

Short communication

Business cycle and museum visitors in Taiwan

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ARTICLE INFO

Article history:

Received 21 January 2016

Received in revised form 16 April 2016

Accepted 23 April 2016

Available online xxxx

Keywords:

Museum visit

Business cycle

Recreational tourism

ABSTRACT

From the educational/cultural aspect of the demand for museum visits, there is a theoretical prediction for the negative relation of museum visits to the business cycle. From the viewpoint of recreational tourism, there is an expected pro-cyclical impact of macroeconomic factors on museum visits. This paper thus employs the GARCH (generalized autoregressive conditional heteroscedastic) model with an error correction term to investigate the relationship between the business cycle and museum visits in Taiwan. Our empirical evidence shows that the unemployment rate, exchange rate, and real money balance have a procyclical impact on museum visits, indicating the recreational components of such visits.

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1. Introduction

Museum visitation is a form of cultural tourism, which has drawn researchers' attention to concern about. Some of the key issues have been considered, including the analysis of economic impact (Johnson & Thomas, 1992); management behavior in museums (Frey, 1994); pricing (Frey, 1994, 1995; Johnson, 1995; O'Hagan, 1995); and the formulation of public policy (Peacock, 1994). It is rather commonplace to argue that museums are shifting away from being educational/cultural institutions and towards becoming key elements of the tourism sector (Foley & McPherson, 2000; Hughes, 1996; Lin, 2006; Van Aalst & Boogaarts, 2002). Nowadays, museums exhibit the dual nature of both culture and recreation.

This paper quantitatively examines the concepts and influences of the business cycle on museum visitors in Taiwan. From the educational/cultural aspect of the demand for museums, there is a negative relation between museum visits and the business cycle. Due to weak job prospects during an economic recession, individuals are expected to increase their investment in education. Consequently, the positive relationship between additional schooling and economic recession is caused by a reduction of opportunity cost according to existing empirical studies (Dellas & Sakellaris, 2003). Skinner, Ekelund, and Jackson (2009) investigate 25 museums in the United States over an 11-year period from 1990 through 2000, presenting findings that indicate a negative relationship between the business cycle and aggregate museum attendance.

If museums have increasingly changed their role into becoming an accommodation of the recreational markets, then the counter-cyclical component resulting from opportunity-cost considerations may not

exist. On the other hand, museum visits tend to be income-elastic and a normal good when museum visitors are attempting to obtain enjoyment. Prior empirical studies have proven the positive effects of income on tourism activity (Crouch, 1995; Ryan, 1991). As a result, a positive correlation is expected between the business cycle and museum attendance.

This paper offers a number of contributions to the literature. First, the data we utilize are more recent than those in earlier studies, covering the monthly periods from January 2003 to December 2011. This is quite useful, because as the importance of recreational tourism in museum management rises over time, the impact of the business cycle on museum visit outcomes may change so that previous studies' findings become out of date. Second, because we employ data on Taiwan, as far as we are aware this is the first attempt to model this relationship using high frequency data from an Asian country. Our findings may be used for a comparison with Western countries. Third, we utilize the GARCH (generalized autoregressive conditional heteroscedastic) model with an error correction term to be a more suitable model. This is accordance with the stylized facts that macroeconomic time series generally display a high degree of persistence and co-movement, or even seem to meander.

1.1. Methodology

The equation for the determinants of museum visitors is expressed as:

$$DLTAV_t = \beta_0 + \beta_1 DLFER_t + \beta_2 DLUNR_t + \beta_3 DLZ_t + \varepsilon_t, \quad (1)$$

where TAV denotes the number of museum visitors, FER refers to the number of inbound tourists to Taiwan, UNR stands for the

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unemployment rate, Z represents an alternative business cycle indicator, and ε is a disturbance term with a zero mean and constant variance. For any variable X , DLX is defined as $[\ln X - \ln X(-1)] * 100$.

The number of museum visitors (TAV) is the monthly average of visitors from an unbalanced data sample of 31 museums in Taiwan over the period from January 2003 to December 2011, collected from the Taiwan Tourism Bureau. The number of inbound tourists to Taiwan (FER) is a monthly series from the Taiwan Tourism Bureau and

controls the impacts of international tourism demand. The proxies for business cycle indicators used in our exploration include the unemployment rate (UNR), consumer price index (CPI), exchange rate (ER), which is defined as NT dollars per US dollar, real broad monetary aggregate M2 ($RM2$), and real stock price index (RSP). These proxies are taken from a report from the Directorate General of Budget, Accounting and Statistics of the Executive Yuan (R.O.C.). Their real terms are computed by dividing by CPI .

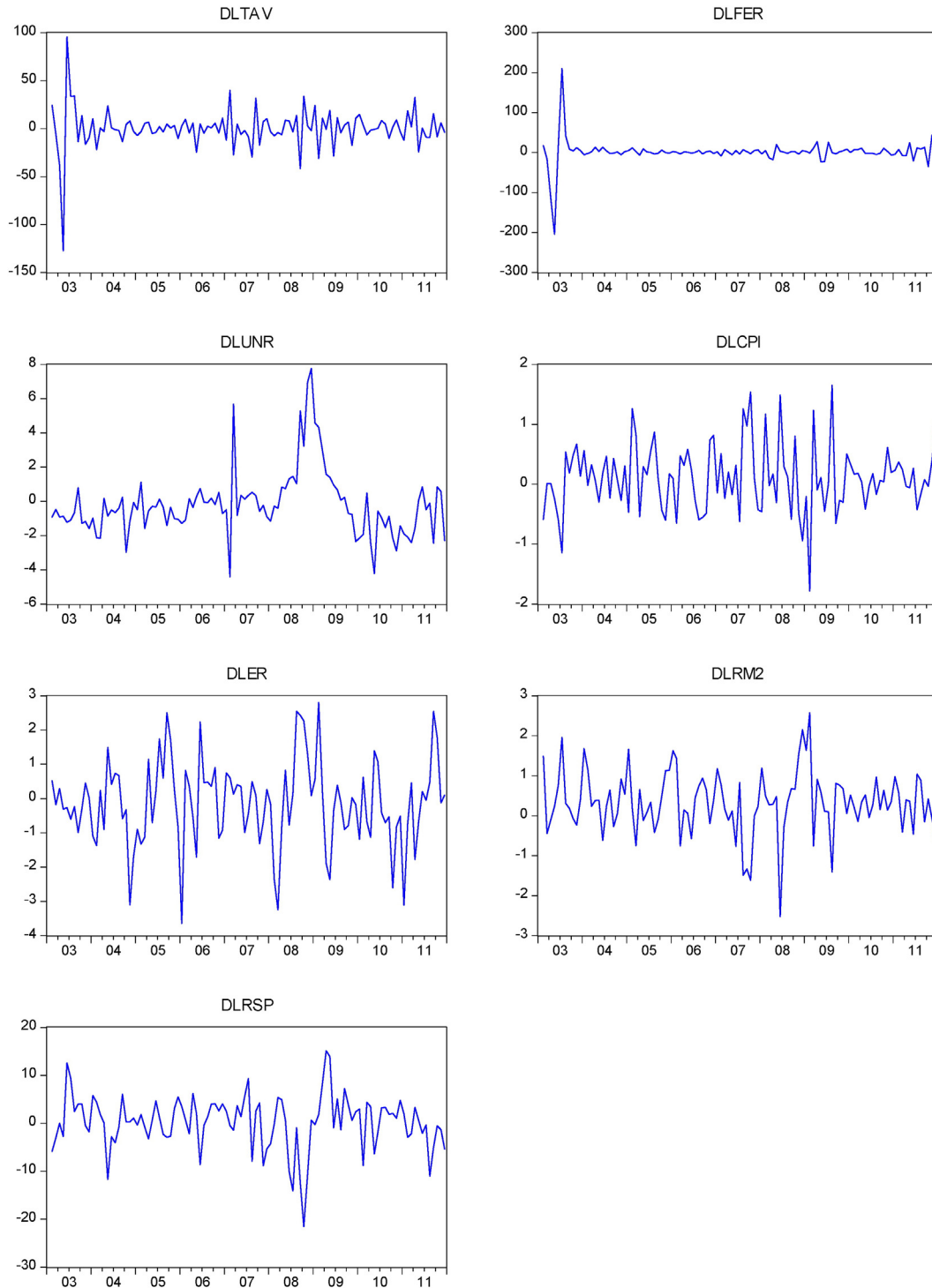


Fig. 1. Time series for selected variables.

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