The European Journal of Comparative Economics
Vol. 3, n. 2, pp. 289-314
ISSN 1824-2979

Specialization and Growth Perspectives in the South Mediterranean Area

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Abstract

This paper empirically analyses overall specialization and revealed comparative advantages of the South Mediterranean countries. The paper has been divided into two sections. The first section deals with the relation between overall specialization and per-capita income, through a semi-parametric estimation of three different indexes of overall specialization, all derived from the distribution of sectoral revealed comparative advantages. GAM estimation demonstrates that overall specialization decreases with the rise of per-capita income and economy size (country specific effects are also considered). The second section deals with South Mediterranean countries, and describes them as countries that have a very high level of overall specialization, due to general and specific characteristics. In particular, there is a high concentration of revealed comparative advantages (RCAs) in traditional products. It is interesting to note that while RCAs are linked (not surprisingly) to low wage levels, very low level of productivity negatively influences unit costs, that are relatively high in most of the non-traditional sectors. Finally, these characteristics seem to be a consequence of limited openness of the South Mediterranean economies.

JEL classification: F14, O19

Keywords: Growth, Specialization, Mediterranean Countries

1. Introduction

The link between international integration and economic growth and development has always stimulated the attention of scholars', recently and in the past. Different approaches exist on this subject.

Possibly, the effects of trade openness (a concept with many dimensions) is one of the most trated issues. From an empirical point of view, findings are not completely clear, because the relationship between the two variables (openness and growth) comes out to be statistically not very robust (Temple, 1999).

The most direct effect of openness is, obviously, a process of specialization of the involved areas.

This paper intends to give a contribution exactly in this direction. In particular, the relationship between trade specialization and growth and development has been dealt with an emphasis on the position of the South Mediterranean countries (MEDs). These latter have been selected on a geographical criterion: Southern non-E.U. countries with the coast on the Mediterranean sea; from east to west, they go from Turkey to Morocco.[2]

There are two main sections, the first one highlights the general link between overall specialization and the level of development, and the second one on the specificities of the various Mediterranean countries.

[1] Contact: m.tamberi@univpm.it This research received financial support by the MIUR research project 2002133377_003. I wish to thank two anonymous referees for their useful comments. The usual discalimers apply.

[2] Libya has been excluded, because of lack of data. There are very few data on Lebanon.

The first section expands and generalizes the results of previous works. It confirms the existence of an inverse relation between overall specialisation and the level of development and, moreover, I am able to show that this is independent of economic size (that has its own influence). The analysis is carried out through a semi-parametric estimation in which the MEDs are included in a wider sample. This first part introduces new insights into the topic, providing a general framework where MEDs specific experience can be more precisely evaluated.

Then, I will try to disentangle the specific position of MEDs.

Since it will be shown that a measure of overall specialisation is directly derivable from the whole distribution of sectoral comparative advantages, it is easy to pass on to a sectoral analysis in the second half of the paper.

A deep glance to these aspects, where other economic indicators are also considered, shows the relevant sectors and some weak aspects (unit labor costs) of the MEDs. A general interpretation of the findings is then proposed in the last section, together with some policy suggestions.

2. Relationships between international integration, trade and growth

There is a long and complex analysis on the links between international integration and economic growth that it is not possible to efficiently synthesize here; because of this reason, there are only few references on this point.

The first thing I would like to point out is that, at least among economists, the idea that international integration in its various forms (particularly FDI and trade) has beneficial effects on economic growth is largely prevailing. In reality, empirical research has not provided irrefutable proofs in this direction, in consequence of measurement problems and econometric difficulties (Temple, 1999).

A general framework, to face this subject, can be derived from the results of the recent stream of growth models (but also from preceding, and even old, contributions to the study of "modern economic growth"), that underline the role of technological progress and human capital accumulation in the growth processes. In a world with strong economic polarization, a mechanism of creation and imitation of technology is a relevant aspect of reality: economic growth of advanced areas depends on endogenous processes, while a fundamental channel for developing areas has to do with international transfer of technology and human capital (and this explains the role for imitative processes). In terms of theoretical models we can speak of endogenous growth models for the first, and catching-up models for the second.

International integration, both in economic and in general terms, constitutes the necessary condition for technology and human capital transfers. In general, these latter pass through different channels: FDI, Exports, Migrations

Knowledge transfer processes are not inevitable mechanisms and, as a proof of this, there is a strong persistence of highly differentiated development levels around the world. Even if, in recent years, an inversion of the secular trend of inequality expansion seems in action (Sala-i-Martin, 2003), differences are still enormous and many countries and areas in the world do not have positive signs of development. Generally there is a tendency, nowadays, to attribute this heterogeneity in experiences of development to institutional variables of some kind. This also happens in the case of the Middle East and North Africa (Kuran, 2004; Yousef, 2004).

Specifically, it is well known that simple catching-up processes are not sufficient to guarantee that a country will arrive up to the "frontier" (Sachs, 2000). But we should

consider that many factors helping the capacity of imitation, in particular those linked to human capital (and social, if we precisely knew its meaning), are also factors that are able to gradually drive the economy toward an endogenous growth.

As said above, if integration processes are a fundamental channel for technology transfer, they also change the relationship among different areas through another way, because they cause more or less intense processes of productive specialisation and, as a consequence, influence the economic performance again.

Since the specific links between economic growth and international specialization are a central theme to this paper, it is convenient to clarify this aspect. Generally there has to be a distinction between static and dynamic effects.

In the first case, trade integration lets countries exploit comparative advantages, which allow them to benefit from static gains in efficiency. Nevertheless, this process influences economic growth only temporarily, with a "step" effect (if short run growth has no effect on long run growth). Differently, when dynamic scale economies are at work, for example due to learning-by-doing effects, dynamic gains can be realized with permanent effects on economic growth.

Nevertheless, the picture has negative sides also. In fact, in models with dynamic scale economies, there is the possibility of negative effects of specialisation on the relative rate of growth of the economy (Lucas, 1988). It can happen if comparative advantages address specialization toward sectors with low potentialities of learning-by-doing. An example is when a developed area specialises in "modern" goods as a consequence of its comparative advantages, and they are associated with greater dynamic scale economies, thereby causing a high rate of growth. Meanwhile, the less developed area specialises in "traditional" goods as a consequence of its comparative advantages, and this causes a lower rate of economic growth because of the less intense dynamic scale economies.

Finally, and strongly simplifying, it is possible to say that growth possibilities for a follower are linked to the existence and to the intensity of spillover effects, both sectoral and regional, as well illustrated in some growth models (Grossman, Helpman, 1991).

In conclusion, international trade, in the presence of static and dynamic scale economies, can foster but also limit, through specialisation, the catching-up of the follower countries. Factors influencing polarization or diffusion of economic activity may greatly differ in time and space, so that the general conclusion of theoretical models should then be attentively "calibrated" in the specific context of analysis.

3. Two different meanings of international specialization and how to measure them

The term "specialization", even if currently used, has a certain degree of ambiguity in its meaning. For this reason I would like to clarify what I mean by "specialisation", since the whole paper is built on this concept. If one looks at the literature, it will be evident that "specialization" means at least two different concepts, not necessarily interrelated, both in a static and in dynamic sense.

The first meaning refers to the particular efficiency in producing a specific good in a specific area; for example people say that "country X specialises in good Y". This is precisely the concept of comparative advantage and in the previous phrase the expression "specialises" can be substituted with "has a comparative advantage". "Specialization" is often used in this meaning.

But there is also another meaning . It refers to the level of overall specialization and in particular to the degree of productive or trade differentiation, that is to the bulk of different goods produced or traded by a specific area. It is analogous to the concept of statistical concentration: for example people say that "country X is highly specialised", in the sense that its production (or trade) is highly concentrated from a sectoral point of view.

In the literature these two kinds of meanings are sometimes defined as "Ricardian specialization" in the first case, and "Smithian specialization" in the second.

A link between the two concepts can be made if with the term "overall specialization" we mean the bulk of different goods that are efficiently traded by a specific area. In this way "overall specialisation" measures if an area shows comparative advantages in a wide or restricted range of goods. In this work I will use the concepts of comparative advantage (CA) and overall specialisation (OS) in the precise sense I have just illustrated.

Recently, a few papers (references can be found in De Benedictis L., Gallegati M., Tamberi M., 2007) empirically explored the evolution of OS, but in a way that does not explicitly allow to move from CA measures to OS measures, thereby obscuring the link between the two concepts. In the present paper a difference with that literature depends precisely on the fact that this direct passage from CA to OS is developed in a natural way. Nevertheless, consider that even if it is possible to build this conceptual (and empirical) linkage between the two concepts, it does not mean that changes in one of them necessarily imply changes in the other (or that changes go in the same direction).

On the measurement side, it is well known that it is not possible to measure CA in a way that directly derives from the theory, and this difficulty derives from the impossibility to measure autarchic prices.

As a consequence economists are used to calculating indexes of revealed CA, as the such widely used Balassa Index [3] (BI, from Balassa, 1956). As is well known, BI is a measure of sectoral export share of a country with respect to the world share. It is an asymmetric index, since in principle $0 \leq BI \leq \infty$ (1 is the demarcation value between comparative disadvantages and advantages).

In this paper I will consider the whole sectoral BI distribution of a country as a basis on which it is possible to provide a general OS index. I would like to add that among the various papers that have analyzed the evolution of OS and its link with the process of development, there are many different approaches, both in the data utilized to build the synthetic statistical measures of OS, and in the measures themselves. As a consequence results are differentat among papers. It is not the scope of this paper to fill this gap in research, and probably more than one paper would be necessary to this end. My purpose, here, is to carry out a systematic and robust analysis inside a framework limited by the use of trade data (instead of employment or production data), relative statistical indexes (instead of absolute ones), a semi-parametric econometric methodology (instead of a purely parametric approach).

[3] $BI = (x_i/x) / (X_i/X)$ where small letters refer to the country, capital letters to the world, *i* is for sector and its absence (x *or X*) means that we are referring to the whole export aggregate. Its interpretation can follow three different lines:

1) to provide a demarcation line among countries showing a *CA* in a specific sector and countries that do not have it
2) to quantify the degree of specific *CA* of a country with respect to other countries
3) to provide a ranking of sectors (in a country) according to the index

Along these lines I will employ three different OS indexes:

first, it is possible to use a positional index of distribution. Since BI, as said before, is an asymmetric index, the median (OS_{me}) more than the mean seems an appropriate index (De Benedictis L., Tamberi M., 2004). It is an inverse index of OS: a high OS_{me} means that there are many sectors with comparative advantages which indicates that the country has a low OS (it trades many goods efficiently)

a second index may be called "relative Gini" index (OS_{rg}), already proposed, in a partially different context, by Amiti (2000). In terms of the Lorenz curve, it is calculated ranking sectors according to their growing BI and measuring national shares (BI numerator) on the y axis and world shares (BI denominator) on the x axis. With data ordered according to their growing BI:

$$OS_{rg} = \sum_{i=1}^{n-1}(p_i - q_i) / \sum_{i=1}^{n-1} p_i$$

where q_i and p_i are cumulated shares of the numerator and denominator of the BI respectively, and i denotes sectors.

It ranges from 0, when a country has the same export shares distribution as the world, to 1, the case of maximum concentration (that is, maximum OS).

finally, it is possible to use a Theil relative index (OS_{th}), that is an entropic index where the numerator and denominator of BI are proportionally confronted:

$$OS_{th} = \sum_{i=1}^{n}(x_i / x)\ln\left[(x_i / x)/(X_i / X)\right]$$

OSth can be interpreted as a weighted sum of the sectoral BI, with national export shares as weights, and it ranges from 0 (minimum OS) to ∞ (maximum OS). Entropic indexes are used in a growing number of applications in economics (for example in income distribution studies).

These indexes are all indexes of relative statistical dispersion and they have the advantage to allow a simple shift from CA measure to OS measure, since the latter is built on the basis of the distribution of the first. If other traditional indexes of (absolute) statistical dispersion were used, like Gini's or Herfindha's, this direct shift would be lost and, moreover, the distribution benchmark would be equidistribution, whose interpretation is not, in this context, fully clear.

In relative indexes both country and world data are relevant for the final result. This means that changes in world distribution automatically reflect in OS measures, even if national distribution has not changed. This is an advantage. Consider the case of an unchanged national distribution. A Gini index obviously shows an unchanged situation, even if, in the meanwhile, the world structure has changed in a significant manner due to, for example, changes in technology or demand structure. Instead, relative indexes, like those proposed in this paper, would be sensible to changes of that kind in world structure, and it seems reasonable if the analysis of specialization is used to understand

the position of a country in world economy. Consequences in terms of economic growth, firm profitability and other economic variables depend a lot on the relative position of a country with respect to technological and demand dynamics at world level.[4]

4. Overall Specialisation and the level of development

Data

Specialization, both in the sense of CA and in that of OS, is used here in order to evaluate the growth perspectives of the MEDs.

For this reason, in this section I will give indications first on the general relationship between the three OS measures, the level of development (measured by per capita income, YPC), the economy size (measured by the total income, Y), and second on the specific position of the MEDs in this general picture.

There are not many empirical works on the relationship between OS and the level of development; Imbs and Wacziarg (2003), Hummels and Kleanow (2000), two complementary works, are perhaps the most relevant.

In this paper export manufacturing data are used from UN datasets (ECLAC, 2003), and income, both per capita and total, in PPP, 1995 international $, from World Bank WDI 2004:

period: 1985-2001

sectoral aggregation: 4 digit SITC rev. 2 (539 manufacturing sectors)

number of countries: 43, all countries for which GDP PPP 1998 > 100 billion dollars, plus the MEDs not included in the previous group[5] (for the complete list see table 3).

As said before, in other works production, value added or employment data have been given used. Each choice has its advantages and disadvantages. In this case trade data are preferred because of their completeness and sectoral disaggregation (and, possibly, higher reliability).

Methodology

In the literature, both from a theoretical and an empirical point of view, there are not clear indications on the shape (and even on the direction) of the relationship between OS and YPC. For this reason I will use semi-parametric econometric methods, following an already cited previous paper with other authors (De Benedictis L., Gallegati M., Tamberi M., 2007). The advantage of such methods is that they locally estimate the relation, without a priori assuming its general shape.

Among the various alternatives I opted for a semi-parametric estimation using a GAM (Generalized Additive Model; Hastie, Tibshirani, 1990). Generally speaking a GAM can be represented by

$$y_i = \alpha + f_j (x_{ij}) + \varepsilon_i$$

[4] The three *OS* indexes are strongly empirically correlated to each other.

[5] Because of lack of data for some years, Lebanon has not been included in the sample for the estimation (so reduced to 42 countries), even if some other aspects of this country are analyzed in the final sections.

where α is a parametric intercept and f_j the non-parametric function linking y to x; ε_i is the error term.

For the non-parametric function I use a LOESS. With a LOESS estimation the error minimization procedure is as follows:

$$\min_{\alpha,\beta_1,\ldots,\beta_p} = \sum_{i=1}^{I} [y_i - \alpha - \beta_1(x_i - x) - \ldots - \beta_2(x_i - x)^p]^2 w(x_i - x; h_i)$$

It is a least-squares problem of a locally weighted polynomial of degree p (usually set equal to 1 or 2); h_i is the bandwidth (or smoothing parameter), function of i, that is variable according to data density;[6] w is the adopted kernel function for the smoothing procedure.

Throughout the paper I use a normal kernel function, different spans (see below), and a degree of the polynomial set both at 1, for linear local estimations, and at 2, for non-linear local estimations. The OS term is alternatively measured by the three indexes discussed above: OS_{me}, OS_{rg}, OS_{th}.

In general, it is not usual to present many tests for non-parametric estimations even in GAM estimations. The interest is focused on the shape of the relation more than on the specific values of the local estimates. As a consequence diagrammatic methods are preferred in the interpretation of the results.

Nevertheless, Hastie and Tibshirani (1990) show that it is possible to do F tests on the non-parametric component under the same conditions of GLM estimations (large samples or normal distributed errors).

Results

As anticipated, following a recent literature, I have analysed the relationship between the level of development and overall specialization, however considering other possible influences on OS also. In particular, the size of the economy, as suggested in a recent paper (Hummels and Kleanow, 2002), and countries specificities seem good candidates in order to explain the level of OS.

Going in this direction, I estimated equations with three different spans, equal to 0.25-0.5-0.75, with parametric fixed effects for all countries and non-parametric (LOESS) functions between OS and YPC, and OS and Y.

Summarizing, estimated functions always have the following form:

$$OS_{ct} = \alpha_c + f_j\,(YPC_{ct,j}) + g_j\,(Y_{ct,j}) + \varepsilon_{ct}$$

where the subscript c is for country and t for time. The country-specific dummies α_c should capture the effects of variables characterizing the various countries in a

[6] The LOESS component has the advantage of utilizing a variable bandwidth, defined as a share of the whole number of observations; the variable bandwidth, called span, is, in practice, an inverse function of data density. This seems appropriate, since the sample used is characterized by areas of different data density. In short, using the LOESS estimation the degrees of freedom is maintained constant in the different local estimations.

structural way, while $f_j(YPC_{ct,j})$ and $g_j(Y_{ct,j})$ are the LOESS functions linking YPC and Y to the different OS measures.

As said before, I expect, obviously, an inverse relationship between OS and Y, since small economies are usually more specialised than big ones, while there are not clear indications from literature on the relation between YPC and OS. My a-priori, also based on my the previous cited work, is that countries at higher level of development should have a low level of OS (inverse relation).

Looking at the graphical analysis, the results of the estimation for the three OS indexes, in the case of span=0.75, are illustrated in figure 1, where, taking into account the country effects, the marginal relationship between OS and YPC, OS and Y, estimated through the LOESS, is shown. After the comments on figure 1 I will show F tests for all the utilized spans and indexes.

It is evident that, in all the analyzed cases, with OS_{me}, OS_{rg}, and OS_{th} used alternatively as a dependent variable, I have very similar results: the relationship between the level of development and OS clearly appears as an inverse one, in the sense that the degree of OS decreases when the level of development increases. More developed countries have a higher diversification of their exports. Besides, as expected, OS is less pronounced at higher levels of GDP (Y) since big economies are in a better position to profit from the presence of economies of scale in many sectors.

A further minor observation is the fact that the evidenced relationship between OS and YPC seems to be characterized by a slight degree of non-linearity, mainly present in its first part (low-medium levels of YPC).

To conclude this point, it is possible to say that, in addition to the specific (but quite similar) results of the various estimations, where the OS indexes or the spans are changed, we have a constant general picture of an inverse relationship between OS and YPC and between OS and Y. Countries with high per capita income and high GDP show a low level of overall specialization, measured through trade data; that is to say that, not surprisingly according to the author, low income and small countries have high efficiency levels only for a restricted number of goods and, as a consequence, have a high level of overall specialization (high OS_{rg}, high OS_{th} and low OS_{me}, that is an inverse index of OS).

Joined significance tests are summarized below in table 1: significance is maintained for all spans and all indexes.

The best results in terms of non-parametric F tests are obtained with a span of 0.75, and, at all spans, with the OSth index. Moreover, it is worth noting that F tests for non-parametric components are generally higher in the case of YPC.[7]

The sample, more than 700 observations, is sufficiently large to guarantee the reliability of the F test.[8]

[7] I have also estimated similar regressions using a second degree polynomial in both non-parametric relationships. Results are highly similar to those discussed in the text; the only remarkable difference is a more pronounced non-linearity of the non-parametric functions, especially in the case of *OSth*, but the sign of the slopes remains unchanged (monotonic functions).

[8] An analysis of residuals has also been carried out; q-q plots evidence a departure from the normality hypothesis in all cases. This is confirmed by the results of a Jarque-Bera test. Nevertheless, it does not appear as a serious problem for the general linkage that emerges between the variables.

Figure 1: Non-parametric functions (span = 0.75)

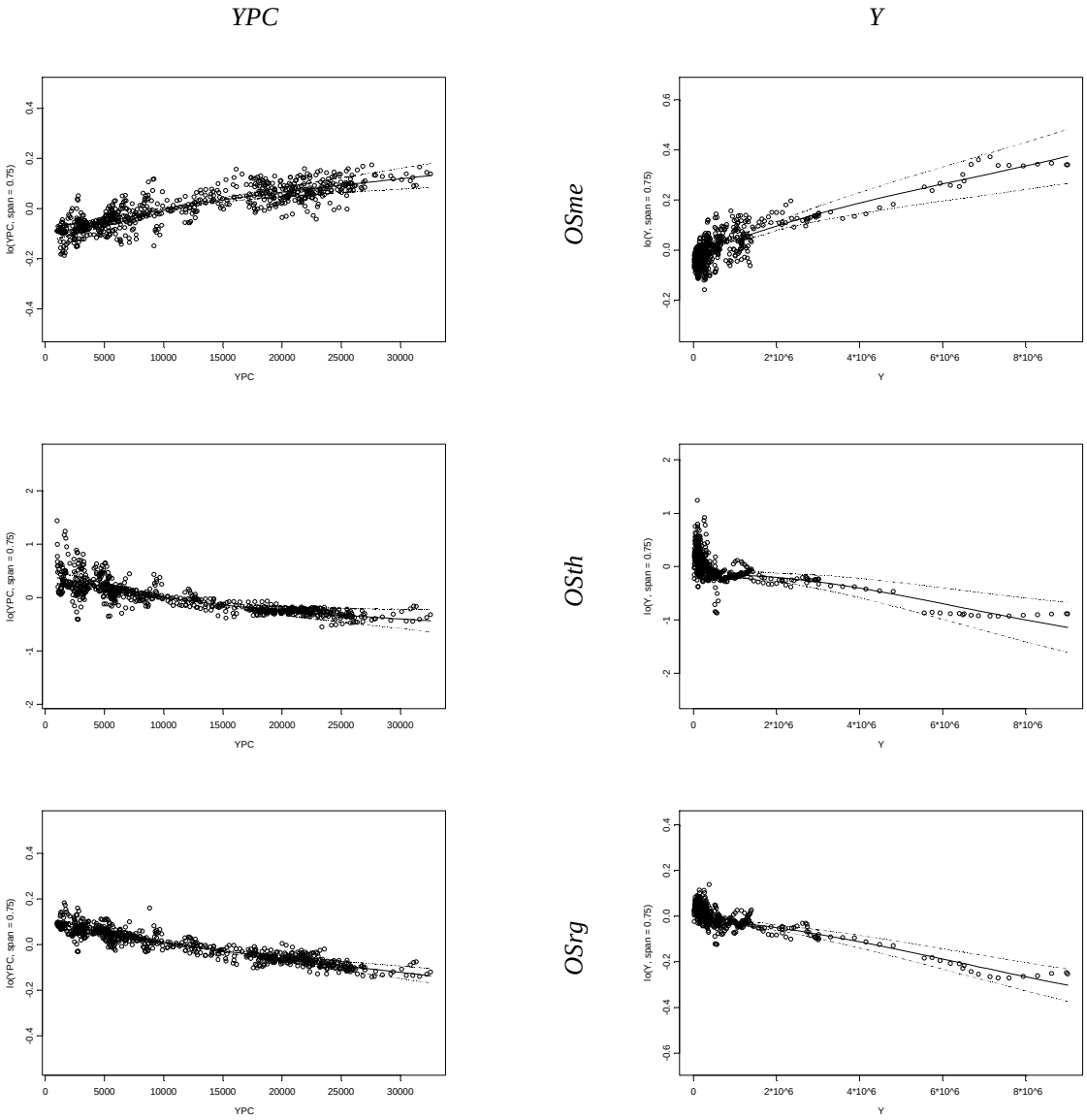


Table 1: F Tests for the Loess component of semiparametric regressions

		Ypc		Y	
		F	Pr(F)	F	Pr(F)
	OSme	13.41	0.00	4.95	0.00
Span = 0.75	OSth	24.12	0.00	8.42	0.00
	SCrg	10.56	0.00	6.94	0.00
	OSme	5.71	0.00	3.09	0.01
Span = 0.5	OSth	15.36	0.00	7.39	0.00
	OSrg	5.87	0.00	6.01	0.00
	OSme	4.65	0.00	4.79	0.00
Span = 0.25	OSth	9.70	0.00	8.33	0.00
	OSrg	7.09	0.00	6.34	0.00

Considering that cross sectional variability is completely captured by the specific countries' intercepts,[9] my interpretation is that along the process of economic growth countries develop a richer matrix of products in which they are able to obtain a comparative advantage, and so they progressively reduce their level of OS.[10]

5. Position of the Mediterranean countries

It is time to come back to the specific subject of this paper, trying to disentangle the position of the MEDs inside the general picture which emerged in the previous analysis.[11] In previous figure the marginal relationship between OS and YPC and Y is showed. Now, going to individual country level, I will show their effective position, passing to average data of the variables.

Generally speaking, MEDs are low-developed and small-sized economies. As demonstrated in the previous econometric analysis, high levels of OS, as in the case of the MEDs,[12] may derive from a low level of YPC and a limited economy size. Nevertheless, in an integrated world economy the internal bound can be by-passed, as in the case of so-called super-trader countries (where export and import sum largely exceeds the level of GDP).

I will now show that countries have different positions with respect to their specific capacity to overcome the limits to their OS level deriving from their level of development and size.

In fact, table 2 shows countries ranked according to their specific α_c (decreasing in the case of OS_{me}, increasing in the cases of OS_{th} and OS_{rg}). The table shows the

[9] It should be stressed that the dispersion of the original data is captured by these country-effects in a relevant share.

[10] It is to be stressed that in all the observed cases the relationship between *YPC* and *OS* is monotonic, while, for a different result, see the work of Imbs and Wacziarg (2003).

[11] Parallel considerations, based on simple descriptive statistics relative to the first half of the nineties, can be found in Havrylyshyn and Kunzel (1997), and Yeats and Ng (2003).

[12] Similar considerations, on high level of *OS*, even if referred to a more restricted geographical context, can be found in Makdisi, Fattah and Limam (2003).

values of the specific country coefficients. Estimations always refer to a span of 0.75. The MEDs are highlighted in bold.

Table 2: Country-specific α_c parameters (OS=f(YPC,Y), span=0,75)

Data ordered according to decreasing effect on the level of OS

OSme		OSth		OSrg	
France	0,771	UK	0,604	UK	0,425
Italy	0,735	Netherland	0,609	France	0,435
Uk	0,725	France	0,636	Netherland	0,464
Spain	0,686	Austria	0,673	Austria	0,533
Netherland	0,683	Belgium	0,691	Italy	0,537
Austria	0,677	Spain	0,700	Spain	0,555
Belgium	0,559	Thailand	0,701	Belgium	0,571
Sweden	0,488	Sweden	0,706	Sweden	0,600
Denmark	0,482	Korea	0,714	Brazil	0,605
Brazil	0,479	Mexico	0,736	Korea	0,607
Poland	0,476	Italy	0,825	Poland	0,608
Switzerland	0,413	Brazil	0,851	Thailand	0,637
USA	0,398	Poland	0,875	Mexico	0,645
Australia	0,373	Malaysia	0,881	Denmark	0,649
Korea	0,361	Denmark	0,900	Argentina	0,680
Argentina	0,344	Japan	0,905	Portugal	0,687
Mexico	0,314	Philippines	0,995	Colombia	0,700
Colombia	0,314	China	1,020	China	0,703
Japan	0,310	Canada	1,073	Japan	0,704
Thailand	0,308	Portugal	1,110	Australia	0,709
China	0,294	Switzerland	1,129	Indonesia	0,727
India	0,274	Argentina	1,218	Malaysia	0,732
Portugal	0,262	Colombia	1,328	Switzerland	0,734
Norway	0,261	Finland	1,330	India	0,743
Canada	0,250	Australia	1,352	USA	0,744
Malaysia	0,244	**Turkey**	**1,376**	**Turkey**	**0,745**
Turkey	**0,241**	Norway	1,395	Canada	0,745
Finland	0,237	India	1,464	Syria	0,750
Indonesia	0,234	USA	1,514	Finland	0,751
Egypt	**0,226**	**Israel**	**1,516**	Philippines	0,759
Syria	**0,213**	Venezuela	1,577	**Egypt**	**0,766**
South africa	0,213	Greece	1,592	Venezuela	0,768
Greece	0,202	Indonesia	1,603	Norway	0,780
Venezuela	0,188	**Egypt**	**1,636**	**Israel**	**0,790**
Israel	**0,181**	**Syria**	**1,712**	Greece	0,800
Philippines	0,172	**Tunisia**	**1,886**	**Morocco**	**0,804**
Chile	0,170	South Africa	2,032	**Tunisia**	**0,808**
Tunisia	**0,148**	**Morocco**	**2,091**	South.africa	0,828
Morocco	**0,148**	Pakistan	2,567	Pakistan	0,841
Pakistan	0,137	**Algeria**	**2,606**	Chile	0,843
Bangladesh	0,133	Bangladesh	2,819	Bangladesh	0,844
Algeria	**0,100**	Chile	3,146	**Algeria**	**0,888**

The values of the α_c show whether a country has its own characteristics that allows a wider ability to efficiently trade different goods, not explained by its size and level of development. Specifically, a high α_c value in the case of OS_me, and low values in the

case of OS_{th} and OS_{rg}, indicate a strong ability of the country to have positive RCAs in many goods. This capability can derive from many different sources, and it is out of the scope of this paper to investigate in this direction.

In general terms, one can easily verify from the table that the relative position (rank) of a country does not substantially change in the different columns. All estimations seem indicate that some countries have a specific ability in efficiently trade in many products (e.g. France is always in the very first positions), while other countries show the opposite (inability).

In particular, from the table we can see that the MEDs are always among the lower positions, and Algeria is the lowest in two of the three cases. The "best performer" among them is Turkey, in all three estimations, but even this country is always ranked well below the half of the table. To conclude, the indications that emerge from these sections clearly show that MEDs are very specialized economies, but, relevantly in my opinion, which is not only a consequence of their level of development and small-sized economies but also due to some other specific factor.

In the following pages I will give an explanation based on MEDs poor performance in terms of openness and its consequences.

6. Comparative advantages of the Mediterranean countries: cluster of sectors

All the indications of the preceding analysis have a quantitative content, in the sense that they leave out considerations on sectoral specificities.

In recent years some empirical works seem to indicate that the kind of specialisation a country exhibits is relevant for its growth process (Hausmann, Hwang, Rodrik, 2005; Bensidoun, Gaulier, Unal-Kesenci, 2001; Dalum, Laursen, Verspagen, 1999; Laursen, 1998).

Even the recent theoretical literature, where the dynamic processes of learning are underlined, seems to give similar indications, as already remarked at the beginning of this work (see the Lucas piece, 1988).

In this section specific considerations about sectors will be explicitly analysed.

Let us start from some indications stemming from the Trade and Development Report 2002 (UNCTAD 2002, table 3.2, p. 57), where the 20 most dynamic sectors (1980-1998) of world trade are showed, together with the shares of the main exporter economies in those same sectors.

A rapid look at the table makes evident the fact that in those sectors only advanced economies and emerging Asian countries are present. Only one of the MEDs is present in the list (Turkey, with a share of 6% in sector 846 – knitted undergarments).

Since countries in the table are reported according to their share in world exports, big countries are more present than small ones, but these latter are not absent (see the Irish or Korean cases, and others). More importantly, even if in the very first positions, in the group of the 20 most dynamic products, we mostly find "technological" products, in the remaining sectors of the table many "traditional" products appear, so that a country like Italy is often indicated as one of the main exporters.

Even if the sectors in which the MEDS have higher RCA are among the "traditionals" (as it will be showed below), the specific sectors of MEDs specialization do not appear in the UNCTAD list.

From this a further important conclusion can be reached: not only do MEDs have a concentrated export structure, they are concentrated in non-dynamic products.

Since in the previous analysis I used OS indexes directly derived from a measure of RCA, the BI, it is possible to move to a specific sector analysis and to show the cluster of sectors determining the OS levels.

At this stage of the analysis, also because of lack of other kind of data (like input-output matrixes), I have limited the analysis to a "visual" rough recognition of data.

The general result is that the whole group of countries could be divided into two sub-groups: the Asian sub-group and the African sub-group, where the first has better characterization and dynamics.

Even so, the main specialisation is linked, as already observed, to the traditional sectors such as textile (a major role is played by the carpet export alone) and clothing sectors. More specific considerations will evidence similarities and differences:

Asian sub-group: this group is characterized by a more advanced RCA structure. This generalisation is valid for three countries of the group, while the fourth, namely the Syrian Republic, is more similar to the African group. As is known, Israel is the country with the strongest orientation toward products with high technological intensity; besides some jewellery sectors (diamonds), it shows clusters in chemical sectors, various productions of electrical mechanics, electro-medical products, aircraft industries and other mechanical sectors.

Lebanon is not too far from this model, since it has RCA again in jewellery products, some chemical products and ships and mechanics.

Turkey's case is different, as it is more oriented toward textile-clothing sectors (also toward new materials as Pile). In these sectors this country has CAs in many products, and this constitutes a difference with the African sub-group, where CAs are restricted to a much narrower range of products. Finally in Turkey some metallurgical sectors are also relevant (sectors from SITC code 6712 to 6741), and, not so relevant, mechanics.

As mentioned before, the Syrian case is different, since sectors linked to the leather industries have a relevant role, together with some production in clothing (from 8310 to 8484).

African sub-group: this group is generally characterized by RCAs almost exclusively present in textiles and clothing.

It is worth noting that Egypt has progressively increased the number of clothing products which shows RCAs (sectors from 8422 to 9463), confirming what previously observed (decrease in OS). Also Morocco and Tunisia are characterized by the relevant clothing sectors in their export structure, but the latter also shows growing and progressively more diffused RCAs in some footwear sectors (especially parts of footwear). Finally, Algeria has a very concentrated structure. In practice only one sector (9310) constitutes most part of the whole export for most (but not all) of the period, but it is difficult "to read" this result, since the sector is a generic residual one.

These results can also be appreciated by referring to value added data, observing that the MEDs have an exceptionally high share of traditional sectors, not only if compared to rich countries but also to the other (not African) LDCs. This share (in terms of value added) is generally around 30-40% in the MENA group, while it is between 10% and 20% in most of the other countries (as an example, consider that in India the share of the traditional sectors in manufacturing is 20%, 12% in South Korea, 17% in Mexico). Partial exception to this rule among the MEDs is Turkey, with 26% (and possibly Israel, but data are lacking in this case).

Even if most of the analyzed MEDs countries have a specialization in traditional products, we cannot say that they have a similar structure, and this, in some way, is a little bit surprising.[13]

This conclusion is observable in table 3, where you can find the results of the following dissimilarity index

$$DISS = \sum_{i=1}^{n} \left| (X_{iA} / X_A)(X_{iB} / X_B) \right|$$

where X is exports, *i* is the sector (its absence indicates total exports), A and B two different countries. The DISS index goes from a minimum of 0 (no structural differences) to a maximum of 2 (complete dissimilarity).

Table 3

a) 1985 dissimilarity index among countries

	Lebanon	Israel	Syria	Egypt	Tunisia	Algeria	Morocco
Turkey	1,66	1,58	1,39	1,41	1,28	1,81	1,26
Lebanon		1,48	1,43	1,58	1,72	1,68	1,81
Israel			1,51	1,70	1,61	1,76	1,69
Syria				1,49	1,59	1,65	1,62
Egypt					1,77	1,55	1,74
Tunisia						1,85	0,97
Algeria							1,88

b) 2001 dissimilarity index among countries

	Lebanon	Israel	Syria	Egypt	Tunisia	Algeria	Morocco
Turkey	1,63	1,65	1,13	1,01	1,17	1,86	1,22
Lebanon		1,52	1,70	1,45	1,80	1,78	1,79
Israel			1,71	1,63	1,75	1,83	1,71
Syria				1,11	1,34	1,86	1,28
Egypt					1,32	1,63	1,27
Tunisia						1,91	0,65
Algeria							1,89

[13] Previous but not necessarily similar considerations on this point can be found in Gasoriek, Augier, Lai, Tong (2003), Havrylyshyn (1997)

c) 2001-1985 evolution in the dissimilarity index among countries

	Lebanon	Israel	Syria	Egypt	Tunisia	Algeria	Morocco
Turkey	-	+	-	-	-	+	-
Lebanon		+	+	-	+	+	-
Israel			+	-	+	+	+
Syria				-	-	+	-
Egypt					-	+	-
Tunisia						+	-
Algeria							+

As a term of comparison, consider that diss is around 0.8 between Italy and France, around 0.5 between France and Germany, and similar values are typical among European countries (and between them and the USA).

Instead, MEDs have highly different structures, with values of diss always above one (with the partial exception of Morocco and Tunisia). Moreover, these differences do not seem to decrease in general, as you can see in section c of the table, even if the DISS average is slightly lower in 2001 (1.52, against 1.59 in 1985).

Taking into account MEDs' high level of OS, and also in the light of the following analysis (low level and quality of technology, low level of industrialization), I interpret this high level of dissimilarity as if MEDs were still linked to their handicraft sectors with some difficulties in evolving toward a more modern structure.

7. The origin of comparative advantages in Mediterranean countries

A structural view: at this stage of the analysis I would try to understand the origin of the diffused comparative disadvantages of the MEDs.

The analysis that follows on this point is along the lines of the TDR 2003 (UNCTAD, 2003).

The general picture that comes out from that report, in the sections of interest for the present work, is based on an analysis of a significant group of LDC, in particular with reference to the degree of industrialization and the manufacturing structure.

The report stresses on the theoretical necessity and empirical evidence of a strict link between the industrialization process and the first phases of development. This link remains valid also in modern economy, even if it should be recognized that late-starter countries act in a very different context, compared to the first starters at their beginning, as a consequence of the catching-up processes.[14]

Taking into consideration the followers that are effectively catching-up, chiefly Asian, a strong circular nexus linking the level of accumulation, growth of manufactures, and expansion on international markets seems to exist. This process is sustained by the

[14] Productive processes, also in similar sectors, are much more capital intensive today, as a consequence of the modified technological context. This has the effect to reduce the effects on employment in the industrial sectors of the process of development. Moreover, the process of tertiarization also changes the general context. International integration may counter-balance these effects.

growth of productivity (due to physical and human capital accumulation) and by low labor costs.

Generally speaking, countries with the best performance show absolute and relative productivity improvements that are diffused in almost all sectors. Productivity growth, associated to low labor costs, is an important component of "success" in international markets, realized through growing "international competitiveness" of many LDCs, whose export structure is becoming more similar to that of high income countries.

To see the position of MEDs in this picture, I have updated the TDR tables 5.3 (p.97), 5.4 (p.104), and 5.6 (p.108) , also adding data for the lacking MEDs, using the same datasets. To make the results more readable, in tables 5, 6 and 7 of the present paper the data of MEDs and Asian countries are presented and compared. Data for other (African and South American) countries, included in the TDR analysis, are instead showed in tables A1, A2 and A3 in the appendix.

In the TDR tables both aggregate indexes and sectoral data are showed. These latter are limited to a selection of sectors, three "traditional" (food, clothing and textiles) and two "modern" (electrical machinery and transport equipment). These five sectors are between 40% and 50% of manufacturing value added in most of the analyzed countries.

Unit labor costs: I do think that the most striking and remarkable characteristic of MEDs is represented by the high level of unit labor costs. Data on this point are showed in tables 4 and A1.

Ideally, unit labor costs consist in the wage rate divided by labor productivity, calculated at sectoral level, in practice they are computed as wages divided by value added (USA=100).

Table 4: Unit labour costs in Mediterranean and Asian developing econmies. Selected sectors, about 1980 & 2000 (Ratios to the United States level)

	Food products		Textiles		Clothing		Electrical mach.		Transport equipm.	
	1980	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**
Algeria	143 d	216 d	103	387 d	171	..	125	..	117	..
Egypt	145	145 f	127	121 f	99	38 g	100	110 g	151	071 g
Israel	147 f	295 f	102	151 f	96	194 f	140	184 f	150	254 f
Morocco	208	161 e	119	138 e	125	105 e	142	149 e	134	92 e
Syria	103 d	141 d	69	34	..	..	76 i	..	116 i	..
Tunisia	141	162	136	95	123	142	100	127	95	134
Turkey	112	109	70	69	62	43	72	97	98	65
China	68	..	26	..	8	..	59	..	42	..
India	174	129	125	157	96	47	101	98	124	143
Indonesia	97	71	61	42	95	45	49	62	40	26
Korea	81	73	74	63	71	62	82	56	78	71
Malaysia	60	108	75	59	82	84	71	101	67	69
Pakistan	..	..	..	..	..	..	..	..	..	..
Philippines	63	65 d	60	67 d	80	59 d	60	80 d	47	40 d
Taiwan	94	193 b	109	145 b	44	80 b	97	181 b	78	117 b
Thailand	46 i	92 j	46 i	87 j	67 i	107 j	35 k	65 j	48 k	41 j

Notes: Unit labour costs calculated as wages (in current dollars) divided by value added (in current US $) **a** 1984 **b** 1995 **c** 1985 **d** 1997 **e** 1999 **f** 1996 **g** 1998 **h** 1984 **i** 1979 **j** 1994 **k** 1982. For Syrian Arab Republic: Food products is a combination of food products, beverages and tobacco (isic 311 313 314); textiles is a combination of textiles, clothing, leather products and footwear, except rubber or plastic (isic 321 322 323 324). For Algeria: year 1997 textiles sector: textiles is a combination of textiles and clothing (isi 321 322)

Sources: UNCTAD TDR 2003; UNIDO, Industrial Statistics Database 2003

As stated before, on this point very negative insights are evidenced. The only sectors in which MEDs show a positive performance (values under 100) are limited to the traditional sectors, and not in all cases (at this disaggregation level). The only country with an overall good position, in terms of unit labor costs generally lower than the American ones, is Turkey.

Consider that this parameter depends on the wage level (numerator) and on labor productivity (denominator). As a consequence, since all these countries obviously have wages much lower than the USA, the only plausible interpretation of the finding of a high relative unit cost has to do with low levels of productivity. This should depend on a low quantity, quality and spread of the reproducible factors of productions (on this point see Makdisi et al., 2003; Artadi et al., 2003), in particular those pertaining to technology and human capital.

An even clearer picture emerges when MEDs are compared to the other countries; in particular, the negative impression is in fact clearly confirmed when this comparison is made with the Asian area: from table 5, in fact, it can be easily appreciated that unit labor costs appear to be very low in almost all countries and sectors, that is to say that low wages are associated to good technological levels.

Levels of industrialization: A second relevant differences can be seen in tables 5 and A2. MEDs have very low levels of industrialization (manufacturing value added on GDP), around 15%-20%, not different from other African countries (even if some of them have much lower levels); this degree of industrialization is generally stable and not decreasing (as happening in other African areas), increasing only in the case of Tunisia and Turkey.

Table 5: Selected trade and production indicators for Mediterranean and Asian developing economies, 1960–2000

	Manufacturing as a share of GDP value added			Exports of manufactures as a share of exports of goods and services	
Economy	**1970–1979**	**1980–1989**	**1990–2000**	**1980–1989**	**1990–2000**
Algeria	13,0	12,9	10,8	1,4	2,8
Egypt	15,7	14,6	17,8	7,8	10,0
Israel	..	..	..	49,2	63,0
Morocco	16,7	18,0	17,6	26,4	33,7
Syria	..	..	19,7	18,2a	14,5b
Tunisia	9,9	14,4	17,8	31,6	51,0
Turkey	13,4	18,7	18,3	45,2	44,9
China	37,3	35,8	34,0	67,5	78,0
India	15,3	16,4	16,4	16,2	55,4
Indonesia	10,4	15,1	22,8	29,6	45,1
Malaysia	16,8	20,3	27,3	27,7	63,0
Pakistan	15,9	16,0	16,6	55,3	73,4
Philippines	25,7	25,0	23,2	18,1	47,7
Republic of Korea	25,0	29,8	29,5	81,6	77,5
Taiwan	28,4	34,4	28,9	81,8	81,9
Thailand	19,0	23,5	28,8	30,6	56,7

Notes: **a**: lacking data relative to 1988 **b**: lacking data relative to 1991 1993 1994

Sources: UNCTAD TDR 2003; WB World Development Indicators, 2002.

The comparison with Asian countries is still more significant, since they have values up to 30%, a measure comparable to the past experience of many industrialized countries, while the industrialization process appears much weaker in other areas, with an anticipated de-industrialization in the Latin American area.

The whole MENA area[15] has a level of 13.9 in 2001, while the world average is 18.8, the group of Low and Middle Income group has 19.8, and East Asia & Pacific 31.7 (all data and definitions from WB-WDI 2004)

As a confirmation, the share of manufactures in trade is generally very low (with a few exceptions, notably the case of Israel); to fully appreciate this point, compare again MEDs' data with the Asian area ones.

8. Labor productivity dynamics

In the case of the evolution of average labor productivity, presented in tables 6 and A3, data are lacking and a general judgment is more difficult.

Table 6: Llabour productivity in Mediterranean and Asian developing economies, selected industrial sectors, about 1980 and 2000

(Index numbers, 1990 = 100)												
	Total manu-facturing		**Food products**		**Textiles**		**Clothing**		**Electrical mach.**		**Transport equip.**	
	ISIC 300		**ISIC 311**		**ISIC 321**		**ISIC 322**		**ISIC 383**		**ISIC 384**	
Economy	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**
Algeria	101,96	84,88a	216,69	194,03b	78,25	26,50b	..	..	..	..	..	..
Egypt	55,6	90,7b	73,5	81,6e	80,1	86,4e	93,1	181,3e	90,9	162,3e	76	262,8e
Israel	121,32	91,36a	116,96	83,83a	118,89	87,76a	158,72	96,99a	95,53	96,15a	120,67	87,47a
Morocco	85,8	117,0d	110,8	131,5d	79	99,2d	57,6	116,4d	70,3	85,9d	57,8	85,3d
Syria	28,13	213,40e	51,27	244,39e	64,14	235,84e	..	..	..	..	..	..
Tunisia	53,72	98,8	79,73	187,6	41,55	176,9	63,63	118,4	42,88	82,9	68,22	102
Turkey	61,3	121,3	65,4	134,4	75,3	114,2	59,5	148,5	62,8	135,6	54,5	135,4
India	55,2	152,4	34,6	174	69,9	107,4	43,3	107,5	64,2	173,1	60,8	123,2
Indonesia	54	124,2d	39,9	113,2	45,8	158,1	39	147,6	56,3	155,7	47,8	187,2
Malaysia	67,1	171,1	90,6	162,7	60,2	208,6	62,8	151,2	66,6	219,3	40,9	116,8
Pakistan	63,4	120,8a	89,5	118,8a	41,2	106,1a	61	133,8a	49,7	218,9	64	200,2
Philippines	74,1	150,0b	75	149,5	88,7	140,2b	77,1	145,3b	59,9	96,4b	63,5	152,5b
Korea	50,7	231,8	57,2	205,8	61	233,1	58,6	196,5	38,7	330	41,8	187,6
Taiwan	61,9	127,1a	57,3	110,6a	51,3	127,4a	70,1	92,2a	56,4	148,6a	54,1	118,0a
Thailand	..	..	..	..	..	..	..	..	..	..	..	..
Memo item: USA	80,6	114,7 c	79,5	113,2	84,1	118	82,7	144,1	78,5	220,4	80,3	149,9

Notes: Labor productivity: value added (in local currency) divided employment. Nominal value added deflated with GDP deflator.
a: 1996 **b:** 1997 **c:** 1995 **d:** 1999 **e:** 1998

Sources: UNCTAD TDR 2003; UNIDO, Industrial Statistics Database 2003; WB, World Development Indicators, 2003.

[15] MENA is a different geographic aggregation with respect to MEDs,

Nevertheless, it seems that MEDs had sensible increases in the considered period, positively differentiating from other African countries. These increases are generalized to most of the sectors in some cases (Turkey), more limited in other cases. Comparing the performance of MEDs to the Latin America area confirms the positive judgement. Nevertheless, these productivity improvements are not comparable to the Asian experience, where they are much more intense and have spread to all sectors and countries.

If compared with the data on the USA (last row), the above gains are especially limited, in relative sense, to the traditional sectors, even if not exclusively (indicating a very limited convergence at the sectoral level).

Openness: this general situation suggests the presence of problems for international competitiveness of the sectors of the MEDs, even if improvements are not absent.

In table 7 it is possible to appreciate the fact that the average level of openness of this area, during the analyzed period, has been relatively weak, as already stressed in a series of past works (Alonso-Gamo et al., 1997; Gasoriek et al., 2003; Havrylyshyn, 1997; Yeats and Ng, 2000).

In other works similar indications have emerged by the analysis of tariffs (Gasoriek et al., 2003; Yeats and Ng, 1999), even if the analysis id presented for the overall area and not for single countries.

This general conclusion does not consider specific positions. For example Morocco and Tunisia seem to be in a better position than the remaining countries. Nevertheless, especially when the comparison is made with East Asian countries (here jointly considered as a single area), it is possible to conclude in the proposed sense.

Table 7 : Indexes of openness

average opennes 1985-2001*		
	FDI	**TRADE**
Algeria	0.4	62
Morocco	1.7	92
Tunisia	1.9	158
Turkey	0.5	62
Israel	1.3	-
Egypt, Arab Rep.	1.8	65
Syrian Arab Republic	0.8	86
Low & middle incombe	1.7	84
East Asia & Pacific	2.7	82
World average	1.5	90

*WB-WDI 2004:

- FDI as % of GDP
- Trade: goods export plus import as % of goods GDP

If this comparison were made with the Asian countries reported in the previously discussed tables, the strong difference between the two areas would be appreciated even more, especially if not too big economies (as China) are considered.[16]

[16] It is obvious that the openness indexes used in the analysis can be biased by different size of the economies considered.

The whole picture that emerges from this section tells us that the position of MEDs appears quite weak, with only few positive aspects. Generally speaking they are countries with relatively high unit labor costs (obviously due to inefficient production techniques more than high wages), with a low and not-increasing industrialization (with partial exceptions), with a limited capacity to catch up also at sectoral level and, finally, they are less internationally open.

These findings have a confirmation, in the sense of similar or complementary indications, in several recent papers (Abed, Davoodi, 2003; Artadi, Sala-I-Martin, 2003; Makdisi, Fattah, Limam, 2003).

9. Conclusions and policy implications

At this point we have some clear points, but we do not have a framework that provides a linkage between them. However, I will try to give some suggestions in this direction.

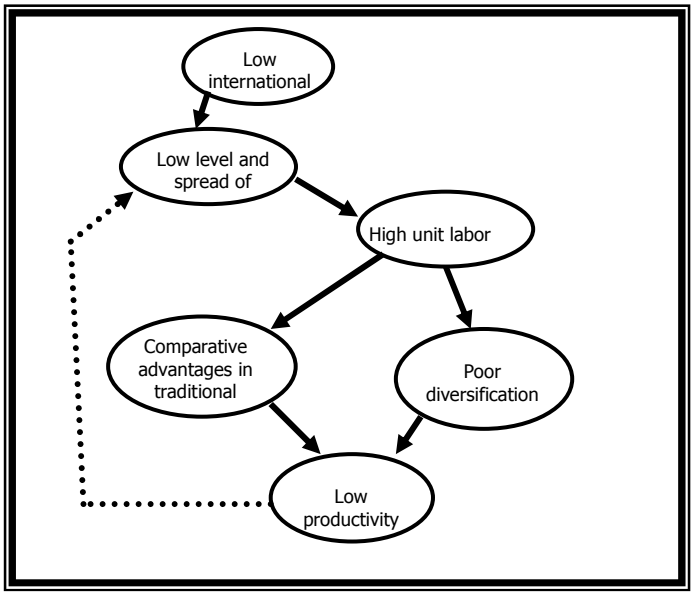
I would like to remark that the interpretation I am proposing is not the only one possible, and, moreover, is not self-containing, in the sense that other variables, non considered in the previous analysis, could be at work at some point of the chain of causal relationships.

Nevertheless, it seems to me that a clear picture can emerge from the puzzle of facts, that can be summarized as follows: low level of openness causes high unit labor costs, this, in turn, determines low level of industrialization and high concentration in traditional products.

The succession of these findings can also be graphically represented (figure 2).

The outlined explanation draws the picture of a vicious circle, of the kind already recalled in the first pages of this paper: starting from a low level of openness, the MEDs area is bound to a "low growth trap", in the sense that its comparative advantages (and disadvantages) determine a specialization in goods with low productivity growth (possibly due to low dynamic scale economies), so that a positive feedback reinforces the slow diffusion of factors like technology and human capital, that could be able, in principle, to drive the economy to a high growth path.

Fig. 2 – From openness to specialization and growth



Even if the proposed framework were, at least in part, correct, we could nevertheless question whether if other variables are at work, inside or outside it.

In particular, I consider that institutional variables and the geo-political situation of the whole area may have a relevant role in many of the links among the analyzed variables. More than a work by other authors stresses the institutional side of the problems (Alonso-Gamo et al., 1997; Ashan, 2005; Cox, 2005).

At first, institutional aspects could be a cause of the low level of openness, thereby constituting the initial point of the tree of links depicted in fig 6. But it is also possible that institutional variables are directly responsible for the low productivity growth, independently of openness.

In short, the economic situation of this area, analyzed through the lens of international integration and competitiveness, appears to be a critical one. These countries have some positive signs: they are among the most developed of the wider area (Africa and Middle-East), they are in the position to profit from the so called "demographic window" (due to a favourable age composition of the population), they are geographically near the more developed area of E.U.

Nevertheless, there are some negative aspects, discussed in this work, that could prevent them to fully profit from the opportunity they are having. A serious political effort would be necessary to overcome those limits, but I cannot say how high the possibilities are to realize them.

This implicit question can be answered in a few points. In general, considering the works of the authors cited throughout this paper, it is possible to summarize policy intervention suggestions in two complementary directions.

The first considers direct interventions in fields concerning trade (and openness), with a special focus on EU-MEDs integration (for example: Salama, 2005; Tovias, 2005), since, according to some authors, the EU-MEDs partnership might foster stability and institutional transformation, and on intra-area integration (see Gasoriek and al., 2003; Havrylyshyn, 1997). Obstacles to a greater integration should be removed, and this implies a large set of objectives and instruments, not simply tariff reduction or similar interventions. On the negative side, as Noland and Pack (2005) suggest, the

successful East Asia experience is not easily replicable in MEDs, because of a different historical environment mainly determined by different domestic (level of human capital, role of primary resources, etc.) and external (different WTO rules, etc.) conditions. As a consequence a "creative" policy should be thought of (for a general consideration on the "creative", that is country-specific transition to sound economic institutions, see Rodrik, 2003).

The second direction of analysis refers to macro and structural interventions, like those directed to macro stability, harmonization of markets, regulations, etc. (like Galal and Hoekman , 1997)

All these considerations can be shared, even if with a "but". The present analysis points out that a "vicious circle" seems to be at work, limiting the growth performance of the area, as if, speaking in theoretical terms, the MEDs economies were bounded in a low level equilibrium. In principle interventions directed to increase economic integration, in general or in specific forms as in the case of RTAs with a more developed area, such as the partnership with the EU, could change the historical path that the area has so far experienced. The "but" relies on the non-automatic positive effects of integration on institutional evolution. As Zhao et al. (2006) discussed, "globalization can release countries trapped in bad institutions, but need not always do so".

A final point to be evaluated, for policy purposes, has to do with the poor sectoral structure of the MEDs economies, outlined in the first sections of this paper. I believe that active industrial policies should consider this side of the problem in order to directly stimulate the development of the production of new goods. As the Italian literature on industrial districts has demonstrated, local economies can develop their structures not in a vacuum, but starting from their previous experience and competence. Almost every productive sector has horizontal and vertical linkages with other sectors, and these linkages should be attentively, explicitly and practically considered in shaping policies, both when links between local producers have to be implemented, and when possible spill-overs from foreign investors are under consideration. Obviously, "modern" competences, knowledge, technologies, etc., should be also introduced, but in a way that can be a complement and a strengthening of the local (regional) characteristics.

Finally, we should consider that institutional structures of countries usually have characteristics that are very deeply rooted into the society. I fear that in the present historical situation interventions, mainly directed to remove economic obstacles, can be ineffective, partially or totally. When we expect reactions of the economy to policy interventions, we should keep in mind that societies are very complex organisms and that the economic aspects are not isolated. In particular, as Kuznets taught us in his Nobel Lecture (1973), modern economic growth needs a very deep structural and ideological transformation of the society, a process that, besides more obvious, but not costless, economic aspects, also involves complex societal characteristics, such as the role of religion, the structure and functions of the family, the role of individuals and communities, etc.. Are MEDs societies ready for such a step right now?

References

Abed G., Davoodi H. (2003), *Challenges of Growth and Globalization in the Middle East and North Africa*, IMF.

Ahsan S. (2005), 'Growth, institutions and Poverty: the MENA Perspective', in Hermann P., Arno T. (eds.), *Dar al Islam. The Mediterranean, the World System and the "Wider Europe"*, vol. 2, Nova Science Publisher, New York.

Alonso-Gamo P., Fennel S., Sakr K. (1997), 'Adjusting to New Realities: MENA, The Uruguay Round, and the EU_Mediterranean Initiative', *Working Paper* 5, International Monetary Fund.

Amiti M. (2000), Specialization patterns in Europe, *Weltwirtschaftliches Archiv*, 135, **4,** 573-593.

Artadi E., Sala-I-martin X. (2003), 'The Economic Tragedy of the XXth Century: Growth in Africa', *NBER working paper* 9865.

Bensidoun I., Gaulier G., Unal-Kesenci D. (2001), 'The Nature of Specialization Matters for Growth: an Empirical Investigation', CEPII, *Document de travail* 13.

Cleveland W.S. (1993), *Visualizing Data*, Hobart Press, Summit (NJ).

Cox P. (2005), 'A Political Remainder: Dialogue between Cultures a Matter of Supreme Importance for Civilisation and Democracy', in Hermann P., Arno T. (eds.), *Dar al Islam. The Mediterranean, the World System and the "Wider Europe"*, vol. 1, Nova Science Publisher, New York.

Dalum B., Laursen K., Verspagen B. (1999), 'Does Specialization Matter for Growth?', *Industrial and Corporate Change*, **8**, 267-288.

De Benedictis L., Tamberi M. (2004), 'Overall Specialization Empirics: Techniques and Applications', *Open Economies Review*, **4**, 323-346.

De Benedictis L., Gallegati M., Tamberi M. (2007), 'Semiparametric analysis of the specialization-income relationship', *Applied Economics Letters (*forthcoming)

Dennis A. (2006), 'Trade Liberalization, Factor Market Flexibility, and Growth: The Case of Morocco and Tunisia', *Policy Research Paper* 3857, The World Bank, Washington DC.

Galal A., Hoekman B. (1997), 'Egypt and he Partnership Agreement with the EU: The Road to Maximum Benefits', in Galal A., Hoekman B. (eds), *Regional Partners in Global Markets: Limits and Possibilities of the Euro-Med Agreement*, Center for Economic Policy Research and Egyptian Center for Economic Studies.

Gasoriek M., Augier P., Lai-Tong C., Evans D., Holmes P. (2003), 'The EU and the Southern Mediterranean: The Impact of Rules of Origin', *Discussion Papers in Economics*, February, University of Sussex.

Gomel G, Roccas M. (2000) (a cura di), *Le economie del mediterraneo*, Banca d'Italia, Roma.

Grossman G., Helpman H. (1991), *Innovation and Growth in the Global Economy*, MIT Press, Cambridge MA.

Hastie T. e Tibshirani R (1990), *Generalized Additive Models*, Chapman and Hall, New York.

Havrylyshyn O. (1997), *A global Integration Strategy for the Mediterranean Countries*, International Monetary Fund - Middle Eastern Department, Washington DC.

Havrylyshyn O., Kunzel P. (1997), 'Intra-industy Trade of Arab Countries: an Indicator of Potential Competitiveness', *Working Paper* 47, International Monetary Fund (reprinted in Hoekman A., Zarrouk J. (eds) (2000), *Catching Up with the Competition. Trade Opportunities and Challenges for Arab Countries*, The University of Michigan Press, Ann Arbor.

Hummels D., Kleanow P. (2002), 'The Variety and Quality of a Nation's Trade', *NBER Working Paper* 8712.

Hausmann R., Hwang J., Rodrik D.(2005),'What You Export Matters', *NBER Working Paper* 11905.

Imbs J., Wacziarg R.(2003),'Stages of Diversification', *American Economic Review*, **93**, 63-86.

Kuran T. (2004), 'Why the Middle East is Economically Underdeveloped: Historical Mechanisms of Institutional Stagnation', *Journal of Economic Perspectives*, **18**, 71-90

Kuznets S. (1973), 'Modern Economic Growth: Findings and Reflections', *American Economic Review*, **63**, 247-258

Laursen K. (1998), 'How structural Change Differs, and Why it Matters (for Economic Growth)', *DRUID W.P.*-25.

Lucas R. (1988), 'On the Mechanics of Economic Development', *Journal of Monetary Economics*, n. **22**, 3-42.

Makdisi S., Fattah Z., Limam I (2003), 'Determinants of Growth in the MENA Countries', *Arab Planning Institute Working Paper* 0301.

Noland M., Pack Marcus (2005), 'The East Asian Industrial Policy Experience: Implications for the Middle East', *Working Paper* 14, Institute for International Economics.

Page J., Underwood J. (1997), 'Growth, the Maghreb and Free Trade with the European Union', in Galal A., Hoekman B. (eds), *Regional Partners in Global Markets: Limits and Possibilities of the Euro-Med Agreement*, Center for Economic Policy Research and Egyptian Center for Economic Studies.

Rodrik D. (ed.) (2003), *In search of Prosperity*, Princeton University Press, Princeton.

Sachs J. (2000). 'Globalization and Patterns of Economic Development', *Weltwirtschaftliches Archiv* , **136**, 579-600.

Sala-i-Martin X. (2002), 'The Disturbing Rise of Global Income Inequality', *NBER working Paper* 8904.

Salama C. (2005), 'The Political and Economic Aspects of the Euro-Mediterranean Partnership', in Hermann P., Arno T. (eds.), *Dar al Islam. The Mediterranean, the World System and the "Wider Europe"*, vol. **1**, Nova Science Publisher, New York.

Temple J. (1999), 'The New Growth Evidence', *Journal of Economic Literature*, **37**, 112-156.

Tovias A. (2005), 'Thinking Ahead: Israel's Future Relations with the European union', in Hermann P., Arno T. (eds.), *Dar al Islam. The Mediterranean, the World System and the "Wider Europe"*, vol. **1**, Nova Science Publisher, New York.

Yeats A. (1998), 'What Can Be Expected form African Regional Trade Arrangements?', *Policy Research Working Paper 2004*, The World Bank.

Yeats A., Ng F. (1999), 'Good Governance and Trade Policy', *Policy Research Working Paper 2038*, The World Bank, Washington DC.

Yeats A., Ng F. (2000), 'Beyond the Year 2000: Implications of the Middle East's Recent Trade Performance', in Hoekman A., Zarrouk J. (eds), *Catching Up with the Competition. Trade Opportunities ans Challenges for Arab Countries*, The University of Michigan Press, Ann Arbor.

Yousef T. M. (2004), 'Develpoment, Growth and Policy Reform in the Middle East and North Africa since 1950', *Journal of Economic Perspectives*, **18**, 91-116.

Zhao M., Fogel K., Morck R., Yeung B. (2006), 'Trade Liberalization and Institutional Change', *Discussion Paper* 2102, Harvard Institute of Economic Research, Cambridge MA.

Statistical sources

UNCTAD (2002), Trade and Development Report

UNCTAD (2003), Trade and Development Report

UN-ECLAC (2003), CAN database

UNIDO (2003), Industrial Statistics Database

WORLD BANK (2002, 2003, 2004), World Development Indicators

Appendix

Table A1 : UNIT LABOUR COSTS IN SOME AMERICAN AND AFRICAN DEVELOPING ECONOMIES

selected sectors, 1980 and 2000 (ratios to the United States level)

	Food products		Textiles		Clothing		Electrical mach.		Transport equip.	
Economy	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**
Côte d'Ivoire	0,92	1,50 d	0,85	1,06 d	0,73	1,02 d	0,78	1,34 d	0,36	1,69 d
Ghana	1,00	0,82 b	0,80	0,96 b	0,45	0,60 b	1,08	0,39 b	0,84	1,63 b
Kenya	1,16	1,31 e	1,00	2,20 e	0,94	0,96 e	1,47	0,74 e	1,10	3,34 e
Nigeria	0,99	0,29 b	0,85	0,80 b	0,52	0,11 b	0,56	0,56 b	0,09	0,04 b
Argentina	0,87 a	1,95 b	0,48 a	1,28 b	0,48 a	0,64 b	0,70 a	2,11 b	0,79 a	1,78 b
Bolivia	0,86	0,61	0,93	0,76	0,82	0,65	0,51	1,00	0,47	1,34
Brazil	0,53 c	0,74 b	0,42 c	0,65 b	0,39 c	0,47 b	0,52 c	0,81 b	0,60 c	0,53 b
Chile	0,63	0,80	0,65	0,89	0,55	0,51	0,88	0,90	0,46	0,74
Colombia	0,60	0,62	0,47	0,66	0,58	0,47	0,48	1,01	0,53	0,97
Ecuador	1,36	0,88 e	0,91	0,30 e	0,82	0,34 e	0,96	1,20 e	0,86	0,55 e
Mexico	1,00	0,90	0,85	0,88	0,69 h	0,64	0,73	1,06	0,49	0,43
Peru	0,43	1,02 b	0,43	0,62 b	0,66	0,46 b	0,37	0,95 b	0,25	0,50 b
Uruguay	1,65	1,64 e	0,84	0,74 e	0,76	0,69 e	1,03	1,52 e	0,72	1,22 e
Venezuela	1,34	0,93 d	1,14	0,72 d	1,03	0,49 d	0,98	0,68 d	0,86	0,17 d

Notes: Unit labour costs calculated as wages (in current dollars) divided by value added (in current dollars)
a 1984 **b** 1995 **c** 1985 **d** 1997 **e** 1999 **f** 1996 **g** 1998 **h** 1984 **i** 1979 **j** 1994 **k** 1982

Sources: UNCTAD TDR 2003; UNIDO, Industrial Statistics Database 2003

Table A2: SELECTED TRADE AND PRODUCTION INDICATORS FOR SOME AMERICAN AND AFRICAN DEVELOPING ECONOMIES, 1960–2000

	Manufacturing as a share of GDP value added			**Exports of manufactures as a share of exports of goods and services**		
Economy	**1970–1979**	**1980–1989**	**1990–2000**		**1980–1989**	**1990–2000**
Côte d'Ivoire	9,4	16,0	18,8		8,3	11,9
Ghana	11,1	8,0	9,2		..	7,0
Kenya	12,0	11,8	11,2		7,1	15,8
Nigeria	4,8	8,2	4,9		..	1,1
Argentina	35,3	29,3	20,3		25,9	26,4
Bolivia	..	..	15,8		2,8	15,3
Brazil	30,0	32,6	23,7		44,2	46,8
Chile	24,2	19,7	18,0		6,6	10,6
Colombia	23,0	22,0	17,0		15,4	23,9
Ecuador	17,8	19,4	20,9		1,6	5,4
Mexico	22,7	23,2	20,6		29,3	62,3
Peru	21,4	26,8	15,3		11,9	13,2
Uruguay	23,8	26,5	21,0		32,7	28,9
Venezuela	16,1	19,5	17,4		5,4	11,0

Sources: UNCTAD TDR 2003; WB World Development Indicators, 2002.

Table A3: LABOUR PRODUCTIVITY IN SOME AMERICAN AND AFRICAN DEVELOPING ECONOMIES SELECTED INDUSTRIAL SECTORS 1980-2000

(Index numbers, 1990 = 100)												
	Total manufacturing ISIC 300		Food products ISIC 311		Textiles ISIC 321		Clothing ISIC 322		Electrical mach. ISIC 383		Transport equip. ISIC 384	
Economy	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**	**1980**	**2000**
Côte d'Ivoire	..	..	..	..	..	..	..	..	..	..	..	..
Ecuador	79,8	117,3 d	86,5	97,8 d	99,4	101,3 d	157,2	93,1 d	119,9	61,5 d	69,1	109,8 d
Ghana	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	83,7	89,4 e	94	98,8 e	104,2	74,0 e	111, 7	105,8 e	25,1	90,9 e	105,6	69,8 e
Nigeria	..	..	..	..	..	..	..	..	..	..	..	..
Argentina	..	85,1 a	..	88,1 a	..	55,7 a	..	94,8 a	..	64,2 a	..	103,9 a
Bolivia	77	90,8 b	85,8	122,8	115,5	98	149,3	109,7	150,6	81	192	84,6
Brazil	..	114,0 c	..	108,9 c	..	76,9 c	..	78,3 c	..	102,0 c	..	180,6 c
Chile	80,2	144,6	97,7	149,6	79,8	121,7	98,8	184,8	49,5	104,4	98,3	174,6
China	..	242,1 d	..	311, 5d	..	181,7 d	..	224,4 d	..	285,1 d	..	.. d
Colombia	75,2	101,3	67,8	105,5	63	51,3	91,8	105,6	74,9	78,4	52,9	62,2
Mexico	..	108	67,8	101,3	111, 7	82,3	..	85,2	113,6	107,4	111, 6	158,1
Peru	107,3	82,0 a	117,5	57,5 a	120,9	76,1 a	119,6	124,5 a	101,3	66,2	173	68,1
Uruguay	88	127,5 d	70,6	111,7 d	76,3	115,3 d	98,2	66,6 d	69,6	81,1 d	66,3	48,2 d
Venezuela	83,6	114,1 e	92,7	183,0 e	99	45,9 e	142,1	90,3 b	105,9	98,2 b	137,3	260,8 b
Memo item:USA	80,6	114,7 c	79,5	113,2	84,1	118	82,7	144,1	78,5	220,4	80,3	149,9

Notes: Labor productivity: value added (in local currency) divided employment. Nominal value added deflated with GDP deflator. **a:** 1996 **b**: 1997 **c:** 1995 **d:** 1999 **e:** 1998

Sources: UNCTAD TDR 2003; UNIDO, Industrial Statistics Database 2003; WB, World Development Indicators, 2003.