El impacto de los acuerdos de libre comercio en los países del Norte de África y Oriente Medio

Impact of Free Trade Agreements on MENA Countries

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Resumen

El artículo analiza el impacto de los acuerdos de libre comercio (ALC) de diez países del Norte de África y Oriente Medio sobre la evolución de los flujos comerciales para el periodo1990-2010. Para ello, se estima un modelo gravitacional aumentado con el objetivo de evaluar el impacto medio e individual de seis ALC sobre las exportaciones e importaciones de Marruecos, Argelia, Túnez, Libia, Egipto, Jordania, Israel, Líbano, Siria y Turquía. El análisis se realiza tanto para el comercio total como diferenciando entre productos industriales y agrícolas, teniendo en cuenta que los textos de los acuerdos distinguen entre estas dos categorías cuando establecen los esquemas de liberalización.

Palabras clave: acuerdos comerciales, integración mediterránea, norte de África y oriente medio, ecuación de gravedad, datos de panel.

Abstract

This paper analyses the impact of free trade agreements (FTAs) on the evolution of trade flows for ten Middle East and North African Countries (MENA) for the period 1990-2010. An extended gravity model is estimated to evaluate the average and individual impact of six FTAs on exports and imports of Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, Israel, Lebanon, Syria and Turkey. The analysis is undertaken not only for aggregated trade but also considers separately trade in industrial and agricultural goods. In this way the fact that the contents of such agreements distinguish between industrial and non-industrial products to establish schedules of liberalization is a core part on our research.

Key words: free trade agreements, Mediterranean integration, MENA countries, gravity equation, panel data
JEL: F13, F14, F15

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1. INTRODUCTION

The aim of this paper is to analyse the impact of FTAs which came into force for ten MENA countries between 1990 and 2010, in order to illustrate the role that these have had on improving trade flows in the region. The reduction of trade barriers through the implementation of trade agreements is a major step towards trade liberalization. Some papers focus on analysing the impact that FTAs have had on MENA trade flows, but only a few compare different FTAs, including North-South (NS) and South-South (SS) agreements. As far as we are aware, there are no studies that differentiate between industrial and agricultural products in the same analysis. The present study adds new insights along these lines. We analyse the trade effects of four NS-FTAs and three SS-FTAs, which came into, force recently, differentiating also between trade in industrial and in food products. The countries involved are Morocco, Algeria, Tunisia, Libya, Egypt, Jordan, Israel, Lebanon, Syria and Turkey. We compare the average impact of the agreements and the individual impact for each MENA country, differentiating between import and export flows. An augmented gravity model is estimated using up-to-date panel data techniques that allow to control for all factors that influence bilateral trade and are time invariant (unobserved heterogeneity) as well as for the so-called multilateral resistance.

The rest of the paper is organized as follows. Section 2 describes the FTAs analysed in the paper and revises the related literature. Section 3 presents the analytical framework. Section 4 and specifies the empirical model, describes the data and presents the main results and Section 5 concludes.

2. FREE TRADE AGREEMENTS IN MENA COUNTRIES

The main trading partner for MENA countries, especially for North African Countries, has been Europe, due to its geographical proximity and to historical-colonial ties. The integration process between the South Mediterranean counties (SMC) and Europe starts on 1969 with the Preferential Trade Agreements (PTAs) that liberalize industrial exports from Algeria, Morocco and Tunisia to EU countries. Within the framework of the "Global Mediterranean Policy", which started in 1972, bilateral cooperation agreements between EU and Morocco, Israel, Tunisia, Egypt, Jordan, Lebanon and Syria were signed in 1975. These agreements also include non-reciprocal trade preferences liberalising industrial exports from MENA countries to Europe, a new feature was the inclusion of financial and economic cooperation and social cooperation into the agreement.

With the aim of relaunching the Euro-Mediterranean integration, the Barcelona Process started in 1995. One of its main goals was the completion in 2010 of a Free Trade Area between the European Union (EU) and each MENA partner involved in the process. This new agreement replaces the old bilateral cooperation agreements and aims at reaching free trade for MENA industrial exports to the EU after a transition period of 12 years. Single interim bilateral agreements have already entered into force for seven countries. Tunisia was the first in 1998, followed by Morocco and Israel in 2000, Jordan in 2002, Egypt in 2004, Algeria in 2005 and Lebanon in 2006. Syria initiated negotiations in 2008 but they were suspended due to the Arab democratic revolts, and Libya only had observer country status.

In addition to the Euromed Agreement, some MENA countries signed other FTAs with important North partner countries, like the EFTA countries, USA, or Turkey. In the case of EFTA countries the FTA came into force with Turkey in 1992, Israel in 1993, Morocco in 1999, Jordan in 2002, Tunisia in 2005, Lebanon and Egypt in 2007. The text of the agreement is similar to the Euromed Agreement and it covers trade in industrial products, including fish and other marine products and processed agricultural products. It also includes provisions relating to the elimination of other trade barriers in addition to rules on competition, state monopolies and subsidies, provisions on the protection of intellectual property, investment, services, current payments and capital movements, government procurement, economic co-operation and institutional and procedural matters, in reference to the rules of origin, they are based on the Euro-Mediterranean model.

An additional NS FTA is the one signed between Jordan and the US, which came into force in 2001 with the aim of promoting products and service exports between both countries. Each party shall progressively eliminate its customs duties during ten years. Before this agreement the two countries had signed an agreement for the creation of qualifying industrial zones (QIZ) in 1998 and that allow products to enter duty-free on the United States if a 35 percent of the appraised value are from Israel, Jordan, Egypt, or the West Bank and Gaza. The attractive to export under the FTA or QIZ framework depend on the rules of origin of each agreement.[1]

A similar agreement was signed between US and Morocco, which came into force in 2006 and which transition period covers 18 years for US and 25 years for Morocco. The FTA includes trade liberalization for products and services. The agreement was signed after the end of the Multi-Fiber Agreement (MFA) on the 1rst of January of 2005 and it was seen for Morocco as an opportunity to diversify its economy. (Hufbauer and Brunel, 2009) analyse in detail the agreement.

South-South integration has been limited and efforts among the MENA countries have not been sufficient to make firm arrangements. Many of them have become mere proposals, such as the Arab Common Market and other initiatives proposed by the Arab League. Arab regional integration in the 50's began with the signing of an "Agreement on Trade Facilitation and Regulation of Transit Trade" for a number of Arab countries that had no impact. For this reason, "The Arab Common Market Agreement", which sought to create a free trade area through the establishment of a common external tariff was signed in 1964, but also failed. Other attempts were "The Gulf Cooperation Council (GCC)" in 1981, and "The Arab Maghreb Union" which have not yet taken off. In the 1990s, Arab countries entered a new phase of South-South integration highlighting two relevant agreements, the GAFTA and the Agadir Agreement (Broude, 2009).

The GAFTA agreement was signed in 1997 by 14 Arab countries in order to create a free trade area (FTA) among its members, with a gradual liberalization of goods from 1998 to 2007. This agreement not only includes the elimination of tariffs but also of administrative, quantitative, and health barriers, which are not tariff-related. It also tries to develop partnerships in the fields of technology, services, research and development and intellectual property among its

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[1] See Hufbauer and Brunel (2009) chapeter 8 for mor detail of the QIZ between Jordan and US.

members. It currently has 17 members[2] and has not yet achieved the objectives of the agreement, mainly due to problems with the rules of origin, lack of mechanisms to resolve disputes, high transport costs and generally higher non-tariff barriers (Chauffour, 2011).

Within this context of Pan-Arab integration, Egypt, Jordan, Morocco and Tunisia signed, in 2004 in Rabat, the Agadir agreement to promote their trade integration, in parallel with other projects. The Agadir agreement entered into force in 2006 and aims to set up a free trade area between the signatory countries. The agreement establishes a free trade area and adopts the Pan-Euro-Med Rules of Origin that allows the use of standardized inputs for the production of final goods from any country in the EU, EFTA or the countries of the Agadir agreement itself to benefit from the exemption of tariffs with the EU (Abedini and Peridy, 2008). The agreement aims at providing full liberalization of trade in industrial and agricultural products with their came into force.

Other SS-FTA have been the signed between a few MENA countries and Turkey. The firsth FTA came into force for Israel in 1997, and more recently, for Tunisia in 2005, Morocco in 2006, and Egypt and Syria in 2007. The text of the agreement is quite similar to the Euromed agreement, though there are small differences, one of them are that each country have different transitional periods to complete full liberalisation.[3] This shift on foreign policy in Turkey shows the new role that Turkey aims to play in Mediterranean relations, starting with greater trade integration between these countries.

3. ANALYTICAL FRAMEWORK

Since the early 1990s the gravity equation has become the standard model to analyse the determinants of bilateral trade flows. One of its applications has been to estimate the impact of policy measures on international trade flows. The gravity equation is based on Newton´s law of universal gravitation, and it has become popular due to its success in explaining bilateral trade flows among countries. The basic idea is that trade between two countries is proportional to the product of their sizes, which can be measured using their respective GDPs, and inversely proportional to the distance between them.

$$T_{ijt} = \alpha_0 Y_{it} Y_{jt} Dist_{ij} \quad (1)$$

This basic equation has been augmented with variables that affect trade between countries and it is very usual to include these on the model specification. For example, common language, colony ties, shared border and trade agreements are used as proxies for familiarity, information and artificial trade barriers. Typically, the gravity equation is specified in logarithmic linear form and it is estimated using cross-section or panel data. According to the most recent literature, the use of panel data is highly recommended to control

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[2] Jordan, Morocco, Kuwait, United Arab Emirates, Syria, Tunis, Bahrain, Lebanon, Libya, Saudi Arabia, Iraq, Sudan, Oman, Egypt, Yemen, Qatar, Palestine.

[3] See the Annex for more details about each agreement.

for unobserved heterogeneity of various sources, for FTA endogeneity and for multilateral resistance.

(Tinbergen, 1962) and (Pöyhönen, 1963) were the first authors who applied this equation to international trade flow analysis but this was widely criticized due to lack of theoretical foundation. However, with the emergence of the new trade theory at the end of the 1970s and the early 1980s, the theoretical foundation of the gravity equation was more than justified. (Anderson, 1979) was the first to provide clear micro foundations to the model based on the properties of expenditure systems, with the assumption that each nation produced a unique good imperfectly substitutable with another nation's goods. (Bergstrand, 1985) provides theoretical foundations based on factor endowments and bilateral trade, arguing that it is possible to approximate the theory-based price terms with various existing price indices. Later (Bergstrand, 1989, 1990) employed the Helpman-Krugman model, using also the existing prices indices. (Helpman, 1987) used the gravity model within a differentiated product frameworkand (Deardorff, 1995) showed that standard trade theories based on comparative advantage and differences in resource endowments also justify the gravity equation.

One of the most important recent contributions has been (Anderson and van Wincoop, 2003). They recommend accounting for "multilateral trade resistance" in the estimation of gravity equations. A way to control for it is adding time-varying, directional, country-specific dummies, because bilateral trade flows depend on bilateral trade costs relative to multilateral resistance. In addition, (Feenestra, 2004) recommends including country fixed effects to model unobserved price indices.

Another important issue is that trade policy is not strictly exogenous and that analyses of the effects of free trade agreements with the gravity equation can suffer from endogeneity bias, as pointed out by (Baier and Bergstrand, 2007, 2011). They recommend the use of panel data regression techniques and the inclusion of bilateral fixed effects (dyadic fixed effects) to capture unobservable time-invariant bilateral factors that can affect trade flows. They also include exporter-and-time and importer-and-time fixed effects to capture unobservable time-varying "multilateral price/resistance" terms of the exporter and importer countries. The model that corrects for endogeneity bias and controls for multilateral resistance is given by,

$$\ln X_{ijt} = \beta_0 + \beta_1 FTA_{ijt} + \eta_{ij} + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (2)$$

where η_{ij} denotes dyadic fixed effects, specified as dummy variables for each bilateral relation and δ_{it}, ψ_{jt} are exporter-and-time and importer-and-time fixed effects. The inclusion of these fixed effects implies that we are not able to identify income and distance effects, but the target variable, *FTAijt*, which denotes free trade agreements and varies by origin, destination and over time will be correctly identified. (Baier and Bergstrand, 2011) estimate the model in levels and also in first differences. We follow the same empirical strategy in this paper.

4. EMPIRICAL APPLICATION

The gravity equation has been extensively used to estimate the impact of trade policy actions on bilateral trade flows. Relatively few works focus on analysing the impact of FTAs on MENA trade flows, whereas most published research focus on other regions like Latin America, the European Union or NAFTA. (Kepaptsoglou et al, 2010) offer a review of empirical studies in the last 10 years that use gravity model specifications to analyse the impact of FTAs on international trade flows.

The literature that examines trade integration effects on MENA trade flows sometimes analyses only North-South (NS) integration (Peridy, 2005a) or only South-South (SS) (Peridy, 2005b). A few authors (Abedini and Peridy, 2008 and Hagemeger and Cieslik, 2009) analyse both. Overall results remain mixed.

(Bergstrand et al, 2011) study the impact of six trade agreements for the European Union, including the FTA between the EU and Jordan, Morocco and Tunisia. They used a gravity model for bilateral trade flows among 176 pairs of countries from 1966-2008. Results show that the FTA has only improved exports from the EU to Tunisia and Morocco but not in the opposite direction.

(Peridy, 2005a) analyses the impact of regional arrangements between the EU and nine Mediterranean countries for the 1975-2001 period. He employs a gravity equation that includes time effects, time-invariant bilateral effects and time-invariant country effects. It accounts only for time-invariant multilateral resistance, but it does not include import-and-time and export-and-time dummies, as (Baldwind and Taglioni, 2006) and (Baier and Bergstrand, 2007, 2011) suggest. They use different model specifications (Fixed effects, Random Effects, Hausman and Taylor Model and a dynamic estimation with GMM). His main findings indicate that regional agreements have a positive and significant impact on bilateral trade, increasing exports from MENA countries to the European Union in all estimations, with a trade creation at around 20%-27% for the static specifications and 36% in the dynamic version.

(Peridy, 2005b) focuses exclusively on the impact of SS-FTAs, specially the Agadir agreement. He analyses exports for 5 MENA countries to 42 economies from 1975 to 2001. Results show that due to the highest border effects and lack of complementarities, countries involved in the Agadir agreement will obtain a limited profit in terms of higher trade flows.

(Abedini and Peridy, 2008) measure the impact that the GAFTA agreement has had on improving exports for 15 member countries from 1988 to 2005 and obtain a positive and significant correlation in all estimates. They also obtain that trade creation has been between 16% and 24%. Their study also measures the impact of the Association Agreement (AAs) with the European Union and the new Euromed agreement, obtaining a positive and significant effect for the AAs with the EU and negative effect for the EUROMED agreement.

(Hagemeger and Cieslik, 2009) also analyse both NS and SS FTAs using an augmented gravity model to estimate FTA effects on imports and exports for seven MENA countries between 1980-2004. They include, like (Peridy, 2005a), individual fixed effects, county-pair specific effects and time specific effects, and present different specifications, e.g., OLS, two-way fixed effects and first differences, to check for robustness. According to their findings the EU-Association Agreement with MENA countries did not help to increase MENA exports to the EU. In contrast, the agreement had a positive and significant

effect on MENA imports from the EU. In the case of FTAs with North American partners they find a positive and significant effect on imports and exports, whereas in relation to the Arab FTAs, effects remain unclear. Individual effects for each MENA country are also estimated, showing mixed results.

Our analysis is closely related to the abovementioned research, but with three important improvements. First, we include more recent years in the analysis and consider new FTAs that have come into force recently. Second, we differentiate between trade in industrial and agricultural products and estimate the effect of the agreements separately, which is reasonable given the remarkable differences in terms of trade liberalization for these two types of products. Finally, another important departure from the previous literature is the use of up-to-date panel-data estimation techniques that allow us to isolate the impact of the agreements on bilateral trade and to establish causality in a more accurate way In particular, we control for both the endogeneity of the trade agreement variable and the multilateral resistance terms, as suggested by (Baier and Bergstrand, 2011).

4.1 Model Specification and Data Description

The model specification in this paper is based on an augmented gravity model for exports and imports from 10 MENA countries to 64 destinations. We use a logarithmic gravity model based on (Anderson and van Wincoop, 2003) and (Baier and Bergstrand, 2011) to take into account unobservable multilateral resistance adding to the model time-varying directional country-specific dummies. We also consider different model specifications to be able to compare our results with the existent literature and to check for the robustness of our results. Our first specification includes country-pair fixed effects and time dummies and is given by,

$$\ln X_{ijt} = \beta_0 + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{jt} + \beta_3 \ln YH_{it} + \beta_4 \ln YH_{jt} +$$
$$\beta_5 Euromed + \beta_6 EFTAmed + \beta_7 USAmed + \beta_8 TURmed + \beta_9 GAFTA +$$
$$+ \beta_{10} Agadir + \beta_{11} TUReu + \eta_{ij} + \gamma_t + \varepsilon_{ijt} \quad (3)$$

$$\ln M_{ijt} = \beta_0 + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{jt} + \beta_3 \ln YH_{it} + \beta_4 \ln YH_{jt} +$$
$$+ \beta_5 Euromed + \beta_6 EFTAmed + \beta_7 USAmed + \beta_8 TURmed + \beta_9 GAFTA +$$
$$+ \beta_{10} Agadir + \beta_{11} TUReu ++ \eta_{ij} + \gamma_t + \varepsilon_{ijt} \quad (4)$$

where *Xijt* denotes exports from country *i* to country *j* in year *t. Mijt* denotes imports from country *i* to country *j* in year *t. Yit* (*Yjt*) is GDP of country *i* (*j*) in year *t, YHit* (*YHjt*) is GDP per capita of country *i* (*j*) in year *t. Euromed, EFTAmed, USAmed, TURmed, GAFTA, Agadir,* and *TUReu* are FTA dummy variables which take the value 1 when the importer *i* and exporter *j* are both members of the agreement, starting on the year in which it came into force. η_{ij} is a country-pair fixed effect and γ_t is a time dummy.

A second specification is an extended model that include variables that explain trade between countries and that are traditional extensions to gravitational trade models, i.e., border, language, colony, distance and FTA and also importer-and-time and exporter-and-time fixed effects to control for time-variant import and export unobservable variables which can affect trade

between both countries, for example, GDPs of the importer and exporter and also multilateral price terms.

$$\ln X_{ijt} = \beta_0 + \beta_1 DIST_{ij} + \beta_2 BORDER_{ij} + \beta_3 LANG_{ij} + \beta_4 COLONY_{ij} +$$
$$\beta_5 Euromed + \beta_6 EFTAmed + \beta_7 USAmed + \beta_8 TURmed + \beta_9 GAFTA +$$
$$+ \beta_{10} Agadir + \beta_{11} TUReu + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (5)$$

$$\ln M_{ijt} = \beta_0 + \beta_1 DIST_{ij} + \beta_2 BORDER_{ij} + \beta_3 LANG_{ij} + \beta_4 COLONY_{ij} +$$
$$\beta_5 Euromed + \beta_6 EFTAmed + \beta_7 USAmed + \beta_8 TURmed + \beta_9 GAFTA +$$
$$+ \beta_{10} Agadir + \beta_{11} TUReu + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (6)$$

Equations (5) and (6) include the same dependent variables as in (3) and (4) and the same FTA dummies. *DISTij* denotes distance between country *i* and country *j*, BORDER*ij* is a dummy variable which takes the value 1 if country *i* and country *j* have a shared border, LANG*ij* takes the value 1 if country *i* and country *j* have the same official language and COLONY*ij* has value 1 if country *i* and country *j* have ever had colonial ties. δ_{it} and ψ_{jt} are importer-and-time and exporter-and-time fixed effects.

Finally, we estimate a model accounting for both unobservable heterogeneity and multilateral resistance, namely importer-and-time and exporter-and-time dummies proposed by (Baier and Bergstrand, 2007, 2011). In this way we are able to control for all time-variant importer (δ_{it}) and exporter (ψ_{jt}) characteristics and for all bilateral time-invariant factors (η_{ij}) that affect bilateral trade between countries. The model specification is given by,

$$\ln X_{ijt} = \beta_0 + \beta_1 Euromed + \beta_2 EFTAmed + \beta_3 USAmed + \beta_4 TURmed + \beta_5 GAFTA$$
$$+ \beta_6 Agadir + \beta_7 TUReu + \eta_{ij} + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (7)$$

$$\ln M_{ijt} = \beta_0 + \beta_1 Euromed + \beta_2 EFTAmed + \beta_3 USAmed + \beta_4 TURmed + \beta_5 GAFTA$$
$$+ \beta_6 Agadir + \beta_7 TUReu + \eta_{ij} + \delta_{it} + \psi_{jt} + \varepsilon_{ijt} \quad (8)$$

We then turn to estimating the effect that each agreement had has on bilateral trade flows for each MENA country. The dependent variables for our empirical analysis are exports and imports from 10 MENA countries to 64 destinations representing 90 percent of their total trade. Bilateral imports have been accounted for in CIF prices and bilateral exports in FOB prices, both in thousands US dollars. Exports and imports come from the COMTRADE database for the period 1990-2010 using the Standard International Trade Classification (SITC), Revision 3. We use sectoral data to estimate impact of FTAs on agricultural and industrial trade flows separately. To obtain agricultural trade flows we took the "food" standard definition from COMTRADE that considers the sum of sections 0, 1, 22 and 4 from SITC revision 3 classification as total agricultural trade flows. We calculated industrial products subtracting food trade flows and fuel trade flows (sector 33, SITC rev3 classification) from total imports/exports flows. Due to missing observations our panel is unbalanced, despite this the number of missing values is relatively small to consider the use of specific estimation techniques, such Tobit or Heckman that are recommended when the amount of zero trade is higher than 15-20 percent. Income variables, namely GDP and GDP per capita for importer and exporter countries that are included in some specifications are obtained from the World Development Indicators dataset. Missing values have been completed with IMF

data, both in PPP current thousand US dollars. These variables are a proxy for the economic size of the trading countries. In addition, we include, as a proxy for transportation and transaction costs, distance between both countries and traditional dummy variables. Distance is measured as the distance in kilometres from the countries' capital cities. Distance data are from the CEPII dataset. We include a border dummy that takes the value 1 when countries share a common border and zero otherwise. We also include a language dummy that takes the value 1 when countries have the same official language and zero otherwise and a colony dummy that takes the value 1 if the countries have ever had colonial ties and zero otherwise. Data are from the CEPPI dataset as well.

As regards FTAs we consider only free trade agreements that have come into force for the ten considered MENA countries and one customs union (Turkey with the European Union). We include in the analysis four North-South agreements: the Euromed agreement, the EFTAmed agreement, the USAmed agreement, and the Turkey-EU customs union; and three South-South agreements: Agadir, GAFTA Turkey-med. The data for the FTAs in this study is obtained from the World Trade Organization database.

4.2 Estimation and results

The main results are displayed in tables 1, 2 and 3 for total exports and imports and for trade in industrial goods, and agricultural products, respectively. Results of specification 3 and 4 are displayed in the two first columns and they are estimated using the two-way fixed effects estimator (2FE). Columns 3 and 4 show the results from specifications 5 and 6; they are estimated using a least square dummy variables estimator (LSDV) with importer-and-time and exporter-and-time dummy variables and the usual controls to proxy for bilateral trade costs or trade facilitation variables, such as distance, common language and common border. The two last columns show the results from our preferred specifications (equations 7 and 8), which take into account unobservable heterogeneity associated to each trading pair and multilateral resistance. The models are estimated using a fixed effect estimator and adding importer-and-time and exporter-and-time dummies. We also control for autocorrelation and heteroscedasticity. We will refer to these last columns to discuss the results.

As expected, the results indicate that the Euromed FTA has a positive and significant impact on exports from the EU to MENA partner countries but not the other way around. The agreement has been especially beneficial for industrial exports from the EU, which implies that the presence of an FTA between the EU and Euromed partners increases industrial European exports by 32.1 percent ($e^{0.279} – 1=0.321$), other factors remaining constant. Exports from MENA partner countries to EU are not increased with the agreement and results show a negative impact, especially in industrial products with negative and significant coefficient. With the reduction of trade costs European exporter firms have better access to MENA markets and exports increase with the came into force of the agreement. As we saw, liberalization between EU and MENA countries did not happen in a bilateral way, full liberalization started individually for MENA countries whit the came into force of the agreement while for the European Union was in a progressively way. Currently EU and Tunisia have completed full liberalization and with the exception of Lebanon, Algeria and Egypt liberalization has almost completed for the rest of MENA partners. For

this reason, actually European products have better access in MENA markets where less competitive MENA firms can't compete with foreign products and are forced to leave the market. According to the results Euromed agreement have a positive and significant effect improving European industrial exports to MENA countries and negative and significant effect on MENA industrial exports to EU. Due that agricultural products are also regulated with special free trade agricultural agreements we don't find a significant effect in our results.

EFTA agreement have similar effect than those with the EU, it improve imports from EFTA countries but not in a bilateral way although full liberalization are completed for Turkey, Morocco and Israel years ago. Other NS agreement is the composed between US and Morocco and US and Jordan. Results on table 2 show a positive and significant impact on industrial exports from both countries to USA. Despite that table 2 and table 5 are not directly comparable we can show that this average impact are mainly explained for USA-Jordan agreement which are improve industrial exports to USA, specially textile accordance with results in Hufbauer and Brunel (2007).

Regarding SS-Agreements we obtain for total trade (Table 1) a positive but not significant impact of Turkey agreement with MENA countries. Only when we analyse industrial products we obtain a positive and significant impact for MENA imports from Turkey. In Table 4 and 5 we analyse individual effects of the agreement for each country and we find that except the custom union between EU and Turkey, it is the only FTA with positive and significant impact for all MENA partners. It is a very interesting finding because the text of the agreement is very close to the Euromed agreement that has entire sections adopted from it. Its rules of origin are identical to those governing each country's agreements with the EU and also it has the same tariff phase period out for MENA industrial products. Further researches are needed in this line to give more information about the real impact and their implication in south-south integration. Other recent SS Agreement is the concluded between Morocco, Tunisia, Jordan and Egypt in 2006. As we can see in Table 1 and 2 The Agadir agreement has a positive but not significant effect on exports and imports. The Agadir agreement was established with the aim of promoting better integration between Arab countries that are members of the Euromed agreement and profit of the implementation of the Pan-Euro-Med Rules of origin to have better access to European market. In this sense the Agadir agreement and the agreement with Turkey have a common purpose, facilitates access to the EU market. However the Turkey Agreement could be more interesting for MENA partners because they can benefit from Turkey's experience in the EU and also they can benefit better access to Turkish market that are plenty of opportunities as it is starting to be a major world power than Agadir partners, for this reason FTA with Turkey have a positive and significant effect in our estimations.

As a robustness check we have estimated the model using a first differences estimator suggested by (Baier and Bergstrand, 2011). The results are less promising and indicate that only in some cases the EU agreement with Turkey and the Turkey agreement with South Mediterranean countries have a positive effect on trade flows. We have to emphasize that there is a loss of information attached to the estimation in first differences and since the period under study is not long enough we prefer to rely on the fixed effects estimations.

5. CONCLUSIONS

This paper investigates the impact of several North-South and South-South FTAs on trade flows for ten Middle East and North African Countries (MENA) during the period 1990-2010. We use an augmented gravity model which we estimate using up-to-date panel data techniques that allow us to control for all factors which influence bilateral trade and which are time-invariant (unobserved heterogeneity) as well as for the so-called multilateral resistance terms. We undertake the analysis not only for aggregated trade but also for trade in industrial products and trade in agricultural products separately. In addition, we compare the average impact of the agreements and the individual impact for each MENA country.

Results show that FTA agreements concluded for MENA countries have failed to increase total and industrial exports only the agreement with Turkey have economically and statically significant positive effects for MENA imports and exports. The NN Agreements has only increase industrial exports from North partner countries with the exception of the USA FTA with Jordan which has increased Jordan exports from their came into force especially in industrial products related with textile and apparel goods. Regarding SS Agreements Agadir agreement has been a positive but not significant effect on increasing trade between country partners opposite to the agreement with Turkey. Further works should be focus in this research line and analyse how MENA countries could be profit this agreement to have better access to Turkey and Europe market and how they can profit of learning networks to improve their production and export capacity.

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TABLES

Table 1. Fixed Effect Estimation TOTAL Trade (Average impact)

	2FE Imports	2FE Exports	LSDV Imports	LSDV Exports	FE ij, it-jt Imports	FE ij, it-jt Exports	FD Imports	FD Exports
LnYi	0.827	-0.125						
	(0.584)	(0.837)						
LnYj	1.654***	2.571***						
	(0.553)	(0.441)						
LnYHi	0.138	1.285*						
	(0.594)	(0.747)						
LnYHj	-0.580	-1.080**						
	(0.546)	(0.422)						
LnD			-0.943***	-1.653***				
			(0.110)	(0.164)				
BORDER			0.288	-0.989**				
			(0.340)	(0.498)				
COLONY			0.020	0.135				
			(0.361)	(0.564)				
LANG			0.179	0.585				
			(0.255)	(0.397)				
EUMED	0.083	-0.123	0.216*	-0.756***	0.249***	-0.123	0.091	-0.083
	(0.068)	(0.078)	(0.115)	(0.248)	(0.083)	(0.140)	(0.067)	(0.130)
EFTAMED	-0.106	0.186	-0.050	-0.274	0.275	0.117	0.070	-0.046
	(0.206)	(0.217)	(0.334)	(0.547)	(0.220)	(0.231)	(0.417)	(0.227)
USAMED	-0.103	1.338	0.157	0.300	-0.217	1.367	0.046	0.525
	(0.105)	(1.033)	(0.415)	(1.314)	(0.502)	(0.976)	(0.108)	(0.322)
TURMED	0.418**	-0.291*	-0.339	-1.774	0.594***	0.408	0.146	0.416*
	(0.208)	(0.176)	(0.363)	(1.103)	(0.205)	(0.394)	(0.100)	(0.227)
GAFTA	0.632***	-0.137	1.339***	1.242**	0.557	-0.059	0.171	-0.086
	(0.190)	(0.155)	(0.464)	(0.560)	(0.358)	(0.327)	(0.224)	(0.259)
AGADIR	-0.035	-0.022	0.009	-0.781**	0.382*	0.212	-0.066	0.477*
	(0.191)	(0.156)	(0.311)	(0.374)	(0.217)	(0.225)	(0.105)	(0.272)
TUREU	0.527***	0.492***	-0.116	-0.387	0.408**	0.608***	0.461**	0.058
	(0.134)	(0.163)	(0.214)	(0.335)	(0.173)	(0.232)	(0.191)	(0.183)
CONS	-48.789***	-54.734***						
	(12.761)	(17.131)						
N	10606	10529	11166	11006	11166	11006	10405	10182
R-SQUARED	0.514	0.236	0.806	0.675	0.528	0.293	0.117	0.026
RMSE	0.759	1.090	1.126	1.787	0.699	1.129	0.688	1.187
LL	-12114.19	-15835.26	-16433.25	-21263.73	-11160.03	-16253.98	-10180.34	-15500.31
Fixed								
δ_{it}	no	no	yes	yes	yes	yes	yes	yes
ψ_{jt}	no	no	yes	yes	yes	yes	yes	yes
γ_t	yes	yes	no	no	no	no	no	no
η_{ij}	yes	yes	no	no	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

Table 2. Fixed Effect Estimation INDUSTRIAL Products (Average impact)

	2FE	2FE	LSDV	LSDV	FE ij, it-jt	FE ij, it-jt	FD	FD
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
LnYi	0.953	-0.753						
	(0.609)	(0.883)						
LnYj	2.213***	2.599***						
	(0.502)	(0.460)						
LnYHi	0.012	1.880**						
	(0.622)	(0.796)						
LnYHj	-1.232**	-1.256***						
	(0.489)	(0.448)						
LnD			-0.867***	-1.436***				
			(0.122)	(0.150)				
BORDER			0.429	-0.581				
			(0.329)	(0.490)				
LANG			-0.091	-0.139				
			(0.379)	(0.496)				
COLONY			0.455*	0.723**				
			(0.245)	(0.367)				
EUMED	0.102	-0.086	0.338***	-0.417*	0.279***	-0.305**	0.121	-0.136
	(0.070)	(0.081)	(0.128)	(0.214)	(0.096)	(0.133)	(0.075)	(0.127)
EFTAMED	-0.071	0.128	0.107	-0.252	0.298*	-0.195	0.492	0.079
	(0.202)	(0.218)	(0.352)	(0.492)	(0.176)	(0.226)	(0.376)	(0.191)
USAMED	0.023	1.376	0.488	1.279	0.060	1.697*	-0.091	0.641**
	(0.082)	(1.041)	(0.608)	(1.123)	(0.646)	(0.927)	(0.151)	(0.259)
TURMED	0.542**	-0.032	-0.279	-2.113*	0.622**	-0.276	0.154	0.131
	(0.256)	(0.176)	(0.402)	(1.191)	(0.248)	(0.626)	(0.123)	(0.147)
GAFTA	0.225	-0.248	1.532***	1.322**	0.217	-0.157	-0.024	-0.218
	(0.173)	(0.153)	(0.404)	(0.519)	(0.418)	(0.322)	(0.362)	(0.239)
AGADIR	0.033	-0.036	-0.249	-1.514***	0.276	0.068	-0.068	0.103
	(0.173)	(0.178)	(0.321)	(0.308)	(0.208)	(0.209)	(0.174)	(0.165)
TUREU	0.611***	0.642***	-0.152	0.015	0.586***	0.436*	0.518**	0.033
	(0.131)	(0.184)	(0.212)	(0.294)	(0.164)	(0.237)	(0.192)	(0.166)
CONS	-59.643***	-						
	(13.082)	(18.422)						
N	10542	10334	11096	10766	11096	10766	10314	9874
R-	0.430	0.160	0.807	0.725	0.485	0.301	0.123	0.032
RMSE	0.804	1.049	1.175	1.641	0.746	1.085	0.742	1.119
LL	-12652.77	-	-16795.55	-19865.18	-11801.25	-15453.98	-	-14423.52
Fixed Effects								
δ_{it}	no	no	yes	yes	yes	yes	yes	yes
ψ_{jt}	no	no	yes	yes	yes	yes	yes	yes
γ_t	yes	yes	no	no	no	no	no	no
η_{ij}	yes	yes	no	no	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

Table 3. Fixed Effect Estimation AGRICULTURAL Products (Average impact)

	2FE Imports	2FE Exports	LSDV Imports	LSDV Exports	FE ij, it-jt Imports	FE ij, it- Exports	FD Imports	FD Exports
LnYi	0.921	-0.113						
	(0.830)	(0.980)						
LnYj	1.567**	0.877*						
	(0.708)	(0.511)						
LnYHi	-0.280	0.732						
	(0.808)	(0.882)						
LnYHj	-0.867	0.454						
	(0.700)	(0.478)						
LnD			-1.157***	-1.506***				
			(0.107)	(0.152)				
BORDER			0.392	-0.323				
			(0.402)	(0.469)				
LANG			0.560**	0.634				
			(0.217)	(0.474)				
COLONY			0.117	0.510				
			(0.264)	(0.333)				
EUMED	-0.456***	-0.159	-0.077	0.949***	-0.176	-0.195	-0.220*	-0.105
	(0.096)	(0.097)	(0.155)	(0.242)	(0.123)	(0.140)	(0.112)	(0.130)
EFTAMED	0.116	0.324	-0.459	0.557	0.251	-0.045	-0.098	0.003
	(0.268)	(0.340)	(0.635)	(0.439)	(0.398)	(0.363)	(0.300)	(0.267)
USAMED	-0.624*	0.625	0.061	0.552	0.196	0.457	0.441**	0.245
	(0.328)	(0.478)	(0.388)	(0.652)	(0.393)	(0.549)	(0.174)	(0.287)
TURMED	-0.680***	0.741	-0.580*	-0.875	0.006	0.782	-0.088	0.738*
	(0.180)	(0.579)	(0.319)	(0.921)	(0.157)	(0.608)	(0.125)	(0.390)
GAFTA	0.411*	0.411**	2.321***	2.568***	0.565	0.511*	-0.189	-0.282
	(0.224)	(0.184)	(0.457)	(0.591)	(0.483)	(0.287)	(0.404)	(0.597)
AGADIR	0.522**	0.690**	-0.148	0.206	0.219	0.459	-0.023	0.303
	(0.219)	(0.304)	(0.393)	(0.380)	(0.321)	(0.393)	(0.270)	(0.371)
TUREU	0.301	-0.355***	-0.310	0.009	0.524**	-0.075	0.525	-0.087
	(0.207)	(0.107)	(0.275)	(0.270)	(0.223)	(0.178)	(0.372)	(0.172)
CONS	-45.254**	-23.732						
	(18.875)	(20.379)						
N	9576	9056	10036	9325	10036	9325	9086	8304
R-squared	0.247	0.086	0.694	0.700	0.354	0.277	0.097	0.049
RMSE	1.156	1.125	1.501	1.721	1.060	1.099	1.118	1.134
LL	-	-	-17585.95	-17542.49	-	-	-13224	-12122.34
Fixed Effects								
δ_{it}	no	no	yes	yes	yes	yes	yes	yes
ψ_{jt}	no	no	yes	yes	yes	yes	yes	yes
γ_t	yes	yes	no	no	no	no	no	no
η_{ij}	yes	yes	no	no	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

Table 4. Two way Fixed Effect Estimation TOTAL Products (Country impact)

IMPORTS	Morocco Imports	Algeria Imports	Tunisia Imports	Libya Imports	Egypt Imports	Israel Imports	Lebanon Imports	Jordan Imports	Sirya Imports	Turquia Imports
EUMED	0.159	-0.131	0.413		-0.282	0.155	-0.196	-0.086		
	(0.210)	(0.233)	(0.258)		(0.184)	(0.199)	(0.170)	(0.179)		
EFTAMED	-0.117		-0.508**		0.305		0.369	-0.604		
	(0.186)		(0.230)		(0.582)		(0.639)	(0.436)		
USAMED	-0.195							-0.374***		
	(0.145)							(0.108)		
TURMED	0.933***		0.533***		0.348**	1.388***			0.269*	
	(0.145)		(0.169)		(0.153)	(0.154)			(0.138)	
GAFTA	0.807	0.788	0.031	0.494	1.397***		1.109**	0.372	0.895	
	(0.532)	(0.738)	(0.196)	(0.583)	(0.436)		(0.507)	(0.429)	(0.549)	
AGADIR	0.230		0.254		-0.228			0.195		
	(0.384)		(0.307)		(0.284)			(0.510)		
TUREU										0.313*
										(0.186)
CONS	9.524***	9.724***	9.133***	9.367***	10.602***	10.434***	8.825***	8.947***	8.976***	10.867***
	(0.152)	(0.308)	(0.193)	(0.247)	(0.145)	(0.149)	(0.142)	(0.122)	(0.296)	(0.143)
R-SQUARED	0.042	0.037	0.065	0.042	0.015	0.041	0.010	0.044	0.041	0.096
N	1144	1092	1115	1092	1162	1006	1154	1135	1112	1154
LL	-1259.298	-1494.167	-1290.591	-1603.138	-1182.905	-1008.51	-1276.967	-1282.907	-1372.433	-1170.561
RMSE	0.736	0.960	0.779	1.061	0.677	0.667	0.739	0.758	0.840	0.673
Fixed Effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

EXPORTS	Morocco Exports	Algeria Exports	Tunisia Exports	Libya Exports	Egypt Exports	Israel Exports	Lebanon Exports	Jordan Exports	Sirya Exports	Turquia Exports
EUMED	-0.553**	-1.186***	-0.421*		-0.393	-0.189	0.003	0.047		
	(0.239)	(0.436)	(0.237)		(0.239)	(0.131)	(0.223)	(0.306)		
EFTAMED	-0.473		-0.357		0.050		-0.305	0.999**		
	(0.322)		(0.257)		(0.325)		(0.423)	(0.458)		
USAMED	-0.640***							2.707***		
	(0.148)							(0.268)		
TURMED	-0.016		-0.227		-0.114	0.610***			0.069	
	(0.148)		(0.157)		(0.172)	(0.120)			(0.171)	
GAFTA	-0.337	1.305**	-0.941***	0.126	0.048		-0.201	0.484	-0.001	
	(0.486)	(0.618)	(0.281)	(0.695)	(0.284)		(0.251)	(0.351)	(0.384)	
AGADIR	-0.090		0.211*		0.323			0.134	.	
	(0.390)		(0.126)		(0.279)			(0.227)	.	
TUREU										0.398**
										(0.187)
CONS	9.277***	8.519***	8.540***	8.836***	9.079***	10.626***	6.302***	7.498***	7.485***	10.615***
	(0.207)	(0.422)	(0.247)	(0.403)	(0.214)	(0.187)	(0.239)	(0.196)	(0.364)	(0.188)
R-SQUARED	0.036	0.006	0.022	0.025	0.092	0.055	0.029	0.060	0.009	0.217
N	1159	1045	1134	948	1169	1002	1134	1112	1137	1166
LL	-1395.196	-2122.371	-1509.133	-2053.212	-1345.743	-770.3384	-1514.539	-1587.696	-1746.311	-1082.487
RMSE	0.815	1.864	0.926	2.135	0.773	0.528	0.929	1.020	1.135	0.618
Fixed Effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

Table 5. Two way Fixed Effect Estimation INDUSTRIAL Products (Country impact)

IMPORTS	Morocco	Algeria	Tunisia	Libya	Egypt	Israel	Lebanon	Jordan	Sirya	Turquia
	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports
EUMED	0.109	-0.245	0.430		-0.210	0.045	-0.178	-0.286*		
	(0.215)	(0.249)	(0.276)		(0.196)	(0.193)	(0.185)	(0.160)		
EFTAMED	-0.192		-0.521		0.571		0.137	-0.544**		
	(0.207)		(0.338)		(0.801)		(0.521)	(0.216)		
USAMED	-0.286*							-0.176		
	(0.169)							(0.109)		
TURMED	1.212***		0.599***		0.495***	1.549***			0.451***	
	(0.169)		(0.196)		(0.156)	(0.147)			(0.143)	
GAFTA	0.285	0.648	0.147	-0.119	0.660		0.924	-0.080	0.802	
	(0.340)	(0.736)	(0.218)	(0.452)	(0.498)		(0.609)	(0.448)	(0.508)	
AGADIR	0.493		0.270		0.135			-0.030		
	(0.348)		(0.205)		(0.318)			(0.427)		
TUREU										0.361**
										(0.178)
CONS	9.325***	9.227***	8.852***	8.952***	10.223***	9.886***	8.175***	8.413***	8.578***	10.597***
	(0.149)	(0.344)	(0.212)	(0.236)	(0.147)	(0.138)	(0.165)	(0.111)	(0.310)	(0.166)
R-SQUARED	0.045	0.040	0.061	0.035	0.011	0.040	0.007	0.034	0.026	0.101
N	1137	1083	1112	1071	1152	1006	1151	1128	1106	1150
LL	-1295.089	-1546.11	-1368.968	-1627.267	-1240.073	-1012.729	-1388.045	-1286.895	-1451.205	-1167.599
RMSE	0.764	1.019	0.838	1.117	0.718	0.669	0.816	0.766	0.908	0.674
Fixed effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

EXPORTS	Morocco	Algeria	Tunisia	Libya	Egypt	Israel	Lebanon	Jordan	Sirya	Turquia
	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports
EUMED	-0.656**	-0.589	-0.467*		-0.301	-0.208	-0.037	0.015		
	(0.299)	(0.423)	(0.253)		(0.196)	(0.126)	(0.254)	(0.316)		
EFTAMED	-0.385		-0.380		-0.327		-0.483	0.888*		
	(0.315)		(0.257)		(0.442)		(0.496)	(0.513)		
USAMED	-0.665***							2.734***		
	(0.156)							(0.270)		
TURMED	-0.105		-0.232		0.602***	0.511***			0.628***	
	(0.156)		(0.165)		(0.163)	(0.113)			(0.155)	
GAFTA	-0.753	0.686	-0.657	-0.354	-0.056		-0.210	0.634*	0.193	
	(0.566)	(0.543)	(0.425)	(0.608)	(0.329)		(0.250)	(0.335)	(0.407)	
AGADIR	-0.130		-0.101		0.321			0.049		
	(0.398)		(0.245)		(0.264)			(0.229)		
TUREU										0.480**
										(0.215)
_CONS	8.824***	4.983***	8.074***	6.973***	8.416***	10.357***	6.090***	7.293***	6.506***	10.260***
	(0.208)	(0.487)	(0.240)	(0.427)	(0.170)	(0.171)	(0.251)	(0.229)	(0.352)	(0.192)
R-SQUARED	0.030	0.023	0.029	0.005	0.106	0.054	0.031	0.065	0.025	0.232
N	1155	940	1133	855	1163	1002	1114	1109	1129	1166
LL	-1500.173	-1876.037	-1505.68	-1787.934	-1166.959	-7443.175	-1586.405	-1646.269	-1649.791	-1187.52
RMSE	0.897	1.802	0.924	1.984	0.667	0.5140	1.016	1.080	1.054	0.676
Fixed effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** p<0,01, ** p<0,02, * p<0,1

Table 6. Two way Fixed Effect Estimation AGRICULTURAL Products (Country impact)

IMPORTS	Morocco	Algeria	Tunisia	Libya	Egypt	Israel	Lebanon	Jordan	Sirya	Turquia
	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports	Imports
EUMED	-0.085	-1.053***	-0.930***		-0.844***	-0.329	-0.925***	-0.437*		
	(0.291)	(0.309)	(0.307)		(0.286)	(0.239)	(0.212)	(0.226)		
EFTAMED	0.319		-1204		-0.109		0.228	0.801***		
	(0.516)		(0.863)		(0.472)		(0.451)	(0.197)		
USAMED	0.144							-0.942***		
	(0.179)							(0.161)		
TURMED	-0.585***		-0.815***		-0.973***	-0.097			-0.297	
	(0.179)		(0.237)		(0.203)	(0.174)			(0.198)	
GAFTA	-0.020	0.252	-0.077	1.391***	0.736		0.390	0.778	1.324**	
	(0.697)	(0.684)	(0.364)	(0.457)	(0.695)		(0.379)	(0.886)	(0.535)	
AGADIR	1.520***		0.661		0.520			0.171		
	(0.404)		(0.709)		(0.488)			(0.429)		
TUREU										0.247
										(0.263)
CONS	6.755***	8.714***	6.890***	7.940***	7.899***	7.750***	7.354***	7.339***	6.960***	7.661***
	(0.300)	(0.273)	(0.244)	(0.325)	(0.252)	(0.173)	(0.184)	(0.210)	(0.381)	(0.284)
R-SQUARED	0.014	0.019	0.015	0.026	0.016	0.038	0.021	0.031	0.038	0.049
N	1006	929	930	928	1080	973	1083	1056	974	1077
LL	-1559.643	-1550.27	-1587021	-1575.937	-1718.229	-1122.201	-1217.66	-1609.157	-1651.85	-1734.529
RMSE	1.156	1.299	1.352	1.338.	1.202.	0.775.	0.753.	1.124	1.335	1.223
Fixed Effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** $p<0,01$, ** $p<0,02$, * $p<0,1$

EXPORTS	Morocco	Algeria	Tunisia	Libya	Egypt	Israel	Lebanon	Jordan	Sirya	Turquia
	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports	Exports
EUMED	-0.255	-0.928**	-0.654***		0.031	-0.228	-0.332	0.176		
	(0.257)	(0.382)	(0.233)		(0.265)	(0.199)	(0.321)	(0.430)		
EFTAMED	-0.486		-0.421		0.835*		0.019	1.398		
	(0.346)		(0.701)		(0.462)		(0.245)	(1.443)		
USAMED	-0.420**							1.673***		
	(0.187)							(0.295)		
TURMED	3.412***		0.373		-0.024	1.014***			-0.445**	
	(0.187)		(0.242)		(0.196)	(0.161)			(0.202)	
GAFTA	0.288	1007	-0.938***	-0.318	0.238		0.303	1.025	0.536	
	(0.499)	(0.710)	(0.337)	(0.709)	(0.392)		(0.366)	(0.749)	(0.420)	
AGADIR	0.064		0.726	.	0.296			1.933**		
	(0.322)		(0.512)	.	(0.301)			(0.838)		
TUREU										-0.075
										(0.121)
CONS	6.904***	4.250***	5.267***	4.545***	6.361***	8.375***	4.582***	4.334***	4.732***	9.222***
	(0.291)	(0.419)	(0.236)	(0.481)	(0.176)	(0.196)	(0.188)	(0.530)	(0.286)	(0.118)
R-SQUARED	0.015	0.031	0.004	0.030	0.112	0.011	0.022	0.095	0.054	0.042
N	1115	667	991	412	1134	990	1022	845	992	1157
LL	-1604.074	-1266481	-1463013	-824.3805	-1491.106	-1095.876	-1560.396	-1488.144	-1678.51	-996.97
RMSE	1.032	1.644	1.073	1.839	.911	.740	1.127	1.430	1.329	0.5780
Fixed effects										
δ_{it}	no	no	no	no	no	no	no	no	no	no
ψ_{jt}	no	no	no	no	no	no	no	no	no	no
γ_t	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
η_{ij}	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Robust standard errors in brackets, *** $p<0,01$, ** $p<0,02$, * $p<0,1$

ANNEX

Table A.1. Data Description

Variables	Description	Measure	Data Source
Dependent Variable			
Total Imports (M)	MENA imports from the 64 economies than represent the 90% of their total imports.	In thousand dollars SITC.rev3	COMTRADE (United Nations Commodity Trade Statistics Database)
Total Exports (X)	Mena exports to the 64 economies than represent the 90% of their total exports	In thousand dollars SITC.rev3	COMTRADE (United Nations Commodity Trade Statistics Database)
Food Imports (M)	MENA food imports from the 64 economies than represent the 90% of their total imports.	In thousand dollars SITC. rev3 (Product codes: 0, 1, 22 and 4	COMTRADE (United Nations Commodity Trade Statistics Database)
Food Exports (X)	Mena food exports to the 64 economies than represent the 90% of their total exports	In thousand dollars SITC. rev3 (Product codes: 0, 1, 22 and 4	COMTRADE (United Nations Commodity Trade Statistics Database)
Industrial Imports (M)	Mena food exports to the 64 economies than represent the 90% of their total exports	In thousand dollars SITC. rev3 (TOTAL-FOOD-FUEL (Code 3 SITC. rev3)	COMTRADE (United Nations Commodity Trade Statistics Database)
Industrial Exports (X)	Mena food exports to the 64 economies than represent the 90% of their total exports	In thousand dollars SITC. rev3 (TOTAL-FOOD-FUEL (Code 3 SITC. rev3)	COMTRADE (United Nations Commodity Trade Statistics Database)
Independent Variable			
Y	GDP	PPP current thousand US dollars.	World Development Indicators dataset /International Monetary Found
Y/P	GDP per capita	PPP current thousand US dollars.	World Development Indicators dataset /International Monetary Found
DIST	Distance between country i and country j	In kilometres	CEPII Database
BOR	Dummy variable which takes the value 1 if country i and country j have a shared border	Dummy	CEPII Database
LAN	Dummy variable which takes 1 if country i and country j have the same official language	Dummy	CEPII Database
COLONY	Dummy variable which takes 1 if country i and country j have ever had colonial ties.	Dummy	CEPII Database
FTA	See Table A.2. List of FTA Agreements and country members		

Table A.2. List of FTA Agreements and country members

FTA	Country (i)	Year (t)	Country (j)
EUmed	Tunisia Israel Morocco Jordan Egypt Algeria Lebanon	1998 2000 2000 2002 2004 2005 2006	Since 1995: Belgium, Germany, France, Luxemburg, Italy, Netherlands, United Kingdom, Ireland, Denmark, Greece, Spain, Portugal, Austria, Sweden and Finland. (UE15) Since 2004: Cyprus, Czech Republic, Estonia, Hungry, Lithuania, Latvia, Malta, Poland, Slovak Republic y Slovenia. (UE25) Since 2007: Rumania y Bulgaria. (UE27).
EFTAmed	Turkey Israel Morocco Jordan Tunisia Lebanon Egypt	1992 1993 1999 2002 2005 2007 2007	Iceland, Liechtenstein, Norway and Switzerland
USAmed	Israel Jordan Morocco	1985 2001 2006	United States
TURmed	Israel Tunisia Morocco Egypt Syria	1997 2005 2006 2007 2007	Turkey
GAFTA	Egypt Tunisia Morocco Jordan Libya Lebanon Algeria Syria	1998 1998 1998 1998 1998 1998 1998 1998	Arabia Saudi, Algeria, Egypt, Arab Emirates, Iraq, Libya, Jordan, Kuwait, Lebanon, Morocco, Syria, Tunisia.
ISR	Israel	1997 2000	Canada Mexico
JORSGP	Jordan	2005	Singapore
AGADIR	Morocco Jordan Egypt Tunisia	2006 2006 2006 2006	Morocco, Jordan, Egypt, Tunisia.

Table A.3: Country list

ARE	1	United Arab Emirates		SYR	59	SyrianArabRepublic
ARG	2	Argentina		THA	60	Thailand
AUS	3	Australia		TUN	61	Tunisia
AUT	4	Austria		TUR	62	Turkey
BEL	5	Belgium		UKR	63	Ukraine
BGR	6	Bulgaria		USA	64	United States
BRA	7	Brazil				
CAN	8	Canada				
CHE	9	Switzerland				
CHL	10	Chile				
CHN	11	China				
CYP	12	Cyprus				
CZE	13	Czech Republic				
DEU	14	Germany				
DNK	15	Denmark				
DZA	16	Argelia				
EGY	17	Egypt				
ESP	18	Spain				
EST	19	Estonia				
FIN	20	Finland				
FRA	21	France				
GBR	22	United Kingdom				
GRC	23	Greece				
HKG	24	Hong Kong				
HUN	25	Hungary				
IDN	26	Indonesia				
IND	27	India				
IRL	28	Ireland				
IRN	29	Iran, IslamicRepublicof				
IRQ	30	Iraq				
ISL	31	Iceland				
ISR	32	Israel				
ITA	33	Italy				
JOR	34	Jordan				
JPN	35	Japan				
KOR	36	Korea, Republicof				
KWT	37	Kuwait				
LBN	38	Lebanon				
LBY	39	LibyanArabJamahiriya				
LTU	40	Lithuania				
LUX	41	Luxembourg				
LVA	42	Latvia				
MAC	43	Macao				
MAR	44	Morocco				
MEX	45	Mexico				
MLT	46	Malta				
NLD	47	Netherlands				
NOR	48	Norway				
NZL	49	New Zealand				
POL	50	Poland				
PRT	51	Portugal				
ROU	52	Romania				
RUS	53	RussianFederation				
SAU	54	Saudi Arabia				
SGP	55	Singapore				
SVK	56	Slovakia				
SVN	57	Slovenia				
SWE	58	Sweden				