Analysis of Factors Constraining Intra–Maghreb Trade

Abdelaziz Testas

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Abstract

The creation of the Arab Maghreb Union (AMU) on February 17, 1989 by Algeria, Libya, Mauritania, Morocco and Tunisia was aimed at increasing the volume of intra-regional trade, an aim that was expressed explicitly in the founding (Marrakech) declaration. Fifteen years after, this objective is far from being realised. The share of intra-regional trade in AMU's total trade is still exceptionally small, hovering at around 3%. This article explores the hypothesis that this situation may reflect the fact that the factors, namely ─ geographical proximity, cultural and historical similarities, and the height of tariffs ─ which were initially thought to determine potential intra-AMU trade, may have played only a secondary role, if at all.

تحليل العوامل المحددة للتجارة البينية لدول المغرب العربي

عبدالعزيز تستاس

ملخص

كان الهدف الرئيسي من تأسيس اتحاد المغرب العربي في 17 فبراير من عام 1989 (بين الدول الجزائر، ليبيا، موريتانيا، المغرب وتونس) هو زيادة التبادل التجاري بين دوله، وذلك حسبما تضمنه إعلان مراكش التأسيسي. فبعد مرور ما يزيد على خمسة عشر عاما، يبدو هذا الهدف بعيد المنال، حيث أن حصة التجارة البينية بين دول الاتحاد بقيت صغيرة لم تتجاوز 3% من مجموع تجارة دوله. تستكشف هذه الورقة الفرضيات التي يعكسها هذا الواقع وهي حقيقة أن العوامل المعروفة: الحدود الجغرافية المتقاربة، التشابه التاريخي والثقافي وسقف التعريفات والتي يعتقد مبدئياً بأنها يمكن أن تحدد التجارة البينية الممكنة بين دول الاتحاد، يمكن أن تكون قد لعبت دورا ثانوياً في ذلك.

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Introduction

The creation of the Arab Maghreb Union (AMU) by Algeria, Libya, Mauritania, Morocco and Tunisia was aimed to increase substantially intra-regional trade. This aim was expressed explicitly in the Marrakech founding declaration. Article 2 states clearly that the AMU member states work together towards 'the realisation of the freedom of movement of their people, goods and services, and capital'. The basic thrust of the 1989 agreement was thus to assist economic development in the member economies by allowing the free movement of goods and services, in addition to labor and capital.

Almost fourteen years have passed since the AMU formation. However, its primary objective is far from being attained. The share of intra-regional trade in AMU's total trade is still exceptionally low, amounting to only about 3%. In fact, for some member countries, such as Algeria, trade with the AMU has become even less important. For the period 1970-88, the proportion of Algeria-Maghreb exports to the country's total exports had never exceeded 2.5% in any one year. For 1995-97, it further went down to only approximately 2%. The percentages for imports were, respectively, about 1 and 2%.

This scenario is in sharp contrast to what was initially envisioned. When the AMU founding treaty was signed on February 17, 1989, optimism was high with Maghreb politicians predicting a success story. The factors cited for a high success rate are based on the geographical proximity among the member states and their similarities in terms of history, language and religion. Some economists added that, given the high initial level of tariff barriers in the North African region, a free trade area in the Maghreb would lead to significant trade expansion effects.

This article tests the hypothesis that the importance of these factors (i.e. geographical proximity, common culture and tariffs) that were initially thought to determine the potential volume of intra-AMU trade, may have been overestimated. Put differently, there may be other factors that have worked to offset the effects of such variables so that even with a common culture, close geographical distance and zero tariff rates, intra-regional trade among the Arab Maghreb Countries (AMCs) would still be small. This possibility by examining the flow of Algeria-AMU trade.

Economists have shown that a possible way to test for the importance of this set of factors is to use what is commonly known as Gravity Trade Models (GTMs). These, as pointed out by Wall (1999), have become as popular, if not more than, the General Equilibrium Models (GEMs). This is because they have 'much lower informational requirement, while also having the advantages of general equilibrium approaches' in examining the factors that influence international trade.

To achieve the aim of this article, a standard GTM will also be applied in which the volume of Algeria-Maghreb trade is linked to at least three main variables ─ geographical proximity, cultural and historical links, and tariff barriers ─ the same factors that Maghreb scholars and politicians had expected to be crucial in shaping future Maghreb-Maghreb trade relations.

Trends in Intra-Maghreb Trade and Comparison with Other Groupings

International trade has always been important to post-independent Algeria. During the 1970s, for example, the share of exports in the country's GDP averaged more than 25%. For imports, it was almost 30% . However, such a heavy dependence on international trade does not indicate that the country is interdependent with the Maghreb economies. Algeria has been rather interdependent with the non-Maghreb economies, namely the members of the European Union (EU).

The relative importance of Algeria-Maghreb trade prior to the AMU's creation, may be gauged from Figure 1. This figure indicates that the proportion of Algeria-Maghreb exports to the country's total exports never exceeded 2.5% in any one year. Furthermore, it showed signs of decreasing at least in the period 1973-86. On the other hand, as shown in Figure 2, the relative importance of Algeria-EU exports in the country's total exports has been considerable. The proportion of Algeria-EU exports in the country's total exports was well above 60% in many instances and the average for 1970-88 was more than 55%. Imports showed a similar behavior during the period of study. In other words, Algeria's imports from the EU were more significant than imports from the Maghreb. While the proportion of Algeria-EU imports to total imports averaged about 58%, the proportion of imports from the Maghreb was only about 1% for 1970-88.

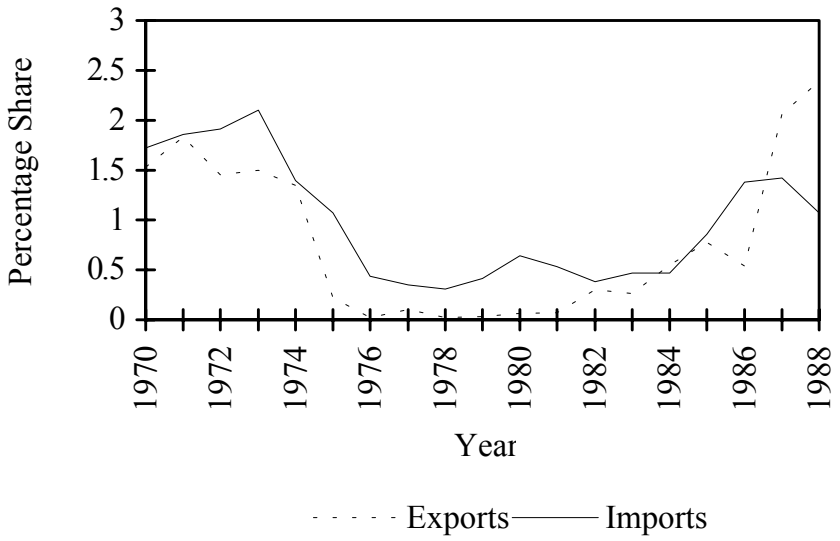

Figure 1. The Relative Importance of Algeria-Maghreb Trade Prior to AMU's Creation
Source: National Office of Statistics, Algiers.

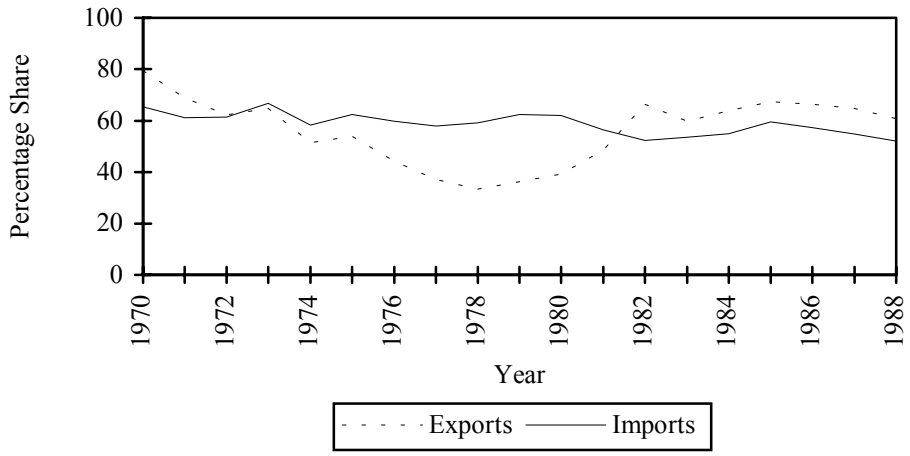

Figure 2. The Relative Importance of Algeria-EU Trade Prior to AMU's Creation

Source: National Customs Department, Algiers.

Data in Table 1 show that a similar story may be told in the post-AMU period. The data show that the proportion of Algeria-AMU trade to the country's total trade has been rather small. For 1995-97, the proportion of Algeria's imports from the AMU to its total imports, and that of its exports to the AMU in its total exports, both averaged 2%. Table 1 also shows that the country was still heavily dependent on the EU for its foreign trade. Thus, for 1995-97, almost 60% of the country's imports originated from the EU and more than 60% of Algeria's exports went to EU market.

Table 1. The Relative Importance of Algeria-Maghreb Trade. (Average 1995-97)

	Imports,%	**Exports,%**
EU	**59**	**63**
US/Canada	**17**	**19**
Japan	**3**	**1**
Arab League	**1**	**0**
AMU	**2**	**2**
Others	**18**	**15**
Total	**100**	**100**

Source: Maghreb Secretariat – Not included in Biblio.

Table 2 shows that observations regarding the insignificance of Algeria-Maghreb trade may be generalized to apply to the AMU as a whole. Figures in Table 2 show that for 1995-97, intra-AMU trade as a percentage of its total trade, amounted to only 3%. This percentage compares to more than 60% for AMU-EU trade.

Table 2. The Relative Importance of AMU-AMU Trade, 1995-97

	Imports, %	Exports, %
EU	**61**	**67**
US/Canada	**10**	**12**
Japan	**4**	**2**
Arab League	**2**	**1**
AMU	**3**	**3**
Others	**20**	**15**
Total	**100**	**100**

Source: Maghreb Secretariat – Not included in Biblio.

Data in Tables 1 and 2 may suggest the limited importance of intra-Arab trade as a whole. Table 1 shows that the share of Algeria's imports from the Arab League in its total imports was only 1% for 1995-97. The share for exports was nil for the same period. Similarly, as shown in Table 2, the share of AMU's imports from the Arab League in its total imports reached only 2%, while the share of exports was just 1% for 1995-97. In this sense, the insignificance of intra-AMU trade appears to reflect the situation of Arab-Arab trade as a whole (UN, 2002).

Table 3 puts the issue of intra-Maghreb trade into a wider perspective by comparing the share of intra-AMU exports in the union's total export with the shares of other regional trading arrangements. The data show clearly that, even by the standard of other African regional trading arrangements, namely the Economic Community of West African States, the Southern African Development Community, and the West African Economic and Monetary Union, the performance of the AMU is rather disappointing. The member states of the West African Economic and Monetary Union, for example, exported 13.5% of their total exports to one another, compared with only 3% for the AMU member states for 2001.

Table 3. Intra-Trade of Trade Blocs as Percentage of Total Export of Each Trade Bloc

TRADE BLOCS	1980	1990	2001
EUROPE			
Baltic countries	..	..	12.0
European Free Trade Association	1.1	0.8	0.7
European Union	60.8	65.9	61.2
Euro Zone of the European Union	51.4	55.1	50.1
European Union and accession countries	61.8	67.9	67.8
AMERICA			
Andean Group	3.8	4.1	9.4
Central American Common Market	24.4	15.4	15.0
Caribbean Community	5.3	8.1	13.4
Free Trade Area of the Americas	43.4	46.6	60.1
Latin American Integration Association	13.9	11.6	14.5
Southern Common Market	11.6	8.9	20.8
North American Free Trade Agreement	33.6	41.4	54.8
Organization of Eastern Caribbean States	9.0	8.1	5.6
AFRICA			
Economic Community of the Great Lakes Countries	0.1	0.5	0.8
Common Market for Eastern and Southern Africa	5.7	6.3	5.2
Economic Community of Central African States	1.4	1.4	1.1
Economic Community of West African States	9.6	8.0	9.8
Mano River Union	0.8	0.0	0.7
Southern African Development Community	0.4	3.1	10.9
Economic and Monetary Community of Central Africa	1.6	2.3	1.3
West African Economic and Monetary Union	9.9	12.1	13.5
Arab Maghreb Union	0.3	2.9	2.6
ASIA			
Association of South-East Asian Nations	17.4	19.0	22.4
Bangkok Agreement	1.7	1.6	8.7
Economic Cooperation Organization	6.3	3.2	5.4
Gulf Cooperation Council	3.0	8.0	5.1
Melanesian Spearhead Group	0.8	0.4	0.8
South Asian Association for Regional Cooperation	4.8	3.2	4.9
INTERREGIONAL			
Asia Pacific Economic Cooperation	57.9	68.4	72.5
Black Sea Economic Cooperation	5.9	4.2	14.8
Commonwealth of Independent States	..	..	18.2

Source: UNCTAD Handbook of Statistics – Not included in Biblio. Pls align figures – done

A Gravity Trade Model

The main objective of this section is to assess the significance of geographical proximity, historical and cultural similarities, and tariff barriers – variables that were initially thought to determine the future of the AMU. The importance of these variables must now be analyzed because fourteen years after the AMU's creation, the volume of intra-regional trade is way far behind as expected. To achieve this aim, one needs to go back to the period preceding the creation of the Maghreb free trade area to see as to whether the above variables had actually affected the flow of trade among the AMU member countries. A similar check will also be performed to see if these variables have exerted any influence in the post-1989 period.

A modified form of a cross-sectional Gravity Trade Model (GTM) of the type developed by Tinbergen (1962) and Linnemann (1966) is used. The same specification was used by Aitken (1973), Geraci and Prewo (1977), Pelzman (1977), Sapir (1981) and Markheim (1994). Leamer (1976) and Linnemann and Verbrugen (1991) also used similar specification while adding tariffs as a new explanatory variable (Brada and Mendez, 1991 – 1983 in BIBLIO??). The GTM, as pointed out by Ekholm *et al* (1996), is now regarded as a respected analytical tool for examining intra-regional volumes of trade. Recently, a large number of economists (Wang and Winters, 1991)) have used it to examine the impact of integration and immigration on intra-regional trade flows among different countries. An advantage of this model as compared to the widely used general equilibrium models, is that it has a much lower informational requirement. It also has the advantages of general equilibrium approaches to examining intra-regional trade flows (Wall, 1999).

The GTM specifies that a flow from origin i to destination j may be explained by economic forces at the flow's destination and economic forces resisting the flow's movement from origin to destination (Bergstrand 1985, 1989). Economic forces at the flow's destination include income and population. Forces affecting the flow's movement from origin to destination include tariffs, geographical proximity and cultural/historical links (Wall, 1999).

For the purpose of this article, a cross-sectional equation of the following form is estimated:

$$X_{ij} = \alpha P_j^{K_1} Y_j^{K_2} D_{ij}^{K_3} T_j^{K_4} \Pi_{ij}^{k_5} U_{ij} \qquad \text{(Equation 1)}$$

or assuming log-linearity:

$$LogX_{ij} = \alpha_0 + K_1 LogP_j + K_2 LogY_j + K_3 LogD_{ij} + K_4 LogT_j + K_5 Log\prod_{ij} + \overline{U}_{ij} \qquad \text{(Equation 2)}$$

where:

X_{ij} : Country i 's exports to country j in US$ million

P_j : Population of country j in million

Y_j : Nominal income of country j in US$ million

D_{ij} : Geographical distance between commercial centres of country i and country j in miles
T_j : Country j's tariff rates imposed on imports from country i
Π_{ij} : A preference dummy variable reflecting cultural and historical similarities among the member states
U_{ij} : Error term.

The above equations specify that country i's exports are determined by the potential import demand for country j approximated by income (Y_j) and population (P_j), the height of tariff (T_j), geographical proximity (D_{ij}) and cultural/historical similarities (Π_{ij}). The coefficient of the income variable Y_j is expected to be positive as it represents the capacity to import (or the purchasing power) of the importing country. The population coefficient may also be expected to be positive as it is used as a proxy for the size of the domestic market. Large domestic markets promote the division of labor and thereby creating opportunities for trade in a variety of goods, hence, encouraging foreign trade. The distance variable D_{ij} represents the geographical proximity factor which may also contain some information on commercial policy, transportation costs and knowledge about foreign market opportunities. Therefore, the coefficient of D_{ij} is expected to be negative. Similarly, the coefficient of T_j is expected to be negative because the higher the tariff rate, the lower the volume of trade is expected to be. The dummy variable Π_{ij} 's coefficient is expected to be positive because the volume of trade among countries which share similar culture and history is expected to be higher than for countries which did not. A positive, statistically significant coefficient for Π_{ij} will therefore indicate that intra-regional trade is more significant than extra-regional trade.

Empirical Results

Equation 2 has been estimated using Algerian data for 1970-74, 1988 and 1995 for which data were available. The aggregate trade flows data consist of the Arab Maghreb Countries (AMCs) as well as their trading partners over the sample period. Tariff rates were computed as the ratio between import duty collection and the value of total imports multiplied by 100.

Import duties were obtained from the UN National Accounts Statistics (several issues) not included in Biblio). For the AMCs, these were obtained from the countries statistical yearbooks . GDP in US$ and population were obtained from IMF International Financial Statistics (several issues – not included in Biblio) except for AMCs which were obtained from the government sources. Distances in miles were computed from the computer PC Globe Software. Algeria's exports were obtained from the National Office of Statistics, Algiers . These were converted into US$ by exchange rates available in the IMF International Financial Statistics.

The estimation method is Ordinary Least Squares (OLS). The MFIT time series processor software has been used. An advantage of this software is that it automatically performs robustness checks with regard to serial correlation, functional form and heteroscedasticity.

As shown in Table 4, the results indicate a reasonable fit as measured by the coefficient of variation, R^2. The latter explains more than 90 % of variations in X_{ij} in the period 1970-73. Serial correlation was a problem for the 1974 and 1988 equations, while heteroscedasticity was a problem for 1971 and 1974. There has been no problem with the functional form of the estimated model.

Table 4. Regression Equations for Algeria-Maghreb and Algeria-ROW Trade

	Constant	Demand Factors		Geographical Proximity	Tariffs	Cultural and Historical Links	R^2
		Income	Population				
1970	**7.72 (1.20)**	**1.08 (1.64)**	**0.32 (0.45)**	**-1.61 (-1.70)**	**0.34 (0.81)**	**3.54 (1.13)**	**0.91**
1971	**11.43 (2.28)**	**1.05 (1.87)**	**0.10 (0.16)**	**-1.77 (-2.35)**	**-0.22 (-0.67)**	**3.14 (1.17)**	**0.90**
1972	**10.48 (1.68)**	**0.48 (1.01)**	**0.61 (1.05)**	**-1.55 (-1.64)**	**0.02 (0.04)**	**-0.55 (-0.69)**	**0.92**
1973	**15.46 (2.16)**	**0.79 (1.02)**	**1.12 (1.43)**	**-2.64 (-2.43)**	**-0.31 (-0.60)**	**3.16 (0.80)**	**0.92**
1974	**2.79 (0.31)**	**1.29 (1.29)**	**0.28 (0.28)**	**-0.83 (-0.61)**	**0.13 (0.20)**	**5.89 (1.23)**	**0.84**
1988	**18.30 (1.97)**	**0.30 (0.18)**	**-0.17 (-0.36)**	**-1.72 (-1.35)**	**-0.12 (-0.32)**	**-3.74 (-1.99)**	**0.67**
1995	**15.00 (1.99)**	**0.12 (0.10)**	**0.22 (0.30)**	**-1.30 (-1.29)**	**-0.20 (-0.85)**	**-2.50 (-1.80)**	**0.75**

Diagnostic Tests (F-Version)

	Serial Correlation	Functional Form	Heteroscedasticity
1970	**F = 0.30 [0.62]**	**F = 0.07 [0.80]**	**F = 3.14 [0.11]**
1971	**F = 0.16 [0.72]**	**F = 0.00 [1.00]**	**F = 4.26 [0.07]**
1972	**F = 0.74 [0.45]**	**F = 3.90 [0.14]**	**F = 0.17 [0.69]**
1973	**F = 0.43 [0.56]**	**F = 0.21 [0.68]**	**F = 0.14 [0.72]**
1974	**F = 6.02 [0.00]**	**F = 2.00 [0.25]**	**F = 6.68 [0.03]**
1988	**F = 4.95 [0.08]**	**F = 1.20 [0.32]**	**F = 0.38 [0.55]**
1995	**F = 4.90 [0.28]**	**F = 0.05 [0.80]**	**F = 4.14 [0.20]**

However, when it comes to the expected sign of the estimated coefficients and their level of significance, the results appear to have been unsatisfactory as shown in Table 4. Thus, the demand variables (income and population) acquired the expected positive signs for each year except for population in 1988. But none of these was statistically significant in any of the reported years. The geographical proximity coefficient also acquired the expected negative sign for each of the reported years, but was statistically significant at 10% level only for 1971 and 1973. The tariff coefficient had the right sign, i.e. negative, in 1971, 1973, 1988 and 1995 but was statistically insignificant. The culture/history dummy variable coefficient

was significant at 10% level in 1988 and 1995 only but had a negative sign. In the remaining years (except for 1972) it had the expected sign but was not significant.

On the whole, the results do not seem to indicate the presence of a strong relationship between the explanatory and the dependent variables. This leads to the conclusion that Algeria-Maghreb trade flows may not be adequately explained by these variables. In other words, Algeria-Maghreb trade relations should be explained by factors other than those specified by the model.

Indeed, if one takes the height of tariffs, T, this does not seem to have played any major role in the direction of Algeria's exports. For instance, in 1970, Belgium and Austria imposed almost the same tariff rates on imports from Algeria (about 11%), but Algerian exports to Belgium were about 13 times higher than exports to Austria in the same year at US$21 million against US$1.6 million, respectively. Furthermore, in 1975, Austria lowered its tariff rates considerably while Belgium's tariff rates increased slightly but Algeria's exports to Austria were still far lower than those directed to Belgium.

Similarly, the geographical proximity variable, D, does not appear to have influenced Algeria's trade flows, neither with its neighbouring AMCs nor with other non-Maghreb trading partners. For example, the distance between Algeria and the United States is about 8 times longer than that between Algeria and its neighbouring Tunisia and therefore expectedly, transportation costs are expected to be far higher. However, Algerian exports to the United States were about 19 times higher than exports to Tunisia in 1988 at US$1.8 billion against US$90 million.

In order to provide empirical support for this conclusion, the relative distance d_{ij}^{*} was correlated with Algeria's share of i 's import market, W_{ij};

where $d_{ij}^{*} = d_{ij} / \sum_{i} d_{ij}$ is the relative distance to Algeria and the summation in the definition of d_{ij}^{*} runs over all important clients of the country;

and $W_{ij} = X_{ij} / \sum_{i} X_{ij}$ where X_{ij} is Algeria's exports to j and $\sum_{i} X_{ij}$ refers to total Algeria's exports to all trading partners, including the rest of the Maghreb.

The rank correlation of relative distance (d_{ij}^{*}) and Algeria's market share (W_{ij}) in the sample for 1995 was 0.39 (i.e. positive; hence with the wrong sign) and statistically insignificant. This finding supports Roemer's study (1977) which shows that much of trade between countries, especially between developed and developing countries, is left unexplained by distance and that other factors (referred to as sphere of influence) were important. Sphere of influence factors is not purely economic and includes post-colonial political influences and the tying of aid.

The sphere of influence factors has also been emphasized by Lord (1991). He argues that there are many reasons to believe that primary commodities can be horizontally differentiated in international trade. Countries are said to be horizontally differentiated when importers differ in their choice of the geographic origin of the goods even though its quality does not vary from country to country. In this sense, the reasons for horizontal differentiation

are not commodity-specific; rather, they are inherent in the trade processes. Historical and political ties with countries are a good example of these reasons.

An interesting observation in these non-economic factors (or sphere of influence, to use Roemer's terminology) is that in such cases, the exporting country could alter its relative export price somewhat without driving away buyers. As a result, these ties could give rise to export demand functions that are less than perfectly elastic with respect to price. Moreover, adjustment costs are likely to be involved in switching from one supplier to another. These costs include loss of loyalty preferences given by exporters to established buyers and loss of reliability of supply sources. There are also learning costs involved in purchases made from new foreign suppliers. Therefore, this will make the sphere of influence factors seem even more important.

Given the above analysis, distance may therefore, become unimportant in influencing trade shares. In principle, one expects to take advantage of propinquity and lower transportation costs. In fact, transportation links among the AMCs did exist early in the colonization stage. Therefore, the contiguity and proximity of the AMCs should have fostered intra-Maghreb trade. Strong traditional links have been established mainly with France and other industrial countries. This trade has been supported by such modern services as banking, credit suppliers, guaranteed markets, trade preferences and shipping insurance.

In addition to this, several other factors may be cited which may have virtually constrained intra-Maghreb trade. To begin with, the external sector in the AMCs has long been controlled by the state. Each government has created a national office of commerce that often acts as a trade monopoly. These monopolies compete to increase their share of the market with the developed industrial countries. For example, Tunisia competes against Morocco for phosphate markets. Similarly, Algeria competes against Libya for petroleum markets; and these four countries compete against one another to get special preferences for their primary commodities to be sold in the European markets.

The similarity of the economic structure of the AMCs and the absence of complementarity between them is, therefore, a key factor constraining intra-Maghreb trade. This is best illustrated by Algeria-Libya trade relations. Both countries are highly dependent on oil products and, therefore, offer very little complementarities to each other. Thus, in the whole period 1970-88, Algerian imports from Libya did not exceed Algerian Dinar (AD) 0.3 billion; while exports to that country were only slightly higher than half a billion. This is also the case with Algeria-Mauritania bilateral trade. While the Algerian economy has been dependent almost solely on hydrocarbons exports, the Mauritanian economy has been highly dependent on exports revenues from iron ore. As a result, Algerian imports from Mauritania did not exceed AD0.3 billion in the whole period 1970-88. Similarly, Algerian exports to that country (mainly hydrocarbons), were higher than imports but did not exceed AD2 billion in the same period.

More importantly, other primary products, namely agricultural, also constitute a fraction of Algeria-Maghreb trade, whose volume has been subject to supply side constraints. The volume of agricultural products is largely dependent on rainfall which fluctuates from one season to another. In addition, the category of these primary products is too small and, therefore, even when this category of products is disaggregated, potential expansion of intra-Maghreb trade would not appear quite likely.

Table 5 shows the structure of intra-AMU trade for 1995-97. The data show that about 45% of intra-AMU imports and more than 17% of intra-AMU exports were mineral products. These same conclusions apply to intra-Maghreb trade on the eve of AMU's creation in 1989. This can be shown by Algeria's case. The country's exports to the Maghreb in 1989 were dominated by mineral products (78%), base metal articles (9%), chemicals, mechanical and electrical products (5%), transport equipment (4%) and other products (4%). On the import side, imports were also dominated by mineral products (31%), although there was a greater degree of diversity than for exports.

Table 5. Composition of Intra-AMU Trade, 1995-97 (Percentage of Total)

	Imports	Exports
Animal Products	**1.0**	**5.2**
Vegetable Products	**3.9**	**9.6**
Fats and Oil	**0.6**	**3.0**
Prepared Foodstuffs	**5.3**	**6.8**
Mineral Products	**44.6**	**17.3**
Products of Chemical Industries	**9.3**	**12.2**
Plastic Materials	**4.2**	**3.6**
Raw Hides and Skins, Leather, Furskins	**0.2**	**1.3**
Wood	**0.8**	**2.2**
Paper-Making Material; Paper and Paperboard Articles	**3.6**	**3.7**
Textile and Textile Articles	**7.0**	**10.8**
Footwear	**3.4**	**5.1**
Articles of Stone	**2.2**	**4.3**
Pearls	**0.0**	**0.2**
Base Metals	**6.6**	**5.8**
Machinery and Mechanical Appliances	**3.2**	**4.7**
Vehicles	**2.8**	**1.2**
Precision Instruments	**0.1**	**0.3**
Arms and Ammunitions	**0.0**	**0.1**
Miscellaneous Manufactured Articles	**1.3**	**2.7**
Works of Arts	**0.0**	**0.0**
Other Works	**0.0**	**0.0**
Total	**100.0**	**100.0**

Source: Author's calculation from Maghreb Secretariat's data

Standard economic integration theory predicts that integration is more likely to increase welfare: (a) the higher is the proportion of trade with the country's union partner and the lower the proportion with the rest of the world; and (b) the smaller the total value of foreign trade as a percentage of GDP of member countries. As regards proposition (a), the AMU has offered about 3% of intra-regional trade to its members while extra-regional trade is estimated at about 97%. This is not the case with the EU, for example, whose intra-regional trade was estimated at more than 60% of total EU trade in 2001.

As regards proposition (b), the ratio of foreign trade to GDP is very high in all AMCs standing at an average of 55% for Algeria, 85% for Tunisia, 75% for Morocco, 80% for Libya and 105% for Mauritania in the period 1970-88. Imports in AMCs are quite high in proportion to GDP while only a tiny fraction of these imports comes from the Maghreb. Exports are also quite high in proportion to GDP while a very big fraction of these exports, mainly primary products, is directed towards Europe. Traditionally, the European countries, mainly France, represent the more efficient source that supply the Maghreb market's needs and this explains the creation of trade between the AMCs and these countries.

On the demand side, European countries are the most effective consumers of North African primary goods, raw materials, petroleum, and gas. Since Maghreb exports consist mainly of primary commodities while manufactured goods weigh heavily in the AMCs' imports, little short-run static gain may be expected from the reallocation of existing resources and changes in trade patterns after economic integration occurs among the AMCs.

The difficulties arising from the heavy reliance on foreign trade are compounded by the rigidities in the AMCs' domestic production structure. These countries lack the flexibility to adjust quickly their production structures to respond to changes in the terms of trade between their exports and their imports. Unlike their traditional trade partners, the EU members, the AMCs cannot quickly switch from one line of exports to another. More importantly, such countries have a relatively considerable home market for their major lines of manufactured exports. The AMCs, however, generally do not have much of a home market for their major lines of primary exports and cannot absorb surpluses when world market conditions turn adverse. Good examples are the surpluses of merchant phosphate rock in Tunisia and Morocco and crude oil and gas in Libya and Algeria.

Another inhibiting factor to intra-Maghreb trade lies in the need for foreign exchange to enable these countries to carry out their ambitious industrial programmes which, in the case of Algeria, started in the mid-1960s and intensified in the 1970s. As a result, ‘the need for foreign currencies has weighed heavily against the generation of higher levels of trade within the region’ (Spencer, 1993). The lack of foreign exchange also explains in part why the AMCs apply variable (and sometimes undeclared) quotas which tend to fluctuate with the availability of foreign exchange.

On top of this, differences in political orientations and disputes over borders have significantly reduced the volume of intra-Maghreb trade. A good example is the complete interruption of Algeria-Morocco bilateral trade in the period 1976-88 following the Western Sahara conflict.

Conclusion

The creation of the Arab Maghreb Union (AMU) on February 17, 1989 by Algeria, Libya, Mauritania, Morocco and Tunisia was aimed primarily at increasing the volume intra-regional trade. This objective was highlighted explicitly in the founding (Marrakech) declaration. Article 2 states clearly that the AMU member states work together towards the realisation of the freedom of goods and services. The basic thrust of the 1989 agreement was

therefore to assist economic development in the member economies by allowing the free movement of goods and services, in addition to factors of production, labor and capital.

Fourteen years, however, have passed since the AMU establishment. Such an objective is still far from being realized. The share of intra-regional trade in the AMU's total trade is still exceptionally small, hovering at around 3% for 2001. This situation leads to the probability that the factors, namely geographical proximity, cultural and historical similarities, and the height of tariffs, which were initially thought to determine potential intra-AMU trade, may have played a only secondary role, if at all.

The application of a standard Gravity Trade Model (GTM) to Algerian data for 1970-74, 1988 and 1995 for which data were available did not prove successful in providing evidence that Algeria-AMU trade flows were significantly affected by such factors. In fact, from the start, Algeria's foreign trade was mainly oriented towards the rest of the world, namely the European Union (EU). Simple descriptive statistics reinforce this. For example, between 1970 and 1984, Algeria's total imports increased by 17% annually, imports from the EU increased by 16 per year, while the annual growth rate of imports from the Maghreb was only 4%. Similarly, in the same period, total exports increased by more than 20%, exports to the EU by about 20% while exports to the Maghreb increased by only 2% per year.

Further data from the Maghreb Secretariat also show that Algeria's national economy has been as open towards the rest of the world in the post-1989 period as it had been prior to the AMU's creation. This suggests that unless the AMU member states address the real factors that inhibit the growth of their intra-regional trade, the AMU is not likely to play a significant role in fostering the economic development of its members.

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