

# **Regional Integration, Imperfect Competition and Welfare: The Experience of the Greater Arab Free Trade Area<sup>1</sup>**

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## **Abstract:**

The aim of this article is to provide some new insight concerning the welfare impact of the Greater Arab Free Trade Area (GAFTA). It is based on an original theoretical model of regional integration, which does not only include the gains related to the perfect competition framework (exploitation of comparative advantage, more efficient use of factors of production) but also the additional gains due to imperfect competition (terms of trade improvement, reduction in trade costs, existence of scale economies, greater product varieties for consumers) as well as dynamic effects (increase in foreign direct investment, growth effects) and the impact of economic distortions (taxes/subsidies). An application to the GAFTA agreement is subsequently proposed, using inquiries implemented in selected GAFTA countries and selected industries. Results show that direct trade effects are significant. However, the gains due to the removal of NTBs as well as those in imperfect competition are very small. This can be explained mainly by the lack of deep integration across Arab countries as well as by market structures. As a policy implication, GAFTA members should actually remove the NTBs in the area and deepen their integration process, with more detailed rules of origin, the use of common standards, the removal of distortions like subsidies and dumping measures, as well as the adoption of closer political cooperation and common institutions.

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## Introduction

The Greater Arab Free Trade Agreement (GAFTA) refers to the declaration made by the Heads of Arab States, in the Cairo 1996 Arab Summit, adopting the executive program of the 1981 “Agreement on Facilitation and Development of Trade” (AFDT) to reach a free trade area (FTA) with zero-percent tariff rates in the year 2007. The Economic and Social Council (ESC) of the League of Arab Nations (LAN) approved the executive program in 1997. Such an initiation for reaching a FTA was a trial to overcome the negative aspects of *AFDT* which was characterized by vagueness in wording and limited positive list approach of liberalization.

Initially, the GAFTA agreement was planned to reduce the tariffs by 10% on a yearly basis to reach a FTA by 10 years (ending in 2007). However, a decision by the ESC in 2001 (based on the recommendation of the Arab Summit in Amman 2001) has accelerated the implementation period to reach zero-percent tariffs on 01/01/2005.

At the beginning, 14<sup>4</sup> out of the 22 Arab States joined the GAFTA and submitted their schedules of commitments to the Arab League Secretariat. Four<sup>5</sup> more member states joined later. Currently there are 17 countries which apply GAFTA (LAN, 2008a)<sup>6</sup>.

Amongst all the previous attempts to achieve economic integration in the Arab world, the GAFTA agreement is certainly the most outreaching one. Indeed, tariffs have been fully eliminated on 1.1.2005; it is expected to cover all the countries in the Arab region; it relies on a negative list approach; it includes agricultural products as well as an additional regional agreement concerning trade liberalization of services signed in 2003 in addition to research and technological cooperation.

The expected economic benefits from this far-reaching agreement are numerous. GAFTA members are first expected to increase welfare and intra-regional trade,

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<sup>4</sup> United Arab Emirates, Egypt, Kuwait, Saudi Arabia, Syria, Tunisia, Morocco, Sudan, Oman, Qatar, Lebanon, Iraq, Bahrain, and Libya.

<sup>5</sup> Jordan, Palestine, Yemen, and Algeria.

<sup>6</sup> United Arab Emirates, Egypt, Saudi Arabia, Palestine, Kuwait, Syria, Tunisia, Morocco, Jordan, Oman, Qatar, Lebanon, Iraq, Bahrain, Libya, Sudan, and Yemen. The countries that still did not join GAFTA include Algeria, Djibouti, Comoros, Somalia, and Mauritania. Algeria and Mauritania have already acceded but have still not started implementing the GAFTA agreement.

thanks to the removal of trade barriers. This first gain is due to increased production efficiency through the exploitation of comparative advantage. It is generally referred to as the gain in a perfect competition framework (Robson, 1998). More generally, this gain refers to the mainstream theory of regional integration, developed first by Viner (1950).

There are currently very few quantitative studies which investigate the GAFTA trade or welfare effects (Boussetta, 2004, CATT, 2005, Neaime, 2005, Abedini and Peridy, 2008). These studies present some common features. First, they generally cover a limited number of countries; second, they generally focus on trade effects only; third and more importantly, they are based on the mainstream theory of regional integration.

However, although the mainstream theory provides interesting insights about the effects of regional economic integration, it is based on very restrictive and sometimes irrelevant assumptions (Pomfret 1997, 2003; Robson 1998; Jovanovic 2006). First of all, terms of trade effects are neglected, as the demand for imports from the rest of the world is assumed to be unchanged after the formation of a customs union. Second and more importantly, competition is assumed to be perfect. This implies that scale economies are disregarded as well as product differentiation, imperfect information and trade costs (except tariffs). Third, economies are static with constant expectations. As a result, economic growth, technology, productivity as well as tastes and propensities to consume, invest and import are given and fixed. In addition, there is no depreciation of the capital stock. Factor mobility is also assumed to be perfect within a country, but is not allowed across countries. This is to say that trade alone can ensure factor price equalization. Thus, foreign direct investment (FDI) is disregarded. Finally, domestic distortions are generally neglected in the standard mainstream theory.

The aim of this article is to go further in analysing welfare effects of the GAFTA agreement, by taking into account not only the standard perfect competition effects, but also all the other effects described above (imperfect competition, dynamic and distortion effects). For that purpose, a generalized theoretical model of regional integration is developed in section 2. This model is subsequently applied to GAFTA

countries, through inquiries conducted in selected GAFTA countries and selected industries. The choice of this method instead of computable general equilibrium (CGE) models is mainly motivated by the fact that these models in imperfect competition are even more sensitive to the choice of the value of the parameters (especially elasticities in production and consumption) than models in perfect competition (Willenbockel, 2004; Roson, 2006). Moreover, inquiries give additional qualitative information about the various channels by which the GAFTA agreement can influence welfare, especially gains from scale economies, product varieties, reduction in non tariff barriers (NTBs) as well as distortion effects.

### **1. Welfare effects of free trade areas: A generalized model in imperfect competition**

This section proposes an extended version of Baldwin and Venables (1995), who developed a regional integration model in imperfect competition. The extension includes labour as a variable, technical progress, foreign direct investment (FDI) as well as economic distortions.

Welfare of a representative consumer in a country can be represented by an indirect utility function  $V(p+t, n, E)$ , where  $p$  is the vector of border prices,  $t$  is the vector of trade costs (including tariffs),  $n$  is the vector which accounts for the number of product varieties available and  $E$  is the total spending on consumption.

Expenditure is the sum of factor revenue, profit and rent from trade barriers minus investment  $I$ .

$$E = wL + (w_m - w)L + rK + \Pi + X[(p + t) - a(w, r, x) - T] + catm - I + FDI \quad (1)$$

The reward accruing to labor ( $L$ ) is made of the equilibrium wages ( $w$ ) as well as a supplement corresponding to the domestic distortion due to wage negotiation at higher price than equilibrium wages (such as a minimum wage). As a result, the actual wage received by workers is  $w_m$ . Capital  $K$  is rewarded according to the interest rate  $r$ .

It is also assumed that the two factors L and K are supplemented by exogenous technical progress  $\Pi$ , in line with the Solow growth model.

Denoting  $X$  as the economy's production vector, "a" the average costs at sector level (which in turn depend on factor prices ( $r$  and  $w$ ) and production per firm ( $x$ ) in each sector) and  $T$  taxes for each unit produced, then profits can be written as the difference between total receipt ( $X(p+t)$ ), and total costs ( $Xa(w,r,x)+XT$ ).

The domestic trade rent is captured by  $\alpha tm$ , where  $m$  is the net import vector.  $\alpha$  is a diagonal matrix that measures the nature of trade protection ( $\alpha=1$  means that the trade protection is made of tariffs or other rent-making policy;  $\alpha=0$  means that no trade rent is captured domestically, like in the case of quotas or other NTBs). As a result, if trade protection is only made of tariffs, the rent is equal to  $tm$ . If it is made of quotas only, then the rent is null.

Net foreign direct investment (FDI) is also added to the expenditure function since foreign firms make it possible to increase the capital domestically available. Moreover, in an imperfect competition framework, trade alone cannot generally ensure factor price equalization. This is why international capital movements, especially FDI are needed.

Totally differentiating the indirect utility function gives:

$$dV = \frac{\partial V}{\partial(p+t)} d(p+t) + \frac{\partial V}{\partial n} dn + \frac{\partial V}{\partial E} dE \quad (2)$$

Denoting  $V_{p+t}$  the marginal utility of prices,  $V_n$  the marginal utility of varieties and  $V_E$  the marginal utility of expenses,  $dV$  can be rewritten as:

$$\Rightarrow dV = V_{p+t} d(P+t) + V_n dn + V_E dE \quad (2')$$

Dividing by  $V_E$ , it comes:

$$\frac{dV}{V_E} = \frac{V_{p+t}}{V_E} d(P+t) + \frac{V_n}{V_E} dn + dE \quad (3)$$

From (1) and (2), we get:

$$dE = Ldw_m + w_m dL + rdK + Kdr + d\Pi + Xd(p+t) - Xa_w dw - Xa_r dr - Xa_x dx + (p+t-a-T)dX + \alpha dm + md(\alpha) - dI + dFDI \quad (4)$$

Replacing into (3) gives:

$$\begin{aligned} \frac{dV}{V_E} = & \frac{V_{p+t}}{V_E} d(P+t) + \frac{V_n}{V_E} dn + Ldw_m + w_m dL + rdK + Kdr + d\Pi + Xd(p+t) \\ & - Xa_w dw - Xa_r dr - Xa_x dx + (p+t-a-T)dX + \alpha dm + md(\alpha) - dI + dFDI \end{aligned} \quad (5)$$

This equation can be simplified by the use of four assumptions. The first is the Roy identity:

$$\frac{V_p}{V_E} + X = -m \quad (6)$$

The second is the Shephard's lemma and factor clearing equation:

$$\begin{aligned} L &= Xa_w \\ K &= Xa_r \end{aligned} \quad (7)$$

Thirdly, it is assumed that  $dI$  generates a permanent change in the capital stock yielding to a social rate of return  $r_s$  discounted at rate  $\rho$ . This makes it possible to write:

$$rdK = \frac{r_s}{\rho} dI \quad (8)$$

Finally, using the Solow model, it can easily be shown that in case of demographical change and technical progress, the steady state equilibrium of the economy gives:

$$dY = dL + d\Pi \quad (9)$$

In other words, the economy' rate of growth ( $dY$ ) is equal to the growth rate of the population and the technical progress.

Using these assumptions and rearranging equation (5) provides:

$$\frac{dV}{V_E} = \alpha t dm - md(t - \alpha t) - mdp \quad (10) \text{ (a)}$$

$$+ (P + t - m)dX - Xa_x dx + \frac{V_n}{V_E} dn \quad (b)$$

$$+ \left( \frac{r_s}{\rho} - 1 \right) dI + dFDI + dY \quad (c)$$

$$+ (w_m - w)dL - TdX \quad (d)$$

Equation (10) summarizes the potential effects of PTAs on welfare given that Preferential Trading Arrangements (PTAs) can have an impact on all the components included in this equation.

More precisely, line (a) of equation (10) provides the welfare effects of PTAs in *perfect competition*. Indeed,  $\alpha t dm$  is the *trade volume effect*. If trade barriers are only made of tariffs, any rise in imports due to the fall in tariffs leads to a change in welfare by  $tdm$ . This change will be positive if imports increase after the formation of the customs union. As noted by Baldwin and Venables (1995), this first term is equivalent to the standard Vinerian theory.

The second terms in line (a) is given by  $md(t - \alpha t)$ . This is a *trade cost effect*. It measures the welfare impact of the changes in the trade barriers which do not lead to a rent. For instance, if all barriers are made of tariffs ( $\alpha=1$ ), then, this cost is zero, whereas if all barriers are NTBs without rent, then a reduction in these barriers gives rise to an increase in welfare by  $mdt$ . This term was initially neglected by Viner and this model clearly indicates that the reduction in NTBs within a PTA is an additional source of welfare gain.

The third term in line (a) corresponds to *terms of trade effect*. As already mentioned, the formation of a PTA is expected to increase the terms of trade of the union. As a result, the fall in the import price is an additional gain for a PTA. However, this gain is likely to be greater the larger the PTA and the more significant its bargaining power. Moreover, such a gain is higher if the PTA is a customs union rather than a free trade area (Robson, 1998).

Line (b) of equation (10) describes welfare effects in *imperfect competition*. The first term  $(p+t-a)dX$  is a *production effect*. This effect arises if there is a change in output in industries where prices differ from average costs. The second term  $(Xa_x dx)$  accounts for the *scale economies effect*. It measures the value of changes in average costs induced by changes in the firm's scale. The last term is a *variety effect*. It arises because the number of product varieties available for the consumer is greater after the formation of the PTA than before. Indeed, the number of product varieties originating from the partner country increases in the domestic country. This leads to additional gains for the domestic welfare, as shown by the new theory of international trade and PTAs.

Line (c) highlights the *dynamic effects* of PTAs. The first is the *investment effect*. This effect can be negative because it reduces expenditures in the short run. As a result, investment is instantaneously costly. In the long run however, it makes it possible to increase capital accumulation. Overall, investment increases welfare provided that the social rate of return exceeds depreciation.

The second dynamic effect is a *growth effect*, especially due to technical progress and improved efficiency. A final dynamic component is related to *FDI effects*. If the formation of a PTA makes it possible to increase FDI from both the partners and third countries, this can lead to additional gains.

Finally, line (d) in equation (8) highlights the impact of *economic distortions*. For example, *above equilibrium wages* can lead to an additional welfare gain, since it increases expenditures. However, the formation of a PTA does not itself introduce this distortion. In fact, in the domestic country, it has been shown that given this distortion, a PTA leads to a reduction in the cost reduction effect (negative welfare



effect) (El-Agraa, 1999). Moreover, the *tax effects* may also be negative on the overall welfare. As a result, if the formation of a PTA leads to increased taxes, welfare is likely to decline.

The theoretical model developed above makes it possible to identify the potential effects of the formation of a PTA on welfare. These effects are summarized in Table 1.

**Table 1: Expected Welfare effects of the formation of a PTA**

	welfare effects	Comments
<b><u>Perfect competition effects</u></b>		
trade volume effect	+ / -	positive effect if imports rise (net trade creation)
trade cost effect	+	reduction in NTBs
terms of trade effects	+	greater effects for large PTAs and in the case of CUs
<b><u>Imperfect competition effects</u></b>		
production effect	+	only if prices are greater than average costs
economies of scale	+	
product varieties	+	rise in the number of product varieties available
<b><u>Dynamic effects</u></b>		
investment	"+/-"	positive especially in the long run
growth	+	in case of technical progress and production efficiency
FDI	+	
<b><u>Distortion effects</u></b>		
high wages	+/-	- in the domestic country; + in the partner country
taxes	0/-	negative only if the PTA leads to an increase in taxes.

It clearly appears from this Table that most of the effects of PTAs are provided outside the perfect competition framework. The following section is aimed at testing whether the welfare effects identified above have actually been positive in GAFTA countries.

## **2. An application to GAFTA countries: Results from an international inquiry<sup>7</sup>.**

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This inquiry investigates the effects of GAFTA on a number of selected countries and industries. The countries selected include Egypt, Lebanon, Saudi Arabia, Yemen, Jordan as well as Morocco. The sample of the six countries takes into account the diversity of GAFTA countries where Saudi Arabia represents Gulf countries, Egypt, Jordan, and Lebanon the Mashreq, Morocco the Maghreb and Yemen is a representative of least developed countries. Moreover, such a sample of countries represents as well the diversity in terms of structures of production including heavily oil producing countries as Saudi Arabia and Yemen, diversified economies as Egypt and Morocco, semi-diversified economies as Lebanon and Jordan.

The selected industries account for the majority of the non-oil GAFTA trade. They include textiles and ready made garments, chemicals, food (processed agriculture), as well as petrochemicals. In each country, a number of interviews based on the designed inquiry has been undertaken with firms' representatives as well as at least one interview with a GAFTA- related senior government official and/or a representative of the federation of industry or chamber of commerce. The number of interviews reached 39, as specified in Table 2 below.

**Table 2: The Number of Interviews Undertaken**

	Egypt	Lebanon	Saudi Arabia	Yemen	Morocco	Jordan	Total
Textiles and ready made garments	1	1		1	1		4
Chemicals	2	1	1	3	1	3	11
Food	2	1		1	2	3	9
Petrochemicals	2		1				3
Others			1			2	3
Gov. Officials and/or Federation or Chamber	1	2	2	1	2	1	9
Total	8	5	5	6	6	9	39

The questions in the inquiry targets several aspects of GAFTA effects, following the theoretical model presented in section 2. These questions relate to perfect competition effects (trade volume, and trade costs), imperfect competition effects (production effects, economies of scale, and product varieties), dynamic effects (domestic and

foreign direct investment as well as growth effects) as well as distortion effects (taxes and wage effects). The overall results of the inquiry are summarized in Tables 3, 4 and 5.

**Table 2.3: Expected Welfare effects of the formation of GAFTA (General Effect)**

	<b>Welfare Effects</b>
<b>Perfect Competition Effects:</b>	
- Trade volume effect	+
- Trade cost effect	Neutral
- Terms of trade effect	Cannot be determined
<b>Imperfect Competition Effects:</b>	
- Production effect	(+ Small) or Neutral, depending on the industry investigated
- Economies of scale	(+ Small) or Neutral, depending on the industry investigated
- Variety effect	(+ Small) or Neutral, depending on the industry investigated
<b>Dynamic Effects:</b>	
- Investment	Cannot be determined
- Growth	Cannot be determined
- FDI	Cannot be determined
<b>Distortion Effects:</b>	
- High wages	Neutral
- Taxes	+/-

**Table 2.4: Expected Welfare effects of the formation of GAFTA (Country Specific)**

	<b>Egypt</b>	<b>Lebanon</b>	<b>Saudi Arabia</b>	<b>Yemen</b>	<b>Morocco</b>	<b>Jordan</b>
<b><u>Perfect Competition Effects :</u></b>						
- Trade volume effect	+ (exports and imports)	+ (imports)	+ (exports and imports)	+ (imports)	+ (exports and imports)	+ (exports and imports)
- Trade cost effect	Neutral	-	Neutral	Neutral	-	Neutral
- Terms of trade effect	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
<b><u>Imperfect Competition Effects :</u></b>						
- Production effect	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated
- Economies of scale	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated
- Variety effect	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated	(+ Small) or Neutral, depending on the industry investigated
<b><u>Dynamic Effects :</u></b>						
- Investment	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
- Growth	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
- FDI	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
<b><u>Distortion Effects:</u></b>						
- High wages	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
- Taxes	+	-	+	Neutral	-	Neutral

**Table 2.5: Expected Welfare effects of the formation of GAFTA (Industry Specific)**

	<b>Textiles and Ready-made Garments</b>	<b>Food</b>	<b>Chemicals</b>	<b>Petrochemicals</b>
<b>Perfect Competition Effects :</b>				
- Trade volume effect	-	+ (exports and imports)	+ (exports and imports)	Neutral
- Trade cost effect	Neutral	+ and -	+	Neutral
- Terms of trade effect	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
<b>Imperfect Competition Effects :</b>				
- Production effect	Neutral	+	+	Neutral
- Economies of scale	Neutral	+ or Neutral	+ or Neutral	Neutral
- Variety effect	Neutral	+	+ or Neutral	Neutral
<b>Dynamic Effects :</b>				
- Investment	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
- Growth	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
- FDI	Cannot be determined	Cannot be determined	Cannot be determined	Cannot be determined
<b>Distortion Effects :</b>				
- High wages	Neutral	Neutral	Neutral	Neutral
- Taxes	-	+ / - (depending on country)	+ / - (depending on country)	Neutral

Looking first at perfect competition effects, the **trade volume effect** of GAFTA is generally positive. However, the inquiry is not able to capture whether this positive trade volume effect is rather a trade creation or trade diversion effect. A large number of industries in the selected countries experienced an increase in exports. However, there has been a high degree of variation among the different industries and countries

investigated. Regarding the countries, the inquiry identified that the increase in trade volume was regarded as significant by the majority of countries whereas in some countries as Lebanon, the increase in trade volume was not viewed as so positive. The reason for this is unfair competition due to higher costs incurred by Lebanese manufacturers. This resulted in enhancing imports values and import prices, and not exports. This in turn negatively affected the domestic industries. In addition, the trade volume effect mainly arises, as the inquiry revealed, from the increased amount of trade with the *existing* GAFTA partners but not from having new partners as a result of the GAFTA.

Regarding the industries, the trade volume effect differs significantly. For example, in the case of textiles and ready made garments, manufacturers in the main producing countries, such as Egypt and Morocco argue that GAFTA did not help to enhance their exports. Several reasons underly this conclusion. The first is related to the significant geographical orientation towards non-Arab markets whether for exporting (as the case of Egyptian exporters who focus more on the EU and US markets and Moroccans who primarily focus on the EU market) or for importing, as the case of Yemeni who essentially import from China and Pakistan. Moreover, the sensitivity of the industry has led many Arab countries to impose non-tariff barriers at the borders which negatively affect the flow of exports. This may be due either to problems associated with rules of origin or extra charges or complicated customs' procedures. Finally, the lack of effective institutions has led some GAFTA countries to dumping = their exports without GAFTA being able to undertake any effective measures to control such actions. Political interventions to stop the antidumping cases have led traders to loose confidence in the functioning mechanisms of GAFTA. Finally, the fact that GAFTA countries compete rather than complement together in the textile industries with similar production costs makes it difficult to take advantage of regional trade liberalization within the GAFTA area. In other words, the absence of significant labor and capital cost differences among countries that produce and export textiles and/or the existence of the complete value chain in such industries in each country implies that additional trade among Arab countries is rather limited for textiles.

The situation is different in other industries, especially food. In this regard, GAFTA seems to have a positive trade effect in most countries investigated. In the case of Egypt and Jordan, the positive effect is reflected in terms of increasing exports to the existing markets and opening new markets for the firms that deal with GAFTA countries. The abolishment of tariff duties was the sole variable responsible for this positive effect. The firms that did not previously deal with GAFTA countries viewed GAFTA as neutral as the incentives provided in terms of GAFTA effects were not sufficient to divert them to export to GAFTA. In the case of Yemen and Lebanon, GAFTA was perceived to be neutral from the exporting point of view. In the case of Morocco, GAFTA helped the firms to export to new markets but was neutral in terms of increasing exports to existing markets.

The chemical industry is rather a largely diversified industry and hence the GAFTA effect differed significantly. In Egypt, Lebanon and Morocco, most of the chemical industries benefited from GAFTA whether in terms of opening new markets or increasing exports to existing markets. In worst case scenarios, GAFTA has had a neutral effect. This has been the case especially for chemical firms in Yemen that have been heavily domestically oriented. In some other cases, this can also be due to the nature of some specific industries, as cement in Saudi Arabia where geographical aspects play an important role in terms of export destination. In particular, Saudi firms have always been heavily oriented to GCC markets and hence GAFTA had a neutral role. The effect of GAFTA on Jordanian chemical industries is mixed: as in Egypt and Morocco, some firms benefited from GAFTA in terms of enhancing exports to the existing markets or increasing the number of markets. It may also have been neutral due to the specific nature of some chemical industries, such as pharmaceuticals where trade is governed by other means rather than tariffs.

Petrochemicals is the industry which benefited the least from GAFTA. This is a priori expected due to the nature of the industry which is heavily energy intensive, highly domestic oriented, already liberalized and which suffers from high transport costs. Hence, the specific nature of the petrochemical industry in terms of its characteristics implied that GAFTA or any other trade agreement is not likely to benefit this industry in terms of trade effects. In other industries as steel industry in Egypt, Saudi Arabia

and Jordan, GAFTA has a positive effect in terms of increasing exports to existing markets as well as opening new markets.

To sum up, the inquiry undertaken in GAFTA countries generally suggests a positive trade volume effect, as expected theoretically in section 2. However, this impact greatly differs across countries and industries.

**Trade costs** were investigated in the inquiry by several questions regarding the costs of inputs, the transaction costs on the borders related to the trading process and role of GAFTA in reducing NTBs. In general, the trade costs effect was considered as neutral from the inquiry. The reasons include the low dependence of manufacturers on sourcing inputs from Arab partners on the one hand, and the neutral effect of related transaction costs on the other hand.

More importantly, although the GAFTA agreement was expected to dismantle a large number of non-tariff barriers, enforcing transparency remained relatively weak. This gave the room for some countries to apply non-transparent measures on the borders which increased trade costs. As a result, the effects of the reduction in NTBs has been neutralized by this increase in trading costs, leaving the overall trade cost effects unchanged. In other words, GAFTA was successful in dismantling some NTBs, but other new NTBs were erected by some GAFTA members. This resulted in an overall no significant effect felt by traders in the GAFTA region.

Though the results differ from one country to another as well as from one industry to another, the general conclusion is that GAFTA *did not play* an important role in reducing trading costs except than tariffs. Some countries view GAFTA to have more an effect on the export side, but not on the imports side. Most of the firms and industries surveyed argued that GAFTA has a neutral effect on the costs of inputs with the exception of some firms in the field of food and chemicals industries. This is expected due to the low level of trade prevailing among Arab countries. The degree of vertical integration among Arab countries in the industries surveyed seems to be weak. This affected the low level of sourcing inputs among firms. As a result, most of the firms did not perceive GAFTA to have a positive effect on lowering the costs of



imported inputs. This has been particularly the case for textiles and ready made garments, petrochemicals, and food industries.

The exception of the food industry has been that prevailing in Morocco where firms argued that GAFTA has had a positive effect on reducing prices of inputs but such effect was diluted due to the cumbersome customs procedures' prevailing in a number of countries and the lack of transparency on standards which increased their transaction costs.

The chemicals industry experienced the most positive attitude towards GAFTA's effect on reducing prices of inputs whenever relevant. The fact that some chemical industries rarely depends on imported inputs (cement for example) affected the generalization of that conclusion. However, chemical industries seem generally to be the type of industries that have experienced some kind of reduced input prices due to GAFTA across all GAFTA countries. The same remark applies to the food industry, though to a lesser extent.

The inquiry was unable to test **the terms of trade effect** as it has dealt with firms on an individual basis in the selected countries surveyed. Terms of trade are rather assessed on the level of GAFTA members collectively vis-a-vis the non-GAFTA, which has not been the case in the inquiry applied. More generally, the firms interviewed individually can hardly know whether GAFTA may have influenced the world price.

Turning to imperfect competition effects, **the production effect** has been generally positive or neutral. To a large extent, the production effect is likely to follow the trade volume effect where increased exports of final products or imports of inputs are likely to be followed by increased production. However, the inquiry results pointed out that this is not necessarily the case. The increase in production did not always follow the increase in exports or imports. This is either due to the shift of traders from other non-GAFTA markets to GAFTA markets or due to the short time that has elapsed since GAFTA was fully implemented where non-tariff barriers still persist hence increasing the level of uncertainty. As a result of those two factors, the increase in exports or

imports has not necessarily been translated into increase in production. Such a general conclusion applies to all countries investigated.

However, there are some differences across industries. In the case of chemicals and food products, a significant number of firms indicate that GAFTA has resulted in an increase in their production. This has been the case with some of the chemical industries in Egypt which are export oriented and some of the chemical industries in Yemen where imported GAFTA inputs increased. This made it possible to increase production. The positive production effect has also been revealed in Morocco in both the chemicals and food industry and in Jordan in the case of food industry. The production effect has either been a result of increased exporting of the final product if the firm was export oriented or increased low priced imported inputs if the firm was domestically oriented.

The inquiry points out that the **scale economies effect** is generally small or neutral. The reason is similar to the one identified in the production effect where increased exports or imports do not necessarily imply a rise in production and increased production do not always lead to economies of scale. This is merely due to the relatively small size of increased imports or exports whether in absolute or relative terms, and the small or medium size of firms which did not allow the firms to experience significant economies of scale effect. Moreover, the geographical diversification of imported inputs renders the calculation of the exact effect of GAFTA on the firms' production costs rather difficult to determine.

**The variety effect** in the inquiry implies two aspects, namely imported inputs and exported output. In the case of exported output, GAFTA has a neutral role in terms of product varieties and more generally product diversification. This is an expected result given the lack of complementarity in consumption between Arab countries (small taste differences) and the nature of the firms investigated. There are three type of firms: i) firms that are heavily domestic oriented and here GAFTA did not play a role to change their orientation, ii) firms that are exporting to non-GAFTA members and shift part of their production to GAFTA and here they have already experienced diversification by dealing with EU and US markets, iii) firms that are exporting to

GAFTA members and again here diversification is likely to be limited as GAFTA helped only to increase the exports to the existing GAFTA markets.

More generally, a crucial explanation for small variety effects may also be found in the fact that trade across GAFTA countries is mainly of inter-industry type. As a result, there is still a lack of differentiation in most of the goods produced and exchanged, with the possible exception of food products, mainly driven by multinational firms (drinks, biscuits, yoghourts, etc...). This is a key difference with trade between Northern countries, which greatly relies on product differentiation and differences in tastes.

Looking at country-specific results, there is no significant variation among the different countries investigated. However, results differ depending on the industry taken into consideration. As a matter of fact, in the food industry, some of the firms emphasized that they have experienced some type of diversification of their products. However, this conclusion needs to be dealt with caution as these firms have always emphasized that they suffered from different standards in Arab countries and hence part of the diversification could be a result of imposed changes of standards. For the other industries, no diversification effect is highlighted by the inquiry.

In the case of imported inputs, GAFTA seems to play a more positive role than exported output. However, these effects are small and limited. The variety of imported inputs is not heavily emphasized by the firms interviewed as inputs of their products are likely to be the same and variety is likely to appear in terms of quality or price but not in the imported input per se. Industries differ in terms of their assessment of GAFTA effects on the variety of imported inputs. The industries which emphasize that GAFTA play a role in terms of diversifying their inputs have been some of the chemical industries. Moreover, some of the food industries emphasize that they have experienced diversification of imported inputs. There is no significant variation among the different countries investigated.

Again, the low level of intra-industry trade implied that such result has been expected. Hence, the level of differentiation is expected to be low due to the nature of trade itself.

**The dynamic effects** (investment, FDI, and growth effects) are the most difficult effects to be investigated in the inquiry. The reason is that such effects are not directly felt by the firms, and even if they are felt by the firms, it is very difficult for firms to correlate them with GAFTA. For example, it is difficult for a firm working in the field of textiles and ready made garments in Egypt, Jordan or Morocco to assess whether the increase in domestic or foreign investment in their industry has been a result of GAFTA or any other regional trade agreement they have joined or as a result of the better domestic business environment. The growth effect is rather more difficult for firms to assess since the focus of the firms is micro and not macro oriented. As a result, the inquiry failed to assess the dynamic effects of GAFTA.

However, the general inquiries undertaken with officials or federations of industries or commerce identified that the prospects of GAFTA in terms of enhancing domestic and foreign investments as well as growth of their countries fall in two categories. Some countries perceive GAFTA to have had and will have positive dynamic effects as Egypt, Saudi Arabia, and Jordan. Other countries have skeptical views on GAFTA's dynamic effects as Morocco and Lebanon where the perception is rather pessimistic. The reason for that negative perception is that export and production subsidies as well as energy subsidies in other GAFTA countries are likely to imply a competitive disadvantage for producers and exporters in Morocco and Lebanon. As perceived by interviewees, these domestic distortions imply that investments are likely to be diverted away from their countries to other GAFTA members since they are not able to compete on regional basis, hence resulting in negative growth prospects.

In this regard, the inquiry pointed out that the **distortion effects** play a rather important role after the implementation of GAFTA. The firms, officials or industry representative interviewed argue that there is a need for deep integration in GAFTA. In particular, shallow integration, which is currently prevailing among GAFTA members is not sufficient. Wages do not seem to play a significant role as a distortion factor for firms. In fact, wages are rather perceived as part of the comparative advantage enjoyed by different GAFTA members.

However, tax effects seem to cause a major threat for GAFTA. For instance, energy prices substantially differ among GAFTA members: Countries as Saudi Arabia has the lowest price of oil in the world compared to Lebanon which is an importer of oil. As a result, oil prices in Lebanon are leaning towards world prices. This implies that the tax (negative subsidy) effect is rather significant. This has been emphasized by the majority of Lebanese firms interviewed. Indeed, they felt that they cannot compete in GAFTA due to the volatility in energy prices which affect their competitiveness not only in the GAFTA markets but also within their own domestic market where. Moreover, GAFTA has worsened the situation as they were before shielded by tariffs which GAFTA abolished. The same concern was raised by officials and firms in Morocco who identified that they cannot compete in GAFTA effectively as their own government does not provide generous subsidies as it is the case of Egyptian, Tunisia, U.A.E. and Saudi governments to their exporters.

Paradoxically, it can be emphasized that the distortions effect is not always negative. For instance, Lebanon is suffering from higher energy costs than in other GAFTA members. But there are other GAFTA members who take advantage of these high costs in Lebanon and GAFTA helped them to export more to Lebanon. Indeed, some firms can increase their exports to Lebanon both because of tariff reductions due to GAFTA and the existing subsidies in their home market (asymmetric distortion effect on a geographical basis). This in turn affects the different industries located in the country that suffers from the distortion whether domestically or abroad in other GAFTA members.

However, the magnitude of the distortion effect differs from one industry to another. For example, some petrochemicals industries are not likely to be significantly affected as by its nature, this industry needs to be close to sources of oil production. Hence they are not spread all over GAFTA countries. The same remark applies for example to the chemical industry like pharmaceutical which does not necessarily depend on energy subsidies and work according to a different set of trade rules where licensing is a major determinant. As a result, it seems to be less sensitive to taxes and subsidies as an economic distortion.

On the other hand, industries like food, textiles and ready made garments as well as some chemical industries are likely to be heavily affected by such distortions. This is mainly due to the fact that they are considered as industries that can easily reallocate themselves. Moreover, these industries are less concerned with sunk costs that can prevent its moving from one country to another.

### **3. Conclusion and policy implications**

The inquiry referred to above shows that the most important effects of the GAFTA agreement concern the direct trade effects, i.e. increase in trade volumes. However, the persistence of NTBs impedes additional gains to regional trade liberalization. Moreover, imperfect competition effects are small or even neutral. As already explained, this result is not really surprising since most intra-GAFTA trade involves inter-industry trade where products are hardly differentiated. But this is also due to the lack of deep integration in the GAFTA area, which prevents the actual free movement of goods in a real single market. This situation greatly differs from that concerning North-North economic integration, especially the EU which has achieved a single market and thus can take advantage of this market for optimizing scale economies, product differentiation well as other gains in imperfect competition. Finally, domestic distortion may significantly affect welfare in GAFTA countries, especially taxes and subsidies.

The policy implications of these results are the following. First, all the loopholes in the current agreement should be fully addressed and further step toward deep integration must be achieved. In particular, progress must be made in favour of the adoption of clear and detailed rules of origin, the actual removal of new NTBs and trade frictions among GAFTA members, the adoption of common standards, the free movement of entrepreneurs, the protection of intellectual property, etc...Such a deep integration will not only increase direct trade effects of regional integration, but also increase indirect effects (scale economies, and dynamic effects) through the establishment of solid foundation toward more integrated area. In this regard, it is worth mentioning that liberalization of trade in services on a GATS+ approach will surely have a positive impact on deepening integration among GAFTA members.

Another mean to enhance GAFTA integration could be achieved through the cumulation of rules of origin among some of the GAFTA members in their other regional agreements as Agadir. The utilization of such cumulation schemes is likely to force GAFTA countries to cooperate and is likely to result in better allocation of resources.

Moreover, there is a need to design a system which ensures that domestic distortions do not yield negative spillovers on GAFTA members. The case of different systems of energy pricing in GAFTA members has proved to have negative effects, especially for Lebanon. Hence, at least rules governing subsidies should be fully articulated and efficiently implemented within GAFTA.

Besides, GAFTA members should start cooperating on enhancing regional trade and investments in sectors that have proved to have benefited so far from GAFTA as food and some chemicals industries. Moreover, the NTBs that are affecting intra-regional trade in other sectors as textiles should be seriously tackled.

From a political point of view, it is also crucial that GAFTA countries can rely on a closer political cooperation as well as on common institutions that can make possible to control trade liberalisation in the region and solve trade disputes.

Finally, the conditions for economic growth should be developed, such as the reform of the states, the development of cross-regional infrastructures, such as railway and highways, progress toward more trade and FDI liberalisation not only within the GAFTA area but also with the other partners, etc.

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