

Session B1

A Novel Approach to Treating Stochastic Seasonality in Tourism Export Forecasting - Ulrich Gunter and Egon Smeral

Using a quarterly data sample of 28 EU countries ranging from 2004Q1 to 2016Q4, real tourism exports are modeled and estimated as a function of relative tourism export prices and aggregate real gross domestic product. For most countries, Hylleberg-Engle-Granger-Yoo (HEGY) tests applied to first-differenced variables cannot reject the null hypothesis of the presence of seasonal unit roots at various frequencies and conventional significance levels. The adequate treatment to remove such stochastic seasonal patterns from the data would be seasonal differencing. However, employing seasonally differenced data results in information loss due to “over-differencing”, in distorted estimates of price and income elasticities, and – consequently – in mediocre forecast accuracy for the forecast sample ranging from 2017Q1 to 2019Q4 across accuracy measures. Our suggestion therefore is to perform estimation and forecasting for each quarter separately. This novel approach to treating stochastic seasonality in tourism export forecasting avoids the use of seasonal differencing, results in seasonally varying and plausible estimates of price and income elasticities, and – hence – in superior forecast accuracy. This improvement in forecast accuracy is not only present across accuracy measures but can also be shown to be statistically significant in terms of Diebold-Mariano (DM) tests adjusted for small samples.

Modelling Tourism Demand: An Easi Implicit Marshallian Demand System Approach - Long Wen and Yiying Li

The Almost Ideal Demand System (AIDS) model, which has many theoretically and empirically desirable properties, has been widely used in tourism demand studies. AIDS is an arbitrary first-order approximation to any demand system. This study aims to provide an alternative demand system model, the Exact Affine Stone Index (EASI) model, to analyze tourism demand. The EASI model has several major advantages, such as allowing Engel curves to be polynomials or splines of any order and taking unobserved preferences heterogeneity into account via error terms. This offers a more realistic representation of the demand system.

In this study, we utilize a Chinese household panel data to analyze tourism consumption in China. We investigate the income, own-price, and cross-price elasticities of tourism consumption. By using this micro-level data, we are also able to analyze the effects of various features, such as education, gender, and number of children, on tourism consumption.

Furthermore, we enrich our analysis by introducing interaction terms of income and household features. By exploring how different personal characteristics interact with income and influence tourism consumption, we are able to uncover different Engel curves for households with different features. This approach acknowledges the complexity of consumer behavior, recognizing that various factors may interact in unique ways to shape tourism spending patterns.

Overall, this paper represents a significant advancement in the modeling of tourism demand by applying the EASI demand system with a particular focus on the Engel curve. By relaxing traditional rank constraints and incorporating micro-level data and interaction terms, we aim to provide a richer and more nuanced understanding of tourism consumption patterns. This approach contributes to the ongoing dialogue in tourism economics, offering valuable insights for both academic research and practical applications in the field.

The Impact of Policy Intervention on International Wine Demand - Xinyang Liu, Anyu Liu, Eden Jiao and Zhen Liu

This study investigates the multi-faceted impacts of anti-dumping duties on Australian wine exports to China, spanning short- and long-term horizons. Through a fusion of impact assessment and counterfactual prediction methodologies, we aim to unravel the immediate causal effects and forecast the enduring consequences of these duties. In pursuit of this objective, we deploy the Difference-in-Differences (DID) method to unwrap the short-term impacts, offering a detailed examination of the sudden shifts in various wine categories exported from Australia to China (Gobillon & Magnac, 2016). Following this, we introduce a pioneering application of Bayesian ensemble forecasting, providing a forward-looking perspective that captures the protracted impact of these measures (Song, Liu, Li, & Liu, 2021).

The swift implementation of anti-dumping duties in 2021 had a profound and immediate impact on Australian wine exports to China (The Guardian, 2023). Notably, red & rose, white, and sparkling wines experienced precipitous declines of 92.59%, 99.06%, and 90.06%, respectively. These findings underscore the acute sensitivity of the Chinese wine market to trade policy interventions. Looking beyond the immediacy, our long-term projections present a concerning outlook for Australian wine exports to China. Average annual growth rates of -21.92%, -38.90%, and -9.54% are anticipated for red & rose, white, and sparkling wines, respectively. In stark contrast, counterfactual predictions paint a more optimistic picture, suggesting a casual decrease of 96.11%, 93.15%, and 84.11% in red & rose, white, and sparkling wine exports to China from 2021 to 2025. This dichotomy highlights the lasting repercussions of anti-dumping duties on the Australian wine industry.

This study lies not only in its substantive findings but also in the creation of an economic paradigm for assessing policy impacts within the realm of wine economics. Methodologically, this research represents a pioneering application of the DID and Bayesian ensemble forecasting methods within the field. It extends beyond immediate effects, offering a nuanced understanding of prolonged consequences, setting a reference for future assessments in the dynamic realm of global trade.

The insights derived from this comprehensive study have valuable implications for policymakers, industry stakeholders, and researchers. By enriching the comprehension of the intricate dynamics between trade policies and the wine market, this research contributes to navigating the evolving landscape of global trade. As trade dynamics continue to evolve, our findings establish a foundational reference point for ongoing and future evaluations in this domain.

Bridging Information Gaps: Public Sector Intervention in Tourism Promotion during Crises – A Game Theory Approach - Jean Tavares, Giancarlo Fedeli and Tafazal Kumail

The present study applies Game theory to study public investment at tourist destinations to determine the "best action" for tourist destinations in competitive scenarios. This study proves that the higher the probability that the public sector of the destination will invest in tourism promotion, the greater the expected financial benefits for the destination. Furthermore, the research results show that the higher the probability of tourists traveling to the destination, the greater the expected financial return for the Destination's Public Sector (DPS) investing. Notably, the findings prove the positive impact of reducing information asymmetry between tourists and destinations. Results from applying Game theory to the tourist industry show that spending on advertising may be motivated by more than just increasing visitor numbers. Finally, this article's main contribution is offering a theoretical-mathematical framework applicable to any tourist destination.