How Fast are the Tourism Countries Growing? The cross-country evidence

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Summary

Specializing in tourism is an option available to a number of less developed countries and regions. But is it a good option? To answer this question, we have compared the relative growth performance of 14 "tourism countries" within a sample of 143 countries, observed during the period 1980-95. Using standard OLS cross-country growth regressions, we have documented that the tourism countries grow significantly faster than all the other sub-groups considered in our analysis (OECD, Oil, LDC, Small). Moreover, we have shown that the reason why they are growing faster is neither that they are poorer than the average; nor that they have particularly high saving/investment propensities; nor that they are very open to trade. In other words, the positive performance of the tourism countries is not significantly accounted for by the traditional growth factors of the Mankiw, Romer and Weil type of models. Tourism specialization appears to be an independent determinant.
A corollary of our findings is that the role played by the tourism sector should not be ignored by the debate about whether smallness is harmful for growth (e.g. Easterly and Kraay (2000), who conclude that there is no growth disadvantage in smallness). Half of the thirty countries classified as microstates in this literature are heavily dependent on tourism. Once this distinction is adopted, it is easy to see that the small tourism countries perform much better than the remaining small countries. In our findings, smallness per se can be bad for growth, while the opposite is true when smallness goes together with a specialization in tourism.

Keywords: Economic growth, Convergence, Tourism specialization, Sustainable development

JEL: O11, O41, O57, Q01

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How fast are the tourism countries growing? The cross-country evidence [1]

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Abstract. Specializing in tourism is an option available to a number of less developed countries and regions. But is it a *good* option? To answer this question, we have compared the relative growth performance of 14 "tourism countries" within a sample of 143 countries, observed during the period 1980-95. Using standard OLS cross-country growth regressions, we have documented that the tourism countries grow significantly faster than all the other sub-groups considered in our analysis (OECD, Oil, LDC, Small). Moreover, we have shown that the reason why they are growing faster is neither that they are poorer than the average; nor that they have particularly high saving/investment propensities; nor that they are very open to trade. In other words, the positive performance of the tourism countries is not significantly accounted for by the traditional growth factors of the Mankiw, Romer and Weil type of models. Tourism specialization appears to be an independent determinant.

A corollary of our findings is that the role played by the tourism sector should not be ignored by the debate about whether smallness is harmful for growth (e.g. Easterly and Kraay (2000), who conclude that there is no growth disadvantage in smallness). Half of the thirty countries classified as microstates in this literature are heavily dependent on tourism. Once this distinction is adopted, it is easy to see that the small tourism countries perform much better than the remaining small countries. In our findings, smallness per se can be bad for growth, while the opposite is true when smallness goes together with a specialization in tourism.

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1. Introduction

In a recent paper, Easterly and Kraay (2000) investigate whether being small represents an economic disadvantage for a country. Are smaller countries poorer than average? Do they grow more slowly? Reasons for being pessimistic are not difficult to find in the literature, especially in endogenous growth, where scale effects often play a role in the determination of an economy's growth rate (Grossman and Helpman (1991); Aghion and Howitt (1998)).

Similarly, countries that rely strongly on international tourism also are suspected of being locked in a slow growth path. Again, endogenous growth theories tend to emphasize the virtues of high-tech sectors, the potential for high long-run growth of which are regarded as more promising than those of non high-tech service sectors such as tourism.[2]

In addition, countries in which tourism is the prominent sector are often very small (see below).[3] So, expectations about their economic performance are not high, to say the least.

Are these pessimistic expectations supported by the international evidence? This question is especially important for developing countries: in a number of cases, tourism is an available option in countries where large gaps in other, more technological and less resource-based sectors have been accumulated.[4] In this paper we assess whether tourism is a good growth option looking at the cross-country evidence.

We will use Easterly and Kraay (2000) as a benchmark against which to compare our results. Using a 1960-95 dataset on 157 countries, they find that being small is not an economic disadvantage. As far as the growth performance is concerned, our paper amends this view significantly. We find that, in the period 1980-95 (we do not have comparable cross-country data on tourism for 1960-79), tourism specialization does affect growth positively. A corollary of this is that being small is far from being a disadvantage if tourism is a key sector of the economy; if not, smallness turns out to be a disadvantage.

Our evidence on the positive relative performance of small tourism countries poses further interesting questions concerning the economic mechanisms that lie behind it. Is this performance either temporary or sustainable? Is it based on an increasing (perhaps unsustainable) exploitation of the environment that attracts the tourists? Is it based on a "terms of trade effect" that makes the value of that environment increase significantly over time? In this paper we define and discuss a number of alternative explanations, all compatible with our evidence. To test them empirically, a much more detailed cross-country dataset than

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[2] On the growth perspectives of tourism countries see Coopeland (1991), Hazari and Sgro (1995), Lanza and Pigliaru (1994), (2000a,b).

[3] On the relationship between smallness and tourism specialization, see Liu and Jenkins (1996), and Candela and Cellini (1997).

[4] See Sinclair (1998).

the one currently available to us would be required. We leave this latter task to future stages of our research.

The rest of the paper is organized as follows. In section 2 we discuss our data and variables. In section 3 we give a first picture of the relative performance of the various groups of countries. In section 4 the econometric evidence is presented. In section 5 we describe the degree of heterogeneity in growth performance within the STCs group. In section 6 we discuss various alternative explanations of our empirical results. Concluding remarks are in section 7.

2. Data and definitions

Following Easterly and Kraay (2000) (E-K from now on), we define small countries as countries with an average population of less than one million during 1960-95. In the original paper by E-K, 33 countries out of a total of 157 met this condition.

The E-K dataset is our starting point. To investigate the relative economic performance of countries specialised in tourism, we need cross-country data on international tourism receipts.[5] The first year for which data are available is 1980, and not for all the countries listed in the E-K dataset. As a consequence, the resulting dataset – the one we will use in this paper – is smaller in both the time and the cross-section dimensions: the period covered is 1980-95, and 143 countries instead of the original 157 are included, with the sub-set of small countries diminishing from 33 to 29.

Let us now turn to the definition of "tourism country". In what follows, the degree of tourism specialization is defined by the ratio of international tourist receipts to GDP (data sources are listed in the Appendix). In Table 1 we list all countries in our dataset with a degree of tourism specialization greater than 10% on average over the period 1980-95. Such a characteristic is shared by 17 countries; of these, 14 meet our adopted definition of small state (the exceptions are Jordan, Singapore and Jamaica, all with populations exceeding one million).

The remaining 15 small countries, the degree of tourism specialization of which is smaller than 10%, are listed in Table 2 below. So, the sub-sample of 29 small countries in our dataset is split into two almost identical parts: 14 countries are above the 10% tourism share of GDP and 15 are below it.

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[5] International tourism receipts are defined as: expenditures by international inbound visitors, including payments to national carriers for international transport. These receipts should include any other prepayments made for goods or services received in the destination country. They may also include receipts from same-day visitors, except in cases where these are so important as to justify a separate classification. Data are in current U.S. dollars. For more information, see WDI table 6.14. Source: WBD Indicators 2000.

Table 1

Country name	Index of Tourism Specialization (average 1980-95)
Jordan*	10.1
Singapore*	11.4
Samoa	12.6
Fiji	13.0
Jamaica*	18.4
Grenada	18.8
Cyprus	19.1
Malta	21.1
St. Vincent and the Grenadines	22.2
Vanuatu	22.9
Seychelles	25.9
Barbados	28.8
Bermuda	31.3
St. Kitts and Nevis	35.0
St. Lucia	40.9
Bahamas, The	41.2
Maldives	60.8

[* Not small countries]

Table 2

Country name	Index of Tourism Specialization (average 1980-95)
Bahrain	4.0
Belize	9.4
Botswana	2.7
Comoros	3.3
Cape Verde	1.8
Djibouti	1.2
Gabon	0.2
Gambia, The	7.8
Guyana	5.3
Iceland	1.8
Luxembourg	2.5
Mauritius	8.2
Solomon Islands	3.6
Suriname	1.7
Swaziland	3.4

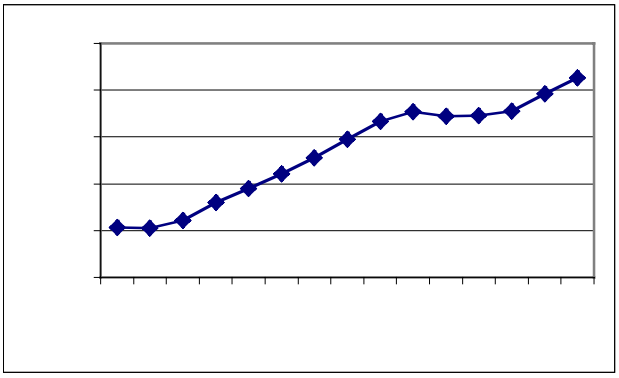
3. Small tourism countries and comparative economic performance

In this section we consider the growth performance of the small tourism countries (STCs from now on) as a whole, relative to the performance of a number of significant sub-sets of countries – namely, OECD, Oil, Small (as defined above), and LDCs.[6] An assessment of the degree of economic heterogeneity within the tourism countries sub-set is postponed to section 5 below.

Before analysing the relative growth performance of each group, let us consider for a moment the more general picture. Figure 1 shows the time path of per capita GDP in the OECD countries as a group. The period 1980-1995 is a period of relatively slow growth, due to the existence of two sub-periods of very slow or even negative growth (at the beginning of the 1980s and of the 1990s). As a result, the annual average growth rate in the OECD group is 1.6% per year. The average growth rate of the whole sample is much lower than this, at 0.4% per year – an outcome mainly due to the poor performance of the Oil (15 countries, growing on average at -2.5% per year) and the LDC groups (37 countries, growing on average at –0.5% per year).

This picture is in sharp contrast to what had characterized the previous two decades, when the average annual growth rate in the sample was about 2.6%, and all groups were performing rather well (more on this presently).

Figure 1. OECD, Real per capita GDP
in constant dollars (international prices, 1985)



Let us now move to the relative performances of the individual groups. Table 3 shows the average growth rates for all groups in 1980-95. First of all, the average small country (SC) grows faster than the average country in the sample, but slower than the average OECD country. Second, when we isolate the performance of STCs from that of the other small

[6] Countries in each group are listed in the Appendix. With the exception of LDC, the groups in our paper coincide with those used in Easterly and Kraay (2000).

countries, we see that tourism specialization is clearly beneficial for growth. This result is independent of the proportion of tourism receipts on GDP we adopt to classify a country as "tourism country". Adopting 15% or 20% instead of 10% as the demarcation value would leave our results unaffected.

Remarkably, the remaining 15 small countries with a share of tourism receipts in GDP lower than 10% show a negative average growth rate. The better than average growth performance of the SC group is due exclusively to the much better than average performance of the STCs.

Table 3

Country group	Real per capita GDP growth 80-95	No. countries
OECD	1.7	21
Oil	-2.5	14
Small	1.1	29
Small Tur. >20%	2.3	10
Small Tur. >10%	2.4	14
Small <10%	-0.2	15
LDCs	-0.5	37
All	0.4	143

Therefore, tourism specialization seems to be the key to understanding why small countries are not at disadvantage with respect to larger ones. Is this result a characteristic of the 1980-95 period only? We do not have data on tourism receipts for the years 1960-79, so we cannot answer this question directly. We can compare the performance of our groups of countries over two sub-periods (1960-80, 1980-95), but we have to bear in mind that, given the current limitation of the available data, the definition of STCs is based on the data of the second sub-period.

To make this comparison, we have to take into account an additional problem, since the 1960-80 sample is different from the 1980-95. The number of countries for which data are available for 1960-80 decreases to 136 from the original 143. What matters most from our point of view is that the number of STCs with an index for specialization >10% also decreases from 12 to 7. Consequently, the comparison shown in Table 4 below are based on the smaller sample of 136 countries.

Table 4

Country group	(1) Growth Rate 60-95	(1) Growth Rate 60-80	(2) Growth Rate 80-95	[(2)-(1)]/(1)	No. Countries
OECD	2.6	3.2	1.7	-0.5	21
Oil	0.3	2.6	-2.5	-2.0	14
Small	2.1	3.1	0.8	-0.7	26
Small Tur. > 10%	2.8	3.5	1.8	-0.5	9
LDCs	0.2	1.0	-0.7	-1.7	34
All	1.6	2.6	0.3	-0.9	136

Two features shown in Table 4 are worth mentioning. First, STCs are the fastest growing group in 1960-80 too. Second, although their average growth rate slows down in the second sub-period, all the other groups do worse than the STCs, with the exception of the OECD. Notice that while the growth rates of SC and of STC are similar in the first sub-period, the STC rate is significantly higher than the SC one in the second sub-period. Again, the expansion of tourism specialization in some of the SC countries might be the explanation for this pattern.

4. Econometric evidence

We now turn to the econometric analysis of the relative growth performance of STCs. We first test whether in our dataset it is possible to detect significant advantages/disadvantages for SCs and STCs. To do this, we use the full set of continental dummies used in E-K, as well as dummies for Oil, OECD and LDC countries.

The picture that emerges from Table 5 strongly supports our findings in section 3. After controlling for continental location and other important characteristics, the above average growth performance of the SCc as a group (regression (1)) is crucially due to the performance of the tourism countries. Once the SC group is split in two using a demarcation value of 10%, STCs outperform the remaining small countries (regression (2)).

In regression (3) we add the LDC dummy as a further control, and in regression (4) we change the demarcation value of tourism specialization from 10% to 20%. The STC dummy stays significant at 1% in all regression.[7]

In Table 6 we test whether tourism specialization remains growth-enhancing after a number of traditional growth factors are taken into account. For instance, STCs might be on a

[7] The same result is obtained when the three "non small" tourism countries (Jamaica, Jordan and Singapore) are added to the STC dummies regressions (4), (5) (as for regression (6) only small countries have an index of tourism specialization greater than 20%).

faster growth path simply because they are poorer than average – a mechanism fully predicted by the traditional Solovian growth model. Possibilities of this type are controlled for in all regressions in Table 6, in which we adopt a Mankiw, Romer and Weil (1992) (M-R-W from now on) approach to the analysis of cross-country growth differentials. [8] Regressions (2) and (3) show that the STC dummy stays significant at the 1% confidence level even after other growth factors, such as the initial level of per capita GDP and an index of openness, are taken intro account. Adding an index of volatility does not alter this result (regressions (4) and (5)).

In regressions (6) and (7) we further test the presence of a growth-enhancing effect of tourism. In regression (6) we use the index of tourism specialization instead of the usual STC dummy. The index is significant at the 1% confidence level, and the value of its coefficient implies that an increase of 10% in the ratio of tourism receipts to GDP [9] is associated to an increase of 0.7% in the annual growth rate of per capita GDP.

Finally, in regression (7) we use a dummy-slope (the index of openness multiplied by the STC>10% dummy). The idea is to test whether being specialised in tourism generates a premium over the average positive effect of openness on growth. The answer is yes. The coefficient of the new interactive variable is significant and its value is large.

Another way to test whether factors other than tourism specialization are the source of the positive performance of STCs, is to consider how different STCs are from other small and larger countries in terms of a number of growth determinants. In Table 7 we see that the reason why STCs are growing faster is *not* :

(i) that they are poorer than average (regr. (1): they are not);

(ii) that they have particularly high saving/investment propensities (regr. (2): other small countries save/invest more than STCs);

(iii) that they are open to trade (regr. (3): they are very open to trade, but not more than the other small, low-growth countries in the sample).

In addition to this, we report that STCs are less subject to volatility in their growth rates than the other SCs and the Oil countries.

This further evidence confirms the results shown in our previous tables. The positive performance of STCs relative to that of the other groups is not significantly accounted for by the traditional growth factors of the M-R-W type models. Tourism specialization appears to be an independent determinant.

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[8] Human capital – a crucial variable in M-R-W – is not included in our regressions because data on six of our STCs are not available.

[9] In our sample of 143 countries, the standard deviation of this variable measured in percentage values is 9.0.

Table 5

Growth and STCs – I

Dependent variable: Average annual real per capita GDP growth, 1980-95

Dummies	(1)	(2)	(3)	(4)
OECD	0.0033 (0.82)	0.0055 (1.43)	0.0045 (1.09)	0.0034 (0.79)
OIL	-0.0252 (-3.26)***	-0.0243 (-3.11)***	-0.0266 (-3.47)***	-0.0265 (-3.47)***
SC	0.0088 (2.03)**			
STC >10%		0.0171 (2.58)***	0.0177 (2.83)***	
SC <10%		0.0018 (0.35)		
LDC			-0.0098 (-1.93)*	-0.0096 (-1.94)*
STC >20%				0.0197 (2.82)***
No. of obs	143	143	143	143
R^2	0.399	0.418	0.436	0.433

All regressions include a full set of regional dummies as defined in E-K. Figures in brackets are t-statistics (standard errors are White-corrected).
* Significant at 10% ** Significant at 5% *** Significant at 1%

Table 6

Growth and STCs - II

Dependent variable: Average annual real per capita GDP growth, 1980-95

Dummies and variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
OECD	0.0145 (2.33)**	0.0174 (3.06)***	0.0162 (2.66)***	0.0134 (2.14)**	0.0134 (2.14)**	0.0173 (3.01)***	0.0173 (3.03)***
OIL	-0.0174 (-3.02)***	-0.0163 (-2.83)***	-0.0164 (-2.84)***	-0.0146 (-2.47)**	-0.0148 (-2.62)***	-0.0145 (-2.51)**	-0.0163 (-2.82)***
LDC	-0.0139 (-2.61)***	-0.0155 (-2.97)***	-0.0151 (-2.96)***	-0.0147 (-2.60)***	-0.0138 (-2.65)***	-0.0157 (-3.12)***	-0.0149 (-2.86)***
Ln per-c. GDP 1980	-0.0092 (-2.63)***	-0.0092 (-2.81)***	-0.0091 (-2.67)***	-0.0089 (-2.76)***	-0.0087 (-2.62)***	-0.0088 (-2.65)***	-0.0089 (-2.71)***
Share of trade in GDP 1980-95	0.0117 (4.04)***	0.0086 (2.84)***	0.0086 (2.88)***	0.0089 (3.20)***	0.0088 (3.23)***	0.0061 (1.92)*	0.0080 (2.55)**
Standard dev. of growth rates 1980-95				-0.1864 (-1.25)	-0.1872 (-1.25)		
Average share of tourism receipts in GDP 1980-95						0.0715 (4.38)***	
STC >10%		0.0169 (2.80)***		0.0160 (2.76)***			
STC >20%			0.0190 (2.80)***		0.0180 (2.71)***		
Share of trade * STC >10%							0.0148 (3.50)***
No. of obs	141	141	141	141	141	141	141
R^2	0.456	0.493	0.491	0.504	0.502	0.509	0.500

All regressions include a full set of regional dummies as defined in E-K. Figures in brackets are t-statistics (standard errors are White-corrected).
* Significant at 10% ** Significant at 5% *** Significant at 1%

Table 7

Growth determinants and STCs

Dependent variable: Average annual real per capita GDP growth, 1980-95

Dummies	(1) Log real per-c. GDP, Average 1980-95	(2) Log inv. as a share of GDP, aver. 1980-95	(3) Share of trade in GDP, aver. 1980-95	(4) Standard dev. of GDP growth, 1980-95
OECD	1.3853	0.2410	-0.1315	-0.0139***
	(10.67)***	(2.09)**	(-1.25)	(-4.79)
OIL	0.7623	0.2715	0.1368	0.0111
	(3.98)***	(1.64)*	(1.46)	(2.47)**
STC >10%	0.4487	0.2816	0.5393	-0.003
	(2.20)**	(2.29)**	(5.27)***	(-1.00)
SC <10%	0.3261	0.4424	0.5492	0.0069
	(1.91)*	(3.51)	(5.15)***	(1.68)*
No. of obs	143	138	141	143
R^2	0.995	0.938	0.793	0.813

All regressions include a full set of regional dummies as defined in E-K.
Figures in brackets are t-statistics (standard errors are White-corrected).
* Significant at 10% ** Significant at 5% *** Significant at 1%

5. STCs growth and heterogeneity

How heterogeneous are the countries included in the STC "club" in terms of their growth performance? Eleven of the fourteen STCs grow faster than the average in the sample (above 0.4% per year); [10] eight of them show high growth performances (above 2.0% per year); three perform worse than average: Bermuda, the Bahamas and Vanuatu. The latter seems to

[10] The annual growth rates of real per capita GDP (average 1980-95) in STCs are as follows: Samoa 0.6%, Fiji 0.9%, Grenada 3.8%, Cyprus 4.3%, Malta 4.1%, St. Vincent and the Grenadines 3.7%, Vanuatu -0.1%, Seychelles 2.4%, Barbados 0.5%, Bermuda 0.2%, St. Kitts and Nevis 3.9%, St. Lucia 3.8%, the Bahamas -0.1%, Maldives 4.9%.

represent a rather unique case. It is the only initially very poor STC to experience no growth. The other two bad performers are the richest in the group: in 1980 a resident in Bermuda (the Bahamas) was 9 (7.5) times richer than a resident in Vanuatu. Moreover, Vanuatu has also seen its index of tourism specialization fall during the period under analysis.

To get an idea of the relative magnitude of the dispersion of growth rates across STCs, in Table 8 we compare the standard deviation of the growth rates of the various groups of countries. The standard deviation of STCs is higher than that of OECD countries, and is slightly lower than that of all the other groups and of the whole sample.

Table 8

Countries	*S.D. Growth*
OECD	0.008
OIL	0.031
Small	0.023
Small Tour 10%	0.019
LDCs	0.022
All	0.024

Although explaining the observed dispersion in the growth rates of STCs is an interesting issue, it is well beyond the scope of the present paper.[11] Among other things, a satisfactory answer should model, and test empirically, the widely different patterns of tourism development adopted by countries with a comparative advantage in this sector.[12]

In this section we address a simpler and preliminary empirical question – namely, whether countries within the STCs group are becoming more or less homogeneous over time in terms of their growth rates and – perhaps – per capita GDP levels.

A standard way of evaluating the pattern over time of a cross-country index of dispersion is the so-called σ-convergence analysis. Figure 2(a) shows the pattern of the coefficient of variation (%) within the STCs group from 1980 to 1995.[13] σ-convergence was clearly at work between 1980 and 1990: the coefficient of variation decreases from 9.1% to 8.0%, and then it stays constant around this latter value.[14] Again, this pattern differs sharply from the one

[11] A preliminary discussion of why growth rates can differ between STCs and other countries, as well as across STCs, is postponed to section 6 below, where we compare alternative models of growth compatible with our evidence.

[12] For instance, a fast and intense use of the environment could generate a high but declining growth rate; viceversa, a less intense use of the environment could generate growth benefits in the longer run rather than soon. Moreover, destination countries could display some differences in the quality of the tourist services offered, whether in the form of more luxury accommodations or better preserved natural resources, which could match different paths of international demand growth.

[13] In Figure 2 we use the coefficient of variation instead of the standard deviation to control for the rather different averages in per capita income across the various groups of countries.

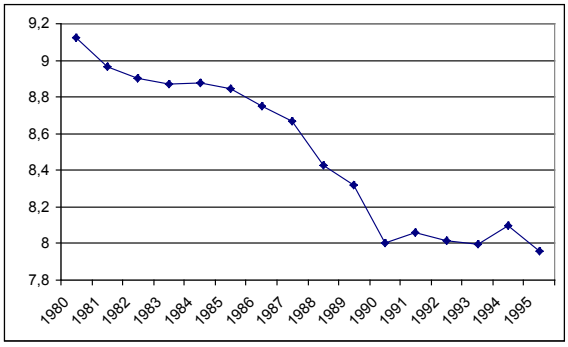
[14] In 1980 the same index was equal to 12.8% for the whole sample and to 4.0% for the OECD countries.

characterizing the group of 15 non-tourism small countries (Figure 2(b)): here the level of the index of inequality is higher (11.8% in 1980) and, more importantly, it is characterized by a clear tendency to increase over time (12.5% in 1995).

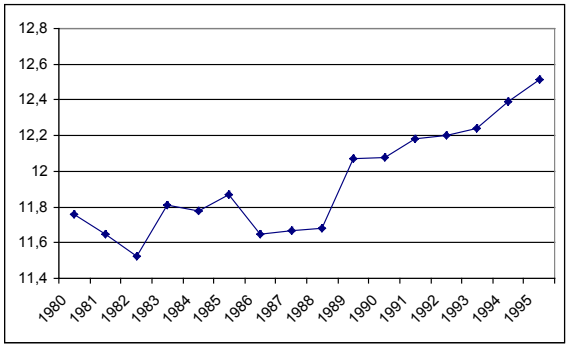
Figure 2. σ-convergence, 1980-95

Coefficient of variation, logs of per capita income

(a) STCs



(b) Small NTCs



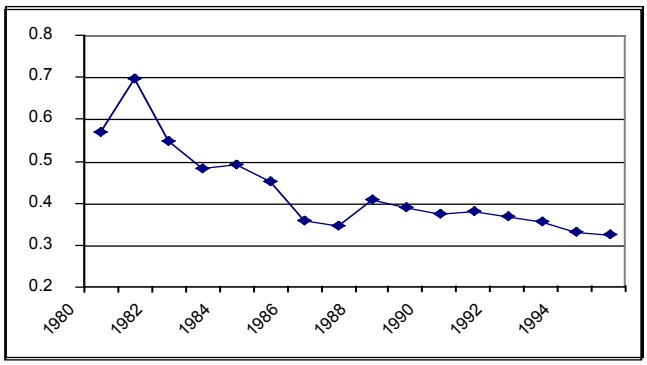
At this stage, it would be helpful to complement the above analysis by testing for the presence of β-convergence across the STCs. However, we have too few cross-section observations (14) for a reliable estimate of a standard cross-country growth regression.[15] Keeping this shortcoming in mind, we report that a OLS regression between growth rates and the logs of the 1980 level of per capita GDP generates a negative (as expected) coefficient equal to –0.0111, significant at the 10% level ($R^2 = 0.189$). Adding a dummy to control for Vanuatu, we obtain a coefficient equal to –0.0115, significant at the 1% level ($R^2 = 0.467$).

It is also interesting to report that, underlying the observed per capita GDP convergence, some convergence also seems to be at work in tourism receipts per arrival. This is shown in Figure 3 below.

[15] A dynamic panel estimate would be possible but it poses a sufficient number of econometric issues to deserve a paper on its own.

Figure 3. σ -convergence, 1980-95

Standard deviation, logs of tourism receipts per arrival



All in all, the evidence discussed in this section gives some support to the idea that a significant part of the observed heterogeneity within the STCs group might be based on a rather simple explanation: within this "club", the dispersion of per capita GDP tends to decrease, with poorer countries growing faster the richer ones. At this stage of our research, we do not know how robust this finding is, as well as whether an absolute or conditional process of convergence is at work – if any. In 1985, the Maldives had a per capita GDP equal to 10% of that of the Bahamas; a decade later, the Maldives had doubled that initial relative value. Are they converging to the high per capita GDP of the Bahamas? Are most of STCs converging to that level? If instead convergence is conditional rather than absolute, is the type of tourism development adopted in a country a relevant conditioning factor? These questions are important and future research should pay them the attention they deserve.

6. Why are the STCs growing fast?

Our evidence shows that tourism can be a growth-enhancing specialization, at least for the period under analysis. Is the above-described performance an episode or are we dealing with something of a more persistent nature? Understanding the mechanisms behind this phenomenon is important, especially from the viewpoint of economic policy. Taken at face value, our results seem to justify a rather optimistic perception of the economic consequences of specializing in tourism. This is not necessarily true. As a matter of fact, various interpretations are possible at this stage. In this section, we discuss explicitly two different mechanisms that could generate the above-described performance, and suggest what type of additional data will be required to identify their empirical relevance.

A simple analytical setting within which the two hypotheses can be defined and compared is offered by Lanza and Pigliaru in a series of papers, (1994), (2000 a,b). In these

papers Lucas's (1988) two-sector endogenous growth model is shown to be simple and detailed enough for the analytical evaluation of the effects of tourism specialization.

Consider a world formed of a continuum of small countries characterized by a two-sector economy (M for manufacturing, T for Tourism) and total labour endowment L, in which the engine of growth – the accumulation of human capital – takes the exclusive form of learning-by-doing, so that pure competition prevails. While physical production in the manufacturing sector is determined by human capital only through its productivity effects on the labour force (L_M) in the sector, production of T requires an additional input, a natural resource whose fixed endowment is $\overline{R}$. This association with natural resources implies that each worker in the tourist sector must be endowed with (at least) a minimum quantity $\underline{\rho}$ in order to make production of T feasible.

The association between L_T and $\overline{R}$ also plays a role in determining the comparative advantage of individual countries. Countries with a small $\overline{R}$ face constraints in the number of workers they can allocate to sector T; no constraint exists in countries with larger $\overline{R}$s. Given the mechanisms governing the determination of the relative price in autarchy, countries with larger L_T ($\overline{R}$) will tend to develop a comparative advantage in T, while the opposite is true for countries with smaller L_T ($\overline{R}$).[16] Notice that, as far as small countries have higher than average $\overline{R}/L$, this result would be compatible with the stylized fact that T countries are generally small.[17]

In each sector the potential for learning-by-doing is defined by a constant, λ_i. In our case, manufacturing is the "high technology" sector, so that $\lambda_M > \lambda_T$. Given that international trade will force all countries to specialize completely according to their comparative advantage, the (physical) growth rate of a country is consequently equal to

$$\frac{\dot{y}_i}{y_i} = \lambda_i, \text{ with } i=T,M \tag{1}$$

However, international trade also affects the terms of trade ($p \equiv p_T/p_M$). In particular, with Cobb-Douglas preferences, p moves in favour of the slow-growing good exactly counterbalancing the growth differential between the two countries, so that in the long run we should expect STCs to grow at the same rate as industrialised countries.[18]

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[16] The details of the role played by are in generating the comparative advantage depends on the demand elasticity of substitution. See Lanza and Pigliaru (2000b).

[17] More on this in Lanza and Pigliaru (2000b)).

[18] In the more general case of CES preferences, the rate of change of p is equal to $(\lambda_M - \lambda_T)\sigma^{-1}$, where σ is the elasticity of substitution, so that the terms of trade effect will outweigh the productivity differential when σ is smaller than unity (see Lanza and Pigliaru, 1994, 2000a,b)

This holds by keeping the utilisation of the natural resource constant. Consider now a T country in which, at a certain point in time, not all $\overline{R}$ is used, so that $\rho < \overline{\rho}$, where $\overline{\rho} \equiv \overline{R}/L$ is the upper limit of natural resource per worker in the event of complete specialization in T. If in this country the rate of utilization of its natural endowment increases, then its growth rate in terms of the manufacturing good is equal to

$$\dot{y}_T/y_T + \dot{p}/p + \dot{\rho}/\rho \,. \tag{2}$$

However, this growth rate can only be observed in the short-term. In the long-run, $\dot{\rho}/\rho$ tends to zero as the upper bound $\overline{\rho}$ is approached. Consequently, in the long-run tourism specialization neutral for growth (unless the cases of σ greater/smaller than 1 are considered).

This simple analytical setting can be used to define alternative explanations of why STCs have grown faster.

The pessimistic interpretation. International preferences are Cobb-Douglas (or CES with $\sigma > 1$), so that the terms of trade effect cannot outweigh the productivity differential. In this case, other things being constant, the index of tourism specialization should play no role in our regressions (a negative role with $\sigma > 1$). If that is the case, a way to reconcile theory with our evidence is that, perhaps, the rate of utilization of the natural endowment in STCs has increased significantly during the period under analysis ($\dot{\rho}/\rho > 0$), so that

$$\dot{y}_T/y_T + \dot{p}/p + \dot{\rho}/\rho \;>\; \dot{y}_M/y_M \;\geq\; \dot{y}_T/y_T + \dot{p}/p \tag{3}$$

Clearly, with this additional term, the growth rate of a T country can be greater than $\dot{y}_M/y_M$, the growth rate of the average M country. However, this performance can only be observed in the short-term. In the long-run, $\dot{\rho}/\rho$ tends to zero as the upper limit $\overline{\rho}$ is approached. In this setting, in the long-run the T countries should not outperform the M countries.

The optimistic interpretation. The second interpretation relies on a "terms of trade effect". In words, tourism is not harmful for growth if the prevailing international terms of trade move fast enough to more than offset the gap in sectoral productivity growth. If this happens, the sum $\dot{y}_T/y_T + \dot{p}/p$ would be persistently greater than $\dot{y}_M/y_M$. In terms of the model to which we have referred in this section, $\sigma < 1$ is sufficient for this result to hold.[19] Adding non-homothetic preferences with T as the luxury good would yield further analytical support to the

[19] For evidence favourable to this hypothesis, see Brau (1995), Lanza (1997) and Lanza, Urga and Temple (2003).

possibility that the terms of trade move fast enough in favour of the T good [20] and, consequently, to an optimistic interpretation of our current evidence. In both cases we have:

(4) $$\dot{y}_T/y_T + \dot{p}/p + \dot{\rho}/\rho \; > \; \dot{y}_T/y_T + \dot{p}/p \; > \; \dot{y}_M/y_M$$

To sum up, we have "productivity pessimism" and "terms of trade optimism". A growth episode based on a fast supply expansion in the T sector might temporarily hide the growth-neutral or even damaging nature of tourism specialization. On the other hand, consumer preferences might be such that tourism specialization (or some types of tourism specialization) is highly valued in the international marketplace. This second mechanism – not crucially based on output expansion – tends to make sustainability of tourism-based development easier to achieve.

An important task for future research is to identify the relative importance of the various types of growth-enhancing mechanisms associated with tourism specialization, in order to assess their economic (and environmental) sustainability. Cross-country data on the dynamics of the terms of trade between tourism services and a composite other good are required, as well as data on the natural resource endowment and indexes of the latter's degree of exploitation for tourism purposes.

7. Concluding remarks

Specializing in tourism is an option available to a number of less developed countries and regions, in which development through industrialization is not easy due to the existence of persistent gaps in technology levels.

Is tourism a *good* option? To answer this question, we have compared the relative growth performance of 14 "tourism countries" from a sample of 143 countries, observed during the 1980-95 period. We have documented that the STCs grow significantly faster than all the other sub-groups considered in our analysis (OECD, Oil, LDC, Small). Moreover, we have shown that the reason why they grow faster is not that they are poorer than average; that they have particularly high saving/investment propensities; that they are very open to trade. In other words, our findings point to the fact that the positive performance of STCs is not significantly accounted for by the traditional growth factors of the Mankiw, Romer and Weil type of models. Tourism specialization appears to be an independent determinant.

A corollary of our findings is that the role played by the tourism sector should not be ignored by the debate about whether smallness is harmful for growth (e.g. Easterly and Kraay (2000), who conclude that there is no growth disadvantage in smallness). Half of the thirty

[20] See also Pigliaru (2002).

countries classified as microstate in this literature are heavily dependent on tourism. Once this distinction is adopted, it is easy to see that the STCs perform much better than the remaining small countries. In our findings, smallness per se can be bad for growth, while the opposite is true when smallness goes together with tourism specialization.

Taken at face value, our results seem to justify a rather optimistic perception of the economic consequences of specializing in tourism. This is not necessarily true. As a matter of fact, various interpretations are possible at this stage. In section 7, we have discussed two alternative mechanisms that would be compatible with our empirical evidence. The first is based on a "terms of trade effect" which would allow STCs to enjoy sustainable fast growth in the long-run. The second implies a far less optimistic scenario: STCs can obtain fast growth for a period by accelerating the exploitation of the environment to which tourists are attracted. The long-run scenario might be very different, especially if the dynamics of sectoral productivities are in favour of high-tech industries, as suggested by much of the endogenous growth literature.

Identifying the relative strength of these mechanisms in explaining the positive performance of the STCs is an important task that we will deal with in future stages of our research.

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Appendix: Data sources

The Easterly-Kraay (E-K) "Small States dataset"

This dataset consists of 157 countries for which at least 10 years of annual data on per capita GDP adjusted for differences in purchasing power parity are available. Among these countries 33 are defined as small countries having an average population during 1960-95 of less than one million. Other variables include:

a) Regional Dummies (country selection from the World Bank World Tables (WB))
b) Real GDP per capita measured in 1985 international dollars. (Source: Penn World Tables mark 5.6 (PWT)). Missing observations in the PWT are filled where possible using PPP-adjusted GDP estimates reported by the WB.
c) For a more exhaustive description on data sources see p. 2027 of E-K (2000).

The dataset used in this paper:

Our dataset consists of 143 countries for which at least 10 years of annual data on per capita GDP adjusted for differences in purchasing power parity are available. A set of different dummies have been considered:

a) According to population
29 are Small Countries (average population during 1960-95 <1 million)

b) According to Tourism specialization

10 are Tourism Countries with a specialization >= 20%. (For a complete definition of specialization see below).
13 are Tourism Countries with a specialization >= 15%
17 are Tourism Countries with a specialization >= 10%
3 countries among this group are not small (Jamaica, Singapore and Jordan)

c) According to Tourism specialization and Population

19 are Small not Tourism (specialization <= 20%)
17 are Small not Tourism (specialization <= 15%)
15 are Small not Tourism (specialization <= 10%)

c) Other relevant dummies

37 Less Developed Countries (of these, 6 Small not Tour and 2 Small Tourism)
21 OECD
14 Oil

The main source of data for our dataset can be found here:
http://www.worldbank.org/research/growth/GDNdata.htm

Variables:

1. **Real per capita GDP Levels** (International Prices, base year 1985): Source: PWTables 5.6. Missing observations from Global Development Finance and World Development Indicators.

2. **Real per capita GDP growth Rate:** logs of first available year and last year as below:

$$Ln\left(\frac{GDP_{t1}}{GDP_{t0}}\right)/T$$

This variable has been computed for 1960-95, 1980-95, 1960-80.

3. **Average Tourism Specialization**:

$$\left(\frac{\text{International Tourism receipts}}{\text{GDP at market prices}}\right)$$

Source for both series (World Bank Development Indicators, current US$)
This variable has been computed for 1960-95, 1980-95, 1960-80

4. **Average Share of Trade**:

$$\left(\frac{\text{Imports} + \text{Exports}}{\text{GDP at market prices}}\right)$$

Source for both series (World Bank Development Indicators, current US$)
This variable has been computed for 1960-95, 1980-95, 1960-80

5. **Average Investments to GDP**: Source: PWTables 5.6. The GDP values are PPP adjusted and the variables are computed for 1960-95, 1980-95, 1960-80.

6. **Average Secondary School Enrolment rate:** Secondary School enrolment rate (gross) (Source: WB Development indicators 2000)

7. **Average Standard Deviation of Growth Rate**: Growth rates of (2).

The different subsets of countries are listed below:

OECD	
1	Australia
2	Austria
3	Belgium
4	Canada
5	Denmark
6	Finland
7	France
8	Iceland
9	Ireland
10	Italy
11	Japan
12	Luxembourg
13	Netherlands
14	New Zealand
15	Norway
16	Portugal
17	Spain
18	Sweden
19	Switzerland
20	United Kingdom
21	United States

Oil	
1	Bahrain
2	Gabon
3	Angola
4	United Arab Emirates
5	Congo, Rep.
6	Algeria
7	Iran, Islamic Rep.
8	Iraq
9	Kuwait
10	Nigeria
11	Oman
12	Saudi Arabia
13	Trinidad and Tobago
14	Venezuela

SMALL	
1	Bahamas, The
2	Bahrain
3	Barbados
4	Belize
5	Bermuda
6	Botswana
7	Cape Verde
8	Comoros
9	Cyprus
10	Djibouti
11	Fiji
12	Gabon
13	Gambia, The
14	Grenada
15	Guyana
16	Iceland
17	Luxembourg
18	Maldives
19	Malta
20	Mauritius
21	Samoa
22	Seychelles
23	Solomon Islands
24	St. Kitts and Nevis
25	St. Lucia
26	St. Vincent and the Grenadines
27	Suriname
28	Swaziland
29	Vanuatu

LDC	
1	Angola
2	Bangladesh
3	Benin
4	Burkina Faso
5	Burundi
6	Cape Verde
7	Central African Republic
8	Chad
9	Comoros
10	Congo, Dem. Rep.
11	Djibouti
12	Ethiopia
13	Gambia, The
14	Guinea
15	Haiti
16	Lao PDR
17	Lesotho
18	Liberia
19	Madagascar
20	Malawi
21	Maldives
22	Mali
23	Mauritania
24	Nepal
25	Niger
26	Rwanda
27	Samoa
28	Sierra Leone
29	Solomon Islands
30	Somalia
31	Sudan
32	Tanzania
33	Togo
34	Uganda
35	Vanuatu
36	Yemen, Rep.
37	Zambia

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