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Egyptian Intra Agriculture Trade with GAFTA Members: Reilly's Law of Retail Gravitation and Marketing Effects

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Abstract: GAFTA provides a good opportunity for the greater regional agriculture trade among its member countries and Egypt is reaping maximum advantage in terms of her agriculture trade. This study explores the gravity model by utilizing Pooled Mean Group (PMG) estimators among 16 members of Greater Arab Free Trade Area (GAFTA) regional agricultural trade by using a period 1990-2015. The results of this study confirm that Egyptian Gross Domestic Product (GDP) and population are negatively influencing the agriculture balance of trade of Egypt by increasing local demand for agriculture products. On the other hand, GAFTA partners' GDP and population are not showing effectiveness for Egypt exports and these are not helping the balance of trade to grow resultantly. Further, depreciation of Egyptian currency is helping in promotion of agriculture trade in the long run. Furthermore, we have also found an evidence for J-curve effect of depreciation in our estimations. Therefore, depreciation may also be helpful in improving agriculture balance of trade in long run. Further, there is need for a marketing mix to promote Egyptian product as GAFTA partners' GDP and population are showing insignificant effects on the Egyptian agriculture exports.

Key Words: Regional Trade, GAFTA, PMG, GDP

JEL: F14, F53, C33, E01

1. INTRODUCTION

Trade agreements have a long history in the promotion of international trade for the maximum advantage of member countries' trade, investment and labor movements. For example, north European countries

started to collaborate in the 12th and 17th century and particularly the development of German union has been initiated from 1834. By further promotion of this agreement was resulted in formation of trading blocs in 1960s. Consequently, it was observed that more than fifty percent of world trade had been occupied within these regional trading blocs. It was also noticed that the trading partner must share the same level of development and economic traits to enjoy the maximum advantages of these agreements / blocs. The recent examples of these blocs are as NAFTA, SAFTA, PAFTA, EU, ASEAN, CSME, EAEU, EFTA, CEMA, EUCU, COMESA, PAFTA, SAFTA, GAFTA and SADCFTA.

The proponents of trading blocs explain a lot of advantages for these blocs. For example, the trading blocs have greater market; producers can enjoy the economies of scales by producing at the greater volumes due to larger demand for their products in the blocs and also get benefit of lower production cost on the other hand. The lower production cost is also supported by a concept of learning curve which is only possible in the big markets of blocs and is also due to protection from non-members' firms. Resultantly, there is a great movement of investments from one member country of trading bloc to another one within bloc. Hence, it helps in promotion of FDI among members. Secondly, opening the market for members' firms also creates and promotes competition due to greater numbers of producer within bloc at least larger than a single country's producers. This is again increase efficiency in terms of cost, marketing and quality of production.

Further, the biggest advantage of these blocs is that there is greater international trade within member countries and this is also a basic objective and advantage of creation these blocs. The trade may be promoted within a bloc due a reason of preferential trade agreements. This includes the reduction in trade barriers for member countries by lowering / eliminating the tariffs and quotas on each and another. It is evidence that more than 50% of world trade is performed within these trading blocs and trading blocs have been helped in raising the overall world trade. The promoters of free trade claim that trading blocs are biased in diverting trade from most efficient nations towards member countries. But, these blocs have been proved to increase overall trade volume in the world. Therefore, it can be claimed oppositely and controversially in favor of trade creation. Generally with the trade and investment freedom, the member countries are allowing the movement of labor within a bloc. This also helps in creating job opportunities on the one hand and also gives potential and most competent employees to the business units on the other hand. Therefore, trading blocs also helps in removing the unemployment in the bloc as well. Further, trading partners of member countries are usually have nearby geographical location and it reduces the transport cost of trade.

In terms of trade, trade performance of member countries of bloc can be improved at larger extent. Because, developing countries cannot be able to compete the developed world in terms of free trade due to relative inefficiency and backwardness in the technologies. Therefore, particularly trading blocs are extensively helpful in increasing trade performance of developing countries in the trading blocs of developing countries like in Greater Arab Free Trade Area (GAFTA). On the other hand, regional agreements also promote some cultural products in the trading blocs like Arab world have very different habits of consumption than that of rest of world and resultantly increasing the trade volume. Therefore, regional trade also helps in preserving the local culture and tradition of a region on the one hand, it helps in protecting regional firms from foreign competition on the other hand and it is also helpful in increasing trading share of member countries. Further, all economic efforts are for the general wellbeing and welfare of the nations. This is coming from income level and consumption level together. Therefore, trading blocs

in the developing countries are really helping the increasing regional trade, regional foreign investments, employment level, economic growth and consumption level and in turn are promoting general welfare level among member countries.

On the other hand, trading blocs are criticized in favor of multilateral free trade. For example, trade blocs are promoting regionalism i.e. 80% of Canada's trade is with its NAFTA's member countries. Same is with Mexico. Therefore, trading blocs are against global integration and in favor of isolation in a particular bloc. This essence is against the objectives of WTO. WTO wants to integrate the world without any regional discrimination. Further, these trading blocs are promoting political union instead of an economic union. Thus, these blocs are promoting political and economic disputes between the countries of two different trading blocs. Furthermore, trading and favoring the member countries is like shift one's trade from efficient trading partner to inefficient trading partner. Therefore, trading blocs are promoting inefficiencies in the world economy and may result in decreasing the overall welfare of world. That could be reaped from free trade otherwise.

One of disadvantage of trading blocs is also loss of tariff revenue from favoring the trading partner in the trading bloc. This revenue could be utilized otherwise to promote the exports and general welfare level of a country. Further, it also results in reduction of consumer sovereignty and reduction of consumer choice as people are bound to buy the products imported from trading blocs' partners. There is also a loss of up-gradation of technology as well. Machinery and equipment can also be forced to buy only from trading blocs' partners. Further, this kind of trade is creating over-dependence of trading blocs' countries on each and another. The level of competition and production efficiency is also severely affected by favoring the trading blocs' partner.

After the discussion of both advantages and disadvantages of trading blocs, it can be concluded that trading blocs may have more real and beneficial type of trade in the world as the arguments of disadvantages could not stop to form the trading blocs like economic and custom unions. But, controlling disadvantages through well framed international policies can be augmented the benefit of international trade in the trading regions, for example, by maintaining good political relationships even with countries other than trading blocs. Further, some common agreement on the tariff to support government revenue can also be planned. Competition and efficiencies can also be maintained by deciding some optimal level of favoritism in the trading blocs. Furthermore, the economies should be flexible in the preferential trade agreement to choose trade with any country in the world in the crisis' period. In the conclusion of this discussion, trading blocs are very helpful in the promotion of trade among the countries of same language, culture, development level, common border, and location and consumption habits. Therefore, the countries should promote the regional trade with trading bloc's countries with some flexible level of freedom in trade with rest of world. In case of GAFTA region, the agriculture trade is raising at an increasing pace due to the rising population and income levels of the GAFTA members' countries. In the context of GAFTA trading bloc, this research is providing an empirical evidence of determinants of agriculture trade of Egypt with her GAFTA trading partners.

2. LITERATURE REVIEW

Gravity model attracts a lot of empirical literature due to testing the demand and supply side determinants of trade. Further, exchange rate also attracts a lot of attention of researchers in the estimations of

determinants of trade. This present paper reports some of the previous researches to support our present objectives. For instant, Hassan et al. (2013) explore the influences of income and exchange rate on the Pakistani exports. They find a positive contribution of income and devaluation of Pak Rupee in the growth of Pakistani exports. Mahmood et al. (2013) investigate the role of Tunisian exchange rate devaluation on the trade and find that devaluation has depressed the Tunisian balance of trade by increasing imports of the country. Alkhateeb et al. (2016), in a causal study of income, exports and income, find that exports are significantly caused by income and exchange rate of Saudi Arabia.

Alkhateeb (2016) investigates the growth-exports relationship in Egypt. He finds a positive contribution of economic growth in exports of Egypt. Further, the estimation of balance of trade is also very important due to a reason that exports and imports should grow at the same rate to maintain a sustainable balance of trade. For instant, Haque (2015) finds a strong cointegration in the exports and imports for Saudi Arabia by using a period of 1968-2013 and by using Johansen cointegration technique. As Saudi Arabia is carrying a balanced trade and therefore, cointegration is seconding this evidence for a sustainable trade balance. This present study also reviews the literature related to determinants of balance of trade. For example, Mahmood and Alkhateeb (2017) estimate the depreciation and appreciation policy of Saudi Arabia and income level on the services' balance of trade in the non-linear ARDL settings. They find a positive relation of income with trade. Further, they find that depreciation policy remains helpful in raising services' sector balance of trade for Saudi Arabia. On the hand, an appreciation policy results in the reducing services' sector exports and in turn it worsened the services' sector balance of trade. Mahmood et al. (2017a) repeat these analyses on the industrial sector exports of Saudi Arabia by using a period 1970-2015. They find a positive influence of income on industrial exports. Further, they find that depreciation policy helps in the rising industrial exports for Saudi Arabia. But, an appreciation becomes a cause of depressing industrial balance of trade.

Mahmood *et al.* (2017b) investigate the influence of devaluation on the oil exports of Saudi Arabia by using a period 1970-2015. They find that depreciation policy has insignificant influence on the oil exports but appreciation policy has adverse impact on the oil exports. Mahmood et al. (2017c) explore the influence of devaluation on the overall export performance of Saudi Arabia by using a period 1970-2015. They find that income is supporting in raising exports of Saudi Arabia and devaluation policy shows an insignificant impact on Saudi exports. However, an appreciation of Saudi Riyal has found responsible for depressing Saudi exports. In context of agriculture trade gravity model, Sevala (2002) investigates the GDP of importers and exports in intra agriculture trade for Czech Republic. He finds the expected positive contribution of income on the agriculture exports and negative influence of distance has also been found on the agriculture exports. Ghazalian (2012) investigates the determinants of primary agriculture products' trade for OECD countries. After confirming the positive impact of income and negative impact of distance on agriculture trade, he reports that homogeneity in the agriculture products may be a reason for achieving lesser exports. On the other hand, processed food with branding may attract higher trade in the primary agriculture trade. Therefore, marketing aspect of agriculture trade may enhance the agriculture trade among OECD countries. Atif et al. (2017) explore the determining factors of Pakistani agriculture trade by utilizing gravity model and using 20 years data on 63 countries. They report a positive contribution of income of Pakistan and income of her importers in the Pakistani exports. Further, a devaluation policy has been found responsible for a significant improvement in agriculture balance of trade.

In conclusion of literature review, it has been noticed that income of exporter and importer countries and exchange rate are very important in the determination of balance of trade. Further, there has not been found any single study related to GAFTA regional trade, particularly regarding the determinants of agriculture balance of trade up to best of our knowledge. Therefore, the present is going to contribute in the trade literature of GAFTA region.

3. DATA, MODEL AND ESTIMATION TECHNIQUES

3.1. Data

This study utilizes the annual series of Egyptian bilateral intra agriculture exports and imports with the 16 GAFTA's trading partners in constant US dollars for a period of 1990-2015. Further, population of the same countries and bi-lateral exchange rate between Egypt and her trading partners have been collected. All the data has been collected from World Development Indicators CD-ROM 2016.

3.2. Model and Description of Variables

At first, the Reilly Model of Retail Gravitation has been utilized the Newton's concept of gravity in the marketing research by arguing that customers might be interested in higher attraction places for shopping even they have to travel for a long distance. Further, Reilly model was exploited for international trade by Anderson (1979) by arguing the differential products across the regions. This model explains that international trade (T_{ijt}) depends proportionally on the product of the income (Y) of trading countries i & j and depends inversely on the distance (D_{ijt}) between these. The simplest version of gravity model in this context can be presented in the following way:

$$T_{ijt} = \frac{Y_{it} * Y_{jt}}{D_{ijt}} \quad (1)$$

Further, this model may be exploited for the explaining the bilateral agriculture trade among the targeted region partners like GAFTA in our case. Many researchers have been utilized the dummy for neighboring countries in the analysis. This present study is utilizing this model for the bilateral intra agriculture trade among the GAFTA region. Due to the geographical advantage of this trading region, we may also ignore the distance from the basic gravity model. Income levels of the trading countries are representing the demand for exports and imports as intra agriculture demand for exports and imports in our case. Further, this model may be extended by including the affluence variable other than income in the model. Affluence has been captured by population of trading partners which is also explaining the market size of trading countries. Furthermore, trade is highly dependent on the trading policy of any nation and trading policy might be captured through the bilateral Exchange Rate (ER) between the trading countries. Therefore, by ignoring distance and by incorporating population and ER in the gravity model, we may present the gravity model in the following form:

$$T_{ijt} = Y_{it} * Y_{jt} * P_{it} * P_{jt} * ER_{ijt} \quad (2)$$

The above model is in non-linear form and need to be transferred in linear form by applying log on the equation for estimation. Therefore, log-log-linear model might be presented in the following form:

$$\ln T_{ijt} = \alpha + \beta \ln Y_{it} + \chi \ln Y_{jt} + \delta \ln P_{it} + \phi \ln P_{jt} + \varphi \ln ER_{ijt} + \varepsilon_{it} \quad (3)$$

Here, T_{ijt} is representing the bilateral intra agriculture balance of trade of Egypt (i) with her GAFTA partner (j) in the time (t). Y_{it} and Y_{jt} are showing GDP of Egypt and her trading partner respectively over time. P_{it} and P_{jt} are showing population of Egypt and her trading partner respectively over time. ER_{ijt} is presenting the bilateral exchange rate between Egypt and her trading partner. Further, the coefficients of respective variables are the elasticity parameters. In the following debate, we are discussing the definitions of variables and expected theoretical relations between variables.

T_{ijt}

It is representing the agriculture Balance of Trade (BOT) of Egyptian exports and imports. It is assumed as ratio of agriculture exports to the agriculture imports. Ratio is taken for a justification that it is always remained positive and we can apply log on it. On the other hand, difference of exports and imports might be negative and log cannot be applied.

Y_{it}

It is Egyptian GDP and it can have negative impact on the BOT as Egyptian income is responsible for higher agriculture imports and imports are in the denominator of the BOT ratio. Therefore, rising income and rising imports are responsible for decreasing BOT ratio and also showing negative relationship between Egyptian GDP and BOT.

Y_{jt}

It is Egyptian trading partner's GDP and it can have positive impact on the BOT as partner's income is responsible for higher agriculture exports and exports are in the numerator of the BOT ratio. Therefore, rising partner's income and rising exports are responsible for increasing BOT ratio and also showing positive relationship between Egyptian partners' GDP and BOT.

P_{it}

It is Egyptian population and it can have negative impact on the BOT as Egyptian population is responsible for higher agriculture imports and imports are in the denominator of the BOT ratio. Therefore, rising population and rising imports are responsible for decreasing BOT ratio and also showing negative relationship between Egyptian population and BOT.

P_{jt}

It is Egyptian trading partner's population and it can have positive impact on the BOT as partner's population is responsible for higher agriculture exports and exports are in the numerator of the BOT ratio. Therefore, rising partner's population and rising exports are responsible for increasing BOT ratio and also showing positive relationship between Egyptian partners' population and BOT.

ER_{ijt}

It is representing bilateral exchange rate between Egypt and her trading partners. It is defined as ratio of US dollar's value in Egyptian currency and US dollar's value in Egyptian partner's currency. A rising ratio represents the depreciation of bilateral exchange of Egyptian currency and is expected to increase BOT

ratio. Therefore, the effect or coefficient of ER_{ijt} is expected to be positive. As depreciation of Egyptian currency should improve BOT in the long run but it can also depress BOT in short run due to low elasticities and this particular result might be claimed for the presence of J-curve hypothesis.

3.3. Estimation Methodology

The estimations of PMG can be forward after testing the stationarity and normality of data. We are using the Im, Pesaran and Shin (IPS) panel unit root test for testing the stationarity of variables in our model proposed by Im *et al.* (2003). This test can be expressed as follows:

$$\Delta X_{it} = \beta_i + \rho X_{it-1} + \sum_{k=1}^n \eta_{ik} \Delta X_{it-k} + \lambda_{it} + \sigma_i + u_{it} \quad (4)$$

X assumes the variable for the testing of stationarity with a null hypothesis of non-stationarity. After ensuring the stationarity issue, we utilize the PMG estimators proposed by Pesaran (1999) to find the panel cointegration and short and long run results afterwards. Pesaran (1999) proposed the ARDL type methodology for the estimation and it can be expressed as follows:

$$x_{it} = \chi_i + \sum_{i=1}^q \alpha_i x_{i,t-1} + \sum_{i=0}^p \theta_i z_{i,t-1} + \varepsilon_{it} \quad (5)$$

Further, this ARDL equation can be extended for the short run results by including Error Correction Term (ECT) in the following way:

$$x_{it} = \chi_i + \sum_{i=1}^q \alpha_i x_{i,t-1} + \sum_{i=0}^p \theta_i z_{i,t-1} + \kappa \varepsilon_{it-1} + \zeta_{it} \quad (6)$$

4. DATA ANALYSIS AND DISCUSSIONS

This section discusses the estimation of IPS unit root test and PMG long and short run results to find the long and short run determinants of intra agriculture trade of Egypt with her GAFTA trading partners. PMG requires to test the order of integration at first. For this purpose, IPS panel unit root test has been applied on the individual series of our model. Table 1 reports that T_{ijt} and ER_{ijt} have not unit roots problem at level but other are showing this problem at level. All variables are stationarity after first differencing including T_{ijt} and ER_{ijt} . Therefore, we may conclude the stationarity of all variables but with an evidence of mix order of integration. This mix order of integration is not disturbing our long and short run analyses as PMG is of ARDL nature.

Table 2 shows the estimations of long and short run coefficients based on PMG estimators. At first, the coefficient of ECT is showing long run equilibrium in our model through a negative and statistically significant coefficient of ECT. Therefore, we can conclude that intra agriculture balance of trade is cointegrated with the regressed determinants in our proposed gravity model. Further, Y_{it} and P_{it} are showing theoretically expected negative impact on the intra agriculture balance of trade of Egypt with her GAFTA trading partners. This is showing the evidence that GDP / income level and population / market size are significantly responsible for growing agriculture imports in Egypt and hence have negative impact on BOT as imports is located in the denominator of BOT definition. Perhaps, the less than one, 0.7697, coefficient of income is showing inelastic behavior of income with imports. Therefore, we can say that rising income

Table 1
IPS Panel Unit Root Test

<i>Variable</i>	<i>Intercept</i>	<i>Intercept and Trend</i>
At Level		
T_{ijt}	-9.9853*** (0.0000)	-5.9206*** (0.0000)
Y_{it}	2.1943 (0.9859)	-0.2034 (0.4194)
Y_{jt}	4.4605 (0.9999)	2.0405 (0.9793)
P_{it}	3.4256 (0.9999)	1.4136* (0.0787)
P_{jt}	3.1102 (0.9991)	-18.0679*** (0.0000)
ER_{ijt}	5.0775 (0.9999)	1.6370 (0.9492)
At First Difference		
T_{ijt}	-12.1939*** (0.0000)	-9.9690*** (0.0000)
Y_{it}	-1.9641** (0.0248)	-0.9512 (0.4293)
Y_{jt}	-4.6137*** (0.0000)	-2.9042*** (0.0018)
P_{it}	10.3514*** (0.0000)	-5.4679*** (0.0000)
P_{jt}	-16.0223*** (0.0000)	-29.4662*** (0.0000)
ER_{ijt}	-4.4185*** (0.0000)	-1.4089* (0.0794)

Note: *,**,*** are showing the rejection of null hypothesis at 10%, 5% and 1% respectively.

or economic growth at 1% is responsible for rising only 0.77% imports. On the other hand, market size or rising population is very dangerous for the rising imports or decreasing exports. As coefficient of Egyptian population, 6.3765, is highly elastic and 1% increase in population is responsible for 6.38% fall in agriculture balance of trade. Furthermore, ER depreciation has pleasant effect on balance of trade with elastic behavior. As 1% depreciation of ER is pushing up 1.34% agriculture trade balance of Egypt which is evidence from significant coefficient with a magnitude of 1.3444. Here, a positive movement of ER is showing depreciation by definition mentioned in section 3.2. Depreciation, a positive movement of ER, results in improving exports revenue and also results in depressing imports' expenditure on the Egyptian agriculture trade. The exports are in numerator and the imports are in denominator in BOT definition, therefore depreciation results in positive movement of BOT. This positive impact is also providing us an evidence for the presence of elastic exports and imports demand and hence proving Marshal-Lerner condition in our estimations.

Table 2
PMG Estimations, Dependent Variable: T_{ijt}

<i>Variable</i>	<i>Co-Efficient</i>	<i>St. Error</i>	<i>t-Stat.</i>	<i>Probability</i>
Long Run Results				
Y_{it}	-0.7697***	0.2049	-3.7558	0.0002
Y_{jt}	-0.0721	0.0654	-1.1028	0.2709
P_{it}	-6.3765***	1.1603	-5.4955	0.0000
P_{jt}	-0.0282	0.0995	-0.2837	0.7769
ER_{ijt}	1.3444***	0.2704	4.9716	0.0000
Short Run Results				
ECT	-0.5333***	0.0212	-25.1822	0.0000
Y_{it}	-2.4332***	0.2609	-9.3261	0.0000
Y_{jt}	0.0357	0.1105	0.3234	0.7467
P_{it}	-8.8520**	4.2032	-2.1060	0.0360
P_{jt}	2.0564	2.4023	0.8560	0.3926
ER_{ijt}	-0.7099	0.4745	-1.4962	0.1356
Intercept	21.9438***	0.8749	25.0811	0.0000

Note: *, **, *** are showing the rejection of null hypothesis at 10%, 5% and 1% respectively.

After a debate of long run results of Egyptian agriculture BOT with GAFTA region, short run results are also showing the same picture in the effects of all determinants of Egyptian agriculture BOT except the effect of depreciation is found insignificant. It is reporting an evidence that depreciation policy is not improving Egyptian agriculture BOT but it has only been helpful in improving BOT in the long run. This result is proving an evidence for an existence of J-curve hypothesis. Depreciation is not helpful in improving BOT in the short run and it helps in improving BOT in the long run due to higher elasticity of exports and imports demand in the long run as explained by J-curve hypothesis.

In conclusion of the long run results, Egyptian GDP, proxy for local income and demand for imports, has the negative and significant impact on BOT by increase demand for Egyptian imports. But, GDP of trading partners is not showing a significant impact on Egyptian agriculture exports and resultantly on BOT for GAFTA region. Further, Egyptian population, proxy for local market size and demand for imports, has the negative and significant impact on BOT by increasing demand for Egyptian imports. But, population of trading partners is not showing a significant impact on agriculture BOT. In case of impact of exchange rate on Egyptian agriculture BOT with GAFTA, exchange rate depreciation is showing insignificant impact on BOT in short run and exchange rate depreciation is helping in improving the agriculture trade balance in the long run. This finding is proving the existence of Marshall-Lerner condition in the long run and it is also proving J-Curve hypothesis. In the short run, Egyptian GDP has negative and significant impact on BOT. Further, Egyptian population has also negative and significant impact on BOT.

CONCLUSIONS AND POLICY IMPLICATIONS

In this study, we are aimed at estimation of a log-log-linear gravity model for Egyptian intra agriculture trade with GAFTA region by utilizing the data of time series of 1990-2015 and by using the dynamic type

of panel cointegration by PMG estimators for long run and short run results after testing the level/ order of integration through IPS panel unit root test. The estimates of this study show that the variables of model for GAFTA regions have mix order of integration but it does not create any problem in the way of cointegration by PMG estimators as these are of ARDL nature and are not affected by this problem. In the long run, Egyptian GDP, proxy for local income and demand for imports, has the negative and significant impact on BOT by increase demand for Egyptian imports. But, GDP of trading partners is not showing a significant impact on agriculture BOT. Therefore, its impact remains insignificant for GAFTA region. Egyptian population, proxy for local market size and demand for imports, has the negative and significant impact on BOT by increase demand for Egyptian imports. But, population of trading partners is not showing asignificant impact on agriculture BOT butits impact remains insignificant. In case of impact of exchange rate on BOT, exchange rate depreciation is showing an improving impact on intra agriculture BOT in the long run but its impact remains insignificant in the short run. In long run, exchange rate depreciation is helping in improving the agriculture trade balance but not in short run. This finding is proving the existence of Marshal-Lerner condition in the long run and is concluding an existence of J-Curve hypothesis. In the short run, EgyptianGDP and population have negative and significant impact on BOT. But Egyptian partners'GDP and population haveinsignificant impact on BOTand this result has an interesting implication and indicating that lack of agriculture marketing in the GAFTA trading region may be responsible for this insignificant result.

Based on the results of depreciation of ER, this study recommends the further devaluation/ depreciation to improve the agriculture trade of Egypt with GAFTA trading regions. Further, the policy makers can take advantage of our estimated elasticities to frame the accurate depreciation policy to achieve the particular policy objectives. Furthermore, the Egyptian population has the negative impact on agriculture trade balance. Therefore, this study recommendstocontrol the rising population through effective population planning to meet the objectives of reducing BOT deficit in agriculture trade. The insignificant effects of GAFTA's GDP and population on Egyptian agriculture trade direct our recommendations towards effective marketing strategies. If GDP and population of GAFTA region are rising at reasonable rate then these should have effects on the Egyptian agriculture trade as well. This insignificant impact may be due to a reason that Egyptian exporters are not branding, packing, storing and processing of the agriculture products according to the international standards. These may have very good impact on the growth of exports revenue from agriculture exports if taken care. Further, Egypt has a rich variety of agriculture product which may catch the attention of GAFTA region importers if Egyptian exporter uses proper advertising and promotional strategies in this region.

Future Direction of Research

This study faces a serious problem in collecting data for GAFTA agriculture trade in further classifications. This may also help in identifying in problems of Marketing Mix with Egyptian agriculture trade in the particular segment. Therefore, this study recommends the future research on the same topic by filling this shortcoming through collecting the maximum dis-aggregated data on agriculture trade for GAFTA regional trading blocs. Further, this study can also be replicated for the other trading blocs of Egyptian agriculture trade as well.

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