The Contribution of Trade to Growth of the Arab Countries

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Conference on

Empirical Investigation in Trade & Investment

Tokyo, Japan
March 11-13, 2010

Abstract

Since the formation of the World Trade Organization, the proliferation of regional trade agreements has raised concerns regarding the prospects of multilateral trade liberalization. The objective of this paper is to assess whether trade among member countries (intra-regional trade) contributes more to output growth than trade with nonmember countries (extra-regional trade) using 13 Arab states. The empirical framework first estimates a series of Granger causality tests for the trade-growth relationship for Arab countries in our sample. Next, the marginal effects of intra-regional and extra-regional trade on economic growth in the Arab countries are estimated using a standard growth model with trade intensities as our focus variables. In addition to the basic influences of investment and population growth, the results confirm the importance of trade openness for growth. More importantly, they show that intra-regional trade has had a lesser impact on growth in output per capita than extra-regional trade by almost 17% over the period 1990-2007. By adding Arab-EU trade as a variable to the model to estimate the differential contribution of these three types of trade on growth in the thirteen Arab countries over the same period, they show that intra-regional trade has impact on growth in output per capita than extra-regional and Arab-EU trade by almost 9%.

Key Words: Arab Integration; Trade Patterns; Economic Growth of Open Economies

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I. INTRODUCTION

During the late-1980s and early 1990s many developing countries have entered into new regional agreements, strengthened old ones, or investigated the potential for one. A few examples include GAFTA, MERCOSUR, the Andean Pact, CACM and ASEAN. Regional Trade Agreements (RTAs) have become in recent years a very prominent feature of the Multilateral Trading System (MTS). The surge in RTAs has continued unabated since the early 1990s. Some 421 RTAs have been notified to the GATT/WTO up to December 2008. Of these, 230 agreements were in force.(1)

In general, the economic objectives of both global trade liberalization and RTAs are intended to help enhance economic growth and improve living standards by reducing and eliminating barriers to trade and investment.

This new wave of regionalism comes at a time when the concern over the proliferation of regional trade agreements (RTAs) is already high. While increased openness (albeit regional) has positive effects on growth in per capita income (Grossman and Helpman, 1991; Sala-i-Martin and Barro, 1997), the preferential nature of RTAs may actually impede the global process of trade liberalization Bhagwati (1992), or even reduce global welfare through inefficient trade flows that divert, rather than create, trade (Frankel et al., 1995; Venables, 2003).

Previous literature provides mixed evidence regarding the contribution of integration on economic growth. For example, studies of the European Union show that regional integration and its effects on trade and growth have been positive in some analyses (Italianer, 1994; Henrekson et al., 1997), while in others, EU membership appears insignificant in explaining GDP growth rates (Landau, 1995; Vamvakidis, 1999; Vanhoudt, 1999).

On October 11, 1997, GAFTA was declared within the Social and Economic Council of the Arab League as an executive program to activate the Trade Facilitation and Development Agreement that has been in force since January 1st, 1998. The GAFTA includes in its membership 17 Arab countries: GAFTA is one of the most important economic achievements in the area of Arab common work. It contributes to efforts towards establishing the Arab Common Market. As of January 1st, 2005, the agreement reached full trade liberalization of goods through the full exemption of customs duties and charges having equivalent effect between all Arab countries

(1) World Trade Organization, Regional Trade Agreements, 2009.

members of the GAFTA, except Sudan and Yemen being less developed countries where customs duties and charges having equivalent effect will be reduced by 16% annually as of January 1st, 2005 to reach full exemption by the end of 2010. Agricultural products were provided special treatment: each country could exclude at most 10 agricultural products from the agreement during the harvest season. In addition, rules of origins were set at 40% of the value added.

The objective of this paper, therefore, is to analyze the composition of trade within an Arab integration and investigate whether intra-regional trade spurs higher output growth compared to extra-regional trade. We use data from Arab countries comprising the 13 member states during the period 1990 – 2007. (1)

We begin our analysis with a series of Granger causality tests which help us establish a minimum condition for causality in the trade-growth relationship for Arab countries. Next, we estimate the marginal effects of intra-regional and extra-regional trade on economic growth in the Arab counties using a standard growth model with trade intensities as our focus variables.

The remainder of the paper is organized as follows. Section II provides an overview of the relationship between trade and growth as general and in Arab Countries. Section III reviews the economics of the Arab countries. Section IV describes the data. Section V presents the empirical framework. Results of the empirical estimation are discussed in section VI. Finally, section VII provides concluding remarks.

II. BACKGROUND

A. Trade and Growth

The relationship between economic growth and foreign trade was focused by many economists when foreign trades come into being. With the development of foreign trade, it has been the debate of economic research in academe because of its impact on economic growth. To some extent, the emergence of foreign trade and its development were closely related with economic growth. In a way, foreign trade indeed promotes economic growth of a country.

The literature discusses several channels through which trade can affect economic growth. First, trade is a vehicle through which technological innovations and knowledge are transmitted between

(1) Algeria, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates.

trading partners (Grossman and Helpman, 1991, and Sala-i-Martin and Barro, 1997). Second, higher trade openness also increases competition in the local market which in turn increases productive efficiency and economic growth (Vickers and Yarrow, 1991; Wacziarg, 2001). Finally, countries that can access larger markets through trade can also benefit economically. For example, Alcalá and Ciccone (2003) demonstrate that trade mattered more for growth where domestic markets were smaller suggesting that countries with small domestic markets benefit more from trade openness. Further, by increasing the size of the market, trade openness allows economies to better capture the potential benefits of increasing returns to scale (Ades and Glaeser, 1999).

The positive effect of trade openness on growth has not, however, found consistent support in the literature (Rodriguez and Rodrik, 2001). Although some studies point to gains from trade, trade liberalization may have a negative effect on growth for countries in transition from controlled to market economies (such as most countries in Eastern Europe, Asia, and sub-Saharan Africa). For example, (Parikh and Stirbu, 2004) use a sample of 42 developing countries in Asia, Africa and Latin America to examine the impact of trade liberalization on economic growth, investment share of GDP, openness, trade balance and current accounts (as percentages of GDP). The authors find that, on average, liberalization is associated with deterioration in the trade balance implying that countries would have difficulty reaching potential or planned growth in the subsequent periods after liberalization.

The empirical literature on openness and growth is voluminous indeed. Broadly speaking, however, a number of findings appear to emerge from this literature. First, there is no strong unconditional or conditional correlation between economic growth and a number of direct measures of trade policy, such as weighted or unweighted tariffs, import quotas, or other non-tariff barriers. This point was first made by Rodríguez and Rodrik that generated some surprise in the literature (Rodríguez and Rodrik, 2001). It has since been confirmed by among others who argue that there may be a non-linear relationship where the effect of tariffs on growth depend on the initial level of a country's income and may be positive or negative (DeJong and Ripoll, 2006). Second, there appears to be a reasonably strong correlation between growth or productivity and the ratio of trade in GDP, especially when the latter is measured in prices of a constant base year (Dollar and Kraay, 2002).

Some attempts have been made to discern whether this correlation actually embodies a causal relationship. The most well-known attempt, formulated by Frankel and Romer, consists in using in- strumental variables estimates of the effect of trade volumes on growth where the latter is instrumented with its geographic determinants as derived from the estimation of gravity equations (Frankel and Romer, 2000). These results are controversial they are not robust to controlling for the direct effect of geographical variables on income or productivity. Other attempts to discern causality using alternative methods to instrumental variables do not confirm the existence of causal effect (Rodrik and Rigobon, 2004).

Both economic theory and countries' experience show that economies which trade more tend to grow faster. Income growth depends importantly on a country's capacity to raise its productivity. Openness to trade – both exports and imports strengthens - the drivers of productivity, by enabling a more efficient allocation of resources; by providing greater opportunities to exploit economies of scale; by exposing the domestic economy to greater competitive pressures; by rewarding innovation and providing access to new technologies; and by increasing incentives for investment. Taken together, these factors mean that openness to trade can play an important role in raising the long-run sustainable rate of productivity growth in the economy.

Many developing countries have embarked on programs of trade and financial liberalization. The effect of the trend towards trade policy openness on per capita income growth is one of the most controversial issues as there is a tendency to improve imports more than exports leading to trade deficits and consequently contributing to low economic growth in future. Many analysts believed that trade policy openness and higher ratios of trade volumes were positively correlated with economic growth until Rodriguez and Rodrik (1999) raised some concerns about the robustness of these results as conclusions remained sensitive to difficulties in measuring openness, statistically sensitive specifications and collinearity of protectionist policies with other poorly executed policies in developing economies. Wacziarg (2001) attempted the measurement of liberalisation variable as Sachs and Warner classification posed problems on their categorisation of open and closed economies.

Thirlwall and Santos-Paulino (2004) found that the impact of liberalisation differs as to between highly protected countries and less protected countries. The positive effect of trade liberalisation on import growth is far greater in the industries that were highly protected during the period before

liberalization. Their results also showed that the impact of a more liberalized trade regime, independent of duty reductions, raised import growth by more than exports. They found that import growth increased by about 6% per annum while export growth rose only by approximately just under 2% per annum. This precipitated the worsening of trade balance by over 2% of GDP; however, the impact on current account had been less as worsening of current account was about 0.8 percent of GDP on average. Dollar and Kray (2004) have shown that the growth pattern of countries who have liberalized have shown acceleration in their real income and in the 1990s, globalizing developing countries grew at 5% per capita, rich countries at 2.2% and non-globalizing developing countries at only 1.4%. Their view is that the countries which have gone on globalization path are catching up with rich countries while non-globalizers are lagging behind. Irwin and Tervio (2002) following Frankel and Romer (1999) conclude that the countries those trades more as a proportion of their GDP have higher incomes even after controlling for the endogeniety of trade. Overall, it appears that trade contributes to improvement in real income and per capita growth, however, if trade is not combined with adequate policies to balance imports against exports, it could generate the balance of trade and balance of payments deficits leading to deterioration in the growth of real incomes.

In the literature of terms of trade and economic growth, studies are mainly examined using cross-country evidence. The study that uses time series evidence is relatively scarce. Furthermore, for studies using cross country evidence, Malaysia is mostly not included (Bleaney and Greenaway, 2001). Thus, the study investigates the impact of terms of trade on economic growth of Malaysia using time series data over the period 1965-2002. Moreover, the study examines Granger causality between terms of trade and economic growth. An increase in terms of trade could lead to an increase or a decrease in economic growth (Prebisch, 1950; Singer, 1950; Blattman et al., 2003). Thus, it is an empirical issue.

B. Regional Trade and Growth in Arab Countries

As mentioned in the introduction, there is an extensive literature concerning the description of economic integration and trade in the Arab world. Consequently, this section intends at giving an overview and summarizing the main features of this South-South integration process.

The great bulk of the existing literature related to the economic effects of GAFTA remains very descriptive (Sekouti, 1999; Tahir, 1999; Zarrouk, 2000; Hadhri, 2001; Bayar, 2005). A few ex-ante studies are more analytical, but focus on a small number of countries. For example, Neaime (2005) considers the impact of monetary and financial integration, especially Foreign Direct Investment (FDI) liberalization across Arab countries. With regard to GAFTA trade provisions, CATT (2005) assesses the GAFTA welfare effect on specific countries, mainly Morocco and Tunisia. This assessment is achieved through computable general equilibrium (CGE) modeling. Results show positive or negative welfare effects, depending on the terms of trade.

Drawing on the evidence in the empirical growth literature, recent studies have identified a diverse set of potential structural causes behind the poor growth performance in the MENA region. Dasgupta, Keller, and Srinivasan (2002) suggest that the MENA region lags behind other regions in macroeconomic and trade reforms. Salai-Martin and Artadi (2002) argue that while the level of investment in the region has remained high by international and historical standards, too large a fraction of this overall investment has been unproductive public investment. In addition, they assert that private investment has been held back by political instability, excessive government intervention, protection and regulation, and inadequate human capital. Abed (2003) attributes the region's weak growth to five key structural factors: weak institutions, dominance of the public sector, underdeveloped financial markets, highly restrictive trade regimes, and inappropriate exchange rate regimes.

III. AN OVERVIEW OF THE ECONOMICS OF ARAB COUNTRIES AS A REGION

A. Basic Economic Indicators and Development

Despite many attempts to promote economic integration cooperation among states in the Arab region (Box 1), economic interactions have remained limited. Increasing attention has been focused on the region's economic potentials due to the steps taken by several countries toward external economic liberalization. This attention comes at a time of renewed global interest in regional arrangements, whether among industrial countries (such as the EU), a mixture of industrial and developing countries (NAFTA and APEC), or developing countries alone.

Box 1. Arab Region at a glance

Coverage. The Arab region is defined to cover the 21 economies of the Arab League (Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the UAE, and Yemen). The individual countries differ widely in their natural resources, economic and geographical size, population, and standard of living.

Size. The Arab region covers an area of more than 14 million sq. km represent 10.2% of area of the world, with more than 330 million inhabitants—roughly 5% of the world's population. The populations of individual countries vary from about less one million (Bahrain, Djibouti, and Qatar) to some 75 million (Egypt). Nominal GDP in the region amounted to over USD 1476 billion in 2007, which was about 2.7% of world GDP. None of the national economies of the Arab region is especially large on a global scale; this is certainly true if the oil sector is excluded. Moreover, there is great variance in the relative size of national economies, from Djibouti's 0.8 Billion US$ and Jordan's 16 Billion US$ to Algeria's 132 Billion US$ and Saudi Arabia's 377 Billion US$, with several steps in between.(1)

Population growth. Many Arab countries experience rapid population growth, with a high proportion of young dependants in their population. The average population growth rate in recent years has been about 2.1 per cent, although a group of countries (Jordan, Yemen, UAE, Qatar, Saudi Arabia, and the UAE) show a higher growth rate around 3.0%. Bahrain, Egypt, Sudan, Oman, Qatar and Saudi Arabia have relatively low rates of population growth (about 2%).(2)

Per capita income. Great disparities also exist in the region's GDP per capita distribution, from very high (Qatar – 75,978 US$; UAE – 43,709 US$; Kuwait – 38,574 US$; Bahrain – 26,127 US$; Saudi Arabia – 15255 US$) to low (Somalia – 291 US$; Mauritania –874 US$; Yemen – 967 US$; Djibouti – 1,002 US$; Palestinian – 1,359 US$; Sudan – 1,443 US$; Egypt – 1,770 US$; Syria – 1,883 US$).(3)

(1) United Nations, National Accounts Main Aggregates database, Statistics Division, 2009.
(2) World Bank, WDI Online Databases, 2009.
(3)United Nations, National Accounts Main Aggregates database, Statistics Division, 2009.

Regional sub-groupings. There are many sub-groupings in the region. The most common include nine oil-exporting economies (Algeria, Bahrain, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, and the UAE). Although some other Arab countries such as Egypt, Syria, Tunisia, and Yemen also export oil, the role of the sector in their economies is limited. The member countries of the Cooperation Council of the Arab States of the Gulf (GCC) are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE. The members of the Arab Maghreb Union are Algeria, Libya, Mauritania, Morocco, and Tunisia. The Mashreq group consists of Egypt, Jordan, Lebanon, Syria, and the West Bank and Gaza Strip.

Being located near a large and developed neighborhood leads to faster growth. Obviously, north-south regional trade agreements fulfill such a condition. Regarding south-south regional trade agreements with a less optimistic view is in order. In the past, these agreements clearly existed among small and very similar economies, but things have changed insofar as nowadays a differentiation in the level of economic development among developing countries is apparent and it is no longer unusual to find countries on different levels of development in the same region. Therefore, it is possible to build south-south regional integration schemes clustering less developed and smaller countries around a larger neighboring country. The Arab region, to some extent, fulfills this condition (Shams, 2003). Obviously, as table 1 shows, Egypt, one of the biggest countries in the Arab world. It is the largest country in terms of population with high GDP and exports. But as the table also clearly shows, Egypt has a lower level of development than some Arab countries such as Algeria and Saudi Arabia.

B. Recent integration performance of Arab countries

As in other regions, there were three reasons behind most attempts at regional integration: (i) economic welfare gains, (ii) enhanced collective political bargaining power in extra-regional affairs; and (iii) non-economic national goals (especially, security-related ones). On paper, these reasons should be facilitated by economic, geographical, and cultural conditions that are conducive to regional integration in Arab region.

According COMTRADE database, most countries in Arab region will continue to trade mainly outside the region, primarily with Asia, EU, Japan and the United States, and. However, the

volume and share of regional trade could rise significantly. This is the main reason for believing that there will be substantial economic gains from greater regional integration.

There is a wide diversity in the factor endowments within the region, most strikingly in labour and natural resources, as well as differences in the extent of economic diversification. Much of the trade within the region is based on this diversity, with oil the main traded commodity and labour the main traded factor. Closer regional integration is unlikely to lead to much trade diversion in these commodities, but it should promote greater merchandise trading in other commodities. Apart from its effects on merchandise trade, regional integration would boost service flows and intra-regional investment.

Arab countries as a whole appear relatively open prima facie—with total trade-to- GDP ratio of 79 percent, higher than most industrial countries, and surpassed only by Asia and some European countries in 2007. A cursory examination of this indicator would show that Arab countries have actually a good ranking relative to other developing countries. Although this level appears high by international standards, it is significantly influenced by the particular factor endowments of the region (rich in oil), which result in sizable oil exports and thus in a comparatively high traded goods ratio. The trends and composition of capital flows have increased from 1990 to 2007 by 826%. In the 1990 and 2007, the Arab region received net capital inflows of about US$ 3 and 27 billion, owing to the large current account surpluses of oil-producing countries. Arab countries have only attracted a modest amount of FDI. The region as a whole attracted less than 6% of capital flowing to developing countries.

C. Bilateral Trade Agreements in The Arab Region

In addition to the gradual increase in individual Arab states' participation in the WTO, the last decade has witnessed the development of a web of bilateral trade agreements between the Arab states of the region. The main drivers of the regional proliferation of bilateral trade agreements have been Egypt, Jordan, Tunisia, and to some extent Morocco (the same states that are parties to the AGADIR Agreement), but virtually all a Arab states have touched this circle. Thus, Jordan has agreements designated as Free Trade Agreements (FTAs), with Tunisia, Syria, Lebanon, Egypt, the UAE, Bahrain and Kuwait, all signed since 1998, as well trade and cooperation agreements with Libya, Algeria and Yemen. Egypt has similar agreements, some designated as FTAs, with Lebanon, Syria, Morocco, Tunisia, Libya, Jordan and Iraq, and Tunisia has agreements with

Algeria, Egypt, Libya, Jordan, Morocco and Syria. Gulf Cooperation Council (GCC) comprises Saudi Arabia, Kuwait, UAE, Qatar, Bahrain and Oman. The GCC removed one of the major obstacles to free trade when it decided in December 2001 to bring forward the customs union of its members to 2003 from the originally proposed date of 2005. FTAs within the Arab region are also gathering momentum in an attempt to counterbalance economic dominance by the US and EU and due to fears that liberalization through the WTO is proceeding too slowly and unevenly. To that end the Greater Arab Free Trade Area (GAFTA) is a new Arab League initiative that aims to revive previously unsuccessful attempts at regional integration. GAFTA comprises 17 Arab countries which have reduced customs on trade among them by 100%.

This brisk rise of bilateral trade agreements in a region that had previously seen only low-key bilateral trade and economic cooperation agreements can be explained in a number of ways. First, there are the genuine goals of promoting intra-regional trade and cooperation towards exports of jointly produced goods. Second, FTAs are proliferating worldwide, and some Arab states simply do not wish to be left behind, whether they have adopted a genuine policy of liberalization or not. Third, the Arab world has a very charged history of failed pan-Arab economic and political union; it is understandable that full regional integration is treated with apprehension and skepticism, and in this setting, bilateralism serves as a fallback for regionalism. Finally, bilateral FTAs in the region can be understood as a reaction to the increasing number of EU and US FTAs with partners in the region, as an attempt to prevent the creation of a 'hub-and-spokes' structure of trade.

However, these bilateral FTAs have significant weaknesses from the perspective of regional integration. In essence, they are traditional reciprocal tariff reduction agreements with only partial product coverage employing both positive and negative lists.

D. Direction of Arab's Foreign Trade

In principle, the Arab states offer good opportunities for mutual trade. While they include countries with widely varying per capita incomes, ranging from the very poor (Somalia, for example, with $291 per capita in 2007) to high income countries, such as the Qatar with $75,978 per capita in 2007 (table 1), most fall into the lower middle income group— and even the wealthier countries have non-oil productive structures similar to those of the relatively less well-off. Domestic markets also vary widely in size, ranging from Egypt's nearly 75 million to Bahrain, Djibouti, and Qatar with less than one million (table 1). Taking the region as a whole, economic

activity is also quite diversified; productive structures reflect the importance for regional GDP of agriculture and, increasingly, light manufacturing as well as the oil wealth of the Gulf.

Despite the elimination of tariffs between GAFTA, GCC and AGADIR members, intra-Arab trade is still hampered by a number of non-tariff obstacles that are preventing it from reaching its full potential and are also limiting the beneficial effects of trade liberalization. More precisely, two factors stand as significant obstacles facing the expansion of intra-GAFTA trade: cumbersome bureaucratic and institutional frameworks, as well as high transportation and communication costs, in part due to weak infrastructures.

As shown in table 2, intra-Arab exports represented on average merely 8.5% of total Arab exports in 2007. This ratio is strikingly low when compared to other blocs such as MERCOSUR and EU where intra member exports were equal to 21% and 22% of MERCOSUR's and EU's total exports in 2007. It should be noted that the picture is less gloomy when oil exports are excluded — since oil accounts for the greatest share of many Arab countries' exports and since it is largely exported to non-Arab countries, oil tends to bias the real magnitude of intra-Arab trade. A substantial share of intra-Arab imports is directed to other Arab countries, the share represents 11.3% in 2007.

Asia (excluding Japan) is the largest trading partner of most states in the Arab region. Asia (excluding Japan) is major trading partner for Arab region exports with 22.3% of total exports from the Arab region during 2007, followed by Japan (17.5%) and EU 25 (11.6%). Destinations of imports as given in table 2 shows concentration of Arab region's imports from EU and Asia (excluding Japan). About than 52% of the Arab region's imports are from these two regions.

IV. EMPIRICAL FRAMEWORK

A- Granger Causality Tests

Our empirical analysis begins with an effort to statistically determine the direction of causality between trade and growth in our sample. To this end we estimate a series of Granger-causality tests for Arab countries. In general, if Granger causality is found to run only in one direction, say from trade to growth, then the case for linear prediction can be made. In addition, lagging trade variables when estimate their effect on output ensures that observations on trade precede growth effects. Thus, if a significant relationship exists, then the case for linear prediction is strengthened.

Tables 5 and 6 show the results of the tests for Granger causality between trade and per capita output growth in two ways. First case without adding Arab-EU trade and the second case when adding Arab-EU trade as variable in the equation. Extra-regional trade granger causes growth in 2 of the 13 countries in the first case and 3 of 13 countries in the second case, while intra-regional trade Granger causes growth in 3 countries in the first case and 4 countries in the second case. For Arab-EU Trade, Granger causes growth in 3 countries in the in the second case. Jointly the trade variables Granger cause growth in 2 of the 13 countries or in 15% of the countries in the two cases. The two countries for which Granger causality holds are Kuwait and Morocco in the first case and Egypt and Kuwait in the second one. It should be noted that the Granger causality results here should not be viewed true causality. Rather, they can be best interpreted as an attempt at specifying a necessary condition for a causal relation.

B- Estimation Methodology

Following Bassanini et al. (2001) and Wooster et al. (2007) we consider a specification which includes the basic determinants of output growth. Specifically, we include the accumulation of physical capital and population growth as well as a set of policy and institutional factors potentially affecting economic efficiency. These include: the size of government (which we measure as government consumption spending); inflation; and trade intensities – intra-regional, Arab-EU and extra-regional trade (the variables of interest for the study). Thus, the equation can be written as follows:

Case 1:

$$\Delta \ln y_{it} = \beta_0 + \beta_1 \ln k_{it} + \beta_2 n_{it} + \beta_3 \ln r_{it-1} + \beta_4 \ln w_{it-1} + \beta_5 \ln G_{it} + \beta_6 \ln \pi_{it} + \alpha_1 \Delta \ln k_{it} + \alpha_2 \Delta n_{it} + \alpha_3 \Delta \ln r_{it} + \alpha_4 \Delta \ln w_{it} + \alpha_5 \Delta \ln G_{it} + \alpha_6 \Delta \ln \pi_{it} + \varepsilon_{it} \quad (1)$$

Case 2:

$$\Delta \ln y_{it} = \beta_0 + \beta_1 \ln k_{it} + \beta_2 n_{it} + \beta_3 \ln r_{it-1} + \beta_4 \ln v_{it-1} + \beta_5 \ln w_{it-1} + \beta_6 \ln G_{it} + \beta_7 \ln \pi_{it} + \alpha_1 \Delta \ln k_{it} + \alpha_2 \Delta n_{it} + \alpha_3 \Delta \ln r_{it} + \alpha_4 \Delta \ln v_{it} + \alpha_5 \Delta \ln w_{it} + \alpha_6 \Delta \ln G_{it} + \alpha_7 \Delta \ln \pi_{it} + \varepsilon_{it} \quad (2)$$

where k is the share of investment in GDP; n is population growth; r is the ratio of intra-regional trade to GDP; v is the ratio of Arab-EU Trade, is w is the ratio of extra-regional trade to GDP; G is

government consumption expenditure relative to GDP; π is inflation; the α-regressors capture short-term dynamics; and ε is the usual zero-mean error term.

The β-coefficients measure the long-term growth effects of the respective explanatory variables. To control for short-run adjustments in growth the model also includes regressors (α–coefficients) that are intended to proxy for cyclical components inherent in year-to-year variations in output. However, it should be noted that the α–coefficients in the model may not necessarily represent transitory growth effects, but may indicate more permanent effects (Bassanini *et al*, 2001). *A* priori expectations of the model coefficients are presented in Table 7. The expected sing on population growth rate is negative indicating that increases in the population growth rate will lead to a lower average income. We expect that higher investment shares in GDP and higher intra, extra-regional and Arab-EU trade intensities will be associated with higher output growth. Finally, we expect government size and inflation to be inversely associated with output growth.

Based on the summary statistics in Table 4 and the Granger causality results in Tables 5 and 6, we estimate several specifications of the model in the two cases to verify the robustness of our results. In the first specification we use the entire sample of 13 countries. In the second, we use the 2 countries where Granger causality holds in order to check for sensitivity of the results when all positive countries are excluded. Finally, we use lagged values for our trade intensity variables to ensure that trade observations precede growth effects.

C- Data Set

This section describes the data used in the empirical analysis below. Table 3 summarizes the variables used in this analysis, the data sources, and provides overall descriptive statistics. Our focus variables, intra-regional, Arab-EU and extra-regional trade, were constructed using data from the United Nations COMTRADE database which was available for all countries over the period 1990-2007. The import, export, and total trade values were scaled by GDP in each year to obtain intra-regional, Arab-EU and extra-regional trade shares relative to the size of the economy for each country. Data on growth rates for GDP per capita expressed in 2000 purchasing power parities for the period 1990 to 2004 were obtained from the Penn World Tables 6.2 and calculated from National Accounts Main Aggregates database (United Nation) for the period 2005-2007. Data on investment as a share of GDP were obtained from the Penn World Tables 6.2 for all

countries. Government consumption expenditures were also scaled by GDP to obtain the relative size of government with respect to the economy for each country and obtained from Earth Trends Database. GDP for all countries is taken from National Accounts Main Aggregates database (United Nation). The difference in logs was used to approximate growth rates for GDP per capita, population, and the inflation. The data on population and inflation are taken from World Bank WDI Online Databases.

Descriptive statistics in Table 3 show that output growth per capita averaged percent for sample countries over the period 1990 to 2007. The average population growth rate was 2.3%, while the share of investment in GDP averaged 11.8% across all countries over the period. The share of investment showed the least variability among all variables, possibly as a result of a strong commitment to capital accumulation in the countries sampled. Extra-regional relative to GDP averaged relatively high at 64.8% and low for intra-regional trade which estimated at 9.4% respectively. Extra-regional trade however, exhibited sharply higher variability compared to intra-regional trade, while the percentages of average of Extra-regional relative to GDP changes when adding variable for Arab-EU trade; Extra-regional and Arab-EU trade relative to GDP averaged at 45.8% and 18.8% respectively. Government consumption spending as a share of GDP averaged at 19.4% higher than share of investment in GDP averaged, while inflation was relatively low at 6.9 percent, on average.

Table 4 presents descriptive statistics for each sample country which highlight the variation in trade patterns between countries. Overall, countries with large trade shares exhibited higher mean growth rates. Specifically, United Arab Emirates stands out as a leader in growth and extra-regional trade with mean GDP per capita growth of 3.7% and mean extra regional trade intensity of 115.4% of GDP over the sample period. This motivates the need for a sensitivity analysis that excludes Ireland in the empirical estimation below. Finally, the composition of commodities in each of these trade patterns is presented in Figure 1. An examination reveals major differences in the make-up of intra-regional Arab-EU and extra-regional trade. Specifically, a higher portion of chemicals products and food and live animals are exchanged between Arab countries that traded with EU and the rest of the world. Also fuels stands out as the largest product category in both intra- and extra-regional trade.

V. EMPIRICAL RESULTS

Case 1:

We report fixed effects estimation results in table 8 with t value for each coefficient are shown in parenthesis. With the exception of population growth and total intra-regional trade as a percentage of GDP the signs of the regression coefficients are consistent with theoretical predictions and robust across specifications for the full sample (13 countries). On the other hand, all consistent coefficients are not statistically significant. The coefficients on the rate of change variables (short-run regressors) are both positive and significant except intra-regional trade and the rate of change of the GDP deflator (inflation) that have inverse sings. These non-similarities are a likely indication that these variables haven't similar structural linkages to growth.

In the same table 8 we report fixed effects estimation results for sample excluding all negative effect countries. With exception of intra-regional trade and the inflation the estimated coefficients of all the inputs are consistent with theoretical predictions and robust across specifications. The coefficient on the log of investment is small, while the rate of change in the share of investment has a strong and significant effect on growth. This suggests that growth responded more strongly to the rate at which investment levels changed. Conversely, the rate at which government consumption spending has a significant negative effect on growth in both the short and the long-run and these effects are statistically significant, a likely outcome of the social welfare programs in a number of EU countries.

Our focus variables, extra-regional trade and intra-regional trade, are both significant and but only extra-regional trade has a positive effect on output growth per capita. Conversely, the coefficients on the rate of change variables (short-run regressors) are positive but only intra-regional trade is significant. The coefficient on extra-regional trade (1.71) is about 17 % higher than the coefficient on intra-regional trade (-5.48). This suggests that, all else equal, a 1 percent increase in each of these variables, extra-regional trade will increase growth by 0.02 percentage points while intra-regional trade will decrease growth by 0.055 percentage points. To test whether the difference in the trade coefficients is statistically significant, we perform a difference-in-means test. Our null hypothesis is that the difference in means of the estimated coefficients on lnrt-1 and lnwt-1 is zero. The computed test statistic is 37.30 (P-value = 0.000) which rejects the null hypothesis, implying

that, extra-regional trade has a significantly greater effect on growth than intra-regional trade in the sample countries (column 2 table 8).

Our results support empirical findings in previous literature on trade, regionalism and growth. With respect to trade and growth, Bassanini et al. (2001) conclude that 1 percentage point increase in trade exposure results in a 4 percent increase in steady-state output per capita in 21 OECD countries between 1971 and 1998. Regarding the effects of different trade patterns on growth, previous literature provides some insights as to likely explanations. Vamvakidis (1999) found that participation in RTAs was on average associated with slower growth rates than following a policy of broad liberalization and Wooster et al. (2007) show that intra-regional trade has had a lesser impact on growth in output per capita than extra-regional trade by almost 30% over the period 1980-2003.

A number of other factors could be responsible for the observed difference in trade effects on growth. These could include market size, different structural relationships between growth and trade patterns, or the composition of commodities in the respective trade patterns. For example, Alcalá and Cicone (2003) found that the effect of trade on growth depended on country (market) size. With respect to the composition of commodities, conventional knowledge would suggest higher proportions of capital goods in extra-regional trade may be responsible for its greater effects.

Case 2:

In table 9 fixed effects estimation results for the second case are presented with t value for each coefficient are shown in parenthesis. With the exception of Arab EU trade as a percentage of GDP and inflation the signs of the regression coefficients are consistent with theoretical predictions and robust across specifications for the full sample (13 countries). On the other hand, all consistent coefficients are not statistically significant except population growth and indicator of government size. The coefficient on the rate of change in intra-regional trade (short-run regressors) is positive and significant, while the others variables neither significant nor are consistent with theoretical predictions.

In the same table 9 we report fixed effects estimation results for sample excluding all negative effect countries. With exception of extra-regional trade and the inflation the estimated coefficients of all the inputs are consistent with theoretical predictions and robust across specifications. On the

other hand, all coefficients are statistically significant except Arab-EU trade. The coefficient on the log of investment is small, while the rate of change in the share of investment a very low effect on growth. This suggests that growth responded slowly to the rate at which investment levels changed. Conversely, the rate at which government consumption spending has a significant effect on growth in both the short and the long-run but the negative is only negative in the long run. The log of inflation is also significant and positive not consistent with theoretical predictions. In addition, the rate of change in inflation has a positive and highly significant effect on output growth. This possibly reflects a short-term Philips-type tradeoff where an increase in inflation is associated with a reduction in unemployment and consequently resulting in a positive impact on growth. The coefficient on the log of population growth is small, while the rate of change in the share of population a very low effect on growth. This suggests that growth responded slowly to the rate at which population growth changed.

Our focus variables, extra-regional trade and intra-regional trade, are both significant but the second one has positive effect on output growth per capita. On the other hand, Arab-EU trade is not significant. The coefficients on the rate of change variables (short-run regressors) are both significant except population growth and intra-regional trade but the signs of most of them are not consistent with theoretical predictions. These similarities are a likely indication that these variables haven't similar structural linkages to growth. Of interest is the size of these coefficients. The coefficient on intra-regional trade (0.86) is about 9%. This suggests that, all else equal, a 1 percent increase in each of these variables, intra-regional trade will increase growth by 0.01 percentage points. To test whether the difference in the trade coefficients is statistically significant, we perform a difference-in-means test. Our null hypothesis is that the difference in means of the estimated coefficients on lnrt-1 and lnwt-1 is zero. The computed test statistic is 24.12 (P-value = 0.000) which rejects the null hypothesis, implying that, intra-regional trade has a significantly greater effect on growth than extra-regional and Arab EU trade in the sample countries (column 2 table 9).

VI. CONCLUDING REMARKS

A key economic objective of both multilateral and regional trade negotiations is to progressively eliminate barriers to trade in an effort to promote economic growth. Yet recent difficulties with furthering global trade talks have placed a renewed emphasis on regional integration. This study

seeks to investigate whether intra-regional trade among Arab member countries has been a stronger source for growth in output per capita relative to extra-regional or Arab-EU trade. The analysis here represents a significant departure from most previous studies that have assessed growth effects of RTAs by use of dummy variables which do not capture dynamic effects and some that treat trade as having the same effect regardless of trade partners involved. Specifically, our empirical framework uses intra-regional and extra regional trade intensities to estimate the differential contribution of these two types of trade on growth in thirteen Arab countries over the period 1990-2007 and it use the two types after adding and Arab-EU trade in another case to estimate the differential contribution of these three types of trade on growth in thirteen Arab countries over the same period.

The empirical results show that in the first case with sample excluding negative effect countries, extra-regional trade has had a lesser impact on output growth than intra-regional trade by almost 17%, holding all other factors constant. This suggests that, all else equal, a 1% increase in each of these variables, extra-regional trade will increase growth by 0.02% points. This is likely due to the fact that extra-regional trade exposes countries to a larger and more diverse global market, which implies more possibilities for transfer of skills and technology. The global market also implies larger economies of scale and greater competition leading to higher efficiency in production.

In the second case with sample excluding negative effect countries, the empirical results show that the coefficient on intra-regional trade (0.86) is about 9%. This suggests that, all else equal, a 1 percent increase in each of these variables, intra-regional trade will increase growth by 0.01 percentage points. This is likely due to the fact that intra-regional trade exposes RTA's member countries to a larger and more diverse global market, which implies more possibilities for removal trade and non trade barriers.

Yet, the contribution of intra- and extra-regional trade to growth is only one element in the set of arguments on the globalization versus regionalism debate. In particular, the formation of regional trade agreements is often a combination of both economic and political arguments. There may be perceived benefits from using regional economic integration as a basis for increasing regional security, promoting bargaining power, creating a "commitment mechanism" for domestic policy reform.

Given that the focus of this research is on the economic objectives of RTAs and on the Arab's experience in particular, the results should not be interpreted as evidence that the benefits of multilateral trade liberalization outweigh those of regional integration. Such evidence may be possible with time, as the accumulation of data on the performance of more recent RTAs, will allow for a richer picture to emerge regarding the differential impact of intra and extra-regional trade. With advancements in the liberalization of trade in services, it would also be possible in future research to investigate the differential impact of service and merchandise trade on growth.

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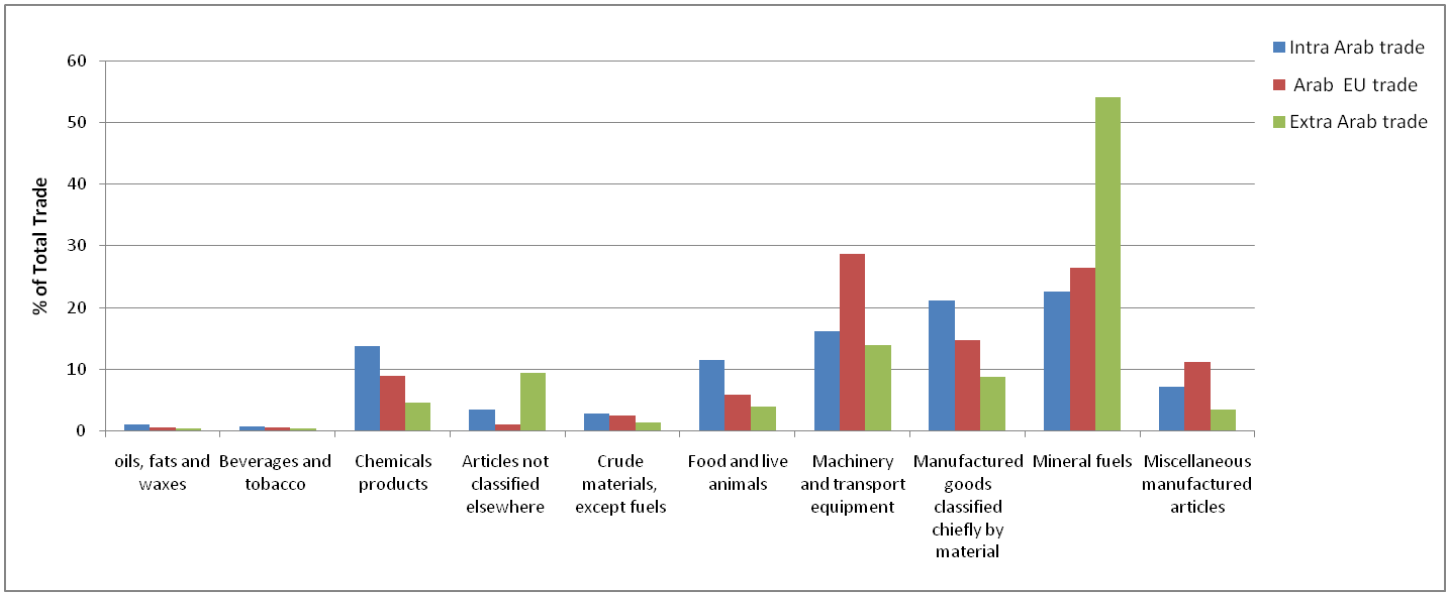
APPENDIX

Figure 1: The Composition of Trade in the Arab Countries by Product Category, 2007



Source: United Nations, COMTRADE database, Statistics Division, 2009.

Table 1: Economic Indicators for Arab Countries, Year 2007.

	Population in millions	GDP in billions US$	Per Capita GDP in US$	Exports in millions US$	Imports in millions US$
Algeria	33.9	132.5	3912	60163	27631
Bahrain	0.8	19.7	26127	13665	11515
Djibouti	0.8	0.8	1002	na	na
Egypt	75.5	133.6	1770	16101	26929
Iraq	29	69.7	2404	na	na
Jordan	5.7	15.7	2654	5700	13531
Kuwait	2.7	110	38574	62691	21362
Lebanon	4.1	24.6	6011	2292	9368
Libya	6.2	62	10074	na	na
Mauritania	3.1	2.7	874	1354	1430
Morocco	30.9	73.4	2316	14607	31650
Oman	2.6	40.3	15546	24692	16025
Palestinian	3.7	5.5	1359	513	3141
Qatar	0.8	63.9	75978	42020	23429
Saudi Arabia	24.2	377.3	15255	234951	90214
Somalia	8.7	2.5	291	na	na
Sudan	38.6	55.5	1443	5479	8844
Syrian	19.9	37.5	1883	11546	14655
Tunisia	10.2	35	3390	15165	19099
United Arab Emirates	4.4	191.5	43709	156634	127002
Yemen	22.4	21.7	967	6299	8511

na - not available

Note**:** Sudan exports and imports of 2006.

Sources:

1- World Bank, WDI Online Databases, 2009.
2- United Nations, COMTRADE database, Statistics Division, 2009.
3- United Nations, National Accounts Main Aggregates database, Statistics Division, 2009.

Table 2: Direction of Arab Trade, 2007

	Export		Import	
	Value (Billions of US $)	Share %	Value (Billions of US $)	Share %
Arab Countries	58.5	8.2	51.3	11.3
EU 25	82.0	11.6	137.9	30.3
USA & Canada	69.0	9.7	40.3	8.9
Asia	158.4	22.3	99.8	21.9
Japan	124.2	17.5	27.8	6.1
Others	217.6	30.7	98.5	21.6
Total	709.7	100	455.5	100.0

Source: Calculated from**:** United Nations, COMTRADE database, Statistics Division, 2009.

Table 3: Variables, Data Sources, and Summary Statistics: 1990-2007

			Summary Statistics		
Variable	**Description**	**Sources**	**Observations**	**Mean**	**Std. Deviation**
GDP per capita growth (ΔlnY)	Growth in real GDP per capita expressed in (2000) Purchasing Power Parities (PPP).	Penn World Tables 6.2	230	1.9%	6.6
Population growth (n)	The rate of growth in total population (ΔlnP)	*World Bank*	234	2.3%	3.4
Investment (lnk)	The percentage share of investment in GDP	Penn World Tables 6.2	230	11.8%	5.8
Intra-regional trade (lnr)	Total intra-regional trade (exports and imports) as a percentage of GDP	Arab Monetary Fund *UN National Accounts Main Aggregates Database*	234	9.4%	9.0
Extra-regional trade (lnw)	Total extra-regional trade (Exports and imports) as a percentage of GDP.	UN Comtrade database *UN National Accounts Main Aggregates Database*	234	64.8	28.4
Indicator of Government Size (lnG)	Government consumption expenditure as a percentage of GDP	Earth Trends	232	19.4%	7.4
Inflation ($ln\pi$)	The rate of change of the GDP deflator ($\Delta lnGDP\text{-}deflator$)	*World Bank*	233	6.9%	11.9
In case adding Arab EU Trade as Variable					
Arab-EU trade (lnv)	Total Arab-EU trade (Exports and imports) as a percentage of GDP.	UN Comtrade database *UN National Accounts Main Aggregates Database*	234	18.8	13.4
Extra-regional trade (lnw)	Total extra-regional trade (Exports and imports) as a percentage of GDP.	UN Comtrade database *UN National Accounts Main Aggregates Database*	234	45.8	31.5

Table 4: Summary Statistics by Country: 1990-2007.

Variables	GDP per capita growth (Y)		Population growth (n)		Investment (k)		Intra-regional trade (r)		Extra-regional trade (w)		Indicator of Govt. Size (G)		Inflation (π)		In case adding Arab EU Trade as Variable: Arab EU trade (v)		In case adding Arab EU Trade as Variable: Extra-regional trade (w)	
Statistics	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Algeria	0.5%	2.4	1.8%	0.4	11.3%	1.4	1.2%	0.3	48.7%	9.2	15.6%	1.6	16.5%	13.8	29.3%	4.4	19.4	19.4%
Bahrain	1.4%	7.4	2.5%	0.5	8.6%	2.3	24.7%	13.0	113.5%	16.7	20.0%	2.9	2.5%	6.1	14.1%	4.2	99.3	99.3%
Egypt	2.7%	2.2	1.9%	0.1	5.4%	0.6	2.3%	1.3	24.1%	6.9	11.4%	0.9	8.7%	5.3	7.8%	1.3	16.3	16.3%
Jordan	-0.4%	4.4	3.5%	2.1	15.2%	4.3	26.2%	8.5	63.0%	8.5	23.3%	1.5	3.6%	3.0	18.7%	2.5	44.3	44.3%
Kuwait	2.0%	14.8	-0.1%	12.8	11.2%	8.8	4.2%	1.4	65.3%	5.7	32.0%	15	5.4%	12.4	8.3%	1.9	57.0	57.0%
Lebanon	5.0%	11.1	1.9%	0.9	20.2%	8.7	9.8%	3.6	50.1%	14	16.5%	2.5	15.2%	29.2	19.2%	3.9	23.7	23.7%
Morocco	1.0%	5.6	1.5%	0.3	11.1%	1.2	3.9%	0.8	41.8%	7.2	17.6%	1.1	3.1%	3.2	26.3%	6.3	15.5	15.5%
Oman	1.5%	2.7	2.1%	1.0	7.7%	1.0	15.5%	3.2	66.2%	6.1	23.3%	1.8	4.0%	10.4	7.8%	2.1	58.4	58.4%
Qatar	1.8%	7.2	3.4%	1.3	14.6%	4.4	7.4%	1.3	73.0%	7.2	23.5%	8.5	10.8%	12.0	10.8%	3.4	62.1	62.1%
Saudi Arabia	0.1%	4.9	2.4%	0.6	8.5%	0.8	4.9%	2.0	55.2%	10.5	26.3%	2.9	4.8%	7.6	10.2%	2.7	45.0	45.0%
Syrian	2.1%	3.5	2.7%	0.2	7.4%	0.8	8.6%	3.8	46.3%	8.2	12.9%	1.4	7.7%	5.2	21.5%	3.7	24.6	24.6%
Tunisia	3.2%	1.3	1.4%	0.5	13.0%	1.0	5.8%	1.2	69.5%	6.6	15.8%	0.6	3.8%	1.3	55.1%	5.8	14.4	14.4%
United Arab Emirates	3.7%	6.0	5.0%	0.9	19.6%	2.0	7.2%	1.6	125.4%	14.5	16.0%	2.1	5.0%	7.6	14.9%	6.4	111.4	111.4%

Source: see table 2.

Table 5: Granger Causality Wald Test Results (Model 1)

Dependent Variable	GDP Per Capita Growth		
Explanatory Variable	Intra Regional Trade	Extra Regional Trade	Total Trade
Algeria	-	-	-
Bahrain	-	-	-
Egypt	+	-	-
Jordan	-	-	-
Kuwait	+	-	+
Lebanon	-	-	-
Morocco	-	+	+
Oman	-	+	-
Qatar	-	-	-
Saudi Arabia	-	-	-
Syria	-	-	-
Tunisia	-	-	-
United Arab Emirates	+	-	-

Notes: "+" indicates the explanatory variable Granger causes the dependent variable at either the 1% or 5% level.
"-" indicates the explanatory variable does not Granger-cause the dependent variable at either the 1% or 5%,level.

Table 6: Granger Causality Wald Test Results (Model 2) – with Arab EU trade Variable.

Dependent Variable	GDP Per Capita Growth			
Explanatory Variable	Intra Regional Trade	Arab EU Trade	Extra Regional Trade	Total Trade
Algeria	+	+	-	-
Bahrain	+	-	+	-
Egypt	-	-	-	+
Jordan	-	+	-	-
Kuwait	+	-	+	+
Lebanon	-	-	-	-
Morocco	-	-	-	-
Oman	-	-	+	-
Qatar	-	-	-	-
Saudi Arabia	-	-	-	-
Syria	-	+	-	-
Tunisia	-	-	-	-
United Arab Emirates	+	-	-	-

Notes: "+" indicates the explanatory variable Granger causes the dependent variable at either the 1% or 5% level.
"-" indicates the explanatory variable does not Granger-cause the dependent variable at either the 1% or 5%,level.

Table 7: Explanatory Variables and Expected Signs

Variable	Expected Sign
Population Growth (*n*)	Negative (-)
Investment (*lnk*)	Positive (+)
Intra Regional Trade (*lnr*)	Positive (+)
Extra Regional Trade (*lnw*)	Positive (+)
Arab EU Trade (*lnv*)	Positive (+)
Indicator of Government size (*lnG*)	Negative (-)
Inflation ((*lnπ)*	Negative (-)

Note: Expectations are not implied for short-term explanatory variables.

Table 8: The Contribution of Intra- and Extra-Regional Trade to Output Growth –Fixed Effects Estimation (Model 1).

Estimated Coefficients		
Variables	Full Sample (N=233)	Sample Excluding Negative countries (N=89)
Investment (ln***k)***	**0.052** (0.828)	**0.635** (4.626)**
Population growth (***n***)	**0.066** (2.516)*	**- 0.702** (-7.297)**
Lagged Intra-regional trade (lnr_{t-1})	**-0.142** (-3.807)**	**-0.548** (-3.387)**
Lagged Extra-regional trade (lnw_{t-1})	**0.021** (0.267)	**1.712** (6.875)**
Indicator of Government size (ln***G***)	**-0.201** (-1.681)	**-1.383** (-3.358)**
Inflation (lnπ)	**-0.040** (-1.643)	**0.052** (1.593)
Short-run regressors:		
Δln***k***	**3.453** (7.608)**	**-3.544** (-5.516)**
Δ***n***	**-0.504** (-3.511)**	**10.701** (6.276)**
Δln***r***	**-0.047** (-2.839)*	**0.853** (6.183)**
Δln***w***	**4.036** (4.783)**	**2.939** (2.018)
Δln***G***	**-5.106** (-4.363)**	**-20.775** (-8.129)**
Δlnπ	**0.058** (7.096)**	**0.020** (1.621)
F	**9.337**	**19.225**
R^2	**0.17**	**0.57**

Notes: N = no. of observations; ** , * denote significance at the 1%, and 5% respectively.
t values in parentheses.

Table 9: The Contribution of Intra- and Extra-Regional Trade to Output Growth –Fixed Effects Estimation (Model 2) with Arab EU trade Variable.

Estimated Coefficients		
Variables	Full Sample (N=223)	Sample Excluding Negative countries (N=139)
Investment (ln***k)***	**0.031** (0.194)	**0.952** (4.834)**
Population growth (***n***)	**-0.352** (-4.778)**	**-0.877** (-7.810)**
Lagged Intra-regional trade (lnr_{t-1})	**0.080** (1.634)	**0.856** (14.233)**
Lagged Extra-regional trade (lnw_{t-1})	**0.042** (0.463)	**-0.332** (-3.221)**
Lagged Arab EU Trade (*lnv*)	**-0.029** (-0.386)	**0.088** (1.044)
Indicator of Government size (ln***G***)	**-0.542** (-2.768)**	**-3.540** (-15.850)**
Inflation (lnπ)	**0.062** (1.825)	**0.108** (4.062)**
Short-run regressors:		
Δln***k***	**-0.013** (-2.327)*	**0.041** (5.037)**
Δ***n***	**-0.225** (-1.168)	**-0.066** (-0.071)
Δln***r***	**5.337** (9.386)**	**-0.269** (-0.546)
Δln***w***	**-4.213** (-5.066)**	**-2.542** (-4.036)**
Δln***v***	**-0.020** (-1.303)	**0.367** (3.224)**
Δln***G***	**1.369** (0.840)	**3.077** (2.222)*
Δlnπ	**0.041** (3.814)**	**0.038** (5.149)**
F	**7.172**	**34.876**
R^2	**0.19**	**0.69**