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UK OVERSEAS VISITORS: SEASONALITY AND PERSISTENCE

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Abstract

This paper analyses seasonality and persistence in the number of UK overseas visitors applying a fractional integration framework to (monthly and quarterly) data from 1986 to 2017. The results indicate that long memory is present in the series and the degree of persistence is higher for seasonally adjusted data, with shocks having transitory but long-lasting effects.

JEL Classification: C15; C22

Keywords: UK overseas visitors; seasonality; persistence; long memory

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1. Introduction

This paper analyses seasonality and persistence in the number of UK overseas visitors applying a fractional integration framework to (monthly and quarterly) data from 1986 to 2017. These two features are very common in tourism-related series, and despite the existence of numerous studies analysing them there is still no consensus on the most appropriate empirical framework to apply. Seasonality can be modelled either deterministically (using seasonal dummy variables) or stochastically; in the latter case either stationary (ARMA) seasonal models or seasonal unit roots (as in Dickey, Hasza and Fuller, DHF, 1984 or Hylleberg et al., HEGY, 1990) can be used. Examples of tourism studies using these techniques are Kim and Moosa (2001), Alleyne (2006), Shen et al. (2009), etc. As for persistence, unit root methods (e.g., Dickey and Fuller,

3. Data and Empirical Results

The series analysed are the number of UK overseas visitors (All visits, thousands), quarterly and monthly, non-seasonally adjusted (NSA) and seasonally adjusted (SA), for the time period 1986(m1/q1) –

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Figure 1: Time series plots

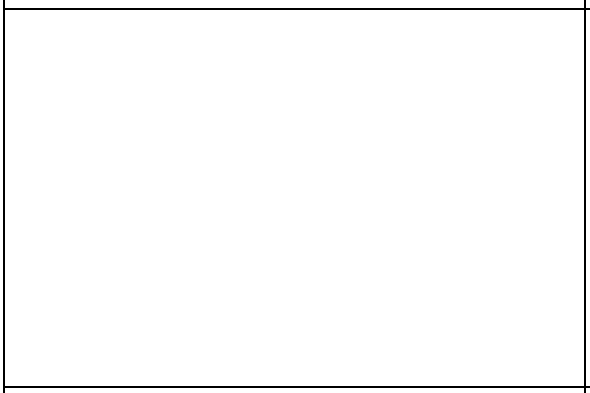
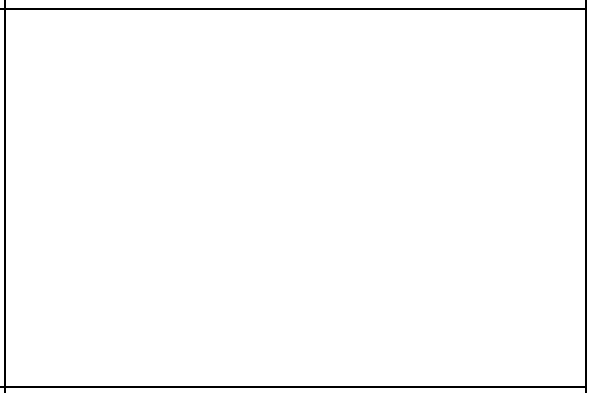
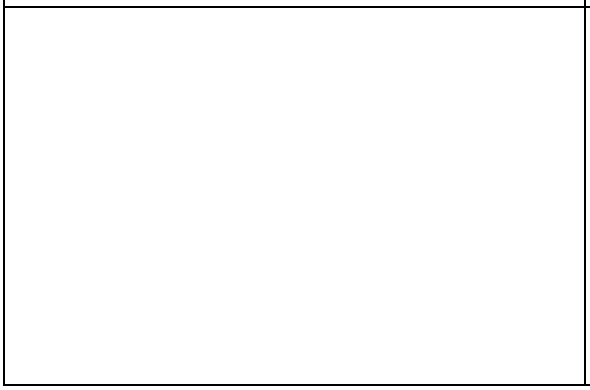
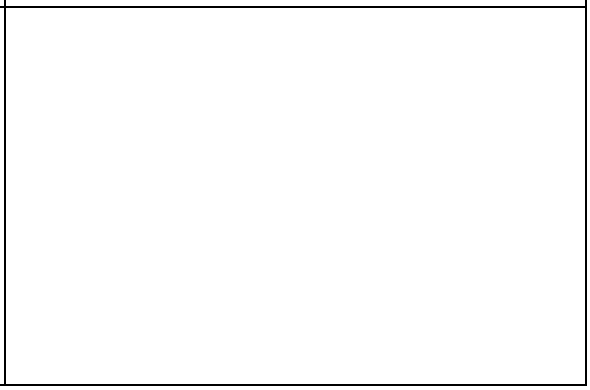
Non-seasonal monthly data	Seasonally adjusted monthly data
	
Non-seasonal quarterly data	Seasonally adjusted quarterly data
	

Table 1: Estimated coefficients for the monthly data

Monthly data	No terms	An intercept	A linear time trend
NSA: Non-Seasonally Adjusted	0.36 (0.29, 0.48) $\rho_{s=12} = 0.906$	0.49 (0.46, 0.54) $\rho_{s=12}$	**0.36 (0.29, 0.43)**