Exploring the tourism markets' convergence hypothesis in Italy

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Abstract

This paper aims at investigating the tourism markets convergence hypothesis across Italy's 20 major source markets. To reach our goal we use monthly data of tourist arrivals and overnights over the period 2008-2018 and the time-varying factor model developed by Phillips and Sul (2007; 2009). Our findings suggest the absence of full (absolute) convergence, leading us to accept the hypothesis of club convergence. We show that the traditionally more important source markets have a tendency to persist, while Asian countries show an heterogeneous behaviour. Furthermore, the relative decline in the contribution to total arrivals and overnights of several international source markets calls for a reconsideration of the promotional strategies to stimulate inbound tourism from these countries.

Keywords: Convergence clubs, Italy, Tourism markets, Market segmentation

JEL classification: L83, Z30, C23

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1. Introduction

Tourism has become one of the largest and fastest growing economic sectors in the world due to its continued expansion and diversification (OECD, 2018). Particularly, the tourism sector offers an important contribution to the Italian economy and data regarding international tourism have recorded positive trends in recent years. Italy is the sixth country in the world for income from international tourism. It is the fifth country in the world for visitors and its tourism balance surplus is higher than the European average. In 2018, foreign travellers annual growth jumped to 6.5% and the increase in tourism expenditures reached 41.7 billions of Euro, equal to 40% of the exports of services (Bank of Italy, 2019).

The increasing importance of tourism in Italy has stimulated growing research on its role in affecting economic growth (i.e. Cortés-Jiménez 2008; Paci and Marrocu 2014; Giambona and Grassini, 2020). While from the theoretical and empirical points of views there is a lack of consensus on whether tourism promotes economic activity or, conversely, economic activity leads to tourism growth, the tourism-led economic growth hypothesis (TLGH) seems to be the most evident for Italy (Pablo-Romero and Molina 2013; Antonakakis et al., 2015).

Although the role of tourism in affecting the economic growth of Italy has been extensively analysed, the tourism markets convergence hypothesis has not yet been explored. This hypothesis discussed for the first time by Narayan (2006) has become an emerging topic in the recent tourism economics literature (see for example: Lean and Smyth 2008, Abbott et al., 2012; Mérida et al. 2016; Kourtzidis et al. 2018; Solarin, 2018 Lin et al., 2019a).[1] Specifically, testing for tourism markets convergence allows to evaluate the performance of the tourism industry in a particular country as well as the success of policy strategies developed to boost the number of tourist arrivals. Such analysis may be also useful for segmenting global tourism markets, and generates important implications for policymakers and tourism organizations to develop global marketing strategies.

Within this framework, this paper aims at investigating the tourism markets convergence hypothesis across Italy's 20 major source markets. To reach our goal we use monthly data of tourist arrivals over the period 2008-2018 and the time-varying factor model developed by

[1] For a broad literature review on this topic see Ozcan an Erdogan (2017) and Lin et al. (2019b).

Phillips and Sul (2007; 2009) (PS henceforth). We repeat the analysis using also overnights, in order to better disentangle the evolution patterns of such source markets.

Our findings suggest the absence of full (absolute) convergence, leading us to accept the hypothesis of club convergence. The results show the significance of traditionally important source markets (Western European countries and United States) and the growing importance of some Asian source markets (China and Korea). In addition, we show the transitional divergence of other source markets that calls for a reconsideration of the strategies to increase tourist arrivals and overnights from these countries.

2. Data and methodology

To study tourism markets convergence, we use the number of tourist arrivals and overnights of Italy's 20 major source markets for the period 2008m1-2018m12. Data are taken from the Italian National Institute of Statistics (ISTAT.).[2] Table 1 shows the countries included in the analysis together with the average values of our outcome variables throughout the whole period. Germany is undoubtedly the major source market of Italy, followed by the United States. The European-core countries are of key importance as well, since they contribute to a great extent to the international tourism inflow. Conversely, other source markets appear lagging behind either in terms of arrivals or overnights (i.e. Brazil, Canada and Korea).

[INSERT TABLE 1 NEAR HERE]

As for the analysis, we follow the methodology developed by Phillips and Sul (2007, 2009). They propose to modify the conventional panel data decomposition of the variable of interest (in our case, international tourist arrivals or overnights) in the following way:

$$y_{it} = b_{it}\mu_t \tag{1}$$

[2] Data constraints prevented us to use a longer time sample since comparable data (at monthly frequency) from ISTAT database starts in 2008.

where b_{it} is the systematic idiosyncratic element that is allowed to evolve over time and μ_t is the common factor.[3] To test if different tourism source markets converge, we define the following relative transition component for each outcome variable:

$$h_{it} = \frac{y_{it}}{N^{-1}\sum_{i=1}^{N} y_{it}} = \frac{b_{it}}{N^{-1}\sum_{i=1}^{N} b_{it}} \tag{2}$$

that can be directly computed from the data. In such a way it is possible to remove the common steady-state trend μ_t, tracing an individual trajectory for each economy *i* in relation to the panel average. The factor μ_t may represent the aggregated common behavior of y_{it}, but it could also be any common variable affecting the individual behaviour.

The appealing feature of the PS approach is that such a factorization allows the separation of unit-specific transitional factors from common factors that allows to reveal the long-run trend for the underlying time series. In other words, by using this approach we are able to control for the common factors that affect the behaviour of tourist arrivals (and overnights) from different countries of origin, and therefore we can focus on their idiosyncratic behaviour.

In presence of convergence the coefficient h_{it} should converge towards unity: $h_{it} \to 1$, for all *i,* as $t \to \infty$. At the same time, the cross-sectional variation H_{it} (computed as the quadratic distance measure for the panel from the common limit) should converge to zero:

$$H_t = N^{-1}\sum_{i=1}^{N}(h_{it} - 1)^2 \to 0 \qquad \text{as} \quad t \to \infty \tag{3}$$

To formally test the presence of convergence, PS suggest to estimate the following equation by ordinary least squares methodology:

$$\log\frac{H_1}{H_t} - 2\log(\log t) = a + \beta \log t + u_t, \tag{4}$$

for *t= [rT], [rT] + 1, ... , T,* where β represents the speed of convergence parameter of b_{it}; *r* assumes a positive value in order to discard the first block of observation from the estimation,

[3] The common growth component μ_t, may follow either a trend-stationary process or a non-stationary stochastic trend with drift. A particular assumption regarding the behavior of μ_t is not necessary.

and *[rT]* is the integer part of *rT*. The null hypothesis of convergence is tested through a one-sided *t*-test robust to heteroskedasticity and autocorrelation (HAC) and specifically it is rejected at the 5% level if $t_{\hat{\beta}} < -1.65$.

This procedure, generally called 'log t-test', has power against cases of club convergence and it is one of the most important features of the PS approach. Specifically, if the log *t*-test is rejected for the whole sample, the authors suggest to repeat the test procedures according to a clustering mechanism concerning of four steps (for details see Phillips and Sul, 2007). To test the robustness of our results we also apply the club merging algorithm initially developed in Phillips and Sul (2009) and a different club merging algorithm recently developed by von Lyncker and Thoennessen (2017).[4]

The PS framework has additional advantages over other existing methodologies. First, if the full panel of economies analysed does not converge to a common steady state, the methodology allows to investigate for the presence of groups of economies (in our case, source markets) that converge to different equilibria, and at the same time, it permits individual economies to diverge. Second, under such (possible) transitional paths heterogeneity, standard unit root and cointegration tests tend to be not suitable for examining convergence and, as demonstrated in Phillips and Sul (2007), even if two series are not cointegrated, it is still possible to find convergence between them. Finally, unlike other approaches in which economies are grouped *a priori*, the methodology enables the endogenous determination of convergence clubs if the log *t*-test is rejected for the whole sample.

3. Results

When we apply the log *t*-test to monthly arrivals of Italy's 20 major international source markets over the period 2008-2018, the hypothesis of absolute convergence is rejected at the 1% significance level ($t_{\hat{\beta}} = -273.96$).[5] Therefore, we follow the recursive algorithm proposed by PS to verify the presence of convergence clubs. Table 2 (Panel A) shows that the application

[4] For a detailed description of the algorithms see also Sichera and Pizzuto (2019).

[5] Log-*t* tests have been performed on time series filtered for business cycle fluctuations with the Hodrick-Prescott (HP) filter, choosing the value of 14,400 as a smoothing parameter (monthly series) (see Phillips and Sul 2007, 2009 for details). As a robustness check we repeated the analysis on both outcome variables using 12-months backward-looking moving averages to extract the trend. The results presented in the Appendix (Table A1 and Figure A1) are very similar and broadly unchanged to those presented in the paper.

of the algorithm yields 2 convergence clubs for which $t_{\hat{\beta}} > -1.65$, thus indicating the presence of significant (though weak) convergence within each club. Results do not change when we apply the two club merging algorithms earlier discussed.

[INSERT TABLE 2 NEAR HERE]

We find that the first club identified is prevalently composed of traditionally important source markets (such as Germany, United States, France, United Kingdom), additional European countries for which proximity encourage people to visit Italy (Austria, Spain and Poland) and emerging Asian markets (China and Korea). On the other hand, the second club pertains to other European countries (the Northern-Eastern ones) and most of the other major international source markets (Australia, Brazil, Canada, Japan and Russia).

Interesting insights emerge when looking at Figure 1 that describes the relative transition paths within each group as well as the average relative transition paths of both clubs. Traditional source markets tend to maintain their importance over time. Among the non-European advanced countries, the USA share has fluctuated over time reflecting the dynamics of exchange rates. Conversely, Asian markets in club 1 (China and Korea) show an increasing importance in the relative share of tourist arrivals. This should be not surprising since Italy has become one of the main destinations for Korean visitors (World Tourism Organization, 2018). The growing income levels in these countries, the reduction of transport costs and the new types of tourist supply through accommodation rental platforms (i.e. Airbnb, Booking) can explain the continuous increase in tourism arrivals from Asia.

On the contrary, almost all source markets in club 2 show a sort of decline in the relative importance of tourist arrivals (exceptions are Romania and Brazil). In particular, the behaviour of three source markets is noteworthy. Brazil still remain marginal for Italy with respect to BRICS countries and other emerging markets included in our sample, though it is gaining relevance. On the other hand, the importance of the Japanese market has declined in the latest years recording a drop in arrivals (-35% in the period 2012-2018), despite the fact that Italy is one of the favourite destinations of Japanese tourists. This appears a direct consequence of the persistent stagnation suffered by the Japanese economy during the past decade. Less clear, instead, is the behaviour of the Russian market. Tourism flows from Russia reached the peak in

the 2012-13 period, recording a significant drop in the following years as a consequence of the recession and the rouble devaluation.

As a result, the third panel of Figure 1 shows the divergent behaviour between source markets gathered in club 1 with respect to those belonging to club 2. One of the reasons of such divergence could be the way in which the countries of origin were affected by the financial crisis started in 2008, but further analysis would be needed to confirm such a conclusion. It seems that the countries belonging to club 1 recovered much better than those of club 2 and this may have affected tourist decisions. In the period 2012-2018, the average growth rate in real GDP per capita for countries of club 1 was about 15% while it was 9% for countries of club 2.[6]

[INSERT FIGURE 1 NEAR HERE]

In order to better disentangle the contribution of each source market we also performed the analysis using monthly data of overnights. Also, in this case, the hypothesis of absolute convergence is rejected at the 1% significance level ($t_{\hat{\beta}} = -137.03$). Table 2 (Panel B) shows the results obtained by applying the baseline algorithm proposed by PS and those of the two club merging algorithms earlier discussed. The results obtained in the final classification mostly confirm the club composition already found for the arrivals. Notable exceptions are Belgium, Brazil, Russia and The Netherlands, that in this case are clustered in the first club instead of in the second one. In addition, the transitional convergence of China and Korea towards the highest source markets in the first club is complemented by that of Brazil, and the divergence between the two clubs is even more marked in this case (Figure 2).

[INSERT FIGURE 2 NEAR HERE]

4. Conclusions and policy implications

In this paper we have empirically examined the presence of the tourism markets convergence hypothesis in the case of Italy. The results suggest the absence of full (absolute) convergence in the case of both arrivals and overnights, in favour of the presence of convergence clubs.

[6] Data are taken from the World Bank database. Even removing the outliers (i.e. China for club 1 and Romania for club 2) the difference in the average growth rate is above 5 percentage points.

The market segmentation we found analysing data from the last decade (2008-2018), can be only partly explained by geographical distance, instead, it seems related to the resilience of countries of origin to the financial crisis of 2008. Therefore, strategies devoted to increase inbound tourism from the nearest countries in geographical terms, may be not fully satisfactory to increase the market share of Italy in the tourism sector.

In fact, from this analysis several key findings emerged. First, the traditionally more important source markets have had a tendency to persist even after the Great Recession and, therefore, marketing strategies planned for these countries seem to be appropriate.

Second, Asian countries clearly represent a source of further growth for the Italian tourism sector but customized policies and strategies for each country are needed (i.e. the transitional convergence of Chinese and Korean source markets is counterbalanced by the transitional divergence of the Japanese market which still reflects the persistent stagnation suffered by the Japanese economy during the past decade). A strengthening of the ability to intercept the expansion of the demand for tourist services from these markets that are growing rapidly but that are geographically and culturally more distant appears relevant for the Italian economy.

Third, the relative decline in the contribution to total arrivals and overnights of several source markets calls for a reconsideration of the promotional strategies outlined for these countries that appear to be no longer effective.

Particularly, since the divergence in tourist arrivals and overnights may be a function of the resilience to the slowdown caused by the Great Recession in the countries of origin, a strategy devoted to make tourist packages more accessible to mass tourism could be successful in order to regain market shares. At the same time, the diversification of the national offer through the promotion of interesting places with high potential (i.e. small villages, parks, mountain and protected areas, rural areas) but still not fully recognized as international tourist destinations could be a viable way to stimulate inbound tourism from these countries.

On this points, further analysis would be needed also in the light of the severe cost imposed by the COVID-19 pandemic to the World economy and in particular to the tourism sector. The recent gains in tourist flows coming from the Asian markets as well as the large incoming flows from geographically more distant countries (i.e. the USA) could be compromised due to the likely increase in transport costs, and because of the major blow that the leading accommodation rental platforms are facing.

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TABLES

Table 1. Descriptive statistics

Country	Arrivals	Overnights	Length of stay
Australia (AUS)	839,422	2,190,760	2.6
Austria (AUT)	2,198,689	8,599,643	3.9
Belgium (BEL)	1,120,583	4,674,652	4.2
Brazil (BRA)	738,179	1,811,659	2.5
Canada (CAN)	723,953	1,977,112	2.7
China (CHN)	1,979,889	3,167,869	1.6
Czech Republic (CZE)	662,785	3,270,787	4.9
Germany (DEU)	10,447,577	52,154,374	5.0
Denmark (DNK)	619,967	3,282,387	5.3
Spain (ESP)	1,846,499	4,923,386	2.7
France (FRA)	3,922,535	11,970,936	3.1
United Kingdom (GBR)	3,127,320	11,881,800	3.8
Japan (JPN)	1,232,914	2,432,006	2.0
Korea (KOR)	566,682	1,020,668	1.8
Netherlands (NLD)	1,962,221	10,831,098	5.5
Poland (POL)	1,076,945	4,271,004	4.0
Romania (ROU)	536,046	2,065,976	3.9
Russia (RUS)	1,398,423	5,014,559	3.6
Sweden (SWE)	626,536	2,320,899	3.7
United States (USA)	4,555,292	11,676,847	2.6

Note: Values indicate annual averages over the period 2008-2018. Length of stay is equal to the ratio Overnights/Arrivals.

Table 2. Convergence clubs classification

		Panel A -Arrivals				
	Club	**Members**	**n° Countries**	**β**	**se**	**t-stat**
	1	USA, FRA, GBR, CHN, DEU, ESP, AUT, POL, KOR	9	0.227	0.007	31.763
	2	NLD, RUS, BRA, JPN, BEL, AUS, ROU, CAN, CZE, SWE, DNK	11	0.227	0.011	20.571
		Panel B - Overnights				
	Club	**Members**	**n° Countries**	**β**	**se**	**t-stat**
Baseline PS algorithm	1	USA, FRA, GBR, CHN, KOR	5	0.621	0.009	67.898
	2	ESP, RUS, POL, AUT, NLD, BEL, BRA	7	0.059	0.004	14.348
	3	CZE, ROU, AUS, JPN, SWE, CAN, DNK	7	0.283	0.011	25.626
	Club	**Members**	**n° Countries**	**β**	**se**	**t-stat**
Club merging algorithms	1	USA, FRA, GBR, CHN, KOR, ESP, RUS, POL, AUT, NLD, BEL, BRA	12	0.323	0.009	35.783
	2	CZE, ROU, AUS, JPN, SWE, CAN, DNK	7	0.283	0.011	25.626

Note: DEU is diverging country in the case of overnights.

FIGURES

Figure 1. Relative transition paths within and across clubs – arrivals.

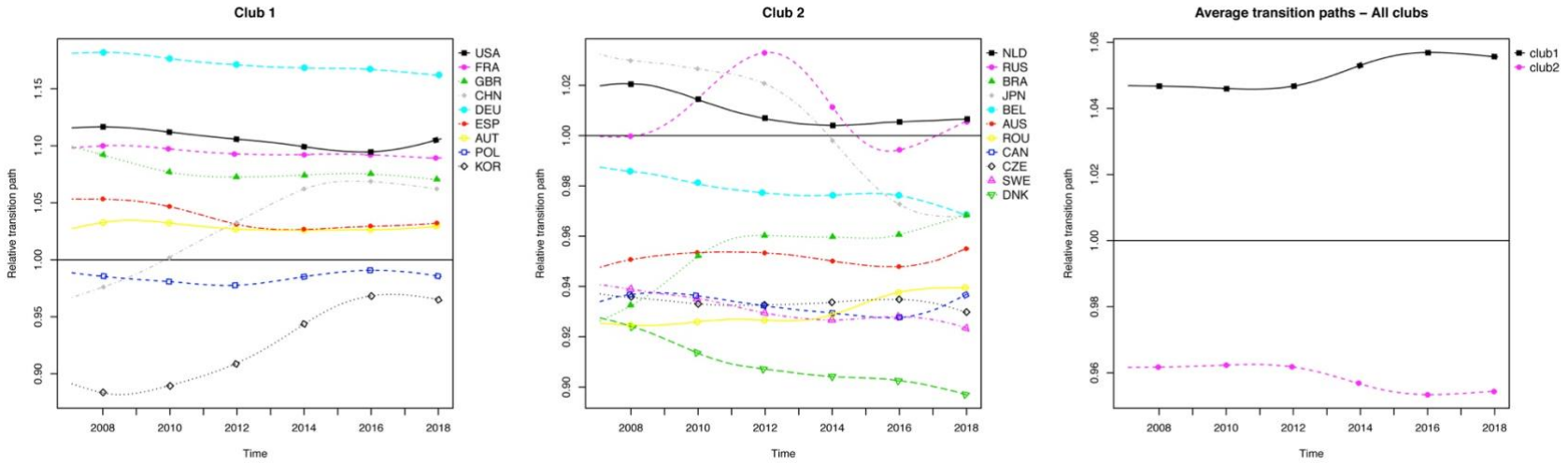
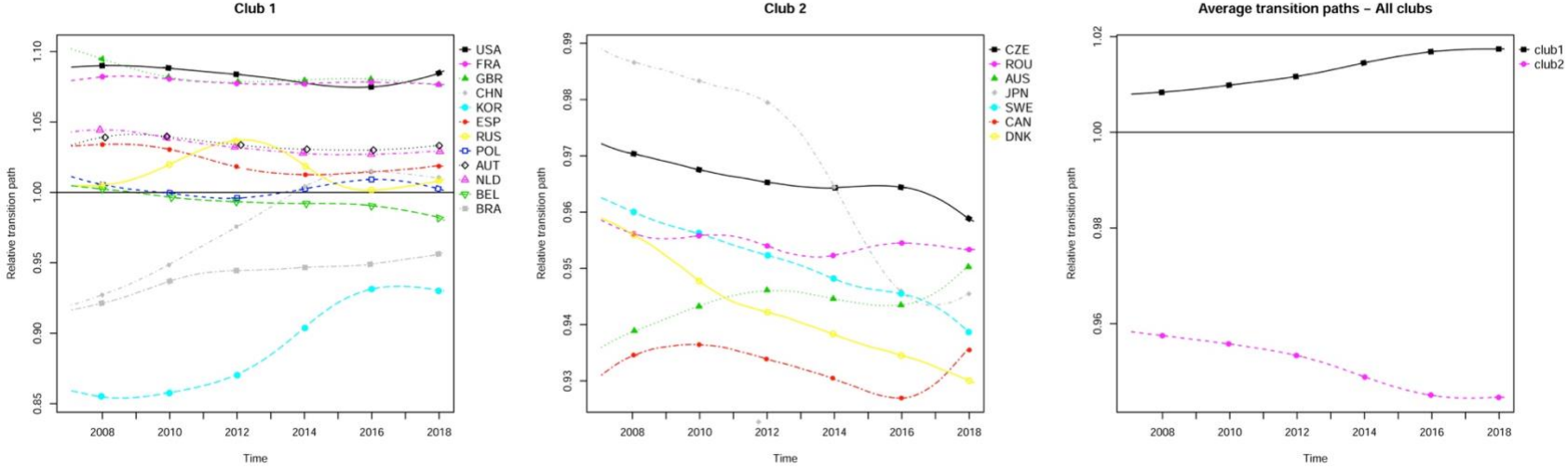


Figure 2. Relative transition paths within and across clubs – overnights.



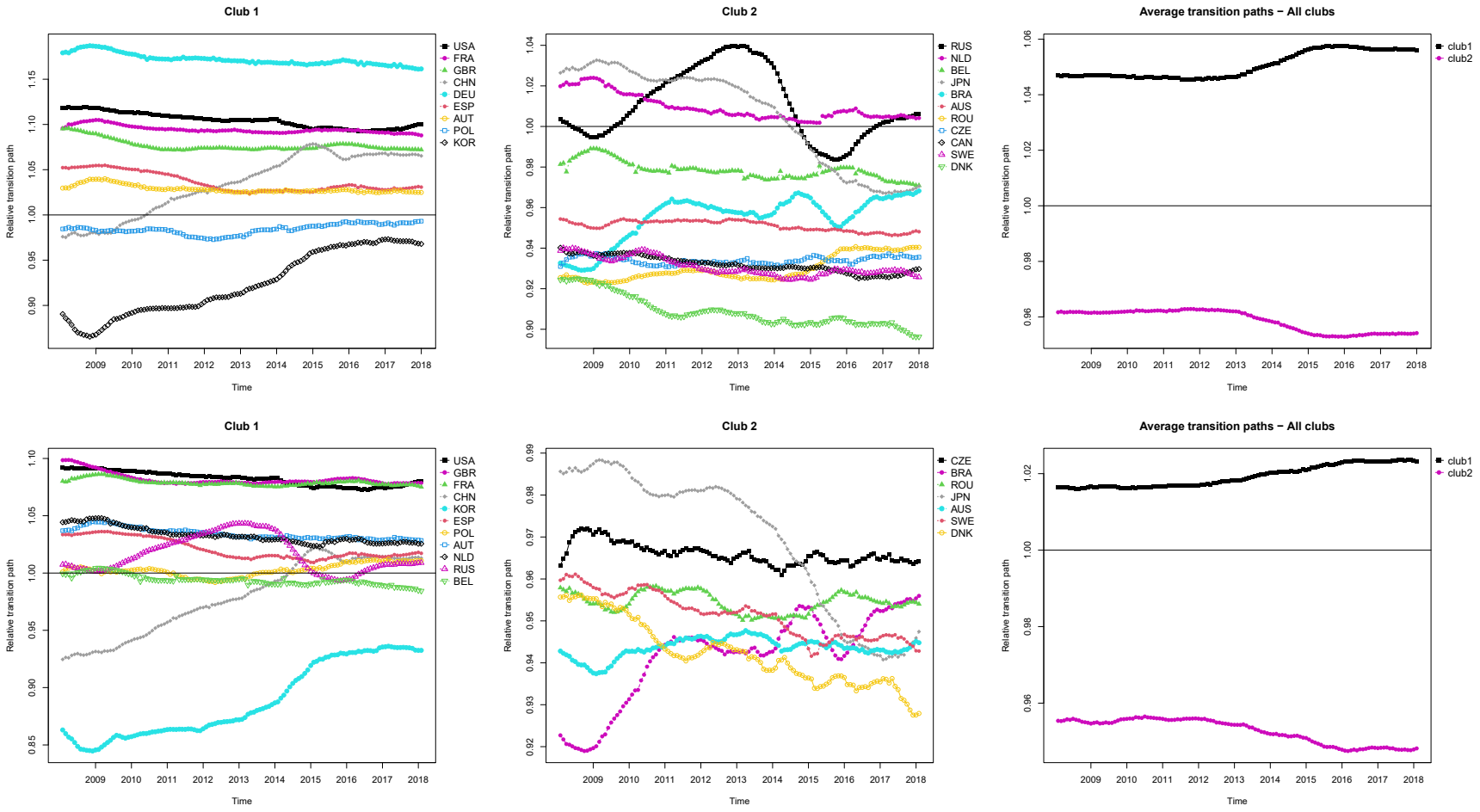
APPENDIX

Table A1. Convergence clubs classification – Robustness check

Panel A -Arrivals					
Club	**Members**	**n° Countries**	**β**	**se**	**t-stat**
1	USA, FRA, GBR, CHN, DEU, ESP, AUT, POL, KOR	9	0.013	0.052	2.533
2	NLD, RUS, BRA, JPN, BEL, AUS, ROU, CAN, CZE, SWE, DNK	11	0.053	0.053	1.006
Panel B – Overnights					
Club	**Members**	**n° Countries**	**β**	**se**	**t-stat**
1	USA, FRA, GBR, CHN, KOR, ESP, RUS, POL, AUT, NLD, BEL	11	0.332	0.047	7.066
2	CZE, BRA, ROU, AUS, JPN, SWE, DNK	7	0.190	0.035	5.494

Note: DEU and CAN are diverging countries in the case of overnights. Arrivals and Overnights raw series have been filtered using 12-months backward-looking moving averages to extract the trend.

Figure A1. Relative transition paths within and across clubs – arrivals (top panels) and overnights (bottom panels) – Robustness check



Note: DEU and CAN are diverging countries in the case of overnights. Arrivals and Overnights raw series have been filtered using 12-months backward-looking moving averages to extract the trend.