Market-segment specialization and long-term growth in a tourism-based economy

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Presentation outline

Introduction 1/2

- In 2014, tourism generate 3.1% of the global GDP (WTTC, 2015).
- In a context of crisis and slow growth, numerous regions are interested in developing their tourism attractions.
- Literature on the relationship between tourism and economic growth supports, theoretically and empirically, the so-called Tourism-Led Growth Hypothesis (Brida *et al.*, 2016)
- Nonetheless, tourism is a delicate industry. A tourism destination is going to face sooner or later a stagnation of its tourism revenue.

Introduction 2/2

- Identification of strategies in order to rejuvenate a destination experiencing stagnation (Agarwal, 2002)
- Tourism-led growth is possible only if a destination does not experience stagnation
- To our knowledge no previous theoretical paper addresses this important issue.
- This paper provides a theoretical framework of tourism-led growth accounting for the possibility of rejuvenation strategies.
- A model of endogenous growth for a tourism-based economy in which the engine of growth is a *learning-by-doing effect* is built (Romer, 1986).

Background 1/3

- Since the seminal work of Balaguer & Cantavella-Jorda (2002) on Spain numerous studies emphasize the positive relationship between tourism and growth (Pablo-Romero & Molina, 2013; Brida *et al.*, 2016)
- Lanza & Pigliaru (1994) propose a model in which the engine of growth is essentially the continuous improvement in the terms of trade of a country specialized in tourism.
- Nowak *et al.* (2007) emphasize the role of tourism receipts in financing capital goods imports.
- Schubert *et al.* (2011) develop a AK type model with transitional dynamic for a small economy specialized in tourism.

Background 2/3

- Some authors such as Plog (1974) have raised the issue of stagnation for a tourism destination.
- Yet, one has to acknowledge that the most influential among them is Butler (1980).
- The destination lifecycle puts light on the need for strategies in order to manage stagnation and post-stagnation phases of aging destinations.
- *"During the final stagnation stage of the evolution model, or even before if new major products or marketing schemes have been introduced, the cycle can begin again, exhibit new (absolute) growth, or else a decline can set in"* (Saarinen, 2006).

Background 3/3

- Aguilo *et al.* (2005) point out that the Balearic has experienced a new wave of success in the late 1990's after *"a considerable restructuring process directed at offering improved quality"*
- Garay (2011) emphasize how Catalonia has succeeded in developing its attractiveness overtime by adapting its supply to evolutions in tourism trends.
- After reaching a low in the late 1980's, Benidorm has been able to recover from tourism recession by implementing a strategy that will be referred to as the *market-segment targeting strategy* (Claver-Cortes *et al.* 2007; Ivars i Baidal *et al.*, 2013)
- Our model shows that reorienting the tourism supply in the way Benidorm, the Balearic or Catalunia did is the correct way to escape stagnation from a theoretical point of view.

The model 1/3

- A potential engine of long term growth lies in the existence of a "learning-by-doing" effect (Arrow, 1962)

- During the process of capital accumulation by individual firms costless knowledge is produced as a by-product.

- Unexpected accumulation of knowledge improves the productivity of capital and generates growth.

The model 2/3

- The supply of a firm in the economy is $S = f(K, k; \bar{L}, \bar{R})$. where k represents the amount of capital of each identical firm

- The demand follows the equation $D = Bp^{\eta}$, where p is the relative price of the tourist product with respect to the productive capital.

- Market clearance is obtained by equating supply and demand, that is, $N \cdot S = D$, and the equilibrium price is

$$p_e(K, k) = \left(B^{-1} f(K, k)\right)^{1/\eta},$$

The model 3/3

- the revenue obtained by each firm, $Y = p_e(\cdot)f(\cdot)$, follows the expression

$$Y(K,k) = B^{-1/\eta} \left(f(K,k)\right)^{\eta+1/\eta},$$

The social planner problem

$$
\begin{array}{lll}
(SP): & max_{c\geq 0} & \int_0^\infty u(c)e^{-\rho t}dt \\
 & s.t. & \dot{k} = B^{-1/\eta}\left(F(k)\right)^{\eta+1/\eta} - c \\
 & & k(0) = k_0 \geq 0.
\end{array}
\tag{1}
$$

Proposition

Proposition

Given problem (SP), let us assume the following conditions over the production function:

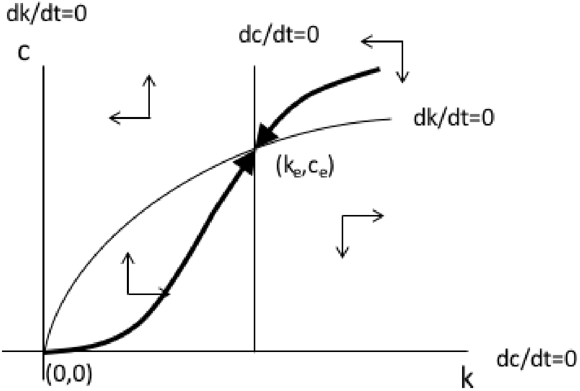
i) F *is increasing in* k *and satisfies* $F_{kk} + (F_k)^2 \frac{1}{\eta} F^{-1} \leq 0$.

ii) $\lim_{k \to 0^+} F(k) = 0$, $\lim_{k \to \infty} F(k) = \infty$.

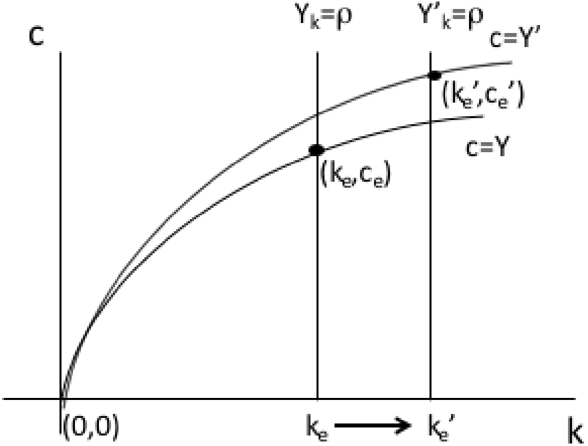
iii) $\lim_{k \to \infty} \frac{F(k)}{k^{\frac{\eta}{\eta+1}}} = M \geq 0, L \in \Re$

iv) $\lim_{k \to 0^+} \frac{F_k(k)}{F^{-1/\eta}(k)} \geq B^{1/\eta} \frac{\eta}{\eta+1} \rho$

Then, there exists an optimal solution $(k^*(t), c^*(t))$ *for problem (SP). If* $M \leq B^{\frac{1}{\eta+1}} \rho^{\frac{\eta}{\eta+1}}$, *the optimal solution converges to a stationary state* (k_e, c_e). *In other case, the solution* $(k^*(t), c^*(t))$ *grows indefinitely.*



Phase diagram for system (1) and (3) in case $M \leq B^{\frac{1}{\eta+1}} \rho^{\frac{\eta}{\eta+1}}$. There exists only one saddle point (k_e,c_e).



Effect of utilizing new attractions in the destination $B' > B$. The initial stationary solution (k_e, c_e) moves to (k'_e, c'_e).

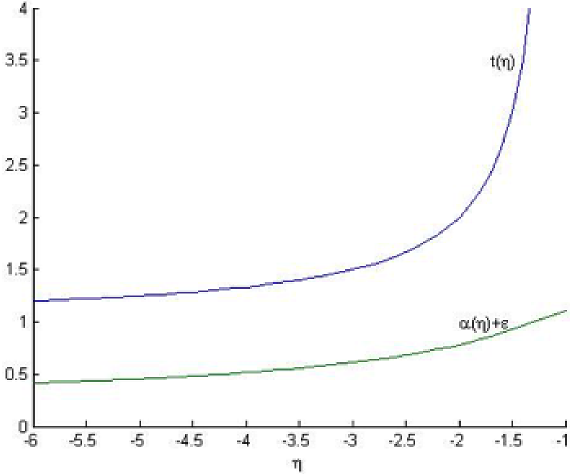
The specified production function

$$f(K,k) = AK^{\epsilon}k^{\alpha(\eta)}, \tag{2}$$

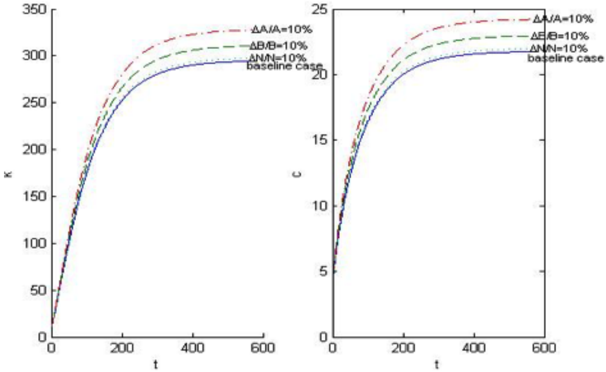
$$Y = B^{-\frac{1}{\eta}} A^{\frac{\eta+1}{\eta}} N^{\epsilon\frac{\eta+1}{\eta}} k^{h(\eta)}, \tag{3}$$

Proposition

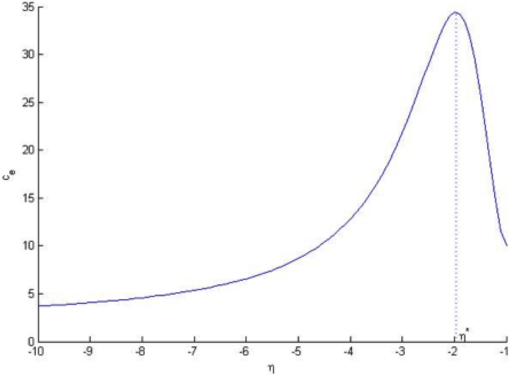
Given problem (SP) with a production function (2) and $h(\eta) < 1, \forall \eta < -1$. Let us assume $B > AN^{\epsilon} > \dfrac{\rho}{\epsilon}$. Then, there exists a market segment $\hat{\eta} << -1$ such that $\frac{\partial k_e}{\partial \eta} > 0$ and $\frac{\partial c_e}{\partial \eta} > 0, \forall \eta < \hat{\eta}$, that is, a destination initially oriented to a market segment with price elasticity $\eta < \hat{\eta}$ can obtain larger steady state of consumption by reorienting the supply to a more selected market segment.



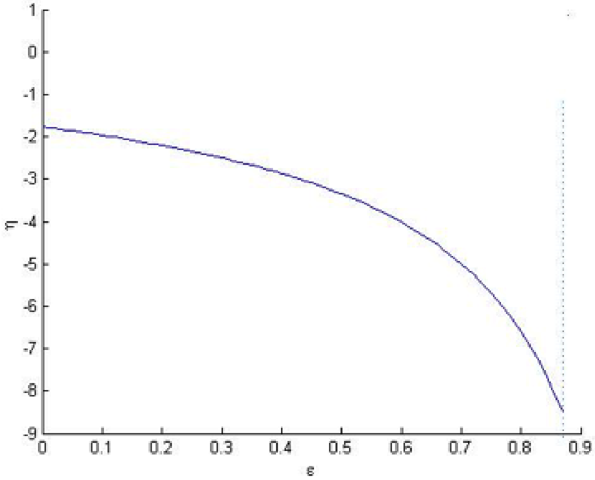
Representation of functions $\alpha(\eta) + \epsilon$and $t(\eta) = \frac{\eta}{\eta+1}$. Since $\alpha(\eta) + \epsilon < t(\eta)$, $h(\eta) < 1$. Parameter values: $a = 0.9$, $\gamma = 1.5$, $\epsilon = 0.1$.



Optimal paths for capital and consumption in problem (SP) assuming technology (8). In addition to the baseline case, three trajectories are represented assuming percentage increase in technology coefficient (A), non-price demand factors (B) and number of firms (N). Baseline case parameters: B=10; A=1; N=1; ρ=0.03; σ=3; ϵ=0.1; a=0.9; γ=1.5; k_0=10.



Optimum steady state of consumption for problem (SP) assuming technology (8) for a range of values of the price elasticity η. The maximum optimum steady state of consumption is achieved in η^*. Baseline case parameters.



Relationship between the productivity of aggregated knowledge ϵ and the optimum price elasticity η^*. The dotted vertical line shows the value of ϵ where an optimal permanent growth of capital and consumption is obtained. Baseline case parameters.

Conclusion

- A model of endogenous economic growth in which the engine of growth is a learning-by-doing effect has been developed in the context of a tourism-based economy.
- This framework is appropriate to study the impact on tourism production of the market-segment in which the destination is involved.
- Theoretical support to managerial practices of real world mass tourism stakeholders.