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## International Review of Economics and Finance

journal homepage: [www.elsevier.com/locate/iref](http://www.elsevier.com/locate/iref)

## Are per capita international tourist arrivals converging?

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### ARTICLE INFO

#### Keywords:

Tourism  
Convergence  
Distribution dynamics  
Stochastic kernel  
Nonparametric methods

### ABSTRACT

This paper measures whether per capita tourist arrivals have converged across 149 countries over the period 1995–2014. We find that the distribution of per capita arrival has tightened over time, i.e., there was  $\sigma$ -convergence in tourism. Countries at the lower tail of the per capita international tourist arrival distribution have improved their relative position. Tests of absolute (conditional)  $\beta$ -convergence indicate that the average country's tourism catches up (approaches its steady-state) at a speed of 1.25% (10.56%) a year, supporting the tourism destinations convergence hypothesis. These findings are helpful for tourism enterprises when making multinational location decisions. For policymakers, convergence in per capita arrivals is informative as to the direction of structural transformation.

### 1. Introduction

This study examines whether cross-country disparity in per capita tourist arrivals has been diminishing over time. In other words we answer the following question “Do per capita tourist arrivals in each country eventually become as high as that in all the others?” International tourism represented 7% of the world's exports in goods and services in 2016. The past six decades have witnessed virtually uninterrupted growth in international tourist arrival, increasing from 25 million globally in 1950 to 1.235 billion in 2016 (UNWTO, 2016, 2017). Despite the continued growth of aggregate international tourist arrivals, however, cross-country heterogeneity in the path of long-run tourism development remains unknown. We thus tackle this issue in two ways. First, in a conventional regression framework we assess whether per capita arrivals in countries that originally have lower per capita arrivals have been growing more rapidly. Second, using a nonparametric stochastic kernel - the continuous version of the transition probability matrix - we examine whether countries that start out with lower per capita arrivals have a higher probability to improve their relative position. Put differently, the objective of this article is to find evidence of convergence in per capita tourist arrivals using a large dataset comprising 149 countries spanning the period 1995–2014.

The motivations to test for cross-country convergence in per capita tourist arrivals are as follows. First, from the standpoint of tourism establishments, employees, and financial institutions that finance tourism investments, this study provides insights into whether these relatively unexploited countries are gaining popularity from international tourists. Moreover, the rate at which per capita tourist arrivals converge is useful in forecasting and accommodating the need for international visitors. In other words, evidence that cross-country disparity in per capita tourist arrival is diminishing would imply that per capita tourism infrastructure and human capital formation need to expand more rapidly in emerging destinations than in traditional favorites. Understanding the change over time in a country's relative position within the global distribution of per capita arrivals will help hospitality and transportation industry

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<http://dx.doi.org/10.1016/j.iref.2018.01.013>

Received 22 April 2017; Received in revised form 12 January 2018; Accepted 23 January 2018

Available online xxxx

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stakeholders to make better management and cross-border direct investment decisions.

Second, tourism is a tradable service sector that has the capacity to absorb unskilled labor. The demand for tourism in a country depends on the specific experience and social interaction that the country delivers. If travellers are constantly searching for new experiences, then interest in the main destinations will decline and there will be a secular shift in the demand towards tourism service in less-visited countries. Hence, the analysis of per capita arrival convergence can inform policymakers about the prospect of the tourism industry in less-frequented countries to create jobs for unskilled workers.

Third, from the standpoint of development specialists in countries that are experiencing structural transformation, the speed of convergence in per capita arrivals is useful for envisaging the aggregate productivity consequence of reallocating workers displaced from the manufacturing sector into the tourism industry. It has been argued that because manufacturing industries are technologically more dynamic, they provide a more effective channel for income convergence. [Rodrik \(2013, 2016\)](#) shows that the manufacturing sectors exhibit absolute convergence in labor productivity whereas nonmanufacturing industries as a whole exhibit nonconvergence. However, as data on employment and value-added in individual nonmanufacturing industries are unavailable for most countries, empirical studies on cross-country labor productivity (i.e., value added per worker) convergence within individual nonmanufacturing industries are scarce. Per capita arrivals form a rough but readily available proxy for labor productivity in the tourism sector. Hence, for economies with low per capita arrivals, evidence of absolute convergence in per capita arrivals indicates that tourism can become an “escalator industries” ([Rodrik, 2013](#)).

What are the factors behind tourism destination convergence? The demand for tourism is determined by “push” and “pull” factors ([Crompton, 1979](#); [Culiuc, 2014](#); [Klenosky, 2002](#)), which in turn positively correlate with the level of income. “Push” factors are internal and intangible. They arise from travelers’ desire to get away from their mundane life; for example, the need to escape, the urge to search for something novel, or the desire for a specific experience. “Pull” factors, on the other hand, are related to the tangible features and characteristics of a destination, including cultural capital, number of hotel rooms, and transport and tourism infrastructure such as direct flights, parking lots, sanitary facilities, safety, security, and an information sharing system.

Improvements in many of the “push” and “pull” factors of tourism demand can be attributed to economic development and structural change. The “push” factors may change over the course of development in the following ways. First of all, as a country transits from agriculture into manufacturing or services, a person’s work-life becomes more unbalanced. Thus, the desire to temporarily escape from one’s job increases as the country develops, resulting in tourism expansion in nearby countries. [Dehejia and Panagariya \(2016\)](#) propose that there is a spillover from manufacturing growth to service-sector growth: Growth in manufacturing increases income, which then raises the demand for services such as passenger transport, tourism, restaurant meals, etc. For instance, as China and Malaysia grew from being low-income economies to upper-middle income ones, tourist arrivals increased in not only conventional favorites such as Europe and Japan but also in neighboring places like Laos, Vietnam, Philippines, Taiwan, and South Korea. Finally, a journey to destinations off the beaten track fulfills the desire for novelty better. This may also result in faster per capita arrivals growth in countries that start out with less per capita arrivals.

As for the effect of income on the “pull” factors of tourism demand, economic take-offs are generally associated with more public and private investments in transportation and tourism infrastructure. It could thus be expected that as per capita income converge across countries, so do safety, security, ease of access, and the overall quality of tourism experience. Furthermore, marginal return to capital investment in the tourism sector is likely to be higher in countries where tourism capital stock is scarce. As the economy progresses along the development path, public investment in infrastructure promotes the accessibility and convenience of tourist attractions, thereby raising the marginal returns to private capital investment in the tourism sector. Accordingly, hotel rooms and recreational facilities tend to grow faster in countries where they were relatively scarce. Given the above argument, it follows that if per capita incomes are converging and income affects most of the “push” and “pull” factors positively, then per capita tourist arrivals should also be converging. However, to the best of our knowledge, there has been no empirical test of the convergence of per capita tourist arrivals. This article fills this gap by analyzing the convergence of per capita tourist arrivals using a large dataset comprising 149 countries spanning the period 1995–2014.

In a global economy with free flow of capital and international tourists, countries less-developed tourism and therefore higher marginal productivity of tourism capital should see their tourism sector grow more rapidly. [Dehejia and Panagariya \(2016\)](#) hypothesize that there is a spillover from manufacturing growth to service-sector growth. They propose three inter-industry linkages through which the rise of manufacturing increases the demand for services: (1) The manufacturing sector draws on domestic services such as transportation, information and communication technology, and banking and financing activities as inputs. (2) Development in manufacturing raises income, which in turn increases the demand for nontraded services such as passenger transport, tourism, restaurant food, and real estate activity. The increased demand for services could result in a rise in the marginal productivity of capital and thus capital deepening in services. (3) The manufacturing produces many capital goods for services. Growth in manufacturing provides easier access to inputs, thereby improving labor productivity in service industries.

Over the period 1995–2014, we find that the distribution of per capita tourist arrivals has become less polarized. The Gini, Atkinson, and Generalized Entropy indices for per capita tourist arrivals have decreased over time, suggesting that the distribution has become more concentrated, i.e., there is  $\sigma$ -convergence in per capita tourist arrival. By 2014, countries at the lower end of the per capita tourist arrival distribution in 1995 have substantially caught up with those at the upper tail. Tests of absolute  $\beta$ -convergence confirm that per capita tourist arrivals in less-frequented destinations have grown at a significantly faster rate. The absolute  $\beta$ -convergence model implies that a country with average per capita arrivals experiences a convergence boost in its per capita arrivals of 1.25% per annum. Nevertheless, the conditional  $\beta$ -convergence model indicates that the rate of convergence towards the steady state is much faster. Conditioned on steady state determinants, including the level of per capita income, exchange rate, trade and financial openness, and number of World Heritage sites, we find that country transitd to its steady state level of per capita tourist arrivals at a speed of 10.56% a year.

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