as "luxuries" whereas Germans are more likely to regard them as "necessities." They also find that the lagged dependent variable appears only in one of the models for Germany-originated data but in 25 of the models for U.K-originated data. This could imply that habit persistence plays a much more important role in the U.K than in Germany. They suggest that improvements in the empirical results may be effected by further refinements of the models presented. We believe that reconstruction of variables to estimate demand by using revenues of corporations and their operating income using the re-

nosti mogla pružiti uvid u razumijevanje utjecaja oglašavanja na prihode tvrtki te implicitno na potražnju za uslugama koje nudi hotelska i turistička industrija.

Barry i O'Hogan (1972) su stvorili log-linearne modele kako bi ispitali broj posjeta i potrošnju britanskih turista u Irskoj u periodu od 1956. do 1969. godine. Uysal i Crompton (1984) su analizirali posjete i potrošnju stranih turista Turskoj iz glavnih emitivnih tržišta. U sličnom pokušaju Papadopulos i Witt (1985) su ispitivali dolaske stranih turista u Grčku tijekom perioda 1972. – 1982. Cai (1998) je ispitivao utjecaje metoda ispitivanja na financijske povrate jednog oglašivačkog programa u destinaciji na američkom jugozapadu. Financijski se povrati mjere individualnom i grupnom potrošnjom gostiju o kojoj se izvješćuje u istraživačkim instrumentima.

Geoffrey Couch (1994) navodi kako je veliki broj empirijskih studija pokušao osvijetliti utjecaj cijene na potražnju u međunarodnom turizmu, ali s različitim rezultatima. U nekim je studijama potražnja za međunarodnim turizmom bila vrlo neelastična dok su ostale studije pokazale nisku elastičnost. Prvo, Couch nalazi brojne razlike u *specifikaciji modela* (npr. eksplanatorne varijable uključene u model i njihove definicije). Drugo, *karakteristike okoliša* (npr. period vremenskih podataka, zemlje porijekla i destinacija) znatno se razlikuju. Treće, *karakteristike podataka* razlikuju se u strukturi, formi i vremenskim intervalima. Konačno, *metoda procjene* koja se koristi za mjerenje elastičnosti mijenjala se od studije do studije. Većina studija specificirala je modele linearne regresije u obliku koji mijenja nezavisnu i zavisnu varijablu uzimajući logaritme, jer rezultirajući regresivni koeficijenti daju direktnu procjenu pojedinih elastičnosti potražnje.

　Butterfield i drugi (1998) grupiraju probleme u mjerenju oglašivačke djelotvornosti u sljedeće četiri glavne klasifikacije: detaljni opis mjerenja učinaka oglašavanja, prikup-

sultant elasticity measures will provide insights into understanding the impact of advertising on firm incomes and implicitly the demand for services offered by the hospitality and tourism industry.

Barry and O'Hogan (1972) constructed log-linear models to examine the number of visits and expenditures by British tourists in Ireland in the period from 1956 to 1969. Uysal and Crompton (1984) analyzed foreign tourist visits and expenditures from its main source countries in Turkey. Papadopoulos and Witt (1985) examined foreign tourist arrivals in Greece during the period from 1972 to 1982 in a similar attempt. Cai (1998) examined the effects of inquiring methods on the financial returns of an advertising program in a Southwest US destination. The financial returns are measured by the expenditures by visitors as individuals or groups reported in survey instruments.

Geoffrey Couch (1994) states that a large number of empirical studies have attempted to elucidate the effect of price on demand for international tourism with varying results. In some studies the demand for international tourism was found to be highly inelastic and others studies showed low elasticities. First, he finds numerous differences in *model specification* (e.g. explanatory variables included in the model and their definitions). Second, *environmental characteristics* (e.g. the data time period, countries of origin and destination) differ substantially. Third, *data characteristics* vary in terms of structure, form, and time interval. Finally, the *estimation method* used to measure elasticities changed from study to study. The majority of the studies specified linear regression models in a form that transforms the dependent and independent variable by taking logarithms because the resulting regression coefficients provide direct estimates of the respective demand elasticities.

Butterfield et. al (1998) group the problems in measuring advertising effectiveness in the following four major classifications: specifica-

ljanje prikladnih podataka, razvoj ispravnog analitičkog okvira te razvoj prikladnih statističkih procedura za procjenu modela. Vjerujemo da problem koji su gore izložili Butterfield i drugi (1998) proizlazi iz kvalitativne specifikacije mjerenja oglašivačke djelotvornosti. Mi postuliramo drugačiju zamjenu za mjerenje uspješnosti oglašavanja, a to su individualni troškovi u turističkoj destinaciji ili prihodi za tvrtke koje djeluju u hotelskoj i turističkoj industriji.

Vjerujemo da se djelotvornost oglašavanja može posredno mjeriti uzimajući u obzir povećanje prodajnih prihoda i povećanje operativnih prihoda. Utvrđivanje poveznice između prihoda, operativne zarade i oglašavanja obuhvaća promjene koje se u međuvremenu događaju u slijedu svjesnost, sklonost, osobita sklonost, uvjerenost i konačna odluka. Konačni čin kupnje uključuje trošak kupcu/korisniku, što je odgovor na oglašivačke napore. Uspješnost napora može se pouzdano mjeriti dolarski denominiranim mjerama kao što su prihodi i operativna zarada. Naš pristup koristi log-linearni ekonometrijski model i mjeri elastičnost zarade kod ulaganja oglašavanjem na razini kompanije. Podatci na razini kompanije su pouzdano dostupni jer tvrtke prikupljaju i publiciraju ove podatke kako bi zadovoljile regulatorne zahtjeve. Konačno, mjere elastičnosti će isto tako moći potvrditi rezultate koji su dobiveni proučavanjima odnosa između sistematskog rizika i oglašavanja.

3. TEORETSKI MODEL

Oglašavanje je značajan pokretač prodaje i profita u turističkom sektoru. U ovom se članku istražuje odnos između objavljenih podataka kompanija o troškovima oglašavanja, prodaji i operativnoj zaradi koristeći model učinka utjecaja koji su Bhagwat i drugi (2004) proširili kako bi istraživali empirijski odnos između troškova oglašavanja i prodaje. DAL na prodaju mjeri elastičnost prihoda od oglašavanja (A) – postotak

tion of measuring advertising effectiveness, acquisition of appropriate data, development of a correct framework for analysis, and development of suitable statistical procedures for the estimation of the model. We believe that the problems stated by Butterfield et al (1998) above emanate from the qualitative specification of measuring advertising effectiveness. We postulate a different proxy for the measurement of advertising success: expenditures by individuals at tourist destinations or the revenues for the companies operating in the hospitality and tourism industry.

We believe that advertising effectiveness can be measured by the following two proxies: increases in a company's Sales Revenues and increases in its Operating Earnings. Establishing a nexus between revenues, operating earnings, and advertising subsumes intervening changes in the sequence of awareness, liking, preference, conviction, and commitment. The final act of consumption involves a cost to the buyer/user which is a response to the advertising effort. The success of the effort can reliably be measured by dollar denominated measures such as revenues and operating earnings. Our approach uses the log-linear econometric technique and measures the earnings elasticity of advertising investments at the company level. Data at the company level are reliably available as companies compile and disseminate these data to the public in order to satisfy regulatory requirements. Finally, the elasticity measures will also be able to confirm the results obtained by the systematic risk-advertising relationship studies.

III. THEORETICAL MODEL

Advertising is a significant driver of sales and profits in the tourism sector. This paper explores the relationship between a company's reported Advertising Expenditures, Sales, and Operating Earnings using a leverage model extended by Bhagwat et al. (2004) to investigate the empirical relationship between adver-

promjene u prodaji uzrokovan postotnom promjenom u troškovima oglašavanja.

DAL na Prodaju = %ΔProdaja / %ΔA   (1)

što se može ponovno napisati kao

DAL na Prodaju = ΔProdaja × ∂lnProdaja / ∂Prodaja ÷ ΔA × ∂lnAE/∂A   (2)

te reducirati na

DAL na Prodaju = ∂lnProdaja / ∂lnA.   (3a)

Konačno, jednadžba (3a) može se transformirati u

lnProdaja = α + βlnA   (4a)

Stoga, koeficijent smjera u jednadžbi (4a) predstavlja DAL na prodaju ili elastičnost prodaje kod oglašavanja.

Isto tako DAL na zaradu mjeri elastičnost zarade od oglašavanja – postotnu promjenu u operativnoj dobiti prije oglašavanja i oporezivanja prouzročenu postotnom promjenom u oglašivačkim troškovima (A).

DAL na Zaradu = ∂lnOIBAT / ∂lnA.   (3b)

Kao i prethodno jednadžba (3b) može se transformirati u

lnOIBAT = α + βlnA   (4b)

s koeficijentom smjera u jednadžbi (4b) koja predstavlja DAL na zaradu ili elastičnost zarade kod oglašavanja.

Usredotočenje na utjecaj oglašivačkih troškova na operativne prohode prije oglašavanja (i poreza) u skladu je s uvjerenjem da je oglašavanje ulaganje koje će generirati povećanje buduće prodaje i zarade. Prema generalno prihvaćenim računovodstvenim principima, američke tvrtke moraju otpisati oglašivačke troškove kako su načinjeni – tj. odbiti od tekućih prihoda od prodaje – premda određeni trošak može odnositi na više vremenskih perioda. Trenutno otpisivanje je potrebno zbog nemogućnosti da se

tising expenditures and sales. The Degree of Advertising Leverage (DAL) on Sales measures the earnings elasticity of advertising (A) – the percentage change in sales caused by a percentage change in advertising expenditures.

DAL on Sales = %ΔSales / %ΔA   (1)

which can be rewritten as

DAL on Sales = = ΔSales × ∂lnSales / ∂Sales ÷ ΔA × ∂lnAE/∂A   (2)

and reduced to

DAL on Sales = ∂lnSales / ∂lnA.   (3a)

Finally, Equation (3a) can be transformed to

lnSales = α + βlnA   (4a)

Thus, the slope in Equation (4a) represents the DAL on Sales or the sales elasticity of advertising.

Similarly, the DAL on Earnings measures the earnings elasticity of advertising – the percentage change in Operating Income before Advertising and Taxes (OIBAT) caused by a percentage change in Advertising Expenditures (A).

DAL on Earnings = ∂lnOIBAT / ∂lnA.   (3b)

As before, Equation (3b) can be transformed to

lnOIBAT = α + βlnA   (4b)

with the slope in Equation (4b) representing the DAL on Earnings or the earnings elasticity of advertising.

Focusing on the effect of advertising expenditures on operating income before advertising (and taxes) is consistent with the belief that advertising is an investment that will generate increases in future sales and future earnings. According to generally accepted accounting principles, U.S. companies must expense advertising expenditures as incurred – i.e., subtract it from current sales revenues – even though the particular expenditure might benefit multiple periods. Immediate expensing

pouzdano povežu troškovi s anticipiranom budućom prodajom u vrijeme kada se ulaganje događa. Pravilni tretman ulaganja u oglašivačke aktivnosti je vjerojatno negdje između ova dva pristupa. Primjenjujući konzervativniji pristup izmjerili bismo postotnu promjenu operativnog prihoda nakon oglašavanja uvjetovanu postotnom promjenom troškova oglašavanja (A), kao što je sadržano u niže navedenim dvijema jednadžbama:

DAL na Zaradu = $\partial \ln OI / \partial \ln A$.   (3c)

Kao i prije, jednadžba (3c) može se transformirati u

$\ln OI = \alpha + \beta \ln A$ (4c)

Očekuje se da će korištenje jednadžbe (4c) radije nego jednadžbe (4b) dati rezultate sličnog smjera. Međutim, budući da se troškovi oglašavanja oduzimaju od operativne zarade prije oglašavanja, alternativna će formulacija uvesti više brojki negativne zarade a koji će rezultirati uklanjanjem opažanja iz cjelokupnog sklopa.

4. PODACI, METODOLOGIJA I REZULTATI

Deskriptivna statistika

Ova je studija provedena korištenjem podataka koje su prikupili Standard and Poor's COMPUSTAT za period od 10 godina sa završetkom u 2006. godini. Podaci su uključivali godišnju prodaju, operativnu zaradu i troškove oglašavanja na godišnjoj bazi. Tabela I pokazuje grupiranja koja se odnose na industrije koje su povezane s turizmom – hoteli, kockarnice, krstarenja i trkače staze - ukupno 23 tvrtke. Podaci koji nedostaju odgovorni su za gotovo sva opažanja koja nedostaju. Podaci nisu prilagođeni inflaciji, a oglašivački intenzitet definira se kao odnos između oglašivačkih troškova i prodaje.

is required because of the inability to reliably relate the expenditures with anticipated future sales at the time the investment is made. The proper treatment of investments in advertising-related activities is probably somewhere in between these two approaches. Applying the more conservative approach here would measure the percentage change in Operating Income After Advertising (OI) caused by a percentage change in Advertising Expenditures (A), as captured by the following alternate equation:

DAL on Earnings = $\partial \ln OI / \partial \ln A$.   (3c)

As before, Equation (3c) can be transformed to

$\ln OI = \alpha + \beta \ln A$ (4c)

Using Equation (4c) rather than Equation (4b) is expected to provide similar directional results. However, as advertising expenditures are subtracted from Operating Income Before Advertising, the alternative formulation will introduce more negative earnings numbers resulting in the removal of observations from the total set.

IV. DATA, METHODOLOGY AND RESULTS

Descriptive Statistics

This study was conducted using data compiled by Standard and Poor's COMPUSTAT Services for the 10-year period ending in 2006. Data included annual Sales, Operating Earnings, and Advertising Expenditures on an annual basis. Exhibit I shows tourism-related industry groupings – hotels, casinos, cruises, and speed tracks – 23 companies in all. Missing advertising data are responsible for almost all missing observations. The data are not inflation adjusted, and Advertising intensity is defined as the ratio of Advertising Expenditures to Sales.

Tablica I Distribucija troškova oglašavanja, operativni prihod i prodaja

			Odabrane industrije povezane s turizmom			
Operatori	4-cifra SIC	Broj tvrtki	Oglašavanje	Operativni Prihod	Prodaja	Intenzitet oglašavanja
Hoteli	7011	4	56	146	1,074	0.1138
Kockarnice	7990	11	28	210	1,217	0.0255
Krstarenja	4400	3	211	770	4,239	0.0500
Trkače staze	7948	3	10	124	379	0.0293
Ukupno		23	56	269	1,434	0.0448

Exhibit I Distribution of Advertising Expenditures, Operating Income, and Sales

			Select tourism-related industries			
Industry operators	4-digit SIC	# of Companies	Advertising	Operating income	Sales	Advertising Intensity
Hotels	7011	4	56	146	1,074	0.1138
Casinos	7990	11	28	210	1,217	0.0255
Cruises	4400	3	211	770	4,239	0.0500
Speed tracks	7948	3	10	124	379	0.0293
Overall		23	56	269	1,434	0.0448

Tablica ilustrira široku distribuciju ogla-šivačkih troškova i oglašivačkog intenziteta među različitim grupacijama. Tvrtke koje organiziraju krstarenja troše na oglašavanje više od drugih u grupaciji – 211 milijuna \$ ili oko 280% više od prvog sljedećeg potro-šača – hotelijera. Međutim, oglašivački in-tenzitet iz ove tablice pokazuje da hotelijeri u prosjeku troše svoje prodajne prihode na oglašavanje više od svih drugih grupacija.

The table illustrates a wide distribution of advertising expenditures and Advertising in-tensity among the different groupings. Cruise ship companies outspent every other grouping on Advertising - \$211 million or about 280% more than the next highest spenders – Hotel operators. However, the Advertising Intensities reported in this table show that – on average – Hotels spend more of their sales dollars on ad-vertising than any of the other groupings.

Metodologija i rezultati

Ova studija koristi među-sektorski reg-resijski model (xtreg) STATA kako bi se procijenio konstantni član i koeficijent smjera u niže navedenom log-linearnom modelu, te utvrđuje odnos između troškova oglašavanja (A) i prodaje (nakon eliminacije svih negativnih opažanja operativnog pri-hoda):

$$\ln(\text{Prodaja}_{ij}) = \alpha + \beta(\ln A_{ij}) + \mu_i + \varepsilon_j$$
$$\text{za tvrtku i u periodu j} \quad (5)$$

Methodology and Results

This study employs STATA's cross-sec-tional regression model (xtreg) to estimate the intercept and slopes in the following log-linear model establishing the relationship between Advertising Expenditures (A) and Sales (after eliminating all non-positive Operating Income observations):

$$\ln(\text{Sales}_{ij}) = \alpha + \beta(\ln A_{ij}) + \mu_i + \varepsilon_j$$
$$\text{for company i in period j} \quad (5)$$

Koeficijent smjera β mjeri elastičnost zarade oglašavanja, nazvane DAL na prodaju. Procjenjujemo koeficijent smjera za sva prihvatljiva opažanja za hotele, kockarnice, krstarenja i trkače staze.

Tabela II pokazuje rezultate međusekcijske regresije oglašavanja kod prodaje. Ukupno, 1%-tno povećanje u oglašivanju rezultira povećanjem prodaje od 0,81%.

The slope β measures the earnings elasticity of advertising, coined the Degree of Advertising Leverage on Sales (DAL on Sales). We estimate the slope for all eligible observations for hotels, casinos, cruises, and speed tracks.

Exhibit II shows the results of the cross-sectional regression of advertising on sales. Overall, a 1% increase in advertising results in a .81% increase in sales.

Tablica II Utjecaj troškova oglašavanja na prodaju

		Odabrane turističke industrije				
Operatori	4-cifra SIC	Broj promatranja	Sjecište (t-stat)	Oglašavanje (t-stat)	Ukupno R^2	F
Hoteli	7011	27	2.91 (13.3)	0.84 (13.9)	0.7238	194.25
Kockarnice	7990	77	4.11 (24.7)	0.88 (11.9)	0.8451	141.45
Krstarenja	4400	26	3.27 (7.33)	0.94 (11.1)	0.8354	122.75
Trkače staze	7948	24	4.03 (20.4)	0.79 (8.79)	0.7589	77.31
Ukupno		170	3.93 (33.1)	0.81 (19.2)	0.8018	366.88

Exhibit II Effects of Advertising Expenditures on Sales

		Select tourism-related industries				
Industry operators	4-digit SIC	# of observations	Intercept (t-stat)	Advertising (t-stat)	Overall R2	F
Hotels	7011	27	2.91 (13.3)	0.84 (13.9)	0.7238	194.25
Casinos	7990	77	4.11 (24.7)	0.88 (11.9)	0.8451	141.45
Cruises	4400	26	3.27 (7.33)	0.94 (11.1)	0.8354	122.75
Speed tracks	7948	24	4.03 (20.4)	0.79 (8.79)	0.7589	77.31
Overall		170	3.93 (33.1)	0.81 (19.2)	0.8018	366.88

Rezultati DAL-a na prodaju razlikuju se po industrijskim sektorima. Za svaku 1%-tnu promjenu u oglašivanju, prodaja u hotelskim kompanija je skočila za 0,84% dok je kod kružnih brodskih putovanja i kockarnica porasla za 0,88% i 0,94%.

Isti STAT program koristili smo kako bi procijenili sjecišta i kosine odnosa između troškova oglašavanja (A) i operativnog prihoda prije oglašavanja i oporezivanja, što je pokazano u sljedećoj jednadžbi:

$$\ln(OIBAT_{ij}) = \alpha + \beta(\ln A_{ij}) + \mu_i + \varepsilon_j$$
za tvrtku i u periodu j (6)

The DAL on Sales results differ among industry sectors. For every 1% change in advertising, the sales for hotel companies rose by .84%, while the sales for cruise ship operators and casinos rose by .88% and .94%, respectively.

We used the same STATA program to estimate the intercepts and slopes for the relationship between advertising expenditures (A) and operating income before advertising and taxes (OIBAT), as represented by the following equation:

$$\ln(OIBAT_{ij}) = \alpha + \beta(\ln A_{ij}) + \mu_i + \varepsilon_j$$
for company i in period j　　　(6)

Tabela III pokazuje rezultate međusektorske regresije oglašavanja na zaradu. Ukupno, 1%-tno povećanje oglašavanja rezultira 0,81% povećanjem prihoda prije oglašavanja i oporezivanja.

Exhibit III shows the results of the cross-sectional regression of advertising on earnings. Overall, a 1% increase in advertising results in a .81% increase in earnings before advertising and taxes.

Tablica III Utjecaj oglašavanja na operativni prihod prije oglašavanja

Odabrane SIC industrije

Operatori	4-cifra SIC	# Opažanja	Sjecište (t-stat)	Oglašavanje (t-stat)	Ukupno R^2	F
Hoteli	7011	27	1.19 (2.85)	0.91 (7.86)	0.8957	61.78
Kockarnice	7990	77	2.34 (8.32)	0.87 (6.92)	0.7988	47.85
Krstarenja	4400	26	2.22 (6.72)	0.87 (13.9)	0.7834	194.41
Trkače staze	7948	24	2.92 (9.27)	0.76 (5.28)	0.6685	27.92
Ukupno		170	2.26 (11.7)	0.81 (11.8)	0.7967	139.01

Exhibit III Effects of Advertising Expenditures on Operating Income Before Advertising

Select SIC industries

Industry operators	4-digit SIC	# of observations	Intercept (t-stat)	Advertising (t-stat)	Overall R2	F
Hotels	7011	27	1.19 (2.85)	0.91 (7.86)	0.8957	61.78
Casinos	7990	77	2.34 (8.32)	0.87 (6.92)	0.7988	47.85
Cruises	4400	26	2.22 (6.72)	0.87 (13.9)	0.7834	194.41
Speed tracks	7948	24	2.92 (9.27)	0.76 (5.28)	0.6685	27.92
Overall		170	2.26 (11.7)	0.81 (11.8)	0.7967	139.01

Rezultati DAL-a na zaradu također se razlikuju među industrijskim sektorima. Za svaku 1%-tnu promjenu ulaganja u oglašavanje zarada za hotelske tvrtke povećala se za 0,91%, dok se za organizatore kružnih brodskih putovanja i kockarnice podigla za 0,87%. Konačno, 1%-tna promjena u ulaganju u oglašavanje povećala je zaradu trkačkih staza za 0,79%.

Rezultati DAL-a na zaradu uglavnom su manji kada se koristi operativni prihod (nakon oglašavanja). Iznimka su kockarnice gdje 1%-tno povećanje ulaganja u oglašavanje rezultira sa 0,89% porastom operativnog prihoda. Premda značajne, t-test veličina za koeficijent i R2 i F-test veličina za ovaj model manje su nego prije.

The DAL on Earnings results also differ among industry sectors. For every 1% change in investment in advertising, the earnings for hotel companies rose by .91%, while the sales for cruise ship operators and casinos rose by .87%. Finally, a 1% change in investment in advertising increased the earnings of Speed track companies by .79%.

The DAL on Earnings results are mostly smaller when using operating income (after advertising). The exception is the Casinos group where a 1% increase in advertising results in a .89% increase in operating income. Although significant, the t-stat for the coefficients and the R2 and F-statistic for this model are all lower than before.

Tablica IV Utjecaj troškova oglašavanja na operativni prihod nakon oglašavanja

Operatori	4-cifre SIC	# opažanja	Sjecište (t-stat)	Oglašavanje (t-stat)	Ukupno R^2	F
			Birane industrije povezane s turizmom			
Hoteli	7011	27	0.82 (0.77)	0.81 (2.75)	0.7829	7.57
Kockarnice	7990	77	2.11 (5.53)	0.89 (5.23)	0.7420	27.38
Krstarenja	4400	26	2.28 (4.90)	0.81 (9.20)	0.6809	84.62
Trkače staze	7948	24	2.94 (6.51)	0.69 (3.35)	0.5795	11.19
Ukupno		170	2.09 (7.46)	0.78 (7.80)	0.6972	60.76

Exhibit IV Effects of Advertising Expenditures on Operating Income After Advertising

Industry operators	4-digit SIC	# of observations	Intercept (t-stat)	Advertising (t-stat)	Overall R2	F
			Select tourism-related industries			
Hotels	7011	27	0.82 (0.77)	0.81 (2.75)	0.7829	7.57
Casinos	7990	77	2.11 (5.53)	0.89 (5.23)	0.7420	27.38
Cruises	4400	26	2.28 (4.90)	0.81 (9.20)	0.6809	84.62
Speed tracks	7948	24	2.94 (6.51)	0.69 (3.35)	0.5795	11.19
Overall		170	2.09 (7.46)	0.78 (7.80)	0.6972	60.76

Rasprava o rezultatima

Odnos dobiven od DAL-a na zaradu svake industrije prema DAL-u na prodaju daje dodatni uvid kako DAL-ovi mogu utjecati na strategiju. Mjere uspješnosti kao što su profitna marža i povrat na ulaganje, bitno utječu kod modela vrednovanja baziranih na rezidualnoj vrijednosti ili abnormalnom rastu zarada (Penman, 2007; Palepu i Healy, 2008). Utjecaj oglašivačkih troškova na prodaju i zaradu oslikava odnos između DAL-a na zaradu i DAL-u na prodaju (DAL odnos). Kao takav, DAL odnos pokazuje kako dodatni dolar ulaganja u oglašavanje utječe na tekuću profitnu maržu. DAL odnos veći od 1 implicira da dodatno ulaganje u oglašavanje povećava trenutnu profitnu maržu dok DAL manji od 1 podrazumijeva obratnu situaciju. Od racionalnih se tvrtki očekuje maksimiziranje profitne marže i investiranje u oglašavanje do točke kada daljnje ulaganje smanjuje očekivani povrat.

Discussion of Results

A ratio constructed from each industry's DAL on Earnings to its DAL on Sales provides further insight in how DALs can influence strategy. Performance measures such as profit margin and return on investments factor decisively in valuation models based on residual value or abnormal earnings growth (Penman, 2007; Palepu and Healy, 2008). The effect of advertising expenditures on sales and earnings is captured by the ratio of DAL on Earnings to DAL on Sales (the DAL Ratio). As such, the DAL Ratio provides insight on how an additional dollar of advertising investment impacts the company's profit margin. A DAL Ratio greater than 1 implies that an additional investment in advertising increases the current profit margin, while a DAL Ratio less than 1 implies the opposite. Rational companies are expected to maximize profit margins and invest in advertising up to the point that further investment diminishes expected returns.

Investitori također prate rast zarade – rast budućih zarada je važna odrednica vrijednosti tvrtke – i često ga uspoređuju sa rastom prodaje. Investitori nisu skloni promatrati samo rast zarade, jer tvrtka može rasti bez stvaranja dodatne vrijednosti. Na primjer, tvrtka može povećati djelovanje (i zaradu) kupovanjem konkurentnog poduzeća. Međutim, ako je uprava previše platila kupljenu tvrtku, onda dodatna zarada neće premašiti potrebni povrat i dioničari u takvom poslu gube. Rast zarada koji prelazi rast prodaje signalizira uštede – možda zbog ekonomije razmjera. S druge strane, rast zarade koji kaska za rastom prodaje signalizira tešku bitku u smislu strategije poduzeća da stvori dodatnu vrijednost kroz rast. DAL odnosi mogu također igrati ulogu u promatranju djelotvornosti takve strategije. Zamislimo sljedeću identičnost:

$$OI_t = (OI_t/Prodaja_t) \times Prodaja_t = PM_t \times Prodaja_t \quad (7)$$

gdje PM_t predstavlja profitnu maržu u vrijeme t. Dijeleći s istom jednadžbom za prethodni period dobivamo

$$OI_t/OI_{t-1} = PM_t/PM_{t-1} \times Prodaja_t/Prodaja_{t-1} \quad (8)$$

dopustimo sada da g^{OI} predstavlja rast zarade. Zatim

$$1 + g^{OI} = (1 + g^{PM}) \times (1 + g^{Prodaja}) \quad (9)$$

Preslagivanje članova i zaključak da je $g^{Prodaja}$ x g^{PM} približno nula, u većini situacija pojednostavljuje jednadžbu (9) u

$$g^{OI} = g^{Prodaja} + g^{PM} \quad (10)$$

Rast zarada prelazi rast prodaje jedino i ako je rast profitne marže pozitivan. Kao što smo ranije objasnili, DAL odnos obuhvaća utjecaj troškova oglašavanja na prodaju i zaradu putem odnosa DAL na zaradu prema DAL na prodaju. DAL odnos daje uvid kako dodatni dolar ulaganja u oglašavanje utječe na profitnu maržu tvrtke. Tako, kao i ranije, DAL odnos veći od 1 implicira da

Investors also monitor earnings growth – future earnings growth is an important determinant of company value – and frequently compare it to a company's sales growth. Investors are wary of looking at earnings growth exclusively because a company can grow earnings without adding value. For example, a company might increase operations (and earnings) by purchasing a competitor. However, if management paid too much for the acquired company, then the added earnings will not exceed the required return and its stockholders lost value in that deal. An earnings growth in excess of sales growth signals efficiencies – perhaps from economies of scale. On the other hand, an earnings growth lagging sales growth signals an uphill battle in terms of a company's strategy of adding value through growth. DAL Ratios also can play a role in monitoring the effectiveness of such a strategy. Consider the following identity:

$$OI_t = (OI_t/Sales_t) \times Sales_t = PM_t \times Sales_t \quad (7)$$

where PM_t stands for profit margin at time t. Dividing by the same equation for the prior period, we get

$$OI_t/OI_{t-1} = PM_t/PM_{t-1} \times Sales_t/Sales_{t-1} \quad (8)$$

Now let g^{OI} represent the growth in earnings. Then

$$1 + g^{OI} = (1 + g^{PM}) \times (1 + g^{Sales}) \quad (9)$$

Re-arranging terms and realizing that $g^{Sales} \times g^{PM}$ approximates zero in most settings simplifies Equation (9) into

$$g^{OI} = g^{Sales} + g^{PM} \quad (10)$$

The growth in earnings exceeds the growth in sales if and only if the growth in profit margin is positive. As explained earlier, The DAL Ratio captures the effect of advertising expenditures on sales and earnings by the ratio of DAL on Earnings to DAL on Sales. The DAL Ratio provides insight on how an additional dollar of advertising investment impacts the company's profit margin. Then, as before, a

povećano trošenje na oglašavanje uzrokuje rast zarade veći od rasta prodaje, dok DAL odnos manji od 1 implicira da daljnji troškovi oglašavanja mogu prouzročiti kaskanje rasta zarade za rastom prodaje u spomenutom periodu.

DAL Ratio greater than 1 implies that spending more on advertising causes the earnings growth to exceed the sales growth, while a DAL Ratio less than 1 implies that further spending on advertising would cause earnings growth to lag sales growth for the period.

Tablica V Utjecaj 10% povećanja oglašavanja na trenutne PM odnose

| Operatori | Birane industrije povezane s turizmom | | |
	Trenutni odnos PM	Odnos DAL	% promjena u PM odnosu
Hoteli	0.1360	0.9643	-0.28%
Kockarnice	0.1725	1.0114	0.09%
Krstarenja	0.1816	0.8617	-1.19%
Trkače staze	0.3275	0.8734	-0.93%
Ukupno	0.1876	0.9630	-0.28%

Exhibit V Effect of a 10% increase in advertising on current PM ratios

| Industry operators | Select tourism-related industries | | |
	Current PM ratio	DAL Ratio	% change in PM ratio
Hotels	0.1360	0.9643	-0.28%
Casinos	0.1725	1.0114	0.09%
Cruises	0.1816	0.8617	-1.19%
Speed tracks	0.3275	0.8734	-0.93%
Overall	0.1876	0.9630	-0.28%

Jednostavno propitivanje odnosa DAL dobivenog dijeljenjem DAL-a na zaradu svake industrije iz Tabele IV sa DAL-om na prodaju iz Tabele I pokazuje da hoteli i kockarnice imaju DAL odnos blizu 1, dok organizatori kružnih putovanja i trkaćih staza imaju DAL odnos ispod 1. Iz ovih je podataka jasno da se industrija ne treba okrenuti povećanju ulaganja u oglašavanje kako bi generirala rast zarade koji će biti veći od rasta prodaje. Ilustracije radi, posljednja kolona u Tabeli VI kvantificira utjecaj 10%-tnog povećanja troškova oglašavanja na odnose profitne marže u cijeloj industriji. Postotna promjena u PM odnosima u industriji od 10% promjene u troškovima ulaganja oglašavanja računa se na sljedeći način:

A simple inspection of DAL Ratios constructed by dividing each industry's DAL on Earnings from Exhibit IV by its DAL on Sales from Exhibit I indicates that the hotel and casino operators have DAL Ratios close to 1, while the cruise ship and speed track operators have DAL Ratios below 1. It is clear from these data that, as an industry, none should turn to increasing advertising investments in an attempt to generate earnings growth in excess of sales growth. For illustrative purposes, the last column in Exhibit VI quantifies the effect of a 10% increase in advertising expenditures on industry-wide profit margin ratios. The percentage change in the industry PM ratios of a 10% change in advertising expenditures is computed as follows:

(1 + 10 ×DAL na Zaradu)/

$$(1 + 10 \times DAL \text{ na Prodaju}) - 1 \tag{11}$$

Sve u svemu, izgleda da efekt promjene na troškove oglašavanja ima samo manji utjecaj na odnose profitne marže u industriji. Odgovor na pitanje je li utjecaj znatniji za tvrtke unutar tih industrija zahtijeva veći skup podataka od onih koji su korišteni u ovoj studiji.

5. ZAKLJUČCI

Studija je razvila i izmjerila elastičnost oglašivačkih troškova (nazvanih stupanj utjecaja oglašavanja ili DAL) uporabom log-linearnog modela. Dobiveni rezultati za desetogodišnji period od 1997. do 2006. godine pokazuju da, u prosjeku, 1%-tna promjena u oglašivanju rezultira u 0,81% promjenom u prodaji i 0,81% promjenom i u operativnom dohotku za sve tvrtke koje su uključene u studiju. Međutim, različiti operateri u industriji bili su drukčije pogođeni, a daljnja analiza podatka podržala je hipotezu kako su industrije s većim intenzitetom oglašavanja također imale veću elastičnost zarade kod oglašavanja.

Odnos DAL-a na zaradu prema DAL-u na prodaju (DAL odnos) koristan je za promatranje utjecaja promjena ulaganja u oglašavanje na profitnu maržu – popularna mjera koju ulagači pomno promatraju. Matematički smo pokazali kako profitna marža tvrtke raste dodatnim ulaganjem u oglašavanje dok god je DAL odnos veći od 1. Naša analiza podataka pokazuje da hoteli i turističke tvrtke, kako su predstavljeni u ovoj studiji, posluju na efikasnoj razini ulaganja u oglašavanje i imaju malo razloga za povećanje trenutačnih oglašivačkih napora radi poboljšanja poticatelja financijskih vrijednosti kao što su profitna marža i povrat na imovinu.

(1 + 10 ×DAL on Earnings)/

$$(1 + 10 \times DAL \text{ on Sales}) - 1 \tag{11}$$

Overall, the effect of a change in advertising expenditures appears to have only a slight effect on the industry-wide profit margin ratios. Whether the effect is more pronounced for companies inside those industries requires a larger data set than the one utilized for this study.

V. CONCLUSION

This study developed and measured the earnings elasticity of advertising expenditures (coined the degree of advertising leverage or DAL) using a log-linear model. The results obtained for the ten year period from 1997 – 2006 indicate that - on average - a 1% change in advertising results in a .81% change in sales and a .81% change in operating income for all companies included in the study. However, different industry operators were affected differently, and further analysis of the data supported the hypothesis that industries with a higher advertising intensity also had a higher earnings elasticity of advertising.

The ratio of DAL on Earnings to DAL on Sales (the DAL Ratio) is useful for monitoring the impact of changes of advertising investments on profit margin – a popular measure that is closely monitored by the investment community. We showed mathematically how a company's profit margin increases from additional investments in advertising as long as its DAL Ratio is greater than 1. Our analysis of the data indicates that hotel and tourism industry operators, as represented in this study, appear to operate at an effective level of advertising–related investments and have little reason to increase current advertising efforts for the sake of enhancing financial valuation drivers such as profit margin and rate of return on assets.

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