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Research note

Examining the hotel room supply and demand in Las Vegas: A simultaneous equations model

Henry Tsai[a,*], Bomi Kang[a], Ronnie J. Yeh[b], Eunju Suh[a]

[a] *William F. Harrah College of Hotel Administration, University of Nevada, Las Vegas, 4505 Maryland Pkwy, Box 456017, Las Vegas, NV 89154-6017, USA*

[b] *Hospitality Foodservice & Hotel Management, Department of Family and Consumer Sciences, California State University, Long Beach, 1250 Bellflower Blvd, Long Beach, CA 90840-0501, USA*

Abstract

The Las Vegas Strip has seen astonishing tourism development in the 1990s. The study examined the inter-relationship between the room supply and demand functions, and room rate in Las Vegas employing econometric variables in a simultaneous framework during 1992–1999. The results suggest that room rate for the current month, the 3-month Treasury bill rate and gaming revenue per room for the 12-month prior are the three determinants of the room supply function, while consumer price index for the current month is the only determinant of the room demand function.

Keywords: Las vegas; Room supply and demand; Two-stage least squares; Econometric

1. Introduction

The Las Vegas Strip has seen astonishing tourism development in the 1990s. Building boom of the "Steve Wynn" style mega resorts has swept Las Vegas from the early 1990s and revamped the image of the city from a gambler's paradise to a

*Corresponding author. Tel.: +1 702 217 0851; fax: +1 702 895 2713.
E-mail addresses: mtsai@unlv.nevada.edu (H. Tsai), kangb2@unlv.nevada.edu (B. Kang), jyeh@csulb.edu (R.J. Yeh), suhe@unlv.nevada.edu (E. Suh).

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family-oriented entertainment and vacation destination. The 3044-room Mirage opened in late 1989 and started the series of hotel construction on the Strip for the next decade. As seen in Fig. 1, room inventory in Las Vegas increased dramatically from 76,523 rooms in 1992 to 120,294 in 1999 (Las Vegas Convention and Visitor Authority "LVCVA", 2004). As a result, Las Vegas in terms of total room inventory tops all other metropolitans in the US, followed by Orlando, Los Angeles, Atlanta and Chicago (PCMA, 2004).

Room demand in terms of room occupancy in Las Vegas has appeared keeping paced with room supply during the same period. Occupancy percentage levels have averaged in the mid-80% range during 1992–1999 (see Fig. 1) and could be attributed to the growing number of visitors to Las Vegas. Visitor volume grew from 22 million to almost 34 million between 1992 and 1999, and a tremendous boost of visitor dollar contribution was also observed from $14.7 billion in 1992 to $28.6 billion in 1999 (LVCVA, 2004) (Fig. 2).

Room tax revenue earned by LVCVA increased more than two folds from $52.3 million to $118.3 million during 1992–1999 (LVCVA, 2004). The increase and fluctuation in room tax revenue may be the result of the inter-relationship between the room supply and demand. As economy theory suggests, room rate in Las Vegas should be jointly determined by the supply and demand and is set at equilibrium where quantity supplied equals quantity demanded.

The purpose of the study is to examine the inter-relationship between the room supply and demand functions, and room rate in Las Vegas during 1992–1999 from an econometric perspective. The results of the study can provide hotel operators and tourism administrators a better picture of what drives huge tourism development in terms of the room supply and demand in Las Vegas, and offer them alternative guidance in promoting Las Vegas according to the changes in economic indicators.

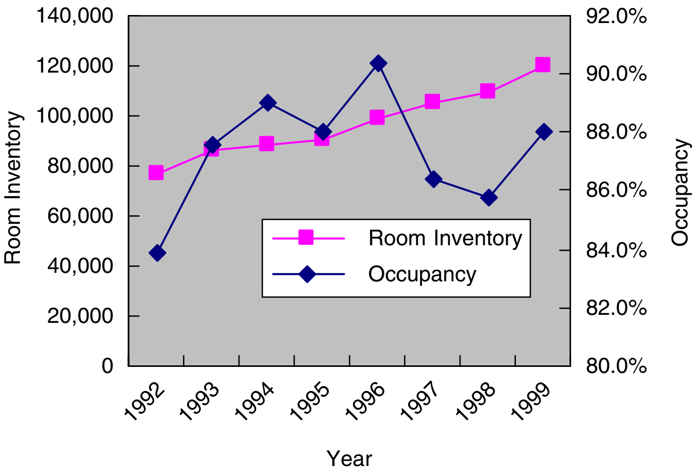

Fig. 1. Las Vegas room inventory and occupancy, 1992–1999.