On the fast economic growth of small countries specialised in tourism

Alessandro Lanza[(*)] *and Francesco Pigliaru*[(**)]

Abstract

Having grown faster than world GDP since the 1950s, international tourism is today one of the most important tradable sectors, with expenditure on tourist goods and services representing some 8% of total world export receipts and 5% of world GDP.

Staring from a broad perspective, two main facts could be pointed out:

a) countries specialised in the tourism sector have experienced in the recent past a good economic performance and

b) they have a (relatively) small dimension.

This paper examines these facts considering with particular attention the dimension point of view. We use a two-sector endogenous growth model to define the conditions required for small countries with a relative large endowment of natural resource to specialise in tourism and to enter the faster growth path. A model based on the size of the natural resource suitable for tourism development is presented and discussed.

[(*)] International Energy Agency, Paris and University College, London
[(**)] University of Cagliari, Italy and CRENoS (Centro Ricerche Economiche Nord e Sud)

1. Introduction

Having grown faster than world GDP since the 1950s, international tourism is today one of the most important tradable sectors, with expenditure on tourist goods and services representing some 8% of total world export receipts and 5% of world GDP.

The importance of this industry has been often neglected for several reasons even if it is one of the most dynamic sector world-wide. Economic literature in the field is not large, compared to the importance of the sector, and particularly week is the analysis of the relation between country's economic performance and tourism specialisation.

Staring from a broad perspective, two main facts could be pointed out:

a) countries specialised in the tourism sector have experienced in the recent past a good economic performance and

b) they have a (relatively) small dimension.

Evidence could be provided in a very simple way. We did the following simple experiment. We took two separate lists of countries from a World Bank data set. The first includes the top 15 fastest growing countries in per capita income, from 1985 to 1995. The second includes the 15 countries with the highest degree of specialisation in tourism (simply defined as share of international tourism receipt with respect to the value added).
The result is perhaps surprising - seven of the "tourism" economies do appear in the list about fast growing ones.

Hence, it is possible underline that:

1) The 15 most specialised countries are also small countries (in order Antigua and Barbuda, St. Kitts and Nevis, Barbados, Grenada, St. Vincent and the Grenadines, Cyprus, Jamaica, Seychelles, Dominica, Croatia, Mauritius, Jordan, Singapore, Dominican Republic, Guyana).

2) Seven countries from the previous list are also among the top 15 most dynamic countries in terms of per capita annual income growth during the period 1985-1994. (St. Kitts and Nevis - 5.9%, Singapore – 5.4%, , Antigua and Barbuda 5.3%, Maldives - 5.1%, Mauritius – 5.1%, Seychelles – 4.5% and Cyprus – 4.5%).

Starting from this interesting setting this paper discusses about stylised facts a) and b).

The paper is divided into two parts. Part one considers the relation between tourism specialisation and economic growth. The main objective of this session is show what are the conditions under which tourism specialisation is not detrimental to economic growth. An endogenous growth theory framework is specifically considered.

Once we step has been accomplished, and we have a good explanation of why countries specialised in tourism grow relatively fast, we can consider the second part of this paper which is devoted to to address the second empirical regularity of the data on tourism and growth i.e. the dimension issue. In part two we present two alternative explanations of fact (*b*), and discuss whether they are compatible with the result discussed in this section, so that a *joint* explanation of facts (*a*) and (*b*) is obtained.

2. Tourism specialisation and economic growth

Fact (*a*) above indicates that tourism specialisation might not be detrimental to economic growth. While obviously no sector is "detrimental" for growth in an exogenous growth setting, things may be very different when the growth rate is endogenously determined. Much of the recent literature in this field points to key positive role the more innovative sectors play in such determination. Considering countries in isolation, a larger innovative sector generally spur faster growth in the long run. If trade induces different countries to specialise in sectors with different dynamic potentials, and technological spillovers across sectors and countries are not strong enough, then uneven growth is normally obtained [for a recent assessment of endogenous growth theory and the role of innovation, see Aghion and Howitt (1998)].

While these preliminary remarks may not sound too promising for countries specialising in tourism, the endogenous growth setting is nevertheless the one we consider useful in order to address fact (*a*). In particular, Lucas's (1988) two sector endogenous growth model is simple and detailed enough for our purpose of finding the conditions under which tourism specialisation is not a growth-damaging option.

These conditions are discussed at length in Lanza and Pigliaru (1994). Here we briefly summarise the main thrust of the argument, so to ease the forthcoming discussion in the next sections about fact (*b*),

in which we use the same formal framework.

Consider a two sector world in which the engine of growth -- the accumulation of human capital -- takes the exclusive form of learning-by-doing, so that pure competition prevails. The technology to produce sectoral outputs y_i is as follows:

(1) $y_i = h_i L_i$ $(i = 1,2)$

where h_i is human capital determining labour productivity in the sector, and L_i is the labour force allocated to the sector. For the time being we assume that all existing countries have the same size of the overall labour force ($L=1$). This assumption will be dropped in the next section. In each sector the potential for learning-by-doing is defined by a constant, l_i. In our case, manufacturing (M) is the "high technology" sector, so that $l_M > l_T$, where T stands for tourism. This assumption may be justified in terms of the importance of services in tourism and of the fact that, over a long period, productivity growth in services has lagged behind that in manufacturing. For instance, among the OECD economies as a whole, output per person employed grew between 1960 and 1993 by an average of 1.6% *per annum* in services but by 3.7% in manufacturing (Temple 1997).

In each period, the increase in h is proportional to the sector's output [see eq. (1)], so that:

(2) $\dfrac{\dot{h}_i}{h_i} = l_i L_i$

International trade will force all countries to specialise completely according to the comparative advantage they have when trade opens up. The growth rate of a country therefore depends on such specialisation, since from eq. (1) and (2) we know that output grows according to:

(3) $\dfrac{\dot{y}_i}{y_i} = l_i$

Therefore, productivity grows faster in countries specialised in M (measured in terms of this good) than in the other countries (measured in terms of T).

However, since preferences are assumed to be homothetic and identical everywhere, the terms of trade move in favour of the slow-growing good, tourism, at a constant rate. With CES preferences

(4) $U\left(y_M, y_T\right) = \left(a_M y_M^{-q} + a_T y_T^{-q}\right)^{-1/q}$

the rate of change of $p \equiv p_T / p_M$ is equal to $\left.\left(\dfrac{\dot{y}_M}{y_M} - \dfrac{\dot{y}_T}{y_T}\right)\middle/ s\right.$ where s is the elasticity of substitution.

With complete specialisation, therefore:

(5) $\dfrac{\dot{p}}{p} = \dfrac{l_M - l_T}{s}.$

Comparing now the growth rates associated with the two available specialisations in terms of a common good (M, for instance), we find that tourism is the growth-maximising specialisation if

(6) $\dfrac{l_M - l_T}{s} > \left(l_M - l_T\right),$

that is, if $s<1$. In words, tourism is not harmful for growth if the international terms of trade moves in its fast enough to more than offset the difference in sectoral productivity growth. For this to happen, the two goods must not be close substitute.

The empirical value on the elasticity of substitution between manufactured goods and the tourism is therefore an important piece of the evidence when it comes to evaluating the long term consequences for an economy which specialised in tourism. Using a OECD countries data set, Lanza (1997) finds that in most cases s is indeed lower than one.

We conclude that the interpretation proposed in this section of why countries specialised in tourism grow relatively fast may yield a useful starting point to address the second empirical regularity of the data on tourism and growth. In the following, we present two alternative explanations of fact (*b*), and discuss whether they are compatible with the result discussed in this section, so that a *joint* explanation of facts (*a*) and (*b*) is obtained.

2.1 Explanation one: Does countries absolute size matter?

The first candidate for an explanation has been put forward recently by Candela and Cellini (1997), who adopted the above model to explain why countries specialised in tourism are generally

of (very) small size.

Condition (6) above tells us what is required for countries of equal size to maximise their growth through specialisation in tourism. If instead we relax the assumption that all countries have the same (small) size and, for the time being, consider the rate of change of p as independent of the size distribution across countries, then a country of size L_i faces the following condition:

$$(7) \quad \frac{\dot{p}}{p} > \left(\lambda_M - \lambda_T\right)L_i$$

Therefore, "the smaller is a small-economy, the easier the pattern of the term of trade offsets the technology gap disadvantage", so that "the opportunity cost of specialisation in tourism is smaller, the smaller is the country" [Candela and Cellini (1997), p. 457].

This remark reveals a potentially successful candidate for an explanation of fact (*b*) quoted above. It deserves closer scrutiny aimed at assessing, first, its robustness in the presence of an endogenous determination of the international terms of trade; and, second, whether it successfully extends the model in section I so that a *joint* explanation of facts (*a*) and (*b*) is obtained.

In the following, we describe how the existence of countries of different sizes modify the endogenous time path of international terms of trade. Then we define the conditions allowing only the smallest countries to find tourism specialisation convenient, and discuss the major empirical implications attached to such conditions.

To keep our analysis as simple as possible, we construct the following special case, in which assumptions are aimed at easily obtaining a well-defined time path for the terms of trade, in spite of the presence of countries of different size.

In this exercise, existing countries can have one of the following three sizes:

$L_1 > L_2 > L_3$.

Let us define the conditions allowing for a pattern of specialisation in which only the smallest countries find it optimal to supply the tourism "good"[1]. If only small countries are specialised in tourism, the proportional rate of change of p is:

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[1] In the model used here growth is due to pure localised external economies, so that the actual specialisation of a country depends on initial conditions and can differ from the optimal one [Lucas (1988)].

$$\text{(8)} \quad \frac{\dot{p}}{p} = \frac{l_M(L_1) - l_T(L_3)}{s}.$$

This rate of change does not dependent on the size of the intermediate countries. This is because countries of different size (L_1, L_2) specialised in the same sector (manufacturing) grow at different speeds, so that in the limit the shares of the larger countries will dominate within the subset. The resulting rate of change is a positive constant increasing in the size differential, and decreasing in s.

For this pattern of specialisation to be optimal for all countries, not all values of s are admissible. The range of values of s consistent with a pattern in which only the small countries are optimally specialised in tourism is as follows:

$$\text{(9)} \quad \frac{l_M(L_1) - l_T(L_3)}{l_M(L_3) - l_T(L_3)} > s > \frac{l_M(L_1) - l_T(L_3)}{l_M(L_2) - l_T(L_2)}$$

Any value of s within such a range makes the medium size countries optimally specialised in manufacturing, and the smaller ones in tourism.

The next technical question is whether this pattern of specialisation is stable overtime -- i.e. whether all countries will maintain their initial specialisation. The answer is positive. The critical value of s allowing for absence of switch of specialisation in spite of the ever changing international terms of trade is:

$$\text{(10)} \quad s > \frac{l_M(L_1) - l_T(L_3)}{l_M(L_2)}$$

In fact, the values of s defined in (9) are consistent with this additional condition, since

$$\text{(11)} \quad \frac{l_M(L_1) - l_T(L_3)}{l_M(L_2)} < \frac{l_M(L_1) - l_T(L_3)}{l_M(L_2) - l_T(L_2)}.$$

In general, condition (9) makes clear that with s low enough, all countries would be better off by specialising in tourism.

To sum up, we find a confirmation that -- *prima facie* -- the model is indeed consistent with

the empirical regularity of fact (*b*). *If only one group of countries is willing to develop tourism, this group must the one formed by countries of the smallest size*. However, two more predictions are jointly obtained, and are worth underlining since they are rather troublesome.

(*i*) For only the smaller countries to be willing to pursue tourism specialisation, the time path of the terms of trade must be "not too favourable" to tourism[2]. More specifically, condition (9) shows that *a high elasticity of substitution (S>1) is required for obtaining a pattern of specialisation consistent with the stylised fact.*

(*ii*) If only very small countries are willing to specialise in tourism, then such specialisation is (*a*) "harmful for growth" for all other countries; (*b*) although by specialising in tourism the smallest countries can maximise their growth rate, *this would nevertheless be the lowest one among those observed in the world economy.*

These predictions are not supported by the available evidence. To start with, some recent evidence on tourism and growth indicates that the dynamics of the terms of trade is more favourable to tourism than suggested by point (*i*) [Lanza (1997)]. Second, and far more crucial, countries specialised in tourism are small *and* they grow fast -- faster than the others, on average as we have already discussed.

Countries specialised in tourism have experienced in the recent past a good economic performance. An average the per capita annual income growth during the period 1985-1994 has been around 5% per year. During the same period per capita annual income growth at World level as been 0.8% while if we concentrate only low income developing countries the results is 3.6% mainly driven by China (8.3%) and India (3.2%).

We shall conclude that this approach is not entirely satisfactory as a candidate for a joint explanation of facts (*a*) and (*b*). Moreover, we cannot use it to address fact (*b*) separately, since the explanation would be entirely based on the very scale effect that makes small countries grow slower than larger ones[3].

In the following we propose an alternative explanation in which a resource-based comparative advantage is what characterises the heterogeneity across the existing countries. In this proposed

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[2] This implies that -- other things being constant -- the average size of countries specialised in tourism should vary positively with the rate of change of the terms of trade.
[3] This scale effect is typical of the class of model to which Lucas's belong. All the learning-by-doing models of this type are characterised by a scale effect attached to the endowment of the fixed factor of production (labour, in our simple case). In general, normalisation is adopted in these models precisely to get rid of such effect, which many economists would regard as a rather "counterfactual" one [see Barro and Sala-i-Martin (1995)].

explanation, we abstract again (as in section 1) from differences in absolute size in order to get rid of the scale effect discussed above.

2.2. Explanation two: Do relative resource endowments matter?

As we noticed, most of the small fast growing countries specialised in tourism ground their supply of tourism services on their natural resources. The size of the natural resource suitable for tourism development relative to the country's overall size is therefore a obvious candidate for an alternative explanation. Such relative size could be a key factor to determine a country's comparative advantage within the present dynamic setting.

Different strategies are available to model this feature within our framework. Our choice is for a very simple one. We go back to the assumption of section 1, assuming that there is no heterogeneity in countries' labour endowments ($L_i = 1$ $\forall i$). Heterogeneity now depends on the existence of a limit to the capacity of the tourism sector to absorb the labour force. More precisely, assume that (i) the resource suitable for tourism development is an exogenous natural endowment, $\overline{R}$; (ii) this resource is combined in fixed proportion, at zero costs, with labour to produce tourism services. Let r define the fixed quantity of $\overline{R}$ per unit of labour required by the tourism technology. Then the sector's production function is:

(12) $\quad y_T = r h_T L_T$

Given this technology, the maximum amount of labour an economy can allocate to the tourism sector ($\overline{L}_T$) is constrained by the natural endowment according to:

(13) $\quad \overline{L}_T = \overline{R}/r$

For simplicity, let us choose units so that $r = 1$ and therefore $\overline{L}_T = \overline{R}$. If endowments are not uniform across countries, a useful heterogeneity may emerge. Countries with a relative large endowment of $\overline{R}$ ($\overline{R} \geq 1$) have the option to allocate their whole labour force in tourism; this option is not available for countries with smaller endowments ($\overline{R} < 1$).

Given that in our framework all countries are "small", this is the closer we can get to the idea that in reality small countries are more likely than greater ones to have a large endowment of the appropriate natural resource relative to the size of the labour force.

With this kind of heterogeneity, the dynamics of the system under an autarchic regime gives rise to a resource-based comparative advantage that, together with the result discussed in section 2, offers a unified explanation of the two above-quoted stylised facts. To see this, we first recall the determination of the autarchic steady-state for a non-constrained representative country. Later we will introduce the constraint and will evaluate the consequences on the determination of comparative advantage.

Define q as the price of tourism relative to the price of the manufacturing good in autarchy. Pure competition implies that the rate of change of q is equal to:

$$(14) \quad \frac{\dot{q}}{q} = \frac{\dot{h}_M}{h_M} - \frac{\dot{h}_T}{h_T} = \lambda_M - (\lambda_M + \lambda_T)L_T$$

The level of L_T in each period is obtained solving the model for the static momentary equilibrium. In this equilibrium we have

$$\frac{y_T}{y_M} = \left(\frac{a_T}{a_M}\right)^s q^{-s}$$

$$\frac{L_T}{1-L_T} = \left(\frac{a_T}{a_M}\right)^s q^{1-s}$$

and thus

$$(15) \quad L_T = \left[\frac{1}{\left(a_T/a_M\right)^s q^{1-s}} + 1\right]^{-1}$$

For $s<1$ the first derivative of (15) with respect to q is positive, and the second is negative. Using (15) in (14) therefore we see that in this case a stable steady-state value of q exists [such a steady state would be unstable if $s>1$, as in Lucas (1988)]. For our purposes, it is worth studying this equilibrium in greater detail. Eq. (14) indicates that the value of L_T corresponding to the stationary

value of q is:

$$(16) \quad L_T = \frac{\iota_M}{\iota_M + \iota_T}$$

We plot the right hand sides of (15) and (16) in Fig. 1. For any given value of L_T (and of the corresponding value of q), the vertical distance between the two functions yields a measure of the rate of change of q. More precisely,

$$(17) \quad \frac{\iota_M}{\iota_M + \iota_T} - L_T = \frac{\overset{\bullet}{q}}{q(\iota_M + \iota_T)}$$

As for comparative advantage, if all economies are similar, they will all end up with q^*, and no long run pattern of comparative advantage emerges.

This is not so if countries are characterised by a sufficient degree of heterogeneity. Assume that resource endowments are such that the constraint $\overline{L}_T < 1$ characterises a subset of countries. Two possibilities now arise. The first is that:

$$(18) \quad \frac{\iota_M}{\iota_M + \iota_T} < \overline{L}_T < 1$$

In this case the constraint has no consequences on the determination of comparative advantage. If, instead,

$$(19) \quad \overline{L}_T < \frac{\iota_M}{\iota_M + \iota_T} < 1$$

then in these economies a stationary value of q does not exist, since q grows at a positive constant rate equal to $\iota_M - (\iota_M + \iota_T)\overline{L}_T$ (see Fig. 2).

In the long run the countries in this subset produce both the manufacturing and the tourism goods, with a stable (constrained) allocation of labour. However, such a stable allocation implies an ever increasing relative price of tourism. The consequence for comparative advantage is straightforward. In the long run, countries in which the resource constraint is not binding end up obtaining the stationary price q^*. Countries where the constraint binds end up with a higher (and increasing) relative price of tourism. Notice that this pattern of comparative advantage is independent of the countries' initial conditions, and that this is so because $s<1$[4].

If we add up this finding with the outcome described in section 1, we find that, as long as the

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[4] With s>1, all constrained countries would obtain a comparative advantage in manufacturing, but the comparative advantage of the unconstrained countries would crucially depend on their initial conditions.

elasticity of substitution in consumers' preferences is low enough: (i) countries with endowments of suitable natural resources large relative to the size of their labour force are likely to develop a comparative advantage in tourism; (ii) these countries grow faster than those who specialise in the manufacturing sector.

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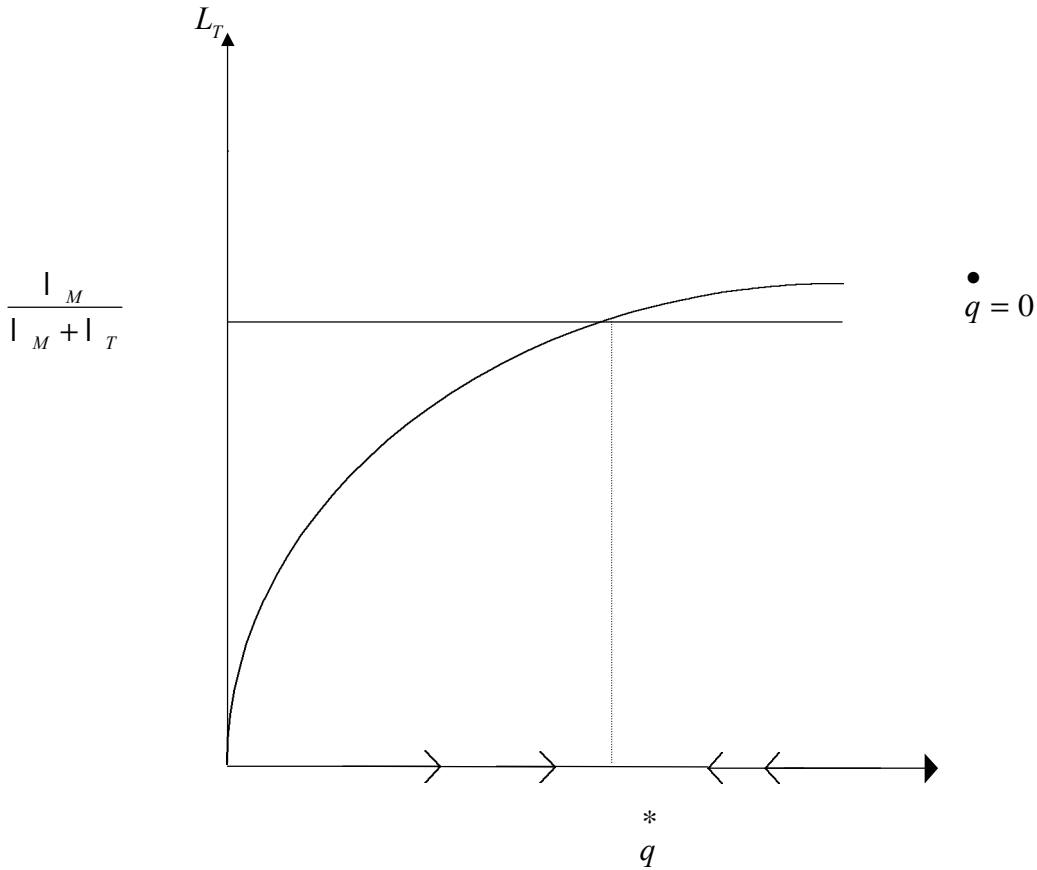
Figure 1

$$L_T$$

$$\frac{I_M}{I_M + I_T}$$

$$\overset{\bullet}{q} = 0$$

$$\overset{*}{q}$$

Figure 2

$$L_T$$

$$\frac{I_M}{I_M + I_T}$$

$$\overset{\bullet}{q} = 0$$

$$\tau_t$$

$$\overset{\bullet}{q}/q \quad I_M + I_T)$$

$$\overset{*}{q}$$