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AN EXPLORATORY INVESTIGATION

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An exploratory investigation*

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Abstract

This paper examines trade across the Mediterranean against the background of the efforts to foster both North-South and intra-South trade flows as engines of growth. We first consider the shares of these regions (and of the countries constituting them) in the trade of each other as indicators of trade importance; and relative trade intensity indices – the ratio of these shares to the corresponding ones in the trade of the rest of the world – as measures of trade affinity and as means of identifying 'natural' trade partners.

Because of the sheer size disparity, trade with the North-Med is more important to the South-Med than the other way round. But both regions display trade affinities with each other, making them natural trading partners, though there are wide disparities between individual countries within each region. Insofar as being natural trading partners forms a criterion for economic integration, there are promising prospects for some form of integration between the countries on the North and the South littorals of the Mediterranean.

Contrary to the popular view of Arab South-Med trade being dominated by cultural, religious and linguistic commonalities, our findings show that geography still matters: the Arab South-Med affinity with the group of EU countries not lying on the Mediterranean littoral is much lower than with those that do. Arab commonality also seems to be more important in the trade of the Levant than in that of the Maghreb, whose trade affinities with its former colonial powers suggest the colonial heritage there to be still of importance.

More generally, the differences observed here between the Maghreb and the Arab Levant have relevance to the EU's Barcelona Process policy, which encourages the formation of a South Mediterranean Free Trade Area. The findings of our study suggest that though the Arab Levant constitutes indeed a natural trading area, this is not as true for the region as a whole.

Keywords

Cross-Mediterranean trade, natural partners, relative trade intensity, trade integration

Introduction*

Recent years have witnessed a growing interest in trade between the countries bordering the Mediterranean, *cross-Mediterranean* trade in particular. Fostering trade between the North and the South-Mediterranean, as well as between the countries of the latter themselves, has become a prime objective of the EU in the belief that trade stimulates economic growth and in the hope that the concomitant rise in standards of living in the Southern Mediterranean countries will reduce the pressure for migration to the richer North, as well as contain the rise of militant Islam. This paper examines the actual trade patterns between North and South-Med, and within these regions, to establish whether these countries, or some groups of them, offer promising combinations for trade expansion. For control, we also investigate their trade with the non-Mediterranean countries bordering them.¹

Because of the difficulties in tracing international flows of services our inquiry is limited to trade in merchandise. At the present stage it also abstracts from its commodity composition. A particular characteristic of cross-Mediterranean trade, in particular between some of the non-littoral control group countries, is the importance in it of crude oil, which is often poorly documented by both its exporters and its importers. As oil plays a greater role in the exports of its producers than in the imports of its users, we put greater stress on import data, although we investigate export flows as well.

The plan of the paper is as follows: Part I considers some trade determining factors, introduces the notion of 'natural' trading partners and its relevance to cross-Mediterranean trade, and presents some basic data for the latter. The difference between trade importance and trade affinity is stressed in Part II, which also discusses the construction of relative trade intensity indices as measures of affinity. The actual indices for the Mediterranean countries for the year 2004 and for some control groups bordering them are presented next, and are examined from the North Mediterranean perspective in Part III, and from the South Mediterranean perspective in Part IV. In view of the efforts to foster greater economic integration of the South Mediterranean countries, Part V considers their intra-regional trade affinities. Some tentative conclusions are presented in Part VI, which also makes some suggestion for further study.

I. General Considerations

1. Some trade determining factors

The basis for international trade are price differentials between countries, whether they arise from differences in supply or demand conditions. Potential trading partners for a country are all those with comparative advantage in the production of goods the country desires, and the choice among these potential partners depends on which can supply the desired goods most cheaply. While basic economic factors determine production costs, the price to the importing country includes also trade transaction costs.

* An earlier version of this paper was presented in Workshop 12: 'Finance and Economic Development in the Mediterranean Area: The Role of Euro-Mediterranean Cooperation' at the Tenth Mediterranean Research Meeting, Florence & Montecatini Terme, 25-28 March 2009, organised by the Mediterranean Programme of the Robert Schuman Centre for Advanced Studies at the European University Institute. We gratefully acknowledge the comments of the workshop's participants.

¹ For a different approach to his question, using a different control group, see Pastore *et.al.*, who use a gravity model to estimate the potential trade of the South-Med and Eastern Europe, respectively, with the EU as a whole, as well as with some of its individual member states.

It is helpful to distinguish between two kinds of these transaction costs: physical barriers to trade, such as geographic distance or the necessity to cross mountains, rivers or seas, and costs arising from the need to cross national boundaries. The latter include policy-induced obstacles to trade, such as tariffs, non-tariff barriers, or exchange regulations and those arising from the existence of different cultures, languages, monetary systems, goods handling procedures and transport norms and regulations.²

Of the barriers to trade which are not the result of overt policy, transportation costs have received most attention. Since time immemorial, sea trade around and across the *mare nostrum* was extensive, and cheaper than land transportation. In modern times the decline in shipping costs, most recently with the use of containers, has greatly reduced the importance of geographic distance in trade transaction costs. Perhaps no less dramatic has been the reduction in the costs of land transportation, as a result of roads, railroads, tunnels, modern vehicles, the use of aircraft for transport of goods and, in the present context, the construction of the Bosphorous bridges connecting Asia to Europe.

Those barriers to trade, arising from the crossing of national boundaries which are not policy-induced, may be lower for countries sharing language and culture. Such commonalities ease communication, lead to greater understanding of local demands and methods of trade, and may even help to overcome some policy-induced barriers.

Because transportation costs are usually lower for trade between neighbors, and commonality of language and culture reduces other transaction costs, geographic proximity and cultural similarity are often assumed to be major factors determining trade, identifying natural trade partners, defined as countries that would trade intensively with each other in the absence of artificial barriers. However, the extent to which these factors can lower transaction costs between potential trade partners might not suffice to compensate for differences in their production costs. In such cases, economic complementarity remains the decisive factor in the creation of natural trade partners.

2. Economic integration and natural trading partners

Recent decades have seen great progress in the reduction of policy-induced trade barriers, particularly by the creation of a complex and sometimes over-lapping network of bi-lateral and multi-lateral trade agreements, ranging from simple preferential trade agreements to free trade areas and customs unions, and membership in global-spanning organizations, first GATT and later the WTO. Of particular relevance for Mediterranean trade are the EU; the Barcelona Process, and GAFTA.

The Barcelona Process, launched in 1995, envisioned the negotiation of Free Trade Agreements between ten Middle Eastern countries and the EU, and the creation of FTAs between these countries themselves, over a ten year period. It can be shown that it is beneficial for a country to join in a preferential agreement with a larger one, rather than the other way around. Consequently, it is the smaller Mediterranean economies that stand to benefit from preferential trade agreements with the EU. Open to question is the extent to which they will benefit from Free Trade Area agreements (FTA's) among themselves.

GAFTA, the Greater Arab Free Trade Area, created by the Arab League in 1997 and which came into force in 2005, is predicated on the assumption that the commonality of Arabism should manifest itself also in the economic sphere; clearly, this assumes that this commonality is sufficient to create natural trading partners. It may bear resemblance to the initial integration measures in Western Europe, where economic integration was expected to foster future political integration. In the present case, the trade of the Arab South Mediterranean countries with the GAFTA countries to the south of them may serve as a control groups to their cross-Mediterranean trade, as may their with the EU countries not bordering the Mediterranean.

² Anderson and van Wincoop (2004) survey and estimate the various trade costs. For gravity models' estimates of the effects of distance and cultural commonalities on trade, see, e.g., Fraenkel *et.al.*, (1993).

We identify natural trading partners by the intensity of their trade with each other. There is some controversy in the literature as to whether this criterion also identifies ideal candidates for economic integration. For the view that it does, see, *inter alia*, Wonnacott and Lutz (1989) and Summers (1991), while the contrary position is presented in Schiff (1996), Schiff and Winters (2003), and Panagariya (2000). While we concentrate on identification of natural trading partners, some conclusions apply if one accepts that natural partners constitute good candidates for economic integration.³

3. Coverage and basic magnitudes

Of the countries on its littorals, the North-Mediterranean region, henceforth North-Med, consists of the following nine: four industrialized EU countries – Spain, France, Italy, and Greece; two small island EU members – Malta and Cyprus; and three non-EU countries – Albania, Croatia and Serbia and Montenegro.⁴ The South-Mediterranean region, henceforth South-Med, also includes nine countries: Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Lebanon, Syria and Turkey.⁵ It may be argued that Turkey, joined with the EU in a customs union, should not be included in the South-Med; but because it is included in the EU's Barcelona Process for the Southern Mediterranean, we too include it there. However, special consideration will be given to Turkey, in particular to the effects of switching it to the Northern group.

The trade data in this paper are all taken from the IMF's *Directions of Trade Statistics Yearbook* for 2005, and refer to the year 2004.⁶

³ The objections to the idea that natural trading partners are good candidates for integration are often based on the loss of welfare arising from the transfer of tariff revenue to the to the partner country. However, insufficient attention is given to the potential for trade expansion arising from integration.

⁴ The last two were still one country at the time to which our inquiry refers.

⁵ The omission here of the Palestinian Territories of the West-Bank and Gaza is due to the fact that because their trade is almost exclusively conducted either with or through Israel, it is not recorded separately in the IMF's *Directions of Trade Statistics* (DOT). For the trade relationships between these territories with Israel and Jordan, and its potential expansion within a broader Middle East framework, see Awartani and Kleiman (1997).

⁶ Because of reporting deficiencies, the DOT figures for some of the South-Med countries are derived from their trade partners' data. For a discussion of the difference between self-reported and partner-reported trade figures see Yates (1995).

Table 1: GDP, Population, Imports and Exports, 2004

| | North Med ^a | South Med ^b | Arab South Med ^c |
|-----------------------------|---------------------------|---------------------------|--------------------------------|
| GDP (bill.) | 5,152.9 | 755.5 | 329.8 |
| Mid-year population (mill.) | 189.4 | 242.2 | 169.2 |
| GDP per Capita (\$) | 27,212.0 | 3,056.0 | 1,949.0 |
| Imports (\$ bill.) | 1,154.4 | 261.1 | 122.7 |
| Import/GDP (%) | 22.7 | 34.6 | 37.2 |
| Exports (bill.) | 1,012.2 | 209.6 | 108.2 |

^a Spain, France, Italy, Greece, Albania, Croatia, Serbia-Montenegro, Malta, Cyprus.

^b Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Lebanon, Syria, Turkey.

^c South Mediterranean exclusive of Turkey and Israel.

Sources:

GDP - UN, National Accounts Aggregate Data Base

<http://unstats.un.org/unsd/snaama/selectionbasicFast.asp>

Population - UN, Statistic Division

<http://unstats.un.org/unsd/demographic/products/dyb/dyb2.htm>

Imports and Exports – IMF, *Direction of Trade Statistic Yearbook 2005*.

Table 1 presents some basic data for the two regions for 2004. In the Northern group, the four larger and more industrialized EU members are so dominant that the trade relations we wish to examine between the North-Med and South-Med will be much the same whether we consider the North-Med as a whole or only its industrialized members. The South-Med has two countries that differ greatly from the others, Turkey and Israel. Both are non-Arab and also much more industrialized than the rest. The population of Turkey accounted for about 30 percent of that of the entire South-Med, and though matched in population by Egypt's, its GDP was 3.4 times as large. Israel, relatively small in population – only 2.7 per cent of the total South-Med - had a GDP equal to 37 per cent of the total (70 percent of the total once Turkey is excluded), and a per capita income more than nine times that of the remaining, Arab, South-Med. Furthermore, while Israel has strong trade ties with the North-Med, it practically does not trade at all with most of the South-Med countries. Consequently, in addition to considering the South-Med as a whole, it is also desirable to examine data for the Arab South-Med separately; i.e., the South-Med excluding Turkey and Israel.

The aggregates of Table 1 point up the large economic disparity between the North and South-Med. Though the population of the South-Med was larger than that of the North-Med – 242.2 million compared to 189.4 million – the GDP of the North-Med was seven times as large as that of the South. The difference in GDP per capita was even more pronounced, the North-Med's being nearly almost nine times as large, and 14 times as large as that of the Arab South-Med. These differences reflect, of course, the disparity in economic size and development level of the two regions.

The difference in trade, the subject of our study, is less pronounced though still substantial, total imports of the North-Med being 4.4 times as large as those of the South-Med. As to be expected for small economies, the ratio of imports to GDP for the South-Med as a whole, at nearly 35 percent, was larger by more than one-half than that for the North-Med; and for the Arab South-Med alone, larger by

two-thirds., Contrary to their popular image and notwithstanding their restrictive trade policies, the Arab countries as a whole seem to have more open economies than the North-Med countries.

Both the North-Med and the South-Med had negative trade balances: total imports of the North-Med exceeded its total exports by 14 per cent and for the South-Med the negative balance was about 25 per cent. The difference here is due to the inclusion of Turkey and Israel: as a percent of exports, the negative trade balance of the Arab South-Med was about the same as that of the North-Med.

Table 2: Trade Shares, 2004

| | | A. Imports and Import Shares, 2004 | | | | | | | |
|----------------|-----------|---|-----------|-------|----------------|-------|---------|-------|--|
| of → from ↓ | North-Med | | South-Med | | Arab South-Med | | World | | |
| | \$ bill | % | \$ bill | % | \$ bill | % | \$ bill | % | |
| North-Med | 222.3 | 19.3 | 54.9 | 21.0 | 33.9 | 27.6 | 998.0 | 10.2 | |
| South-Med | 60.0 | 5.2 | 17.6 | 6.7 | 11.1 | 9.0 | 202.5 | 2.2 | |
| Arab South-Med | 43.2 | 3.7 | 9.6 | 3.7 | 5.9 | 4.8 | 101.9 | 1.1 | |
| Total | 1,154.3 | 100.0 | 261.2 | 100.0 | 122.7 | 100.0 | 9,470.0 | 100.0 | |
| | | B. Exports and Export Shares, 2004 | | | | | | | |
| of → to ↓ | North-Med | | South-Med | | Arab South-Med | | World | | |
| | \$ bill | % | \$ bill | % | \$ bill | % | \$ bill | % | |
| North-Med | 233.1 | 23.0 | 64.8 | 30.9 | 49.3 | 45.6 | 1,156.7 | 12.7 | |
| South-Med | 52.9 | 5.2 | 16.3 | 7.8 | 11.3 | 10.4 | 226.1 | 2.5 | |
| Arab South-Med | 32.6 | 3.2 | 8.1 | 3.9 | 5.2 | 4.8 | 99.7 | 1.1 | |
| Total | 1,012.2 | 100.0 | 209.6 | 100.0 | 108.3 | 100.0 | 9,099.3 | 100.0 | |

Source: Computed from data in IMF *Direction of Trade Yearbook, 2005*.

In Table 2, panel A shows the share of each region in the imports of the other one, as well as of the world as a whole, and the respective shares of intra-regional trade in their total trade. Imports from the North-Med made up a tenth of total world imports, but as much as over one fifth of the total imports of

the South-Med.⁷ As could be expected from the overall difference in their economic sizes, the South-Med accounted for only 2.2 percent of world imports, and for 5.2 percent of those of the North-Med. Intra-regional imports of the North-Med accounted for 19.3 percent of its total imports, whereas the corresponding share in the South-Med was only 6.7 per cent, indicating that the region itself played only a small role as a source of its imports.

These shares are strongly affected by the inclusion of Turkey and Israel in the South-Med: when the two are excluded; i.e., considering the Arab South-Med alone, the share of its imports from the North-Med rises from 21 to nearly 28 percent, and its intra-regional share falls to less than 5 per cent.

If, as suggested earlier, Turkey should be viewed as part of the North-Med, this would lead to a slight fall in the share of the South-Med in North-Med imports, from 5.2 to 4.1 percent, and almost no change in either the share of the North in South-Med imports or in its internal share. However, Turkey's imports from the South-Med, some \$4.4 billion, *plus* the \$7.2 billion of South-Med imports from Turkey, account for two-thirds of all South-Med internal imports. Consequently, the shifting of Turkey reduces the already low internal South-Med share from 6.7 to only 3.6 percent.

Regardless of where Turkey is included, the share of the North-Med in the imports of the South-Med is much higher than the reverse.

Similar data for export shares are presented in panel B of Table 2. The shares of both the North-Med and South-Med in total world exports are higher than their import shares, that of the North-Med by as much as one quarter, and of the South-Med by more than a tenth.⁸ It can be seen that the North-Med was even more important as a market for South-Med exports than it was as a source of its imports: the share of South-Med exports to the North-Med was 31 per cent compared to an import share of only 21 per cent. On the other hand, the South-Med was not more important as a destination for the North-Med's exports than it was as a source of its imports. As in the case of the import shares, the influence of Turkey and Israel is significant: the share of the North-Med in Arab South-Med exports, at 46 per cent, is one half larger than that in the South-Med as a whole.

A comparison of the two panels of Table 2 also shows that, in the North- and the South-Med the region itself was somewhat more important as an export market than as a source of imports, this being more pronounced in the case of the North-Med. In the Arab South-Med the two are of the same magnitude.

II. Trade Importance and Trade Affinity

Groups of countries that trade intensively with each other (in the absence of artificial barriers) are identified as natural trading partners. This raises the question of how to define "intensively" in this context. Clearly, if country A imports a "significantly high" share of its total imports from country B, (however one defines significantly high), then country B is an important source for A's imports. Similarly, if B takes a significantly high share of A's total exports, then B is an important export market for A. The two need not be the same: a country that is an important source of another country's imports need not also be an important market for its exports. Also, the fact that B is an important source of imports for country A does not necessarily make A an important export market for B.

The data of Table 2 had shown that the North Med, because of its relatively larger economic size, is a much more important trading partner for the South Med than the reverse. Tables 3 and 4, for imports and exports, respectively, present more detailed data on the shares of each region in the trade of

⁷ The imports of the world from each region include intra-regional trade. We will discuss the importance of excluding it when constructing trade intensity indices.

⁸ Some, but certainly no more than a small part, of this difference may be due to differences between cif and fob recording and other discrepancies: Total recorded world exports were \$371 billion, that is 4 per cent, smaller than recorded imports.

individual countries. The difference in the economic size of the two regions is reflected in their trade shares *vis-a-vis* the individual countries, but with considerable variation.

Table 3: Import Shares 2004
(%)

| Imports from→ of↓ | North Med | South Med | Total Med | Other EU | US |
|-------------------------|-----------|-----------|-----------|----------|------|
| <i>South-Med</i> | | | | | |
| <i>Maghreb</i> | | | | | |
| Algeria | 44.3 | 6.6 | 50.9 | 17.9 | 5.2 |
| Morocco | 37.2 | 4.4 | 41.6 | 11.0 | 4.1 |
| Tunisia | 50.0 | 7.6 | 57.6 | 19.9 | 2.8 |
| Libya | 35.5 | 13.0 | 48.5 | 24.6 | 0.5 |
| <i>Arab Levant</i> | | | | | |
| Egypt | 16.2 | 5.4 | 21.6 | 29.0 | 12.2 |
| Lebanon | 24.5 | 14.4 | 38.9 | 23.3 | 5.5 |
| Syria | 8.2 | 15.7 | 23.9 | 9.9 | 4.8 |
| <i>Other</i> | | | | | |
| Turkey | 17.5 | 4.6 | 22.1 | 29.2 | 4.7 |
| Israel | 9.3 | 4.9 | 14.2 | 31.8 | 15.0 |
| <i>North-Med</i> | | | | | |
| Spain | 24.9 | 5.3 | 30.2 | 41.7 | 2.9 |
| France | 16.4 | 3.7 | 20.1 | 52.3 | 5.1 |
| Italy | 16.8 | 7.3 | 24.1 | 43.9 | 3.5 |
| Greece | 24.1 | 4.2 | 28.3 | 34.4 | 4.4 |

Table 4: Export Shares 2004
(%)

| Exports to→ of↓ | North Med | South Med | Total Med | Other EU | US |
|-------------------------|-----------|-----------|-----------|----------|------|
| <i>South-Med</i> | | | | | |
| <i>Maghreb</i> | | | | | |
| Algeria | 39.2 | 4.8 | 44.0 | 15.6 | 22.6 |
| Morocco | 56.2 | 2.7 | 58.9 | 18.3 | 4.1 |
| Tunisia | 64.9 | 6.8 | 71.7 | 18.5 | 2.1 |
| Libya | 58.0 | 10.5 | 68.5 | 23.0 | 1.6 |
| <i>Arab Levant</i> | | | | | |
| Egypt | 22.3 | 11.5 | 33.8 | 17.6 | 10.8 |
| Lebanon | 9.0 | 36.8 | 45.8 | 6.3 | 3.7 |
| Syria | 46.6 | 20.0 | 66.6 | 5.3 | 3.2 |
| <i>Others</i> | | | | | |
| Turkey | 20.1 | 6.6 | 26.7 | 35.3 | 7.7 |
| Israel | 7.4 | 2.3 | 9.7 | 20.5 | 36.8 |
| <i>North-Med</i> | | | | | |
| Spain | 30.0 | 5.3 | 35.3 | 43.1 | 4.0 |
| France | 19.9 | 5.0 | 24.9 | 45.2 | 6.7 |
| Italy | 22.9 | 5.4 | 28.3 | 36.0 | 7.8 |
| Greece | 27.6 | 9.3 | 36.9 | 32.5 | 5.3 |

The North Med is a much more important source of imports for the North African countries than it is for any of the other countries, including those of the industrial North Med. The Non-Med ("other") EU is a major source of imports for the EU Med members, less but still quite important for most of the others, but much less so for the Maghreb and Syria. The more distant U.S., despite its economic size, is not an important source of imports for most of the Med countries; only Egypt and Israel import more than one-tenth of their imports from the U.S., and all the others 5 percent or less.

The pattern for exports is fairly similar, though, the North-Med is a more important market for exports than it is as a source for imports for all the Med countries except Lebanon and Israel. Here too, the importance of the North-Med for the North African countries is particularly striking.

Obviously, a country's size in world trade is a major factor, though clearly not the only one, in determining the relative import and export shares of its partners. However, it is important to distinguish between trade importance and trade affinity. The sheer volume of trade is not an indicator of it being carried out between natural trade partners. To neutralize the size factor, we employ indices of relative trade intensity, as measures of the trade affinity between different countries or groups thereof.⁹ These are here constructed separately for imports and for exports.

Consider first the import intensity index: this shows the extent to which a country's (or region's) imports from another country or region conform with, or diverge from, the tendency of the world at large to import from that country or region. The underlying null hypothesis is that trade is random, in which case a country's trade could be expected to be distributed among partners as is the trade of the world as a whole. The index is computed by dividing the share of a country or region in a given country's (or region's) imports by the share of the former in the supply of the world's total imports (multiplied, for convenience, by 100). Let:

$$m_{ij} = M_{ij} / \sum_j M_{ij} \quad \text{be the share of country } i\text{'s total imports originating in country } j$$

$$m_{wj} = \sum_i M_{ij} / \sum_j \sum_i M_{ij} \quad \text{be the share of country } j \text{ in RoW's total imports, } i \neq j$$

then the relative intensity index for the imports of country i from country j will be

$$RTI_{ij}^m = 100 \times m_{ij} / m_{wj} = 100 \times (M_{ij} / \sum_j M_{ij}) / (\sum_i M_{ij} / \sum_j \sum_i M_{ij})$$

To illustrate: as can be seen from Table 2 panel A, 5.2 per cent of the North-Med's imports came from the South-Med, whereas only 2.2 per cent of world imports originated there. The ratio of the former figure to the latter, multiplied by 100, yields an index of 236.

It is clear that an index close to 100 implies no special trade tendency, regional or otherwise, that a higher one signifies some preference for trade while a lower one may be said to denote trade aversion, or reluctance. By comparing the import intensity indices between different regions, and for different combinations of countries, one can see where import affinity is stronger.¹⁰

The simplest, most widely used index uses the world as a whole for the denominator of the index. It may be argued, however, that a country's (or region's) trade shares should be compared not to those of the world as a whole, but to those of the *rest* of the world, i.e., exclusive of the country (or region) examined itself.¹¹ This distinction is obviously important when a region's imports from another are a

⁹ Attempts to neutralize the size effect by relating bilateral trade flows to either GDP or world trade have a long and distinguished pedigree. See, e.g., Kuznets (1959), Linder (1961) and Linneman (1966). Iapadre and Tironi (2009) develop further formulations, yielding what they regard as well-behaved indices.

¹⁰ It should be kept in mind, however, that the empirical identification of natural trading partners is based on actual trade data, which reflect existing trade restraints and preferential agreements. Although there were many concessionary agreements in place at the time to which our study refers, the Barcelona process and GAFTA arrangements had as yet limited application.

¹¹ See, e.g., Anderson and Norheim (1993).

significant portion of the world's imports from the latter. In our example, the North-Med imports from the South-Med relatively much more than does the rest of the world. The inclusion of these imports in the world's imports from the South-Med would yield an overestimate of its role as a supplier of imports to the rest of the world, and hence underestimate the relative intensity of the North-Med's imports from the South.

The case for not making this adjustment, especially for small countries, is that if they wouldn't import from a given country or region, somebody else would. However, this cannot be assumed if regionalism implies a greater propensity to trade. In many cases, such adjusted indices would not be very different from the unadjusted ones. In others, especially those representing larger regions, such as the EU or the U.S., not making the adjustment could seriously distort the picture.

Export intensity indices are constructed in a similar fashion. It should be clear that whereas A's imports from B are equal to B's exports to A (except for cif/fob differences and recording errors), the share of B in A's imports will usually not be the same as the share of A in B's exports. The bases – A's total imports in the first case and B's total exports in the second - are different. Consequently, the intensity index for A's imports from B need not be the same as B's intensity index for exports to A.

Identifying natural trade partners as suitable candidates for economic integration by such measures of affinity raises the question of possible trade-offs between a partner's suitability and its size: A trade agreement with a more suitable partner may be expected to increase trade by a higher proportion, but by a smaller volume than one with a less suitable but larger one. But, as a country is free to enter into FTA agreements with any number of countries, small and large, simultaneously, such a trade-off, unlike in the case of a CU, need not arise.

III. The View from the North

As pointed out earlier, the South-Med was neither a major source for North-Med imports, nor a major market for its exports, accounting for only 5.2 percent of each. However, these shares were higher than the world's as a whole, which indicated that the North-Med has some trade affinity with the South-Med.

To further examine this relationship, Table 5 presents detailed trade intensity indices for the economies in the table's columns with respect to those in its rows. There, the import intensities are shown in the upper left corner of each cell, and the corresponding export indices, italicized, in the lower right hand one.

Because of the dominance North-Med trade of its four industrial members, indices computed for the North-Med as a whole, all the EU members of the North-Med as a sub-region, and the four industrial North-Med EU countries as a group, give virtually identical results. Consequently, Table 5 presents indices for only the North-Med as a whole, and separately for each of the four industrial EU members.

Table 5: North-Med's Relative Trade Intensity Indices, 2004

| Imports of → from ↓ Exports of → to ↓ | NORTH MED | SPAIN | FRANCE | ITALY | GREECE |
|--|--------------|------------|------------|--------------|--------------|
| SOUTH MED | 293 245 | 253 219 | 177 212 | 364 227 | 191 377 |
| ARAB S. MED | 530 387 | 390 301 | 272 355 | 613 287 | 134 367 |
| ALGERIA | 462 559 | 414 291 | 248 718 | 540 218 | 44 150 |
| MOROCCO | 722 606 | 893 900 | 659 507 | 135 179 | 67 143 |
| TUNISIA | 1,143 993 | 217 308 | 889 748 | 811 659 | 37 221 |
| LIBYA | 1,000 436 | 499 95 | 129 76 | 1,532 830 | 309 1,600 |
| EGYPT | 244 167 | 186 181 | 87 125 | 408 186 | 297 363 |
| LEBANON | 72 266 | 32 106 | 77 228 | 31 315 | 277 315 |
| SYRIA | 170 139 | 105 68 | 91 141 | 270 145 | 40 474 |
| TURKEY | 179 183 | 164 186 | 118 129 | 202 210 | 326 466 |
| ISRAEL | 68 88 | 69 84 | 46 67 | 81 114 | 105 195 |
| NORTH MED | 214 202 | 254 242 | 166 161 | 169 186 | 237 217 |
| NON-MED EU | 190 161 | 156 159 | 193 172 | 165 133 | 127 119 |

1. The North-Med as a Whole

a. The relative intensity indices for the import and export of the whole North-Med with the South-Med as a whole, 293 and 245, respectively; i.e., the share of the South in all the North's imports is nearly three times as high as its share in the imports of the rest of the world, and two and a half times in exports. This bears out the general conclusion suggested by the comparison of the unadjusted trade shares of Table 2, that the North-Med does have a positive trade affinity with the South-Med.

b. Though we cannot ascribe cardinal affinity values to the indices, they have ordinal validity. Since intensity indices measure the departure of a country's share in the trade of another from that which would have been expected were trade distributed randomly, higher indices, as in this case, indicate greater trade affinity.¹²

c. The last two rows of Table 5 allow comparison of affinities with two other regions: the North-Med itself, and the Non-Med EU. The North-Med's intensity indices with the South-Med are higher than its intra-regional ones and, perhaps surprisingly, even larger than its indices with the Non-Med EU.

d. Both the export and import intensity indices of the North-Med with the Arab South-Med are much higher than those with the South-Med as a whole, and consequently the disparity in the trade affinity comparisons with the control groups even larger. This, of course, is due to the exclusion of Turkey, with which – despite Turkey being in a customs union with the EU – the North-Med has much lower indices, and Israel, with whom its indices indicate 'trade aversion'.

e. The import intensity index with the Arab South-Med is very much higher than the export one, 530 compared with 387. Clearly the affinity of the North-Med to the South-Med is stronger in the case of imports than of exports.¹³

f. The indices for the North-Med with the individual countries of the Arab South-Med show that the latter region is not homogeneous in this respect. All the indices for trade with the three countries of the Arab Levant (Egypt, Lebanon and Syria)¹⁴ are substantially lower than those with the three Maghreb countries (Algeria, Morocco and Tunisia), and with Libya. In fact, with the exception of the import intensity index for Egypt, and the export one for Lebanon, all the North's indices for trade with the Arab Levant countries are lower than those with the Non-Med EU.

2. The Four Industrial North-Med Countries

Since the North-Med's trade affinities with the South-Med are clearly dominated by its affinities with the Maghreb, the question arises as to the relative importance of geographic proximity and colonial heritage. Some insight may be gained by the examination of indices calculated separately for the four industrial North-Med countries.

The Western North African countries are closer to the three larger North-Med countries – Spain, France and Italy – than are the countries of the Arab Levant. On the other hand, France had a colonial relationship with the Maghreb, the Lebanon and Syria; Spain with Spanish Morocco, and Italy with Libya. Though these colonial histories varied in form and duration, they might have been expected to create special trade ties between the countries involved, and by the introduction of common

¹² The intra-Non Med EU trade is a significant component of world trade, so the indices of trade with it are biased downward; however, we do not think this is enough to nullify the conclusion that the North-Med's affinity with the South-Med is stronger than with the EU itself.

¹³ At first glance this might seem to be due to North-Med oil imports from the Arab South-Med countries. But as can be seen from Table 5, the import index for Algeria, which is an oil and gas exporter, was much lower than those for Morocco and Tunisia.

¹⁴ Egypt, which is not usually considered part the Levant, has been included in this sub-region in view of its geographic closeness to it.

institutions, customs and language, help maintain these ties even after the colonies obtained complete independence.¹⁵

a. Surprisingly, perhaps, France which had stronger colonial ties than Spain with the Maghreb, and Italy, which had none, exhibits lower import affinities than both with Algeria and than Spain with Morocco. France's export intensity index with Morocco was also lower than Spain's.

b. As expected, Italy did indeed have very high import and export intensity indices with Libya, but the latter was lower than that of Greece.

c. Despite the colonial past of France with Lebanon and Syria, its intensity indices with both reflect no import affinity, and only moderate export affinity with Lebanon.

d. The apparent inconsistency in the influence of a colonial past, reflected by France's relatively high indices with the Maghreb and much lower ones with Lebanon and Syria, might be ascribed – in addition to the geographic factor - to the fact that as a result of its connections with France, the Maghreb received special and earlier concessions from the EU than did the Eastern Mediterranean countries. This factor, if of decisive importance, should have manifested itself in higher indices, with respect to the Maghreb, of both Greece and the Non-Med EU. But both the import and export intensity indices of the Non Med EU with the Maghreb (not shown in Table 5), are well below 100, indicating no trade affinity.

e. All the indices of Spain and France with the Maghreb countries are much higher than their corresponding ones with the Non-Med EU and the intra- North-Med; this despite the two countries' membership in an economic union with the two latter groups, and no significant difference in geographic proximity. This strengthens the case for the influence of the colonial past; however, Italy had the same difference between its indices with the Maghreb and with the two control groups.

f. Most of the indices of both Italy and Greece with the Arab Levant countries reflect greater trade affinity than those of France and Spain, suggesting the influence of closer geographic proximity. This is also supported by Greece's high indices with Turkey, despite their long history of hostility.

IV. The View from the South

1. The South-Med as a whole

Table 6 presents the relative import and export intensity indices for the South-Med with respect to the North-Med and to the four industrialized countries which account for most of the North's trade. Because more than half of the South-Med's total trade originates in the two 'outsiders', Israel and Turkey, the table presents also separate indices for the Arab South-Med group. Again, the import indices of the economies in the columns of the table with respect to those in its rows are shown in the upper left corner of the corresponding cell, and the export ones in the lower right hand one.

¹⁵ The effects of colonialism on bilateral trade relationship are examined in Kleiman (1976) and (1978).

Table 6: South-Med's Relative Trade Intensity Indices, 2004

| Imports of → from ↓ Exports of → to ↓ | SOUTH MED | ARAB SOUTH MED | Algeria | Morocco | Tunisia | Libya | Egypt | Lebanon | Syria | Turkey | Israel |
|--|--------------|----------------------|------------|------------|------------|--------------|-------------|--------------|------------|------------|------------|
| NORTH MED | 212 252 | 277 370 | 437 310 | 366 444 | 492 513 | 348 460 | 158 175 | 240 71 | 80 369 | 173 159 | 91 58 |
| SPAIN | 197 215 | 203 308 | 294 361 | 655 620 | 285 215 | 100 424 | 174 149 | 108 31 | 53 127 | 181 148 | 86 54 |
| FRANCE | 206 196 | 241 298 | 679 224 | 406 663 | 560 652 | 84 125 | 1,125 74 | 230 74 | 49 356 | 142 114 | 68 39 |
| ITALY | 223 377 | 229 583 | 234 466 | 187 126 | 543 679 | 28 1,007 | 188 319 | 320 32 | 123 613 | 203 197 | 109 58 |
| GREECE | 370 188 | 344 130 | 149 42 | 155 58 | 293 38 | 1,608 298 | 342 252 | 312 268 | 335 104 | 279 330 | 258 111 |
| NON-MED EU | 87 81 | 75 55 | 66 57 | 41 67 | 73 67 | 91 84 | 74 64 | 86 23 | 37 19 | 108 129 | 118 75 |
| SOUTH MED | 327 330 | 431 438 | 304 196 | 200 109 | 347 274 | 594 426 | 246 467 | 359 1,488 | 728 819 | 211 268 | 226 89 |
| GAFTA | 181 333 | 268 393 | 85 52 | 217 109 | 161 223 | 260 131 | 231 667 | 457 1,865 | 453 950 | 143 400 | 5 15 |

a. Perhaps the table's most outstanding feature are the below-par import and export indices of the South-Med with respect to the Non-Med EU region, replicated in all its individual Arab constituents. Compared to the South-Med's indices with respect to the, closer to it, North-Med, this suggests that geographical proximity plays a role in *cross* Mediterranean trade, although, as will be seen, this may not be the only major factor in play here.

b. A comparison of Tables 5 and 6 shows that the intensity of the South-Med's exports to the North-Med is practically the same as that of the North-Med's exports to the South-Med. But, perhaps contrary to what one would expect, the intensity index for the imports of the North-Med from the South-Med is nearly two-fifths higher than that in the other direction.

c. Furthermore, unlike in the case of the North-Med, the South-Med's intra-regional indices are considerably higher than its indices with respect to the North-Med. Thus, the South-Med countries trade relatively more with other countries of their own region than with those lying on the other shore of the Mediterranean.

d. The last finding is very much strengthened when we consider only the group of Arab South-Med countries, the results for which are shown in the second column of Table 6. There, the exclusion of Turkey and Israel raise all the indices for both imports and exports with the exception of those for this group's trade with Greece and with the Non-Med EU

2. Results for individual countries

The picture provided by the trade indices of the individual South-Med countries present a somewhat less consistent picture. But on the whole, the examination of the trade indices of the individual South-Med countries compliments the earlier observations based on the indices of the four industrialized North-Med countries with respect to the South-Med ones.

a. Starting from the last two columns of Table 6, we observe Turkey's on the whole low and Israel's on the whole below-par indices with respect to the North-Med countries (the main exception seems to be both countries' trade with Greece), justifying the separate consideration of the Arab South-Med, which does not include them. The difference of these two countries from the rest of the South-Med region expresses itself also in their import indices for the Non-Med EU group and, in the case of Turkey also of its export index, which are higher than those for the rest of this region. This is, most probably, explained by Turkey's custom union with the EU covering also its Non-Med component and by Israel having a long standing FTA agreement with the EU.

b. The South-Med's seven Arab countries can be broadly regarded as belonging to two different regions, that consisting of the three North African, Maghreb, ones and that comprising the three Arab Levant countries. Libya seems, appropriately to its geographical position, to fall in between, its indices with respect to some economies putting it in the first group and to others in the second one.

c. The Maghreb's and Libya's trade intensity indices with respect to the North-Med are considerably higher than those of the Arab Levant countries, except for Syria's export one. On the other hand, their indices with respect to the GAFTA are considerably lower than those of the Arab Levant. Taken together, these results indicate that, in contrast to the North African countries, the trade of those of the Levant is more attuned to the Arab countries to the South of it, while the Maghreb's trade affinities lie more towards Europe.

d. The indices for all three of the Maghreb countries show a close affinity in both imports and exports with France and Spain and, with the possible exception of Morocco, also with Italy. With the exception of the indices for Egypt's imports from France and Syria's exports to France, this is not true of the Levant countries. For them, it is with Greece and, to a lesser extent, Italy, that stronger affinities are observed, albeit less systematically than those of the Maghreb with the three first-mentioned North-Med countries. The relationship with Greece holds also for Turkey and Israel.

e. The high affinity of the Maghreb countries with the North-Med, with the exception of Greece, could reflect geographic proximity as well as colonial trade patterns or the cultural affinities born out of the former colonial relationships. The physical proximity argument is tentatively supported by the high affinities of Morocco with Spain (which ruled only over a small part of it) and Tunis with Italy; and, conversely, by the low intensity indices of all the Maghreb countries with respect to Greece, and of Morocco, the most Western positioned of the three, with Italy. This conclusion is also supported by the higher intensity indices for trade with Greece of the Levant countries, as well as of Turkey, which has a common border with it, and Israel.

V. Internal South-Med Trade¹⁶

As has been mentioned earlier, the EU wished to complement the growth of South-North Mediterranean trade by a similar development in the South itself, through integration among the South-Med countries themselves. The latter development was paralleled by the attempts of Arab countries, for both economic and political reasons, to foster economic integration among themselves. Consequently, in addition to their gradual entry into preferential trade agreements with the EU, the South-Med countries are also in various stages of establishing FTAs among themselves, whether as part of the Barcelona Process, or in the wider GAFTA. This section considers the South-Med intra-regional trade, and compares the relevant trade intensity indices.

As pointed out in Section I above, intra-South-Med trade does not constitute a significant fraction of the region's total trade: only 6.7 percent of its total imports and 7.8 percent of total exports. As to be expected for relatively small economies, the shares of the individual South-Med countries in each other's trade were usually very small, in most cases one or two tenths of one percent. The notable exceptions are Syria's and Lebanon's shares in the trade of one another.

Even such small trade shares can yield very high trade intensity indices if the total trade of the countries in question is very small. In extreme cases, if the trade shares between such countries are relatively large, as between Lebanon and Syria, the indices can reach very high numbers. Table 7 presents the intensity indices for the South-Med countries' trade with each other, and with non-Mediterranean GAFTA as a control group.

¹⁶ For more detailed studies of intra-regional Middle Eastern trade, see Kleiman (1992) and Halevi and Kleiman (2008). Intra-Arab trade is the subject of a penetrating study by Miniessy, Nugent and Yousef (2004).

Table 7: Intra-Regional South- Med's Relative Trade Intensity Indices, 2004

| Imports of→ from↓ | | | | | | | | |
|------------------------------|------------|------------|----------------|----------------|----------------|------------------|-----------------|------------|
| Exports of→ to↓ | Algeria | Morocco | Tunisia | Libya | Egypt | Lebanon | Syria | Turkey |
| Algeria | | 246 204 | 159 547 | 43 5 | 266 305 | 53 869 | 29 368 | 357 643 |
| Morocco | 175 75 | | 397 407 | 357 112 | 75 395 | 145 219 | 312 82 | 87 281 |
| Tunisia | 543 160 | 451 469 | | 4,538 1,532 | 113 353 | 43 232 | 53 98 | 95 308 |
| Libya | 4 46 | 114 418 | 1,514 4,126 | | 109 697 | 87 580 | 281 804 | 741 685 |
| Egypt | 330 304 | 458 91 | 400 124 | 742 123 | | 931 717 | 2,728 757 | 215 293 |
| Lebanon | 841 50 | 231 171 | 234 45 | 554 92 | 689 890 | | 12,064 4,283 | 720 351 |
| Syria | 931 19 | 49 222 | 99 39 | 2,027 585 | 1,827 4,933 | 10,433 19,326 | | 365 478 |
| Turkey | 59 370 | 287 65 | 351 91 | 635 737 | 258 196 | 388 704 | 1,348 1,388 | |
| Arab South-Med | 218 115 | 215 190 | 472 541 | 219 31 | 317 313 | 1,086 2,742 | 727 658 | 366 419 |
| Other GAFTA | 37 99 | 217 63 | 50 447 | 200 29 | 201 677 | 234 1370 | 404 1,118 | 65 388 |

a. The highest trade intensity indices for trade among the three Maghreb countries, both for imports and for exports, are those between Morocco and Tunisia. Algeria's high intensity index for imports from Tunisia is matched by the latter's high intensity index for exports to Algeria, both in the mid 500s. The indices for trade in the opposite direction also match, but at only about 160 they do not

indicate much Tunisian affinity for imports from Algeria nor of Algerian affinity for exports to Tunisia.¹⁷

b. Morocco's indices for trade with Algeria suggest some, not strong, trade affinity, while Algeria's indices for trade with Morocco are lower. The trade relations between these two were probably distorted by political hostility.

c. As for the trade of the Maghreb countries with the Arab Levant, all of them and Libya as well have high indices for imports from Egypt and Lebanon, but only Algeria and Libya from Syria. Of the four North African ones, none but Morocco has any export affinity with Lebanon, only Algeria has with Egypt, and Libya and Morocco (moderate) with Syria.

d. Extremely high intensity indices, for both imports and exports, can be observed for trade between the countries of the Arab Levant.

e. The indices for their trade with the Maghreb show great diversity. None of them has any import affinity with respect to Tunisia, while Egypt has some with Algeria, and Syria with Morocco. All three have significantly high indices for exports to Algeria and Libya, and both Egypt and Lebanon to Morocco and Tunisia.

f. Of the intensity indices for each of the two sub-regions of the Arab South-Med (not shown in Table 7), the index for Maghreb imports from the Arab Levant, and that for the Arab Levant's exports to the Maghreb, are high, 413 and 261, respectively. But they are much lower, 154 and 130, respectively, for the Maghreb's exports to the Arab Levant and for the imports of the latter from the Maghreb.

g. Turkey has high intensity indices for both its import and export trade with Lebanon and Syria; but, though non-Arab, it has even higher ones in its trade with more distant Libya and Algeria. Tables 7 also shows Turkey's export affinities with the Arab South-Med and the group of Arab countries south of the Mediterranean littoral (non-Med GAFTA) to be both strong, the former being slightly higher than the latter. However, while its import affinity with the Arab South-Med is rather strong, the corresponding index with non-Med GAFTA indicates trade aversion.

h. The last two lines of Table 7 also indicate that, on the whole, the trade affinities of the Maghreb countries with the two groups that constitute the entire Arab world are much weaker than are those of the Arab Levant. Both the Maghreb and the Arab Levant share a common language, religion and Arab identity with the rest of GAFTA. Hence, this difference between their trade intensity indices with respect to the latter seem to reflect the closer proximity of the Levant to practically all the non-Maghreb members of GAFTA.

VI. Some Tentative Conclusions

The shares of the two Mediterranean-bordering regions in the trade of one another show that the North-Med, because of its size, is more important to the South-Med than the other way round. However, their mutual trade intensity indices prove that both regions have trade affinities with each other. Most Med countries conduct two-thirds or more of their Mediterranean trade with partners whose shares in their trade is at least two and a half times higher than their share in world trade (relative trade indices larger than 250). While the Mediterranean as a whole forms a natural trading area, some sub-groups show greater mutual affinities than others.

¹⁷ As already explained above, although the one country's exports are the other country's imports, the totals of their trades might differ, so the share of the same bilateral trade in these totals might also be different, and hence also the corresponding trade intensity indices.

These combinations of size and affinity mean that the concessions offered by the Barcelona Process to the South-Med countries (particularly if they were to cover such protected sectors as farm produce and textile and clothing) could be of considerable benefit to them, but the concessions they could offer in return would be of lesser importance to the North-Med. The latter's main gain would probably be political – the reduction of migration pressures from the South to the North, and the weakening of radical Islam.

Both the North-Med's shares in the trade of the Maghreb countries, as well as its trade affinities with them are greater than those with the Arab Levant. Thus, they stand to gain more than the latter from any concession offered by the North.

The popular view has it that the Arab South-Med trade is dominated by cultural, religious and linguistic commonalities, geography playing only a secondary role. Our findings show that geography still matters: the Arab South-Med exhibits much lower affinity with the EU countries not lying on the Mediterranean littoral than with those that do.

Colonialism's heritage seems to play a role mainly in the trade of the Maghreb and Libya with the former colonial powers of the North-Med. The trade intensity indices for the individual countries with respect to the other GAFTA countries suggest that Arab linguistic and religious commonality may matter in the trade of the Levant, but not so much in that of the Maghreb, although the shorter distance to the Arab Peninsula countries is probably an additional factor here.

From the above we see that although the Maghreb and the Arab Levant share the same Arab identity, they do not form a natural trading area as does the Arab Levant itself. If it is assumed that natural trading partners are good candidates for some form of economic integration, than the Arab Levant is, at this stage, a better candidate than the Maghreb.¹⁸ The Arab Levant could also benefit from preferential trade agreements with Libya and with non-Arab Turkey. The same would probably be true also of an agreement with Israel, were the political climate to permit it.

The differences observed here between the Maghreb and the Arab Levant have relevance to the EU's Barcelona Process policy, which encourages the formation of a South Mediterranean Free Trade Area. The findings of our study suggest that though the Arab Levant constitutes indeed a natural trading area, this is less true for the region as a whole.

It should be stressed that the findings of this paper ought, to a certain extent, be regarded as tentative. The subject requires further study, first of all of the commodity composition of trade, in particular of the role in it of oil. It would be also important to extend it to other years, or to repeat it using multi-year averages, to test the stability of the relationships established here.

Furthermore, studies have shown trade in merchandise to be positively correlated with the existence of expatriate communities, and hence ultimately with migration, although the causality seems to run in both directions. Migration and trade magnitudes, in their turn, influence direct foreign investment (FDI) flows. It might be worthwhile to broaden the scope of the study to investigate these ties.

¹⁸ Although not lying on the Mediterranean littoral, Jordan is not part of the South-Med as defined here, it is an integral part of the Arab Levant.

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