Measuring Trade Advantages of the Qualifying Industrial Zones Program of Jordan and Egypt Offered by the United States for Having Signed Peace Treaties with Israel

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Abstract
This paper uses detailed cross country and over time data to show that despite various limitations, the QIZs of Jordan and subsequently Egypt, along with certain US FTAs, have contributed significantly to an increase in participating countries' shares of exports to the US in the nine most common categories of clothing items for which the effects of tariff and quota exemptions are likely to be strongest. These influences, although perhaps diminishing after a certain period of time, are stronger than those of exchange rate, transport cost and changes in openness over time. What is perhaps most surprising is that these effects are quite clearly discernable even in the case of Jordan despite its lack of relevant raw materials and prior industrial experience. The results also demonstrate the very significant effects exercised by quotas and their phasing out on the changing country shares in US imports of the selected commodities.

I. Introduction and Objectives

In response to continuing failure of the nations of the world to successfully negotiate trade liberalization treaties at a global level through the World Trade Organization, countries have increasingly turned to regional agreements involving Free Trade Agreements (FTAs), Customs Unions (CUs) and various other trade programs providing at least some degree of mutually privileged access with varying numbers of other countries. While these regional or otherwise smaller scale trade arrangements have proliferated around the world in the last twenty-five years, the United States has been something of a leader in the number of trade agreements it has struck.

Prior to the mid -1980s, the US held to the importance of liberalization at the world level and deliberately chose not to engage in any of these so-called "discriminatory" trading arrangements. Nevertheless from the time of its first Free Trade Agreement with Israel in 1985 the US has signed trade agreements with over 35 countries and has several additional ones in various stages of negotiation, including some involving relatively large numbers of countries.

While each of these arrangements have had their own rationale, often political as well as economic, the Qualifying Industrial Zones (QIZs) agreements the US signed with Jordan in 1997 and Egypt in 2004 are especially unique. These agreements granted free access to the US market for goods produced in certain specified and approved zones within participating countries, conditional on specified minimal percentages of the value added being supplied by Israeli firms.[1] The motivation for the QIZ agreements was largely to offer some economic benefit to these countries, which in the mid- 1990s were struggling with debt and other burdens, as a reward for having signed peace treaties with Israel. It was hoped that in this way the QIZs would contribute to some normalization of relations between each of these countries and Israel. Both Arab countries had been in armed conflict with Israel on several occasions in the past. The QIZs were not separate treaties but mere extensions of the existing Free Trade Agreement between the US and Israel allowing for tariff and quota exemptions on imports from designated zones in Egypt and Jordan as long as these imports satisfied the minimum specified percentages of inputs from Israel.

Because US FTAs grant preferential access to the US market, it seems like the continuous proliferation these agreements would dilute the associated benefits. In the case of those countries with relatively low incomes, the opportunities for exporting to the US are largely limited to labor intensive commodities, and especially those in which US tariff rates are also relatively high. Garments or clothing are the prime example of imported products satisfying both such characteristics and explaining why the goods exported to the US from the QIZs of Jordan and Egypt have been almost exclusively restricted to a relatively small number of clothing items with relatively high tariff rates (in the 20-25% range). But, since Jordan had no production of the cotton or wool raw materials or the cloth intermediate goods used in producing clothing, it would be natural to doubt that its QIZ would be able to generate much in the way of exports to the US. An additional barrier to success in export generation to the QIZs could be the difficulty of developing cooperative relationships between Israeli firms and those of Jordan and Egypt.

US FTAs with countries like Canada, Mexico, Chile and those of Central America, most of which had well-developed manufacturing activities prior to the creation of FTAs with the US, offer little insight into the magnitudes of the export promotion benefits of FTAs for other

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[1] These minimal percentages were originally set at 35 percent of the minimum value added to quality for such preferences. Over time, these percentages were adjusted downward by mutual consent first for Jordan and later for Egypt.

countries with little prior industrial experience. A better source of comparison would be the numerous Sub-Saharan African countries that gained access to the US market in textiles and clothing under the African Growth and Opportunity Act (AGOA) after the year 2000.

In the case of the QIZs, important effects going beyond those of trade creation would include those on employment in general, (and female employment in particular), investment and FDI, industrial output and, of course, peace and normalization (Nugent and Abdel Latif, 2011) provide an early attempt at such an evaluation of these other effects based on data through about 2007, not all of which are very substantial. This study, by contrast, confines its attention strictly to the exports of nine six- digit SITC codes to which the exports of Jordan and Egypt under the QIZ have been largely limited. These same categories are also among the most important ones exported to the US by many other FTA-like trade partners and other exporters of garments to the US. For this reason, our analysis is limited to explaining observed changes over time in the country shares in US imports of these same nine garments in a sample of 38 countries with the largest shares in US imports of these commodities. The sample includes countries that had been subject to quotas on the various garments, those with QIZ, FTA and other preferential trade access, as well as those not subject to either quotas or preferential access. We take into consideration the dates at which any country in the sample became engaged in a preferential trading arrangement with the US that applied to such products and to the quotas that once applied to some of the exporters in the sample, the phasing out of these quotas and differences therein across countries, changes in transport costs from a key port in the exporting country to the nearest large port in the US, and exchange rate changes.

The key questions we attempt to answer in this paper are the following: (1) Can we identify statistically significant effects of the QIZ, AGOA and other FTAs on the country shares in US imports of these commodities? (2) If so, are such effects subject to significant changes over time (strengthening or weakening)? (3) Can we separate out the effects of the phasing out of the quotas on such imports? (4) Similarly, can we identify any diminishing influences due to the proliferation in the number of countries benefitting from these preferential relationships over time?

II. Background and initiation of the QIZs and Relevant Literature

Little is known about the details of the QIZs, in part because it has been limited in scope (applicable to a relatively small number of factories in special zones of the countries involved), but also because doing business with former enemies has been treated as confidential by many Arabs participating in it and therefore largely hidden from the population at large. Yet, since the experience is unique, initiated in an especially conflicted area, and is still ongoing and potentially applicable elsewhere, the lessons of this experience deserve attention. This is especially so for two reasons: (1) civil and international conflicts have been a major contributor to failed states and development traps, the very conditions that have locked the people of many regions into poverty and repeated conflicts for decade after decade (Collier, 2007), and (2) surprisingly little attention has been given to the potential role of joint or mutually beneficial businesses in promoting both material gain and peace among people coming from conflict-prone countries.[2]

Conflicts between Israel, on the one hand, and the occupied Palestinian territories, Jordan and Egypt, on the other, have been important since these countries have been involved in as many as five wars with each other (1948-9, 1956, 1967, 1973-4, and to a lesser extent 1982). Israel and the Palestinian territories, moreover, have been engaged in intermittent conflicts for over 80 years as recently as summer 2014 (the conflict in Gaza). This conflict lies at the center of virtually all the other conflicts in the Middle East. This history of conflict goes a long way toward explaining why the Middle East and North Africa (MENA) has long been identified as a region with the lowest level of intra-regional trade in the world (Farshbaf and Nugent, 2013)

The creation of an independent Israeli state surrounded by Arab countries left Israel quite isolated from its neighbors. Yet, with its highly educated population, commercially and professionally skilled workers, and international capital, Israel's economy grew rapidly, much more rapidly than its less developed Arab neighbors. Its growth was boosted by a number of factors, including its FTA with the United States in 1985, a number of institutional reforms, including reductions in the share of military spending in its budget, and the influx of highly skilled immigrants from Russia in the 1990s (Sagi, 1999). One result of Israel's rapid growth in per capita income was upward pressure on wage rates, especially after the resumption of violence with Palestinians on the occupied territories of the West Bank and Gaza in the late 1980s and early 1990s (the first Intifada) which resulted in effective closing of the inflow of

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[2] Note, for example, that the rather comprehensive study of the World Bank (2011) made no reference to business-initiated peace-making activities.

Palestinian workers into Israel (Arrnon and Weinblatt, 2001). These rising wage rates threatened the survival of its clothing industry which early on had been a leading one and very export-oriented and labor intensive, implying that it was increasingly vulnerable to competition from low wage countries like China and others.

The first Intifada and Israel's reactions to it led to such large losses in human life on both sides of the conflict to stimulate renewed diplomatic efforts (by both the two sides and the international community to reach a peaceful solution via the Oslo Accord followed by a Presidential Agreement between Israel and the WBG on "Cooperation in the field of trade, including studies and Trade Promotion Programs" whose purpose was to encourage local, regional and inter-regional trade, and even a feasibility study of creating free trade zones in the Gaza Strip and in Israel, mutual access to these zones, and cooperation in other areas related to trade and commerce. One significant advantage of this agreement was to be the creation of trade zones on Israel's borders with both the West Bank and Gaza (WBG) so that Palestinian workers could enter from one side, Israeli managers and materials from the other side, greatly reducing the security risk to Israel of Palestinian workers transiting daily into Israel itself. This was followed by the Paris Protocol of 1994 which sought to establish new trade relations between Israel and WBG intended to rectify some of the problems that had existed since the 1967 occupation. What is clear is that the new scheme did not work well and eventually relations between these two parties deteriorated sufficiently that, after an unfortunate incident in 2000, conflict erupted again (Second Intifada). Since then, no real progress has been made on the trade, employment and peace fronts between Israel and the WBG.

The effects of the peace initiatives went beyond the Palestinian territories. Because of the low oil prices of the late 1980s and 1990s and its close relation with Iraq, Jordan found itself deeply indebted and inundated with the rather massive return of its many nationals who had migrated to the Gulf countries for employment and business opportunities, contributing to a surge in unemployment rates and depressed economic conditions. As a heavily indebted country itself, Jordan became unable to meet its own international obligations and had to undergo debt rescheduling and a strict IMF stabilization program (Kanaan,1999). Under the heavy pressures of its budget deficits and debt, and its economic troubles, the Jordanian government decided to try the peace route in order to stimulate its economy and take advantage of a widely anticipated peace dividend.

Jordan signed a peace agreement with Israel on October 26, 1994. Although the anticipated peace dividend did not materialize in terms of new large regional infrastructure or other projects, a Regional Business Council to foster meetings of businessmen from Israel, WBG and Jordan was established (Al_Khouri and Kardoosh, 2004). Out of these meetings there did emerge some joint business relations and in particular one between Omar Saleh, a young Jordanian of Palestinian heritage, and Dov Lautman, an already very successful Israeli businessman in the textiles industry (who had served not only as Chairman of the Israel Manufacturers Association for a number of years and as the Special Representative of the Prime Minister for advancement of foreign investment and economic development. By February 1996 Saleh had established a firm with Lautman in Northern Jordan to which Lautman transferred some of his production in England to take advantage of lower labor costs (Carroll, 2003). As early as late 1995, Saleh was already at work lobbying for support in the United States for a QIZ with Jordan and Israel, trying to get the United States to offer free access for production like his with Israeli inputs.

Although Egypt had signed its peace agreement with Israel well over a decade earlier (1979) and a significant amount of trade had arisen between the two countries, in the early 1990s both Israel and Egypt felt that they had paid an extremely high price for their Peace Treaty. Israel's loss came by way of its withdrawal from the Sinai in 1982 just before oil and gas were discovered there. Egypt's loss derived from the severe sanctions imposed on it by its fellow Arab countries for having signed a peace treaty with Israel without prior Israeli withdrawal from WBG. Continuing difficulties between Israel and Palestinians in the WBG and Israel's annexation of East Jerusalem further discouraged any possible initiatives on the part of the Egyptian government to expand cooperation with Israel. Given the much better outcome for Egypt of the Gulf War (including debt forgiveness), moreover, Egypt was also much less needy than Jordan of any commercial benefits that might arise from further cooperation with Israel.

Meanwhile back in the United States, prompted in part by the interest that had been instilled by Salah and others in October 1995, and cognizant of the need for the US to contribute further to peace in the Middle East, "on 13 March 1996, US Congressman Philip Crane from Illinois introduced a bill (HR 3074) to amend the United States-Israel Free Trade Area Implementation Act of 1985. The amendment would provide the US President with authority to extend the US-Israel free trade area to cover articles grown, produced, or manufactured in the West Bank, the Gaza Strip, or a QIZ between Israel and Jordan or Israel and Egypt" (Al- Khouri and Kardoosh 2004 p10).

Quite remarkably, the US House and Senate passed the proposed amendment to the US-Israel FTA in just a few months. It set no deadlines, time limits, or renewal requirements, implementation being at the President's discretion. While Israel's interest in the QIZ arrangements were clearly to foster normalized relations and to help save at least some of its textile industry, to come into effect it required a similar interest by Palestinians, Egyptians or Jordanians.

Thanks in large part to the interest of enterprising businessmen, including the aforementioned Omar Saleh, the response in Jordan was more positive than in Egypt where the economic situation was less desperate. Because of its high unemployment rate, the very underdeveloped state of its manufacturing sector and low female labor force participation rate, Jordan's King and top government officials also saw potential economic benefits in a QIZ that would help to preserve political and economic stability. Yet, general public opinion and even that of other businessmen in Jordan, were quite negative to the proposed QIZ. For this reason, Jordan's negotiations with Israel and the US on the QIZ were tedious, prolonged and conducted behind closed doors. The eventual signing took place only in late 1997, outside the country (in Qatar). The agreement called for the initiation of a first QIZ in Irbid (Northern Jordan). This zone opened in March 1998 and included the textile plants developed by Salah and other businessmen.

Even after the initiation of the QIZ, other Jordanian businessmen continued to express their opposition to it and those engaged in it had to survive the threats against them by various opponents within Jordan. These included a prominent business association and especially an Anti-Normalization Committee, which went so far as to blacklist Salah's and other companies in the QIZ because they saw them as a vehicle for forcing Jordanians to buy Israeli goods. To mitigate the need for ugly public debate, the agreement was ratified by a Royal Decree (not by Parliament)[3]. As a result, firms like those of Saleh involved in the QIZs found it prudent to keep their Israeli connections quite private, primarily working through internationally based multinational enterprises (Carroll, 2003).

Yet, over time, 14 more QIZs were created in different parts of Jordan, including on its border with Israel. In each QIZ a number of companies were set up and a fair amount of FDI was attracted to the country and employment created. The US was sufficiently impressed with Jordan's efforts to take advantage of the QIZ, to open up its economy and to undertake complementary economic reforms that by 2001, it negotiated a separate FTA with Jordan. This would allow all imports of Jordanian goods to

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[3] The fact that over half of Jordan's population is made up of Palestinians, many of them families displaced from their homes in the creation of Israel and subsequent Arab-Israeli War, contributes to the sensitivity within Jordan to cooperation with Israel.

be imported free of tariffs and quotas by 2010, even without having to satisfy the minimal percentage of Israeli input as under the QIZ.

While originally Egypt had refused to join a QIZ with Israel and the US, after seeing the rapid growth of Jordan's exports to the US and the fact that Jordan's involvement was rewarded by eventually obtaining its own FTA with the US, by 2004 Egypt agreed to have its own QIZ with Israel and the US. The Egyptian QIZ came into effect in 2005, a process that was again encouraged by some close business relations and also the support of Egyptian labor interests. Yet, public opinion in Egypt to these business relations with Israeli firms was no more positive than in Jordan and hence information about these relations was almost equally non-transparent.

As mentioned in the introduction, for developing countries, it is the labor intensive products with high tariffs (and until 2005 also subject to import quotas) that would presumably most benefit from the ability to enter the US without tariffs or quotas as is the case for FTAs an d QIZs. Indeed, in the case of the QIZs of Jordan and Egypt, US imports from their QIZs have been confined almost exclusively to a relatively small number of products (mostly T-shirts and other cotton garments) produced by labor intensive techniques and subject to high tariffs and until 2005 also quotas. While the shares of imports into the US from these various countries with and without FTAs vary considerably across countries, over time and, to some extent, from one commodity to another, we limit our focus to those nine commodities which are most important for Jordan, Egypt and other developing countries exporting to the US.

III. Data and Empirical Model

The nine commodities identified for study are those identified by the six-digit HS codes 610462, 610469, 610610, 610910, 611420, 620342, 620452, 620462 and 621142 in the classification system of the UN Comtrade Database. The data obtained are for the years 1990-2012 for which rather complete data on imports into the US were available for each commodity on each of 38 major exporters to the US of these commodities. The samples of both countries and of commodities are identified in Appendix Table 1. As noted in that table, the countries include QIZ partners Jordan and Egypt, several members of AGOA, Israel and 18 other countries with FTAs with the US, China and 11 other countries which were subject to import quotas on clothing imports into the US.

For every commodity and country included, the absolute value of imports into the US of that commodity were obtained for each year from the UN Comtrade Database and then divided by the total

imports of the same commodity and year. These were then multiplied by 100 so as to generate the shares in percentage terms of each country in the total imports of that commodity in the US. For the explanatory variables, we identified dummy variables indicating years for which any FTA or other preferential agreement was in effect, as well as different variables distinguishing the QIZ and AGOA and other non FTAs from the full-fledged FTAs, the number of years that such arrangements was in effect and the same for quotas in each calendar year under study. For quotas we also identified dummies for the phase-out and distinguished between the data at which the quotas were ended because the quotas for China on imports into the US were retained longer than those for the other countries with quotas.

Data for the exchange rates by country and year were obtained from XRAT in the Penn World Tables data set. Data on Openness (OPEN) measured by the shares of Exports plus Imports in GDP, all in nominal values were taken from the World Bank's World Development Indicators, and the United Nations Statistical Office data bases. Data on shipping costs and changes therein over time were obtained by combining data from several sources: (1) fuel oil costs for maritime transport by year from World Development Indicators, (2) the distance between the largest port in the shipping country and the nearest port of entry into the US, (3) the estimated average shipping time between the two ports via container shipping (from http://searates.com/reference/portdistance) and "container tracking service" and (4) over time from 1991 ad valorem- equivalent transport costs divided by the total import value at the six digit HS code from the set of 218 countries over time from the Maritime Transport Cost Database of the OECD. (following guidelines in Korinek, Jane 2011 "Clarifying Trade Costs in Maritime Transport" OECD, Paris). Finally, to capture the possible dilution effects as the number of countries with preferential access to the US market has increased over time, we have constructed a variable labeled NFTA as the number of countries with preferential access to the US in clothing imports in each year compiled from information available on the website of the Office of the U.S. Trade Representative (https://ustr.gov).

For estimation purposes, we convert the country and commodity specific shares to logs and then construct the changes in the natural logs of these shares (d_log_shares) which serve as the dependent variable in our analysis. All data are pooled across commodities and countries. On the premise that as in standard neoclassical growth models, the higher is any given country's initial share (aged two years)

(lag2Shares) the lower will be the expected rise in its share in the current year, the estimating equation becomes:

$d\_log\_shares_{ijt} = \alpha + \beta_1 \, lag2Shares_{ijt} + \beta_2 \, yrsTA_{it} + \beta_3 \, sq\_yrsTA_{it} + \beta_4 \, lagCTANFTA_t + \beta5EndQuota_{it}$

$+ \beta_6 \, RegularQuotaVariation_{it} + \beta_7 \, ChinaQuotaVariation_{it} + \beta_8 \, X_{it} + \varepsilon_i + \varepsilon_j +_i \varepsilon_{t +} \varepsilon_{ijt}$ (1)

where X is a vector of other control variable including (a) the change in Openness (d_log_open), the change in transport cost (d_log_transport) and the lagged change in the real exchange rate (lagdXRAT) , and ε_i , ε_j and ε_t represent fixed effects for country, commodity and time, respectively and ε_{ijt} represents the random error term.

IV. Empirical Results

Descriptive Statistics on all variables in our model are given in Table 1. From the number of observations by variable it can be seen that the full pooled cross section over time would give us 7524 observations but, by moving to first differences and allowing for two lags, the sample is reduced to 6840 observations. While the change variables (in shares, in openness, in transport costs and in real exchange rates) can be either positive or negative, the average of the changes in shares is near zero. All the variables relating to time in place (the various trade agreements, EndQuota, and the increase in the number of countries receiving preferential access to the US market) have values bounded from below at zero with varying upper bounds. The variables representing changes in natural logs range from negative to positive values and reflect considerable change over time and across countries.

We present three tables of empirical results along the lines of equation (1). The first (Table 2) treats all countries with preferential access to the US market for garments as if they were the same except for their timing. In Table 3 the QIZs, and all the countries gaining access to the US market via AGOA are distinguished from those gaining such access under more full-fledged Free Trade Agreements. The latter often provide somewhat deeper integration benefits, such as the specification of common rules for dispute resolution, environmental protection or other features. Since in Table 3, the effects of years that AGOA had been in effect (yrsAGOA) had no significant effects on d_log_shares, in Table 4 we omit the yrsAGOA variables. Yet, in Table 4 we now distinguish between the Egyptian and Jordanian QIZs, since one might suppose that because of Egypt's (a) longer experience in the clothing industry, (b) larger supply of local raw materials and (c) lower wage rates, that Egypt's yrsQIZ might have larger effects than those of yrsJordanQIZ.

Turning first to Table 2 with the most general specification, we find as expected, in columns (1), (3) and (5) negative and significant effects of the lagged levels of the shares of each specific six-digit commodity group, positive and significant effects of yrsTA (but small negative effects of sq_yrsTA). We also find rather strong negative effects of EndQuota on all the countries not subject to quotas when quotas were phased out and positive effects of Regular QuotaVariation on those countries that had been subject to quotas when these were phased out and negative effects on China ChinaQuotaVariation during the slightly longer period in which it was subject to quotas. We find a weak positive influence of the change in openness (d_log_open) and no significant effects of either lagged changes in the real exchange rates or the country specific changes in transport costs. Not surprisingly, because the many country, commodity and year specific shocks which could affect these changes in shares, but which are not accounted for in the model, the adjusted values of R^2 are uniformly low. Somewhat more surprising is that the change in the number of countries with preferential access to the US (lagCTANFTA) has no significant effect on the share changes (d_log_shares). While the coefficients of the quota variables are all considerably larger than those of the years in which the respective trade agreements were in effect, it must be realized that these effects rise with each passing year (at least up to a peak) whereas the quota related variables are all once and for all changes.

Columns (1) and (5) Table 3 shows that all the previous findings from Table 2 are retained. When instead of yrsTA representing the effects of all trade agreements of the US in the sample, we include only the QIZs (ysQIZ and sqyrs_QIZ) as in column (2), the separate effects of these terms are statistically significant and even larger in magnitudes than the yrsTA in Table 2 or in column (1) of Table 3. This would seem to suggest that the Free Trade Agreements that the US has with several countries (e.g., Australia, Chile, Oman) were by no means designed to provide such exporters to the US with special advantages in these specific items of clothing, but have had a greater influence in these commodities in the case of the QIZs. From columns (3)-(5), however, there is little sign that the AGOA countries in the sample have benefitted significantly from such preferential access.[4]

The results of Table 4 show that all the effects of the quotas and other variables in the model are quite robust across the different specifications in the table and consistent with those in the preceding tables. By comparing the effects of the Egyptian QIZ in column (1) with those for the Jordanian QIZ in column (3) it can be seen that counter to our expectation, the effects of the Jordanian QIZ seem to be

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[4] The results in Column (5) are supportive of these the differences in the effects of these different agreements on the shares of US imports of the 9 commodities under study, but because of built in collinearity between the years in effect of these different agreements the significance of the individual coefficients is reduced substantially.

larger and more statistically significant than those of Egypt. In both cases, however, the same nonlinear pattern is evident, the linear terms being positive and quite large and the squared terms small but negative. In both cases the peak gain would seem to be reached after approximately 10 years. Given our reasons for expecting the trade creation effects to be stronger in these commodities for Egypt than for Jordan, the somewhat opposite finding in Table 4 is indeed something of a surprise and deserves further discussion and effort to corroborate these findings.

To the latter end, Table 5 shows time series data on the averages across the same nine commodities of the shares of Jordan and Egypt in US imports in the first two columns for the period 1992-2012. Then, in the next two columns it presents aggregate data on all US imports from Jordan and Egypt, respectively. This data is from an alternative but also very reliable source, namely, the foreign trade statistics of the US Census Bureau. These figures are not confined to those imports coming into the US from the QIZs themselves (and of course are no longer confined to clothing) but they do cover roughly the same time period. The growth of the average shares across the nine commodities in the first two columns does show that Jordan's shares started at much lower levels than those of Egypt but grew especially rapidly after the initiation of its QIZ in 1998, surpassing the share of Egypt by 2001. Jordan's average shares peaked however in 2005 at precisely the time that Egypt's QIZ was initiated and by 2008 Egypt's average of the nine commodity shares exceeded that of Jordan's. The data on the aggregate imports of Egypt and Jordan in the last two columns tell a similar story showing much more rapid growth in the imports from Jordan immediately after the initiation of its QIZ, but then peaking in in 2006. US imports from Egypt jumped sharply after its QIZ was initiated in 2005. By and large, therefore the findings for the shares in the first two columns are consistent with the econometric findings of Table 4 as well as the patterns with respect to total imports of the US from these two countries in the last two columns. Note that aggregate US imports from Jordan prior to the establishment of its QIZ in 1999 were less than $30 million, but grew by more than 40 fold to a peak of $1422 million by 2006. Prior to the QIZs Egypt's aggregate exports to the US were 20 times as large as those from Jordan. Despite the decline in US imports from Jordan after 2006, in the last few years US aggregate imports from Egypt have been only two or three times those of Jordan .

What is more consistent with our expectation of a stronger and more sustainable increase from the Egyptian QIZ, however, is that, while the imports from Jordan peaked in 2006 and even by 2012 are still at least 30% below their 2006 peak, by contrast imports from Egypt in 2012 were well above

their 2006 levels (just before the effects of the global financial crisis of 2007-2009). In absolute terms, moreover, they are more than double those of Jordan.

V. Conclusions

In this concluding section we return to the four questions posed in our Introduction.

With respect to question (1) about the possibility of identifying significant effects of the various preferential trading arrangements on the country specific shares in US imports of the nine commodities under study, we have found evidence in Tables 2-4 of positive effects in the case of the preferential arrangements as a whole, and of the lesser known QIZs of both Egypt and Jordan, but not in those of the sub-Saharan African countries integrated into AGOA. The findings for the individual commodity shares of the QIZs of Egypt and Jordan seem also consistent with data on the aggregate imports of the US from these countries in Table 5.

Relative to question (2) we most definitely find evidence in the form of the positive linear and negative nonlinear terms that the strength of these effects vary over time, rising with the years in which they have been in effect up to a point but then declining after that. Roughly speaking 8-12 years would seem to be the turning point wherein, without further changes, the preferential trading arrangements turn from net positive to net negative on the country shares of these commodity imports. These nonlinearities in effects are evident in all cases. Without nonlinearities in the effect of years in effect, the estimates of the linear effects are in each case statistically insignificant. For the agreements as a whole see column (4) of Tables 2 and (3), for those of both the QIZs and AGOA see column (4) of Table 3 and of the Egyptian and Jordanian QIZs alone see columns (2) and (4) of Table 4. This finding has methodological implications as well. Since linear specifications are simplest and common, it would seem that studies using only linear models of this sort might have concluded prematurely that such trading agreements have no significant effects on exports in comparable types of trade outcomes.

With respect to question (3) about the effects of Quotas and especially of the ending of the quotas, we see rather strong effects of EndQuota, RegularQuotaVariation and ChinaQuotaVariation in all three tables. Indeed, the shares of imports from all non-Quota countries are reduced substantially after the ending of the quotas, while those of countries formerly subject to quotas were increased significantly. Note that these effects are quite large, implying that the preferential access during the period in which quotas were in effect on garments would have been especially strong. Yet, since the

various Quota terms are largely dummy variables, their coefficients are not exactly comparable with those of the number of years in which the trade Agreements have been in effect.

Finally, with respect to question (4) and the expectation that the proliferation of preferential agreements that the US has struck with various countries would have a weakening effect, in none of the tables was there a single incidence of a negative and significant effect of the variable constructed to capture that effect, namely lagCTANFTA. Indeed, in all cases the coefficients of this variable were positive but not significant. This finding might well be attributable to that rather steady rise in US imports combined with the gradual decline or disappearance of imports into the US from various other countries not included in the sample because of the absence of imports of these commodities in recent years.

A potentially important issue that could be raised is that of the possible endogeneity of participation in the various preferential trade agreements investigated. Our first defense is a rather general one that especially from the US perspective, the purposes for joining or offering such preferential arrangements are usually top-down based on strategic objectives. For example, in the case of the QIZ the motive was largely one of the promotion of peace and normalization among former combatants. These motives were important not only in the case of the QIZs but also the Middle East peace and democracy objectives which were behind the US initiatives to establish FTAs throughout the Middle East and North Africa (which happened to come into fruition in Morocco, Oman and Bahrain as well). Our second defense is that we are focusing on only a handful of commodities which hardly could have been very important among the objectives of the different parties to these trading arrangements. A third defense of our case for lack of endogeneity in the choice of FTAs is that our choice of commodities was based on the combination of labor intensity and high tariff rates. As has been noted above, especially in the case of Jordan and the AGOA arrangements, since there was essentially no existing garments exporting industries in these countries to start with, there would be virtually no way for any relevant interest group like an association of clothing manufacturers to exercise influence in the creation of these preferential access agreements to the US market. By the same token, there would seem to be no interest group of clothing buyers that would exercise pressure in the US. Labor unions, moreover, have generally been steadily opposed to such agreements.

Still another reason for believing that the estimates of the trade creation effects estimated here of the preferential trade agreements are at least reasonably indicative of the order of magnitude and direction of effects is that the estimates obtained have also been found to be

robust not simply to the different specifications utilized in the paper but also to others not shown, such as to the use of alternative specifications of lags or in the choice of commodities and estimation methods (such as the use of seemingly unrelated regression estimates). An important future step to strengthen the significance of these results is to cluster the standard errors by country.

Finally, given the very special features and objectives of the QIZs that have required trade and cooperation among businessmen in formerly warring countries, we feel that the positive trade creation effects observed in our research underscore the potential for business initiatives to contribute to a wide variety of benefits, especially the goal of achieving peace. Nugent (2014) and Nugent and Abdel-Latif (2011) offer suggestions as to how strengthen the hoped for peace and normalization benefits that have not yet proved to be very successful. Further research into the reasons why the trade-creation effects of existing FTAs and QIZs seem to diminish over time is clearly justified.

Table 1 Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Max
d_log_shares	7,182	−0.009	1.446	−9.852	10.061
lag2Shares	6,840	2.033	4.503	0.000	52.125
yrsTA	7,524	2.195	4.420	0	27
sq_yrsTA	7,524	24.355	74.183	0	729
yrsQIZ	7,524	0.187	1.301	0	15
sq_yrsQIZ	7,524	1.727	14.860	0	225
yrsEgyptQIZ	7,524	0.043	0.492	0	8
sq_yrsEgyptQIZ	7,524	0.244	3.230	0	64
yrsJordanQIZ	7,524	0.144	1.209	0	15
sq_yrsJordanQIZ	7,524	1.483	14.530	0	225
yrsAGOA	7,524	0.732	2.439	0	13
sq_yrsAGOA	7,524	6.483	25.428	0	169
lagCTANFTA	6,840	0.757	2.683	0	23
EndQuota	7,524	0.230	0.421	0	1
RegularQuotaVariation	7,524	0.213	0.404	0.000	1.000
ChinaQuotaVariation	7,524	0.017	0.126	0.000	1.000
d_log_open	7,182	0.017	0.104	−0.440	1.153
d_log_transport	7,182	0.028	0.596	−6.061	6.631
lagdXRAT	6,840	0.081	0.682	−0.495	16.400

Table 2 Determinants of Changing Country Shares in US Imports with All Trade Agreement Combined

	Dependent variable:				
	d_log_shares				
	(1)	(2)	(3)	(4)	(5)
lag2Shares	−0.032***	−0.030***	−0.032***	−0.030***	−0.032***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
yrsTA	0.037***		0.037***	0.010	0.037***
	(0.014)		(0.014)	(0.009)	(0.014)
sq_yrsTA	−0.002**		−0.002**		−0.002**
	(0.001)		(0.001)		(0.001)
lagCTANFTA		0.007		0.008	0.006
		(0.007)		(0.007)	(0.007)
EndQuota	−0.394***	−0.328***	−0.391***	−0.384***	−0.407***
	(0.065)	(0.047)	(0.065)	(0.066)	(0.067)
RegularQuotaVariation	0.216***	0.197***	0.212***	0.208***	0.216***
	(0.064)	(0.063)	(0.064)	(0.064)	(0.064)
ChinaQuotaVariation	−0.796***	−0.770***	−0.798***	−0.770***	−0.797***
	(0.273)	(0.273)	(0.273)	(0.273)	(0.273)
lagdXRAT			0.023		0.022
			(0.027)		(0.027)
d_log_open	0.296*	0.293*	0.291*	0.296*	0.285
	(0.174)	(0.173)	(0.174)	(0.174)	(0.174)
d_log_transport				0.022	0.023
				(0.029)	(0.029)
Observations	6,840	6,840	6,840	6,840	6,840
R^2	0.014	0.013	0.014	0.013	0.014
Adjusted R^2	0.013	0.012	0.013	0.012	0.013
Note:				*p<0.1; **p<0.05; ***p<0.01	

Table 3 Determinants of Changing Country Shares in US Imports with QIZ and AGOA Distinguished

	Dependent variable:				
	d_log_shares				
	(1)	(2)	(3)	(4)	(5)
lag2Shares	−0.032***	−0.030***	−0.030***	−0.030***	−0.031***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
yrsTA	0.037***			0.011	0.045**
	(0.014)			(0.011)	(0.019)
sq_yrsTA	−0.002**				−0.002**
	(0.001)				(0.001)
yrsQIZ		0.144***		−0.005	0.101*
		(0.054)		(0.021)	(0.057)
sq_yrsQIZ		−0.012***			−0.010**
		(0.004)			(0.004)
yrsAGOA			−0.002	0.001	−0.038
			(0.033)	(0.013)	(0.036)
sq_yrsAGOA			0.001		0.002
			(0.003)		(0.003)
lagCTANFTA	0.006	0.006	0.008	0.008	0.006
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
EndQuota	−0.407***	−0.315***	−0.341***	−0.382***	−0.401***
	(0.067)	(0.048)	(0.052)	(0.067)	(0.069)
RegularQuotaVariation	0.216***	0.222***	0.200***	0.204***	0.231***
	(0.064)	(0.064)	(0.064)	(0.064)	(0.065)
ChinaQuotaVariation	−0.797***	−0.768***	−0.771***	−0.771***	−0.790***
	(0.273)	(0.273)	(0.273)	(0.273)	(0.273)
d_log_open	0.285	0.277	0.275	0.292*	0.284
	(0.174)	(0.174)	(0.174)	(0.174)	(0.175)
d_log_transport	0.023	0.022	0.021	0.022	0.023
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
lagdXRAT	0.022	0.021	0.021	0.021	0.021
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Year fixed effects?	Yes	Yes	Yes	Yes	Yes
Commodity fixed effects?	Yes	Yes	Yes	Yes	Yes
Observations	6,840	6,840	6,840	6,840	6,840
R^2	0.014	0.014	0.013	0.013	0.015
Adjusted R^2	0.013	0.014	0.012	0.013	0.014

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4 Determinants of Changing Country Shares in US Imports with the Two QIZs Separated

	Dependent variable:			
	d_log_shares			
	(1)	(2)	(3)	(4)
lag2Shares	-0.030^{***}	-0.030^{***}	-0.030^{***}	-0.030^{***}
	(0.007)	(0.007)	(0.007)	(0.007)
yrsEgyptQIZ	0.167	0.024		
	(0.154)	(0.042)		
sq_yrsEgyptQIZ	-0.021			
	(0.022)			
yrsJordanQIZ			0.204^{***}	-0.005
			(0.074)	(0.022)
sq_yrsJordanQIZ			-0.016^{***}	
			(0.005)	
lagCTANFTA	0.006	0.007	0.006	0.007
	(0.007)	(0.007)	(0.007)	(0.007)
EndQuota	-0.324^{***}	-0.325^{***}	-0.320^{***}	-0.323^{***}
	(0.047)	(0.047)	(0.048)	(0.048)
RegularQuotaVariation	0.211^{***}	0.203^{***}	0.195^{***}	0.195^{***}
	(0.065)	(0.065)	(0.063)	(0.063)
ChinaQuotaVariation	-0.769^{***}	-0.770^{***}	-0.772^{***}	-0.769^{***}
	(0.273)	(0.273)	(0.273)	(0.273)
d_log_open	0.283	0.286	0.262	0.283
	(0.174)	(0.174)	(0.174)	(0.174)
d_log_transport	0.022	0.021	0.022	0.021
	(0.029)	(0.029)	(0.029)	(0.029)
lagdXRAT	0.020	0.020	0.021	0.020
	(0.027)	(0.027)	(0.027)	(0.027)
Observations	6,840	6,840	6,840	6,840
R^2	0.013	0.013	0.014	0.013
Adjusted R^2	0.013	0.012	0.014	0.012

Note:	*p<0.1; **p<0.05; ***p<0.01

Table 5 Average Shares of Jordan and Egypt in US Imports of the selected Commodities and Total US Imports from these Countries

Year	Average Share of Jordan (in %)	Average Share of Egypt (in %)	Total Imports from Jordan (in millions of US Dollars)	Total Imports from Egypt (in millions of US Dollars)
1992	0.004	0.676	18.1	434
1993	0.003	0.611	18.7	613
1994	0.010	0.517	29	549
1995	0.005	0.598	29	606
1996	0.009	0.586	25	680
1997	0.006	0.511	25	658
1998	0.009	0.466	16	661
1999	0.007	0.433	31	618
2000	0.337	0.423	73	888
2001	0.748	0.405	229	882
2002	0.838	0.633	370	1356
2003	1.239	0.598	674	1143
2004	2.267	0.600	1093	1284
2005	2.514	1.840	1267	2091
2006	2.412	1.930	1422	2396
2007	2.323	2.006	1329	2377
2008	1.676	1.994	1138	2370
2009	1.142	1.906	924	2058
2010	0.934	2.044	974	2238
2011	1.004	2.017	1061	2059
2012	1.080	1.916	1156	3000
Source : http:/www.census.gov/foreign-trade/balance/c5110.html				

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Appendix

Table 1: Identities of the Nine Six Digit HS Codes of US Imports and the 38 Countries included in Our Sample

HS Codes:
610462 - Women's or Girls' Trousers, Breeches, of Cotton, Knitted or Crocheted
610469 - Women's or Girls' Trousers, Breeches of Other Textile Materials
610610 - Women's or Girls' Blouses, Shirts, of Cotton, Knitted or Crocheted
610910 - T-shirts, Singlets, Other Vests, Knitted or Crocheted, of Cotton
611420 - Other Garments of Cotton, Knitted or Crocheted
620342 - Men's or Boys' Trousers, Overalls, Breeches, of Cotton
620452 - Women's or Girls' Skirts, Divided Skirts, of Cotton
620462 - Women's or Girls' Trousers, Breeches, of Cotton
621142 - Other Garments, Women's or Girls', of Cotton

Countries and Whether or Not They have been Subject to Quotas on Imports to the US or had Exemptions from Tariffs and Quotas Due to Trade Agreements with the US

Number	Country	FTA	Quota
0	Australia	X	
1	Bahrain	X	
2	Bangladesh		X
3	Cambodia		X
4	Canada	X	
5	Chile	X	
6	China		X
7	Hong Kong		X
8	Macao		X
9	Colombia	X	
10	Costa Rica	X	
11	Dominican Republic		X
12	Egypt	QIZ	
13	El Salvador	X	
14	Ghana	AGOA	
15	Guatemala	X	
16	Honduras	X	
17	India		X
18	Indonesia		X
19	Israel	X	
20	Jordan	QIZ, FTA	
21	Kenya	AGOA	
22	Lesotho	AGOA	

23	Malaysia		X
24	Mauritius		X
25	Mexico	X	
26	Morocco	X	
27	Nigeria	AGOA	
28	Oman	X	
29	Pakistan		X
30	Panama	X	
31	Peru	X	
32	Singapore	X	
33	Swaziland	AGOA	
34	Tunisia		
35	Turkey		
36	Uganda	AGOA	
37	Vietnam		X

Notes

UN Comtrade:
The United Nations Commodity Trade Statistics Database (UN Comtrade) contains detailed imports and exports statistics reported by statistical authorities of close to 200 countries or areas. It concerns annual trade data from 1962 to the most recent year. UN Comtrade is considered the most comprehensive trade database available with more than 1 billion records. A typical record is – for instance – the exports of cars from Germany to the United States in 2004 in terms of value (US dollars), weight and supplementary quantity (number of cars). The database is continuously updated. Whenever trade data are received from the national authorities, they are standardized by the UN Statistics Division and then added to UN Comtrade.

Share Determination:
Shares of exports to the US in each commodity were determined by first acquiring annual Trade Value data in terms of USD reported as imports by the US from each country in the set. Each countries' value was then divided by the value of World exports to the US. All of this data was acquired from the UN Comtrade Database.

Open Determination:
Openness data was pulled from the Penn World Tables. Openness at current prices. Exports plus Imports divided by GDP is the total trade as a percentage of GDP. The export and import figures are in national currencies from the World Bank and United Nations data archives. Note that when the export and import figures and GDP are expressed in real values, the value of OPENC will be the same because the price level (conversion factor) for DA and exports and imports is the same.

Quotas:
Quotas were imposed by US and Europe to protect their industries through 2001. The quotas were gradually relaxed until 2005.

China Specific Quota:
China retained a partial quota on 20% of its products from 2005 to 2008. We created a separate dummy and series for China for this reason.

NFTA:
A variable which counts the number of trade agreements (FTAs, AGOA, QIZ) in place for a given year among the countries included in our data.

AGOA:
The African Growth and Opportunity Act was approved by the US Congress in 2000 with the intention of assisting the economies of sub-Saharan Africa. The eligibility criteria were intended to improve labor rights and promote a market-based economy. The criteria evolve on an annual basis. In order to be eligible for the apparel specific provision, a country must have implemented an American compliant visa system.

QIZ:
Qualifying Industrial Zones are special free trade zones within Egypt and Jordan which allow tariff and quota free access to US markets if a minimum of 35% value added occurs in Israel. The intention of the agreements was promotion of peace, as well as fostering economic ties between Israel and other countries in the region.