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How Much Market Access ? A Case study of Jordan's Exports to the EU*

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Abstract

The value of preferential market access schemes has fallen sharply. Drawing on a relaxation announcement of July 2016 simplifying origin requirements for access to the EU that should help improve market access, thereby contributing to alleviate the refugee crisis in Jordan, this paper argues that a simplification of origin requirements is a straightforward way to enhance preferential market access. Yet, the EU decision limits the beneficiaries who must be located in designated special economic zones, which limits preferential market access. The paper compares the performance of Jordanian exports to the EU and the US under their respective FTAs. It shows that Jordanian exports to the US have grown more rapidly than exports to the EU over the last fifteen years. The study documents lower utilisation of preferences in the EU than in the US, especially in Textiles and Apparel (T&A) in spite of non-negligible preferences. Three contributing factors are identified: (i) higher adjusted preferences for apparel in the US than in the EU; (ii) greater competition from other suppliers (mostly from LDCs) in the EU market than in the US market; (iii) a simpler origin requirement in the case of the Jordan-US FTA. Comparative evidence from the two FTAs and econometric estimates suggest that this should help restore market access for Jordanian exports to the EU. These estimates provide additional evidence that origin requirements suppress market access. Other pathways to simplify origin requirements are offered in conclusion.

Keywords: Rules of origin, EU-Jordan FTA, Jordan-US FTA, preference utilization

JEL Classification: F12, F13, F15

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1. Introduction

The value of preferential access schemes by the main purveyors of preferences, the EU and the US, has eroded over the years: a lowering of MFN tariffs, an extension of preferences by the EU and US to more countries, unpredictability often compounded by complicated origin (henceforth RoO) requirements to qualify for preferential access. Against this trend, three changes in origin requirements have sought to restore market access. In 2001, under the Africa Growth Opportunity Act (AGOA), the US announced that certain AGOA beneficiaries would satisfy the origin requirement for apparel under a minimum domestic content (i.e. fabric could be imported from third countries). This ‘single transformation rule’ was also adopted by the EU for Everything but Arms (EBA) beneficiaries in 2011. And, at the WTO ministerial in Nairobi in 2015, for non-reciprocal preferences for LDCs, WTO members have committed to allow that non-originating materials can make up to 75 percent of the final value of a product to qualify for preferential treatment.

Have these changes arrested the erosion of market access under preferential schemes? Market access is again at stake with the EU/friends of Jordan initiative to the Syrian refugee crisis that has resulted in Jordan hosting about 1.47 million Syrian refugees accounting for nearly 20 percent of the population by 2015. A relaxation decision (decision No.1/2016) on RoO requirements allowing, among others, for non-originating fabric in T&A was announced for a period of 10 years in July 2016 for selected products produced in selected zones. Market access for Jordanian exports to the EU would be improved by moving to a single transformation rule in the EU-Jordan Association Agreement (the EU-Jordan FTA, henceforth EUJFTA). The decision states that it aims at creating 200,000 job opportunities for Syrian refugees.

This paper is primarily concerned with the likely effects of this initiative. We compare Jordan’s current utilization of EU-preferences with the utilization of preferences by Jordanian exports to the US under the Jordan-US Free Trade Area (Jordan-US FTA, henceforth JUSFTA) which also benefits from the proposed simplified origin requirement. The paper focusses on Textiles & Apparel (T&A), an important export sector for Jordan and many developing countries. The paper also adds evidence on the market-access suppression effects of origin requirements in apparel.

The remainder of the paper expands on the Jordanian case study comparing performance under the EU (EUJFTA) and US (JUSFTA) FTAs (both FTAs were initiated at the same time and followed parallel paths of implementation). Section 2 describes EUJFTA and JUSFTA along two dimensions: extent of preferential market access (taking into account the erosion of preferences for Jordan from other beneficiaries of EU and US preferential schemes) and Rules of Origin (RoO) requirements. Section 3 compares the evolution of EUJFTA and JUSFTA over the ten-year period of implementation before taking a detailed look at the utilization of preferences under both FTAs in 2016. Trade patterns and utilization of preferences have been quite different in view of rather similar preferential access. Size of flows, origin requirements, and competition from other recipients of market access in the EU and the US have all contributed to these divergent outcomes. Section 4 gives econometric estimates that confirm

several observations in section 3: Preference Utilization Rates (henceforth PURs) are positively related to preference margins. PURs are lower under EUJFTA under the double-transformation rule than under JUSFTA where the single-transformation rule applies to apparel. Controlling for preference margins, origin requirements in apparel are independently correlated with PURs. Even though we cannot control for all factors affecting PURs in apparel, the results suggest that allowing for fabric to be imported from third countries to meet the origin requirement would help restore market access for Jordan in the EU and-more generally, contribute to arresting the erosion of market access under preferential schemes.

2. Preferences and origin requirements under EUJFTA and JUSFTA

Jordan is a party to several reciprocal Free Trade Area Agreements (FTAs). The two most relevant ones for evaluating trade performance are EUJFTA and JUSFTA.¹ These two FTAs are the most relevant for a comparison both because the EU and the US are ‘similar’ along several dimensions (such as market size, tastes, and income). Also, as shown in table 3, the EU and the US have similar size markets for imports of apparel. Most importantly, the US and the EU are the only countries that report systematically PURs in their respective FTAs (and other non-reciprocal trade agreements). Jordan is also eligible for non-reciprocal market access through the Generalized System of Preferences (GSP) that generally give less market access than FTAs. The GSP is not considered further here.²

JUSFTA provided for the elimination of tariffs on all goods and services excluding tobacco and alcohol over a 10-year period starting in 2001, starting with the removal of the lowest tariffs. By 2005, tariffs over 4000 products accounting for 96% of all goods imported by the US from Jordan entered the US tariff-free (Al Nasa et al. 2008).³

¹ Jordan is also member of the Agadir (2006) FTA (Egypt, Jordan, Morocco, Tunisia) and the Pan African Free Trade Area (PAFTA) (1997) (Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, UAR, Yemen) and the Canada-Jordan FTA (2012).

² The product coverage under the GSP is usually limited and preferences fall short of duty-free entry. The GSP is specific to each grantor and, as for FTAs, GSP beneficiaries must also satisfy RoO requirements that are at least as stringent as those under FTAs. Blanchard and Hakobyan (2015) document the extensive discretion and arbitrariness in GSP market access to the US across countries, products and time. In the case of Jordan and the EU GSP, under EU GSP regulation 978/2012, Jordan is ‘eligible’ but not a ‘beneficiary’ of GSP. In the case of the US GSP, for example, Bolivia, Colombia Ecuador and Peru can export under the GSP or under the Andean Trade Preference Act (ATPA). As reported by Keck and Lendle (2012) 87% of imports eligible under both schemes chose ATPA. This is not surprising because GSP beneficiaries are also engaged in reciprocal FTAs with GSP grantors that give them greater market access because of shorter lists of exclusions and duty-free entry. Moreover, whereas the US registers imports according to its different preferential schemes, until recently, EUROSTAT only reported imports according to two requests under two categories: MFN or preferential status. Thus, one could not distinguish between imports that might enter under the GSP from those under the EU-Jordan FTA under the assumption that the requested status was, indeed, granted (See Donner Abreu 2013, p. 26).

³ Jordan has a 15-year transition period during which it can apply temporary safeguard measure against U.S.-origin imports. The Jordan-US FTA also includes measures on IPR, and not to lower environmental and labor standards. In addition to the special status of products originating from the Qualified Industrial Zones (QIZ) discussed below, USAID funds TIAJRA, a public-private sector partnership of organizations that coordinate efforts to increase the awareness and understanding of the Jordan-US FTA as well as the Jordan-U.S. Business Partnership’s Export Fast Track Action Program (EFTAP). These initiatives encourage medium size Jordanian firms to learn and improve their capacity to export to the U.S.

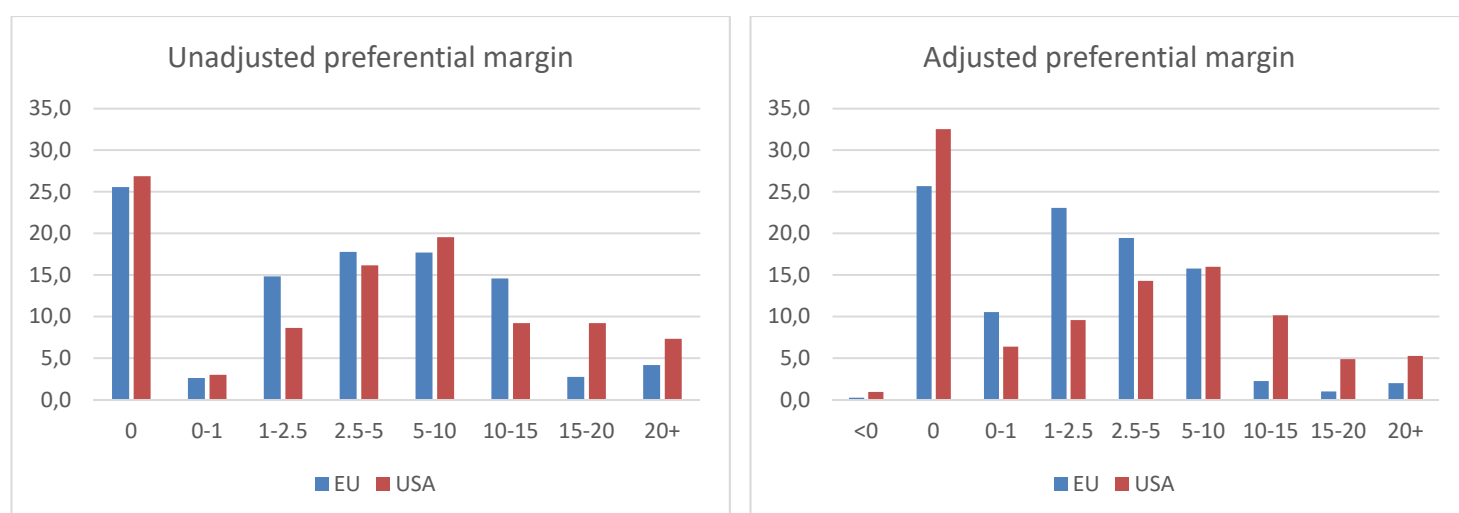
EUJFTA came into effect in 2002 with further liberalization of agricultural products in 2007 and a protocol on Dispute Settlement entered into force in 2011. Along with 15 other members, Jordan is part of the Euro-Mediterranean (EUROMED) partnership, a ‘hub-and-spoke’ FTA in which all EUROMED have the same preferential access to the EU for nearly all products (there are a few exceptions for some agricultural products). All face the same RoO requirements, although since December 2016 for a period extending to 10 years, certain Jordanian exports face simplified RoO requirements (see below). Additionally, the EU launched negotiations for a Deep and Comprehensive FTA (DCFTA) with Jordan, Morocco, and Tunisia in 2011. The DCFTA is to include trade in services (included under the JUSFTA), government procurement, competition, intellectual property rights, and investment protection.

2.1 Preferential margins under EUJFTA and JUSFTA

Preferential margins provide a first measure of potential market access. Figure 1 shows the distribution of two measures of preference margins at the HS8 level: the unadjusted and the adjusted margin. The unadjusted margin is the MFN tariff minus the preferential tariff (usually zero). The adjusted preferential margin, sometimes called the ‘competition-adjusted margin’, subtracts from the preferential margin, the trade-weighted tariff for other recipients of preferences. The adjusted preferential margin for an HS8 product can be negative if some partners pay an MFN tariff at the HS8 level while its main competitors for the product pay less than the MFN tariff. For example, table 3 shows that China has an unadjusted preference margin of 0.0% in the US for apparel, but an adjusted margin of (-4.0%) because other significant apparel suppliers to the US pay less than the MFN tariff.

Comparing the adjusted and unadjusted distributions in figure 1 shows that the correction for preferences granted to other recipients widens the difference in tariff shares within most ranges of the distribution. For the EU, the adjusted preferences pushes the distribution towards the 1-2.5% range but leaves the share of lines with zero tariffs at 25%. For the US, the adjustment raises the percentage of zero preferential margins up to 32% from 25%. Comparing the two adjusted distributions in figure 1 shows that the EU has somewhat less preferential access to ‘offer’ if one concentrates on the ranges beyond the 5-10% range. The EU has a lower share of tariff lines with preferential margins in the 10-15% range and beyond (around 2%-3% vs. 5% of tariff lines for the US).

Figure 1: Distribution of Preferential tariffs for Jordanian products to US and EU (HS8)



Note: See text for definition of unadjusted and adjusted preferential margins

Source: Authors' construction using data from Eurostat, USITC and TRAINS for 2016.

2.2 Origin Requirements under EUJFTA and JUSFTA

All preferential Trade Agreements (PTAs)--reciprocal and non-reciprocal like Everything-But-Arms (EBA) and GSP--require establishing origin status for exports from a member country in the Agreement to prevent trans-shipment through the low-tariff partner. This is done by the application of rules of origin (RoO).⁴ At the same time, RoO impose costs on exporters (and importers) that have to submit the necessary documents to qualify for tariff preferences. These RoO are typically very complex and often 'made-to-measure'. The outcome is that the magnitude of these costs is difficult to assess and it is widely documented that the rather large differences in PURs around similar preference margins is a reflection of the differential costs they impose on exporters and importers.⁵

EU and US PTAs use a combination of methods to establish origin. Whereas RoO differ across US FTAs, almost all EU FTAs are based on the PanEuroMed (henceforth PANEURO) System, in place since 2004 (see below). Typically, establishing origin involves the combination of regime-wide rules that apply to all sectors (e.g. a roll-up or absorption principle⁶) and a Change of Tariff Classification (CTC) at different levels (e.g. chapters or headings) across sectors. These can be coupled with a value-added criterion and, in some

⁴ The aim of RoO is to ensure that products involving a certain level of production within the Contracting Party benefit from the preferential treatment and thereby excluding products produced elsewhere but simply shipped via the Contracting Party to benefit from preferential access.

⁵ RoO requirements are known to be complicated. They are described in detail in Donner Abreu (2013) for a large number of PTAs. Many observers say these are "business owned" rather than "business friendly" to indicate the extent of lobbying by powerful industry groups. (See e.g. the discussion in Estevadeordal and Suominen (2006) and Cadot and Melo (2007)).

⁶ The absorption or roll-up principle allows non-originating materials, which have acquired origin by meeting specific processing requirements to maintain this origin when used as input in a subsequent transformation. The roll-up or absorption principle is used in most PTAs (See Cadot and Melo (2007) and Donner Abreu (2013)). However, article 15 of protocol 3 on RoO in PanEuroMed prohibits duty drawbacks or exemptions on non-originating materials.

cases, like T&A, a processing requirement.⁷ In the case of T&A, JUSFTA requires minimum domestic content. Unlike most other US FTAs that require a ‘yarn-forward’ (or triple transformation rule),⁸ JUSFTA allows for fabric to be imported from third countries to meet the origin requirement provided that it undergoes substantial transformation.⁹

The PANEURO System, in place since 2004, covers more than 50 countries. It requires a double transformation rule.¹⁰ Jordan and other Mediterranean countries engaged in the “Barcelona process” operate under the PANEURO RoO requirements. PANEURO allows for diagonal cumulation.¹¹ For T&A, the standard allowance criterion that applies across sectors is replaced by an allowance in terms of weight on non-originating materials. Jordan has signed the convention that will extend regional cumulation between EUROMEDs, EFTA/Turkey/EU to the Western Balkans.¹²

The EU relaxation decision (decision No.1/2016) relaxed origin requirements for certain goods produced in Jordan for a ten year period until 31 December 2026. Products with relaxed rules of origin are listed in Article 2 of the Decision. The list includes petroleum products, fertilisers, some chemical and plastic products, articles of leather, textiles, and apparel. Notably, manufacture from fabric is sufficient to confer origin to Jordanian apparel. This amounts to a temporary replacement of the double transformation rule by a single transformation rule for apparel. The objective being to alleviate the Syrian refugee crisis by creating job for Syrian refugees (the decision states that the aim is to create 200,000 job opportunities for Syrian refugees), the decision only applies to goods produced in development zones and industrial areas listed in the decision. In those qualifying zones, the

⁷ Cadot et al. (2005, table 2) describes the distribution of product-specific origin requirements at the HS6 level for NAFTA and PanEuroMed.

⁸ Most US FTAs starting with NAFTA a triple transformation rule with fabrics (sometimes up to a certain percentage non-originating) made from yarn originating in the parties (cotton→ yarn→textiles→ apparel). Only qualifying African countries under AGOA and now countries under EBA have the simpler single transformation (textiles→ apparel) thereby allowing third-country (i.e. non-originating) fabric. Donner Abreu (2013) compares in table 5.2 the RoO requirements in ten US FTAs showing that each is ‘made-to-measure’ since no two US FTAs share the same set of RoO requirements in textiles.

⁹ The “substantial transformation” criterion requires a minimum of 20% of production for each, Jordan and Israel, excluding profits. The corresponding rule for the QIZs require 35% regional content with 11.7% from the QIZ, 8% from Israel and the balance from the West Bank, Gaza or a QIZ.. The main difference between the QIZ arrangement and JUSFTA is the mandatory Israeli value-added under JUSFTA. Another main difference between the two is that under the QIZ arrangement, duty- free status was immediate whereas it was progressive under JUSFTA (see below). Donner Abreu (2013, Annex 2) describes in detail the arrangements under the two protocols.

¹⁰ PanEuroMed requires a “double transformation rule” (yarn→textiles→ apparel), i.e. apparel made from qualifying textiles.

¹¹ There are three cumulation rules: bilateral, diagonal and full cumulation. Bilateral cumulation is most common and applies to trade between two partners in a PTA. It stipulates that producers in country A can use inputs from country B without affecting the final good’s originating status provided that the inputs are themselves originating (i.e. provided that they themselves satisfy the area’s ROOs). Under diagonal cumulation (the basic principle of the EU’s PANEURO system), countries tied by the same PTA as members of the “Barcelona process” can use materials that originate in *any* member country as if the materials were originating in the country where the processing is undertaken. Finally, under full cumulation, all stages of processing or transformation of a product within the PTA can be counted as qualifying content regardless of whether the processing is sufficient to confer originating status to the materials themselves. Full cumulation allows for greater fragmentation of the production process than diagonal cumulation, itself less restrictive than bilateral cumulation.

¹² The Convention is into force but not yet into application as of end 2017 because the current protocol to the FTA is not yet replaced by a reference to the Convention.

total work force of each production facility should contain at least 15 % refugees in the workforce during the first and second years and at least 25 % from the third year on.¹³

3. Assessing EUJFTA

The EU and the US entered FTAs with Jordan around the same time, leading to a removal of tariffs over a ten-year period with the largest reduction in tariffs towards the end of the period around 2012. Both also had, or entered, reciprocal and/or non-reciprocal trade agreements with other partners, complicating the assessment of the effects of the two FTAs. This section compares performance under EUJFTA and JUSFTA. Section 3.1 compares the evolution of imports from Jordan over the period of implementation of the FTAs. Section 3.2 then looks at the utilization of preferences at the HS8 level for 2016. Correlates of PURs across partners are then examined in section 4.

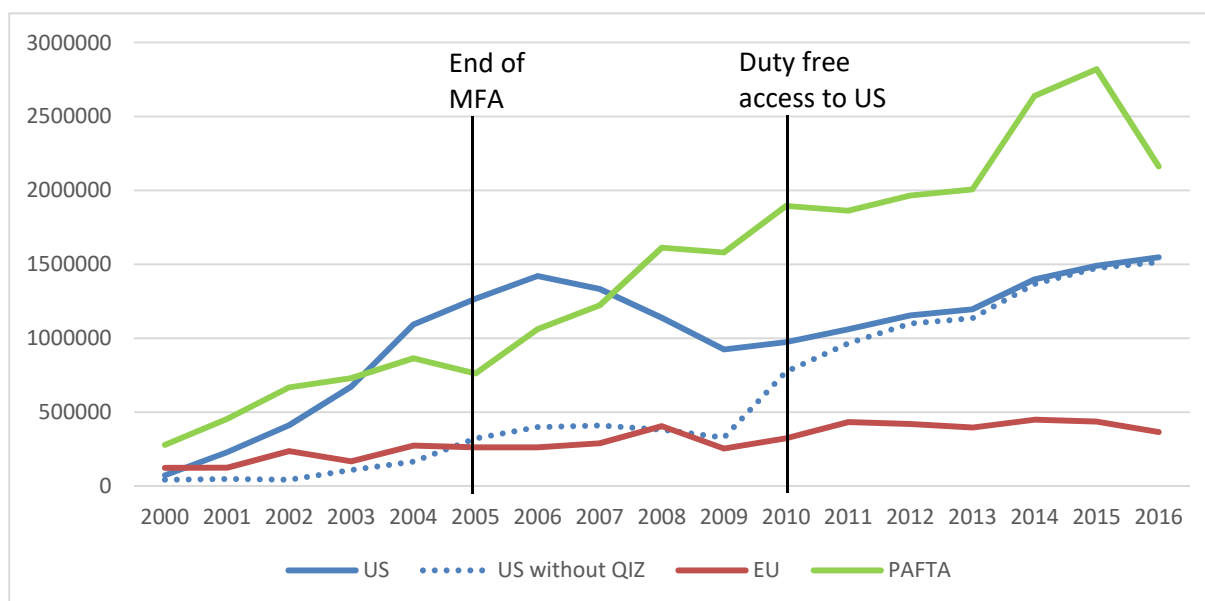
3.1 Trade under EUJFTA and JUSFTA

Figure 2 shows the evolution of Jordanian exports to its principal partners with whom it has preferential trade agreements (EUJFTA, JUSFTA, PAFTA). Exports to the EU have started from a low base and have grown more slowly than exports to the other destinations. Exports to PAFTA grew rapidly until turmoil settled in the region starting around 2010 while exports to the US and the EU registered a sharp fall during the 2007-09 financial crisis. Exports to the US, when inclusive of exports originating from the Qualified Industrial Zones (QIZs) show a sharp increase starting around 2001, the first year of JUSFTA implementation. This is because exports of apparel originating from the QIZs--which have very similar RoO requirements to those under JUSFTA-- could enter the US market duty-free from the start while exports of apparel from Jordan could only enter duty-free starting in 2010¹⁴. If one excludes exports to the US from the QIZs, figure 2 shows that the growth rate of exports is the same for EUJFTA and JUSFTA until 2009. Then, exports from QIZs contract until virtually disappearing by 2014 but exports under JUSFTA continue to grow while exports under EUJFTA have stagnated over the period 2010-16.

¹³ The development zones are listed in the decision <https://publications.europa.eu/en/publication-detail/-/publication/a45b2513-6e7e-11e6-b213-01aa75ed71a1/language-en>

¹⁴ The QIZs were introduced in 1997 as part of the US peace effort in the Middle East under the Oslo peace process. Abreu (2012, box 3.1) gives the territorial definition of the QIZ in the US Harmonized Tariff Schedule. The QIZ includes portions of the territory of Israel, and Jordan or Israel and Egypt. By 2012, there were 5 QIZs in Jordan and 4 in Egypt. Goods entering the QIZs for processing and export enter free of tariffs and taxes in the US provided they satisfy the relevant RoO

Figure 2: Jordanian aggregate exports under EUJFTA, JUSFTA, PAFTA (2000-16)



Source: Author's construction using data from WITS for the EU and PAFTA, and data from USITC for USA

Annex figures A1 and A2 give more detail about the evolution of Jordanian exports to the US and the EU in the sectors that account for 90% of exports. For the US, exports are concentrated in the apparel sector. For the EU, the export basket remains far more diversified and only knitted apparel (CH61) appears in the figure. Figures A1a and A1b¹⁵ confirm that the sharp growth in exports to the US originated from knitted apparel (HS61) and non-knitted apparel (HS62). Together, they accounted for close to 90% of Jordan's exports to the US. Figure A1b shows that exports for these two sectors originating from the QIZs fell sharply starting around 2006 when tariffs on exports of apparel from Jordan started to fall. As mentioned above, US tariffs on apparel imported from Jordan were lifted in 2010. Up until then, Jordanian exports could enter the US duty-free provided that they were declared as originating from the QIZs (and that they satisfied the QIZ RoO requirement). Notwithstanding the end of the Multi-Fiber Agreement (MFA) in 2005, the sharp growth in exports from Jordan excluding QIZs that started around 2009 could be interpreted as an approximation of the long-run export supply elasticity to a 10% (margin adjusted) preferential rate under the prevailing RoO requirements. Figure A2 shows that exports to the EU have remained diversified and that preferential access has not resulted in a move towards a concentration of exports to the EU in labour-intensive products although one observes a growth in the share of knitted apparel (CH61) during the period 2012-2016.

In conclusion, figures A1 and A2 show that knitted (HS61) and non-knitted (HS62) apparel dominated export growth to the US but are absent from the growth of Jordanian exports to the EU. These different paths partly reflect higher preferential margins in HS61 and HS62 for the US than for the EU, but, as shown below, they also reflect other considerations including

¹⁵ Appendix figures and table numbers are preceded by an "A".

greater competition from other preference-receivers on the EU than on the US side and a more lenient RoO requirement under JUSFTA. This greater competition is partly reflected in a larger discrepancy between unadjusted and adjusted margins for the EU than for the US in the textiles and apparel sector. Under JUSFTA, the adjusted preferential margins for HS61 and HS62 are about a third lower than the unadjusted rates. Under EUJFTA, the adjusted rates are about half the corresponding unadjusted rate.¹⁶ This is not surprising since the EU extended greater (and more lenient) preferences to LDCs under EBA than the US did under AGOA where membership qualification was subject to periodic review (see table 3).

3.2 Preference utilization under EUJFTA and JUS FTA

About 85 percent of world trade is registered under MFN status so trade registered under preferential status is small.¹⁷ Only the EU and the US disclose regularly the use of preferences for imported goods.¹⁸ Assuming that RoO requirements prevent trans-shipment, in the short to medium term, a high rate of utilization of preferences is the first yardstick to assess the intended effects of any PTA. Three factors are important in accounting for differences in PURs across sectors and eligible countries:

- The depth of preferential access captured by the preferential margin (see figure 1 and tables A2 and A3).
- The size of the shipment because of the fixed costs of complying with RoO requirements (table A4)
- The complexity of RoO requirements (table 3)

Table 1 compares the aggregate utilization of preferences by tranches of unadjusted (since the PUR depends on the extent of preferences) preferential margins and import value range for EUJFTA and JUSFTA for 2016. Preference Utilization Rates (PURs) are computed at the HS8 level for products with a positive MFN tariff. The PUR is the share of imports entering under the preferential trade regime that complies with the RoO requirement.¹⁹ Under JUSFTA, there are no shipments in the first two bin categories of 0-10\$ and 10-100\$, but

¹⁶ Tables A2 (US) and A3 (EU) show {unadjusted} and [adjusted] margins side by side for HS 61 and HS62 for 2016. For the US, these are: CH61: {16.4 %},[14.2%]: CH62{14.3 %},[11.9%]. The corresponding figures for the EU are: CH61: {11.9 %},[6.4%]: CH62{11.4 %},[6.1%]

¹⁷ Excluding intra-european trade, WTO (2011) estimates that, for the 20 largest importers accounting for 90% of world trade, only 16% of their imports from partners qualify as preferential trade (on the assumption that all preferences are fully utilized)..

¹⁸ In the case of the EU, Eurostat provides information on eligibility under three tariff measures (MFN,GSP, PREFER) and type of requested import regime. The preference regime notified in the data is then the regime requested by the exporter, not the regime finally used. It is assumed that if an import is eligible for the regime it requested it actually obtained that regime. Donner Abreu (2013, p.26) reports that sample tests show that discrepancies between regime requests and actual registration are not significant.

¹⁹ Since we do not have data on actual shipments, these averages are not import values per shipment..When some tariff lines are zero at the HS8-level and others are not, a trade-weighted average is taken.In the case of the EU, Eurostat provides information on eligibility under three tariff measures (MFN,GSP, PREFER) and type of tariff (normal or under quota). See Nilsson (2011). Data by type of preference was not available, and it is assumed that if an import is eligible for the regime it requested, it actually obtained that regime. Donner Abreu (2013, p.26) reports that sample tests show that discrepancies between regime requests and actual registration are not significant.

there are some shipments in these categories under EUJFTA. As one would expect, PURs under these small shipment categories are low.²⁰

Table 1: Preference Utilization Rates (PURs) by unadjusted preferential margin and by import value range (2016)

USA/Jordan	Eligible imports (USD)								
Unadjusted preferential margin (%)	0-10	10-100	100-1000	1000-10000	10000-100000	100000-1M	1M-10M	10M-100M	100M-1B
0-2.5			1.00	0.64	0.87	0.88	1		
2.5-5			0.51	0.63	0.86	0.92	0.82		
5-10			0.56	0.69	0.82	0.98	1.00	1.00	
10-15			0.75	0.83	0.83	0.97	1.00	1.00	
15-20			0.36	0.60	0.80	0.82	1.00	1.00	
20+			0.00	0.42	0.59	0.80	1.00	1.00	1.00
EU/Jordan	Eligible imports (Euros)								
Unadjusted preferential margin (%)	0-10	10-100	100-1000	1000-10000	10000-100000	100000-1M	1M-10M	10M-100M	100M-1B
0-2.5	0.00	0.02	0.06	0.13	0.14	0.41	0.33	0.00	
2.5-5	0.00	0.08	0.14	0.26	0.43	0.35	0.00		
5-10	0.23	0.15	0.33	0.56	0.77	0.81	0.86	1.00	
10-15	0.00	0.03	0.19	0.38	0.54	0.24	0.35		
15-20	0.00	0.16	0.64	0.88	0.92	1.00	1.00		
20+	0.00	0.20	0.71	0.81	0.85	0.86	1.00		

Notes: Calculations based on HS8 level data. A blank field indicates no combination in the data.

Source: Eurostat for trade data and TRAINS for tariff data for the EU; USITC for trade and tariff data for the USA.

For the import value ranges with shipments under both FTAs, for each preferential range, the PUR generally increases with the shipment value range, although there are a few exceptions to this pattern for EUJFTA and there are a few instances where the uptake is lower in the 20+ adjusted preferential margin range. This could reflect small shipments. Turn to apparel (HS 61 and 62). Under EUJFTA, the preferential margins is in the 10-15% range, while under JUSFTA, the preferential margin is in the 10-15% range (HS61) and the 15-20% range (HS62) (see tables A2 and A3). Note that for all import value ranges, the PUR is low in the 10-15% under EUJFTA while, on the contrary, it is high in the corresponding 10-15% and 15-20% ranges under JUSFTA. Finally, if fixed costs are important, one would expect higher PURs in the higher import value ranges. This is generally the case, as confirmed in the

²⁰ No transactions to the US in the \$0-\$100 range could reflect a reporting threshold.

regression results in table 4 for a larger sample of preference receivers for both the EU and US preferential schemes.

Two other patterns are apparent from the comparisons. First, PURs are high for JUSFTA for large shipment sizes. In the 1 million\$ and above ranges, with one exception, the PUR is 100 percent under JUSFTA, while this is not so for EUJFTA. Second, PURs are high in the low preferential margin 0-5.5% ranges for both FTAs, a suggestion that, on the whole, administrative costs are not high. These PURs are a very rough measure of fixed costs since one would need individual transactions rather than an average from all transactions during a year as shown in table 2. Since both the EU and US allow for self-certification, differences in fixed costs could reflect product-composition effects and differences in shipment size for which we have no data. Differences could also reflect competition from other recipients of preferences.²¹

Table A1 shows PURs and adjusted preferential margins by section for 2016 for both EUJFTA and JUSFTA. The patterns confirm those in table 1. Ten of twenty-one sections have PURs of 90% or above for JUSFTA while, under EUJFTA, only five sections have PURs above 90%. Several factors could account for these patterns: small value flows for the EU relative to the US that might be insufficient to cover fixed costs.²² Probably more important are the differences in origin requirements across US FTA partners.

Table 2 compares the aggregate PURs for EU and US FTAs with some Middle-East and North African countries and, in some cases, for non-reciprocal preferences under the GSP for the US. Recall that preferential access is usually the same across FTA partners so a comparison of utilization of preferences is a rough indication of effects of RoO. For EU FTAs, if one omits the Occupied Palestinian Territory Utilization, PURs are high except for Jordan (and to a lesser extent Lebanon). Since RoO requirements are the same for all EU partners (these operate under PANEURO requirements), these differences could reflect composition effects and/or fixed costs playing out differently across shipment sizes.

By contrast, in the case of the US, RoO vary across partners and, as discussed earlier, RoO requirements for Jordan for T&A are the most lenient. Among the US FTAs, PURs are highest for Jordan, Lebanon and Egypt, which all have the single transformation rule for T&A.²³ It is noticeable that Morocco has a PUR in the US in spite of the same preferential margin as Jordan. Although it does not have an FTA with the US, Tunisia has GSP with

²¹ Self-certification is allowed under article 23 of protocol 3 of the PanEuroMed which provides for “approved exporter” status. This status reduces fixed costs since cumbersome forms need not be filled for each shipment. Based on the construction of pseudo-transaction level data, Keck and Lendle (2012) estimate a fixed cost element in the range \$14-\$1500.

²² It is likely that fewer shipments are sent to the US market than to the 28 members of the EU.

²³ Egypt’s high preference utilization rate under GSP preferences reflects the presence of four QIZ zones in 2012 with duty-free access to the US.

higher PURs than Morocco. This difference in PURs is most likely due to Morocco facing much stricter RoO requirement for T&A.²⁴

Table 2: Preference Utilization Rates (PURs) of MFN Dutiable imports by country (2016)

	USA	EU
Algeria	0.41	0.94
Egypt	0.82	0.94
Occupied Palestinian territory		0.82
Israel	0.84	0.88
Jordan*	0.99	0.58
Lebanon	0.97	0.69
Morocco	0.59	0.89
Syria	0.00	0.90
Tunisia	0.68	0.93
Turkey	0.74	0.92

Note: * For the USA, utilization rates include FTA+ GSP+ QIZ + Civil Aircraft + pharmaceuticals

More detail is provided at the HS2 (97 chapters) level in tables A2 for JUSFTA and A3 for EUJFTA. The tables show adjusted and unadjusted margins, export volumes, and the number of HS8 observations for each chapter. Both tables show heterogeneity in PURs. Table A2 for JUSFTA confirms the 100% PUR for apparel (HS61 and 62) which have the highest adjusted margins of 14% and 11%. These two sectors also account for the bulk of imports under JUSFTA. But not all chapters with sizeable adjusted preference margins have high PURs. Of nine sectors with adjusted preferential margins of 5% or above, tools and cutlery (HS82) has a zero PUR, headgear (HS65) has a PUR of 29% and glass and glassware (HS 70) has a PUR of 67%. Both sectors account for a negligible share of US imports from Jordan. Otherwise, sectors with large import volumes like pearls and precious stones (HS 17) have high PURs even though preferential margins are not in the high range. In sum, table A2 does not give the impression of high compliance costs associated with preferences in the case of JUSFTA.

For EUJFTA, inspections of PURs and preference margins show less regularity. Some exceptions to the expected positive PUR adjusted margin relation appear for the EU in table A3. The most glaring one is for apparel (HS 61 and HS62), where the adjusted preferential margins are around 6%--about half the corresponding rates under JUSFTA-- but the PURs are very low at 1% (HS61) and 7% (HS62) even though imports from both sectors are not negligible (31 and 3 million €). These low PURs stand in contrast with the PUR of 67% for HS63 (other made-up textile products for 4.4 million €). In general, however, HS categories with adjusted preferential margins in the 10%-25% have PURs in the 90% above range so the low PURs for apparel appear as an exception. For example, edible vegetables (HS7) has a

²⁴ The RoO for T&A includes a yarn-forward rule coupled with a tolerance rule (7% of weight from third parties), a diagonal rule for certain cotton fibers originating from SSA LDCs and a TPL on quantity of non-originating yarn and fabric. Donner Abreu table 5.2 compares RoO requirements in textiles across all US FTAs.

PUR of 100% for an adjusted margin of 3.3%. High PURs are also observed for animal fats and oils (HS15), sugars (HS17), tobacco (HS 24) which have adjusted preferential margins in the 10% or above range.

In sum, except for HS61 and HS62, the patterns of PURs in table A3 do not suggest high compliance costs under EUJFTA. However, a comparison of the top 10 recipients of (adjusted) preferential margins at the HS4 level for both countries in table A4 shows that for EUJFTA, with the exception of tobacco (HS2403), the top 10 preference-adjusted margins do not always have high PURs and all represent negligible value flows (less than 100,000€). The opposite in the case for JUSFTA. Among the top 10, all have PURs of 100 percent and most are important flows in value terms.

Competition from other suppliers might also be a reason why Jordan does not supply garments to the EU market. Table 3 shows the top 10 sources of apparel imports in 2016 for the EU and the US. Two patterns stand out. First, patterns are strikingly similar for both the US and the EU: (i) same order of magnitude among the top suppliers: (ii) a similar ranking among the top suppliers (China, Bangladesh, Vietnam): (iii) some importance for regional suppliers (Morocco and Tunisia for the EU and Mexico, Honduras and El Salvador for the US). Second, for the US, the top exporters have negative adjusted preferential margins (this is because as MFN suppliers they obtain less favourable terms than NAFTA and CAFTA_DR suppliers). Thus, compared with other suppliers in the US market, Jordan is getting as good, or better, access than competitors. On the other hand, on the EU side, Jordan is only getting better access than China, India and Vietnam. So, in effect, Jordan is competing with garments from LDCs that also enter under the single transformation rule in the EU market.

Table 3: Top 10 sources of imports of Apparel (HS61 & HS62) in 2016:
EU on left-hand side and US on right-hand-side

EU	Country of origin	Imports (Mil. €)	Adj. (Unadj.) Pref. margin	Trade agreement	RoO
1	China	27700	-8.5, (0.0)	MFN	NA
2	Bangladesh *	14900	5.9, (11.9)	EBA	Single
3	Turkey	9513	5.7, (12.0)	CU	Double
4	India	5127	-4.9, (2.4)	GSP	Double
5	Cambodia*	3376	5.8, (11.9)	EBA	Single
6	Vietnam	2995	-2.9, (2.3)	GSP	Double
7	Morocco	2529	5.9, (11.8)	FTA	Double
8	Pakistan	2457	4.2, (11.8)	GSP+	Double
9	Tunisia	1958	4.8, (11.7)	FTA	Double
10	Sri Lanka	1458	-3.3, (2.2)	GSP	Double

US	Country of origin	Imports (Mil. \$)	Adj. (Unadj.) Pref. margin	Trade agreement	RoO
1	China	27900	-4.0, (0.0)	MFN	NA
2	Vietnam	10600	-4.6, (0.0)	MFN	NA
3	Bangladesh*	5100	-3.7, (0.0)	MFN	NA
4	Indonesia	4690	-3.7, (0.0)	MFN	NA
5	India	3630	-2.5, (0.0)	GSP	Triple
6	Mexico	3500	14.6, (18.8)	NAFTA	Triple
7	Honduras	2570	14.3, (20.5)	CAFTA_DR	Triple
8	Cambodia*	2140	-3.6, (0.0)	MFN	NA
9	Sri Lanka	1960	-3.2, (0.0)	MFN	NA
10	El Salvador	1920	14.1, (20.3)	CAFTA_DR	Triple

Note: India and Vietnam are in the process of negotiating an FTA with the EU

Bangladesh has been suspended from GSP in 2013 based on failure to meet labour safety with standards.

NA stands for not-applicable, as no preferential RoO are required for MFN treatment.

4. Evidence on the effects of RoO requirements from other FTAs

The comparison of PURs under EUJFTA and JUSFTA suggests that differences might at least partly, be due to differences in RoO requirements between the two FTAs, especially in the T&A sector. This section checks if this impression holds when controlling for other factors influencing preference utilization in a larger sample of countries exporting to the EU and the US. We estimate a regression of PURs on preference margins and import volumes for all countries exporting under preferential schemes to the EU and US. The objective is to check if one can detect a Jordan and/or apparel effect. As in Keck and Lendle (2012), the following model is estimated separately for the EU and the US with 2016 data:

$$u_{k,x} = \beta_0 + \beta_1 m_{k,x} + \beta_2 \log(eligm_{k,x}) + \beta_3 jor_{k,x} + \beta_4 (t\&a)_{k,x} + \beta_5 (jor_{k,x})(t\&a)_{k,x} + \beta_6 Agr_{k,x} + \gamma_x + \varepsilon_{k,x} \quad (1) ; \quad u_{k,x} = \frac{pref_{k,x}}{elig_{k,x}} ; \quad m_{k,x} = t_k - tp_{k,x} ; \quad k = 1 \dots HS8 ; \quad x = 1 \dots n$$

In (1), $u_{k,x}$ is the use of preferential access on imports of product k (at HS8 level) by country x ; $m_{k,x}$ is the unadjusted preferential margin defined as the difference between the MFN tariff and the lowest preferential rate available for country x ; $eligm_{k,x}$ is the value of eligible imports of product k from country x ; $jor_{k,x}$ is a dummy variable equal to one if exporter x is Jordan and zero otherwise; $(t\&a)_{k,x}$ is a dummy equal to one if product k is in the apparel sector; γ_x is a country dummy. Equation (1) is estimated separately for the US and the EU because there is no concordance for products defined at the HS8-level.²⁵ Country dummies are included to control for heterogeneity.

The estimations are restricted to the products eligible for preferential treatment, i.e. products with zero MFN tariffs and products excluded from the preferential regimes are not considered. The PUR is the ratio of imports entering under preferential treatment to total imports of the product eligible for preferences (i.e. to imports with a positive MFN tariff). We expect $u_{k,x}$ to be positively correlated with both a higher preferential margin ($\beta_1 > 0$) and with a higher import volume ($\beta_2 > 0$) because of fixed costs. If costs associated with RoO are purely variable costs, the utilization should only vary with the preferential margin. It should be independent of the volume when controlling for the margin. A coefficient ($\beta_3 > 0$, $\beta_3 < 0$) would capture a positive (negative) Jordan effect and, when interacted with apparel ($\beta_5 > 0$ or $\beta_5 < 0$), the coefficient would capture the effect of differences in RoO. The dummy variable for agriculture captures the possibility that meeting origin requirements should be easier as the ‘wholly obtained’ origin requirement is likely straightforward to implement ($\beta_6 > 0$)

²⁵ HS-6 is the most disaggregated international common classification. Data at the HS-8 classification is different for each importer, so regressions are reported separately for the EU and US. In addition, the US database reports actual preferential imports, whereas in the EU database reports imports requested under a preferential regime. For more details consult Larsson (2011).

When computed at the transaction level, the preferential utilization is either 0 (the product eligible for preferential treatment is imported under the MFN regime) or 1 (the eligible product is imported under the preferential trade regime). As we do not have access to transaction level data, preferential utilization rates range between 0 and 1 when computed at the HS-8 level. As the dependent variable is the proportion of eligible imports that enter under preferential regimes, it is a continuous variable bounded by 0 and 1. Then the OLS linear regression is unsuitable. Hence, we use the fractional logit model as suggested by Keck and Lendle (2012) but also report OLS and Tobit estimates for comparison with other estimates.

4.1 Results

To save space, we only report one set of results since results across specifications are close. For each of the EU and US, we report an OLS, a TOBIT and a fractional logit.²⁶ First, as expected, PURs are positively associated with the preferential margin ($\beta_1 > 0$). Second, as in Keck and Lendle (2012) the dummy for agriculture is positive and significant for both specifications. Third, as in Keck and Lendle, controlling for the margin, a higher import volume is associated with a higher PUR, ($\beta_2 > 0$) an indication of fixed costs. Fourth, expected, the dummy for Jordan is positive for both the EU and the US, but of larger magnitude for the US. This difference in coefficient values suggests that Jordanian exports are more competitive in the US than in the EU. Finally, the interaction of the dummy for Jordan with the dummy for T&A is positive for the US and negative for the EU. In the EU market for T&A, LDCs benefit from the single transformation rule since 2011 while Jordan still operated under a double transformation rule in 2016. On the other hand, in the US market for T&A, most competitors operate under the yarn-forward (triple transformation) rule while Jordan operates under the single transformation rule. Together, these results point towards the origin requirement in T&A having an independent effect on the utilization of preferences in T&A.

²⁶ Marginal effects for the fractional logit could only be obtained when replacing country dummies by regional dummies. Similar estimates are obtained from a pooled sample comprising EU and US imports with common HS-8 categories. Results available from the authors upon request.

Table 4: Correlates of utilization of preferences on EU and US markets (2016)
(Dependent variable: preference utilization rate)

	EU estimates			USA estimates		
	OLS	Tobit	GLM	OLS	Tobit	GLM
Log(Imports)	0.06*** (0.000)	0.11*** (0.001)	0.32*** (0.002)	0.03*** (0.001)	0.04*** (0.001)	0.17*** (0.004)
Preference margin	0.01*** (0.000)	0.02*** (0.000)	0.06*** (0.003)	0.00*** (0.000)	0.01*** (0.001)	0.03*** (0.003)
Agriculture	0.22*** (0.004)	0.47*** (0.010)	1.14*** (0.032)	0.23*** (0.006)	0.63*** (0.016)	1.63*** (0.053)
Jordan	0.05** (0.023)	0.18*** (0.063)	0.28 (0.169)	0.35*** (0.053)	0.80*** (0.122)	1.61*** (0.356)
Textile and Apparel	0.01*** (0.003)	-0.00 (0.007)	-0.04* (0.024)	-0.01 (0.006)	-0.07*** (0.014)	-0.12*** (0.036)
Jordan*T&A	-0.17*** (0.028)	-0.38*** (0.074)	-1.21*** (0.246)	0.13*** (0.037)	0.21** (0.089)	0.96*** (0.279)
Constant	-0.29*** (0.020)	-1.42*** (0.057)	-4.60*** (0.152)	0.05 (0.047)	-0.26** (0.107)	-2.55*** (0.321)
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	117,851	117,851	117,852	50,540	50,540	50,541

Robust standard errors in parentheses. Significance level: *** p<0.01, ** p<0.05, * p<0.1

5. Conclusions.

This paper reviewed trade under EUJFTA and JUSFTA, two FTAs initiated under similar circumstance over comparable periods. The comparisons show higher growth of imports under JUSFTA than under EUJFTA and, as of 2016, a higher utilization of preferences under JUSFTA than under EUJFTA, especially in the apparel sector where import volumes from Jordan to the US are much higher than those to the EU. For other sectors, preference utilization rates (PURs) follow similar patterns rising with the preference margin and average volumes. For the apparel sector, under EUJFTA, the PUR is in the 1-7% range for an adjusted preferential margin of 6% while under JUSFTA, the PUR is at 100% for an adjusted margin in the 12%-14% range. Three factors combine to induce this stark contrast. A higher preferential margin for the US, more competition from other (mostly LDCs) suppliers in the EU market, and a single transformation rule for T&A under JUSFTA.

This very different performance under the two FTAs amply justifies the relaxation decision (decision No.1/2016) announced in July 2016 by which market access of Jordanian exports to the EU will be improved by moving to a single transformation rule. However, since LDCs also access the EU market under a single transformation rule, in the end, this announcement may only have limited effects on Jordanian exports to the EU. In addition, the EU decision also limits the beneficiaries who must be located in designated special economic zones which could be equivalent to a quota on exports under a capacity constraint eligible for preferential market access. Indeed, companies operating outside the designated areas will have to incur costs to move operations if they want to benefit from preferences. In addition, the conflict in neighboring Syria has disrupted land transport through the country towards Syrian and Lebanese ports, leaving the port of Aqaba in the south of Jordan as the viable option for Jordanian merchandises. Yet, inland transport to the Aqaba port from many of the designated special economic zones is very costly.

Beyond the refugee crisis, other simplifications in origin requirements would also be welcome to restore market access under preferential schemes. Eliminating RoO requirements for tariff lines with unadjusted preferential margins below 3% --which corresponds to the middle range of estimates of fixed costs, at least for small firms (see Cadot and Melo (2007) and Keck and Lendle (2012)). A uniform low value content rule (say 20% value-added across-the-board) perhaps combined with a Change of Tariff Classification (CTC) at the subheading (HS6) level could also be envisaged. Alternatively, the CTC might be at the heading level, while for T&A, it could be accompanied by a lower value-content rule for apparel, which has shown to be responsive to preferences under the Jordan-US FTA.

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Annex to

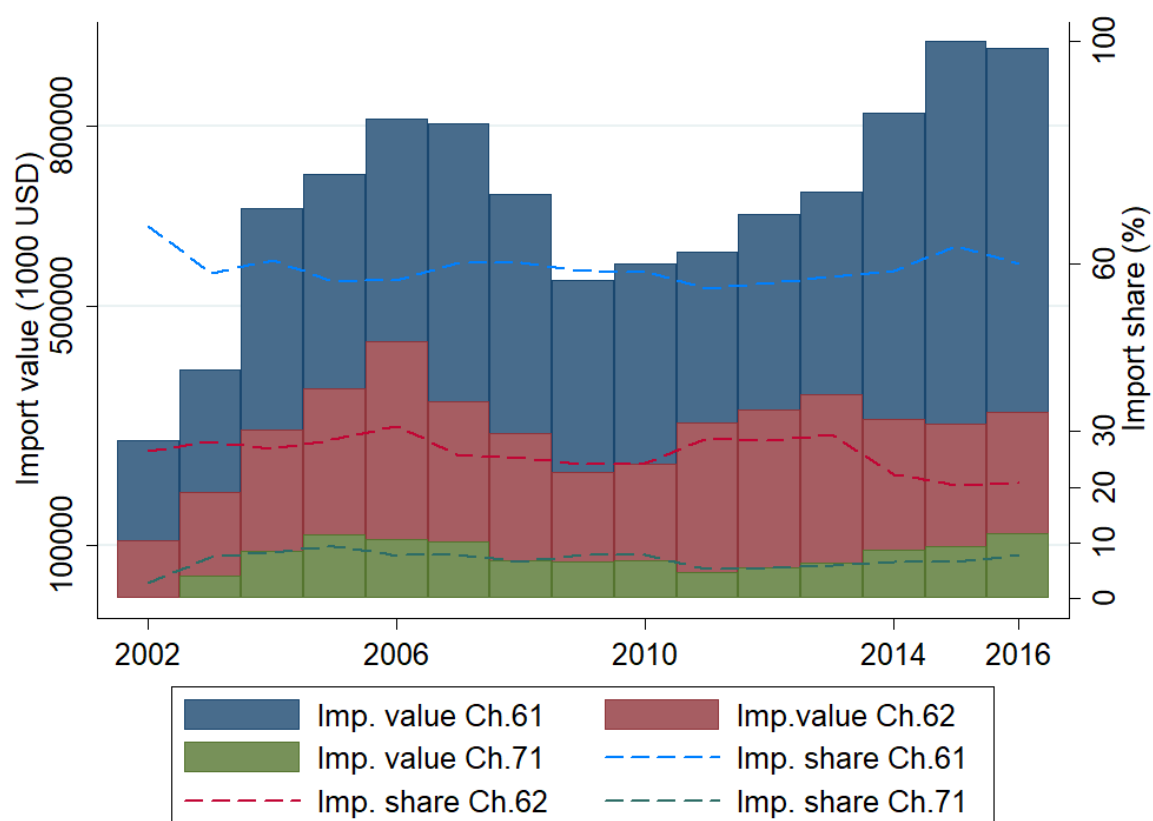
Improving Market Access for Developing Countries: A Case study of Jordan's Exports to the EU*

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February 26, 2018

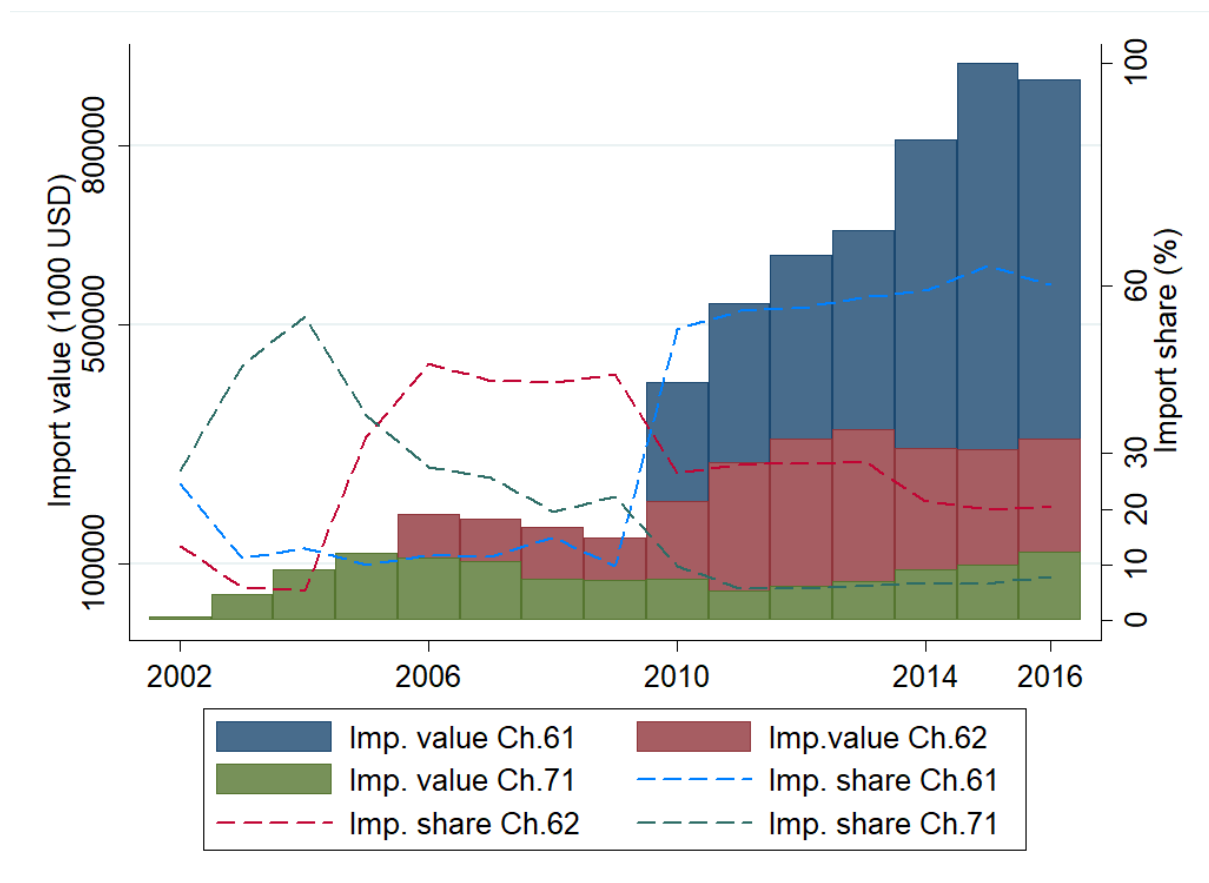
Figure A1: US imports from Jordan by HS2 category 2002-16 (90% of yearly trade)

a) including imports from QIZs



b) excluding imports from QIZs

* Available at http://www.ferdi.fr/sites/www.ferdi.fr/files/publication/fichiers/p169-ferdi-brunelin_-_demelo_-_portugal.pdf



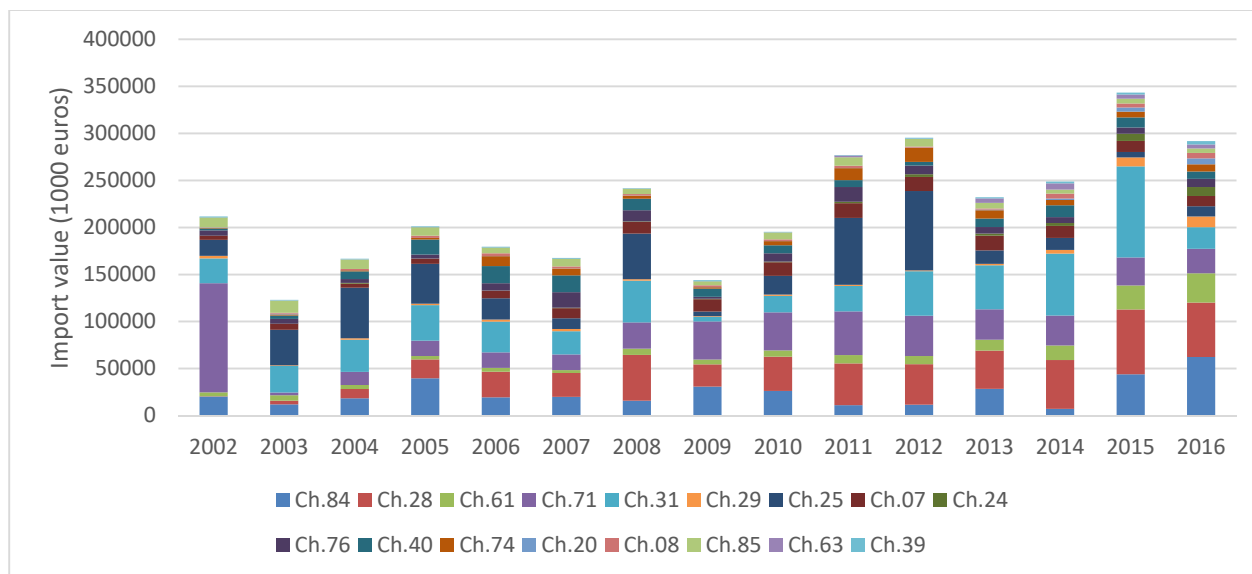
Notes: Boxes represent dollar values and dashed lines the corresponding import shares. Source: USITC for figure A1a and A1b

CH 61: Apparel & Clothing, knitted or crocheted

CH 62: Apparel & Clothing, not knitted or crocheted

CH72: Iron & Steel

Figure A2: EU imports from Jordan by HS2 category 2002-16 (90% of trade in 2016)



Source: Eurostat

CH 84: Nuclear reactors, boilers

CH 28: Inorganic chemicals

CH 61: Apparel & clothing, knitted or crocheted

CH 71: Pearls, precious stones, precious metals

CH 31: Fertilisers

CH 29: Organic chemicals

CH 25: Salt, sulphur, lime & cement

CH 07: Edible vegetables and tubers

CH 24: Tobacco

CH 76: Aluminium & articles

CH 40: Rubber and articles thereof

CH 74: Copper & articles

CH 20: Preparations of vegetable, fruit, nuts or other parts of plants

CH 08: Coffee, tea, mate and spices

CH 85: Electrical machinery & equipment

CH 63: Other made-up textile articles; sets; worn clothing and worn textile articles; rags

CH 39: Plastics and articles thereof

Table A1: Utilization rates of MFN dutiable imports from Jordan by section (2016)

	JUSFTA		EUJFTA	
	Utilization rate	Adjusted preferential margin	Utilization rate	Adjusted preferential margin
Section I : Live animals, animal products	100	4.3	0	2.9
Section II: Vegetable products	91	0.8	95	5.6
Section III: Animal or vegetable fats and oils, animal or vegetable waxes	100	1.2	94	17.4
Section IV: Prepared foodstuffs, beverages, spirits and vinegard; tobacco	99	2.0	96	8.0
Section V: Mineral products		0	95	0.5
Section VI: Products of the chemical or allied industries	27	0.5	90	1.9
Section VII: Plastics and articles thereof; rubber and articles thereof	38	1.9	28	3.3
Section VIII: Raw hides, skins & leather; articles of leather; furskins & artificial fur	80	8.4	54	1.9
Section IX: Wood products; cork products; manufactures of straw	78	4.0	39	0.7
Section X: Pulp of wood cellulosic material; paper & paperboard; printed books		0		0.0
Section XI: Textiles and apparel articles	100	12.0	12	6.0
Section XII: Footwear; headgear; umbrellas: feathers & down	41	5.8	0	4.9
Section XIII: Articles of stone, plaster, cement; ceramic products; glass & glassware	93	5.1	49	3.2
Section XIV: Pearls, precious stones, precious metals	100	4.1	83	1.3
Section XV: Base metals and articles of base metal	94	1.3	71	1.8
Section XVI: Nuclear reactors, boilers; electrical machinery & equipment	98	0.6	1	1.2
Section XVII: Vehicles, aircraft, vessel and associated transport equipment	8	1.0	12	3.0
Section XVIII: Optical, photographic, medical instruments; clocks & watches, musical instruments	12	0.2	0.1	0.8
Section XX: Miscellaneous manufactures articles	100	0.6	39	2.1
Section XXI: Works of art		0		0
Total				

Source: Eurostat for trade data and TRAINS for tariff data for the EU; USITC for trade and tariff data for the USA.

Table A2: US Preferential margins and utilization of Preferences by Jordan (HS2-2016)

HS2	Description	Utilization rate	Unadjusted preferential margin	Adjusted preferential margin	Imports (1000USD)	Import share (%)	Nb obs HS8
1	Live animals		0.00	0.00	3	0.00	1
2	Meats						0
3	Fish						0
4	Dairy produce; birds' eggs; natural honey	1.00	8.68	5.01	234	0.02	6
5	Products of animal origin, NES						0
6	Live trees & other plants						0
7	Edible vegetables and tubers	0.77	2.83	1.38	72	0.00	6
8	Edible fruits & nuts						0
9	Coffee, tea, maté and spices	0.96	1.88	1.14	2151	0.15	16
10	Cereals	1.00	1.78	0.09	6	0.00	1
11	Products of the milling industry	1.00	4.50	0.02	8	0.00	1
12	Oil seeds and oleaginous fruits	0.88	0.85	0.38	1417	0.10	13
13	Lac; gums, resins and extracts		0.00	0.00	14	0.00	2
14	Vegetable plaiting materials						0
15	Animal or vegetable fats and oils	1.00	1.53	1.17	517	0.03	9
16	Meat of fish or of crustaceans						0
17	Sugars and sugar confectionery	0.96	6.13	2.49	469	0.03	9
18	Cocoa & cocoa preparations	1.00	3.05	0.72	280	0.02	7
19	Cereals, flour, starch or milk	0.99	6.30	1.52	3228	0.22	16
20	Vegetables, fruits, plants	1.00	6.16	3.20	2254	0.15	28
21	Miscellaneous edible	0.99	7.09	2.92	2142	0.14	21
22	Beverages, spirits and vinegar	0.98	0.29	0.26	222	0.01	5
23	Residues food industries						0
24	Tobacco		0.00	-0.53	6104	0.41	9
25	Salt; sulphur, lime & cement		0.00	0.00	42	0.00	4
26	Ores, slag and ash						0
27	Mineral fuels, mineral oils		0.00	0.00	4	0.00	1
28	Inorganic chemicals		0.00	0.00	5171	0.35	4
29	Organic chemicals						0
30	Pharmaceutical products		0.00	0.00	38800	2.62	4
31	Fertilisers		0.00	0.00	7	0.00	1
32	Tanning, paints and varnishes	0.00	3.40	3.29	8	0.00	1
33	Essential oils and resinoids	1.00	1.40	0.68	450	0.03	11
34	Soap		0.00	0.00	2135	0.14	3
35	Albuminoidal substances						0
36	Explosives, pyrotechnic products						0
37	Photographic		0.00	0.00	9	0.00	1
38	Miscellaneous chemicals	0.12	3.83	0.92	34	0.00	3
39	Plastics	0.38	4.04	2.11	2984	0.20	33
40	Rubber and articles	0.06	2.48	1.21	26	0.00	6
41	Raw hides and skins & leather						0
42	Articles of leather	0.80	9.42	8.39	11	0.00	7
43	Furskins and artificial fur						0

44	Wood products	0.87	5.10	4.43	17	0.00	4
45	Cork products						0
46	Manufactures of straw	0.52	3.50	2.54	5	0.00	2
47	Pulp of wood cellulosic material						0
48	Paper and paperboard		0.00	0.00	49	0.00	2
49	Printed books, newspapers		0.00	0.00	149	0.01	7
50	Silk						0
51	Wool, fine or coarse animal hair						0
52	Cotton	1.00	6.50	6.41	50	0.00	1
53	Other vegetable textile fibres						0
54	Man-made filaments						0
55	Man-made staple fibres						0
56	Wadding, felt and nonwovens						0
57	Carpets and other textile floor	1.00	1.55	1.51	65	0.00	7
58	Special woven fabrics						0
59	Impregnated, coated		0.00	0.00	10	0.00	1
60	Knitted or crocheted fabrics						0
61	Apparel & clothing, knitted or crocheted	1.00	16.45	14.02	930000	62.81	127
62	Articles of apparel & clothing, not knitted or crocheted	1.00	14.26	11.83	322000	21.74	195
63	Other made-up textiles articles	0.98	9.72	8.60	5558	0.38	12
64	Footwear						0
65	Headgear	0.29	7.57	7.25	14	0.00	3
66	Umbrellas						0
67	Feathers & down	1.00	4.70	2.96	3	0.00	1
68	Articles of stone, plaster, cement	0.95	3.94	2.19	478	0.03	13
69	Ceramic products	0.84	7.07	6.41	73	0.00	11
70	Glass and glassware	0.67	7.13	6.70	149	0.01	8
71	Pearls, precious stones, precious metals	1.00	7.20	4.08	121000	8.14	20
72	Iron and steel						0
73	Articles of iron or steel	0.48	1.64	1.31	801	0.05	10
74	Copper & articles						0
75	Nickel & articles						0
76	Aluminium & articles	1.00	2.90	0.84	907	0.06	6
78	Lead & articles						0
79	Zinc & articles						0
80	Tin & articles						0
81	Other base metals		0.00	0.00	22	0.00	1
82	Tools, cutlery, of base metal	0.00	6.22	5.68	4	0.00	1
83	Miscellaneous articles of base metal	1.00	2.10	0.85	31	0.00	4
84	Nuclear reactors, boilers	0.99	1.52	0.56	22000	1.48	60
85	Electrical machinery & equipment	0.93	1.81	0.67	6144	0.41	26
86	Railway or tramway locomotives						0
87	Vehicles other than railway	0.08	1.67	1.00	720	0.05	4
88	Aircraft, spacecraft & parts						0
89	Ships, boats & floating structures						0
90	Optical, photographic, medical instruments	0.23	0.60	0.23	318	0.02	16
91	Clocks and watches and parts thereof		0.00	0.00	60	0.00	4
92	Musical instruments						0

93	Arms and ammunitions						0
94	Furniture; bedding mattresses	1.00	1.07	0.79	345	0.02	19
95	Toys, games and sports requisites		0.00	0.00	26	0.00	6
96	Miscellaneous manufactured articles	1.00			435	0.03	4
97	Works of art		0.00	0.00	1041	0.07	9
Total number of lines							813

Source: USITC for trade and tariff data. Note: Blanks indicate that all imports in the HS category have zero MFN duties.

Table A3: EU Preferential margins and utilization of Preferences by Jordan (HS2-2016)

HS 2	Description	Utilization rate	Unadjusted pref. margin	Adjusted pref. margin	Imports (1000 Euros)	Import share (%)	Nb obs HS8
1	Live animals	0.00	3.83	3.16	16	0.00	4
2	Meats						
3	Fish		0.00	-7.15	2	0.00	2
4	Dairy produce; birds' eggs; natural honey	0.00	25.14	7.71	0	0.00	4
5	Products of animal origin, NES						
6	Live trees & other plants	0.54	5.68	1.05	3	0.00	7
7	Edible vegetables and tubers	1.00	9.52	3.35	10881	3.31	120
8	Edible fruits & nuts	0.90	6.58	2.01	5816	1.77	61
9	Coffee, tea, maté and spices	0.98	2.62	0.53	940	0.29	131
10	Cereals	0.96	24.12	13.23	62	0.02	14
11	Products of the milling industry	0.95	31.77	21.99	34	0.01	32
12	Oil seeds and oleaginous fruits	0.61	0.95	0.62	720	0.22	30
13	Lac; gums, resins and extracts	0.00	5.60	1.17	13	0.00	7
14	Vegetable plaiting materials		0.00	0.00	6	0.00	4
15	Animal or vegetable fats and oils	0.94	25.01	17.42	1959	0.60	31
16	Meat of fish or of crustaceans	0.00	48.54	34.70	0	0.00	2
17	Sugars and sugar confectionery	0.91	18.53	11.99	770	0.23	53
18	Cocoa & cocoa preparations	0.98	11.03	5.60	29	0.01	17
19	Cereals, flour, starch or milk	0.96	13.56	7.04	1041	0.32	85
20	Vegetables, fruits, plants	0.97	18.58	8.13	6314	1.92	179
21	Miscellaneous edible	0.92	9.19	4.32	1072	0.33	69
22	Beverages, spirits and vinegar	0.83	3.77	1.49	494	0.15	64
23	Residues food industries	0.00	5.71	5.06	39	0.01	6
24	Tobacco	0.96	44.59	24.91	9491	2.89	41
25	Salt; sulphur, lime & cement	0.95	0.96	0.37	10958	3.34	44
26	Ores, slag and ash		0.00	0.00	26	0.01	2
27	Mineral fuels, mineral oils	0.00	2.53	1.34	2	0.00	8
28	Inorganic chemicals	1.00	4.67	2.00	57695	17.56	43
29	Organic chemicals	0.31	4.42	2.83	11369	3.46	44
30	Pharmaceutical products		0.00	0.00	2785	0.85	48
31	Fertilisers	1.00	4.29	2.23	26765	8.15	43
32	Tanning, paints and varnishes	0.00	6.50	3.41	367	0.11	7
33	Essential oils and resinoids	0.91	2.29	1.34	942	0.29	123
34	Soap	0.93	2.31	1.16	572	0.17	39
35	Albuminoidal substances	1.00	7.70	2.70	0	0.00	1
36	Explosives, pyrotechnic products						
37	Photographic						
38	Miscellaneous chemicals	0.14	5.28	2.40	1165	0.35	33
39	Plastics	0.86	6.06	3.65	3765	1.15	126
40	Rubber and articles	0.00	3.11	1.98	7744	2.36	21
41	Raw hides and skins & leather	0.00	1.36	0.13	3217	0.98	10
42	Articles of leather	0.01	4.28	2.89	19	0.01	20
43	Furskins and artificial fur	1.00	3.70	2.36	22	0.01	1

44	Wood products	0.83	0.88	0.50	25	0.01	16
45	Cork products						
46	Manufactures of straw	0.00	3.70	2.67	2	0.00	1
47	Pulp of wood cellulosic material						
48	Paper and paperboard		0.00	0.00	539	0.16	49
49	Printed books, newspapers		0.00	0.00	118	0.04	65
50	Silk	0.00	7.20	5.94	0	0.00	1
51	Wool, fine or coarse animal hair	0.00	8.00	3.37	21	0.01	1
52	Cotton	0.00	8.00	2.36	49	0.01	5
53	Other vegetable textile fibres						
54	Man-made filaments	0.99	6.00	3.91	25	0.01	3
55	Man-made staple fibres	0.94	8.00	5.43	2	0.00	3
56	Wadding, felt and nonwovens	0.00	4.05	2.66	10	0.00	2
57	Carpets and other textile floor	0.96	6.95	5.03	72	0.02	11
58	Special woven fabrics	0.08	7.75	4.14	1	0.00	4
59	Impregnated, coated	0.04	6.67	4.11	3	0.00	3
60	Knitted or crocheted fabrics	0.00	7.25	3.23	0	0.00	2
61	Apparel & clothing, knitted or crocheted	0.01	11.94	6.38	31294	9.53	285
62	Articles of apparel & clothing, not knitted or crocheted	0.07	11.44	6.11	3321	1.01	301
63	Other made-up textiles articles	0.97	10.12	6.24	4348	1.32	55
64	Footwear	0.00	9.99	5.95	156	0.05	25
65	Headgear	0.00	2.70	2.37	2	0.00	7
66	Umbrellas	0.00	4.70	4.51	2	0.00	2
67	Feathers & down	0.00	2.20	1.80	1	0.00	1
68	Articles of stone, plaster, cement	0.72	1.20	0.66	99	0.03	23
69	Ceramic products	0.38	5.32	3.99	92	0.03	23
70	Glass and glassware	0.00	5.13	4.05	24	0.01	21
71	Pearls, precious stones, precious metals	0.83	1.69	1.27	25803	7.85	52
72	Iron and steel		0.00	0.00	314	0.10	11
73	Articles of iron or steel	0.04	2.68	1.78	578	0.18	49
74	Copper & articles	0.96	1.87	1.08	7602	2.31	14
75	Nickel & articles		0.00	0.00	30	0.01	1
76	Aluminium & articles	1.00	5.81	2.83	8709	2.65	35
78	Lead & articles	0.34	2.50	0.75	3089	0.94	8
79	Zinc & articles		0.00	0.00	24	0.01	1
80	Tin & articles						
81	Other base metals	0.00	3.50	3.44	18	0.01	2
82	Tools, cutlery, of base metal	0.00	2.88	2.27	73	0.02	33
83	Miscellaneous articles of base metal	0.07	2.09	1.58	210	0.06	29
84	Nuclear reactors, boilers	0.00	1.45	1.04	62412	19.00	380
85	Electrical machinery & equipment	0.06	1.89	1.34	4807	1.46	374
86	Railway or tramway locomotives		0.00	0.00	152	0.05	2
87	Vehicles other than railway	0.31	6.22	3.56	1032	0.31	44
88	Aircraft, spacecraft & parts	0.00	1.61	1.33	1638	0.50	39
89	Ships, boats & floating structures	0.00	2.20	1.84	37	0.01	2
90	Optical, photographic, medical instruments	0.00	0.79	0.64	2496	0.76	205
91	Clocks and watches and parts thereof	0.00	2.81	1.59	33	0.01	38

92	Musical instruments	0.00	3.20	2.76	0	0.00	1
93	Arms and ammunitions						
94	Furniture; bedding mattresses	0.08	2.03	1.65	641	0.20	67
95	Toys, games and sports requisites	0.00	2.13	1.99	16	0.00	21
96	Miscellaneous manufactured articles	0.49	3.70	2.92	1435	0.44	66
97	Works of art		0	0	46	0.01	21
Total number of lines							3980

Source: Eurostat for trade data and TRAINS for tariff data. Note: Blanks in column 3 indicate that all imports in that HS category have zero MFN duties. Blanks on column 4 indicate no data for tariff due to specific tariff.

Table A4 Top 10 preferential margins: Imports and utilization rates (HS4) (2016)

EU imports from Jordan					USA imports from Jordan				
HS4	Description	Adjusted pref. margin	Import value (1000 euros)	Utilization rate	HS4	Description	Adjusted pref. margin	Import value (1000 USD)	Utilization rate
1510	Other oils and their fractions, obtained solely from olives, whether or not refined	62	0.3	0.00	7013	Glassware for table, kitchen, toilet, office, indoor decoration or similar purposes nesoi	25	3.0	1.00
1701	Cane or beet sugar and chemically pure sucrose, in solid form	47	29.6	0.00	6111	Babies' garments and clothing accessories, knitted or crocheted	23	158.0	1.00
1509	Olive oil and its fractions, whether or not refined, but not chemically modified	41	24.9	0.57	6911	Ceramic, tableware, kitchenware, other household and toilet articles of porcelain or china	21	3.2	0.00
2403	Other manufactured tobacco and manufactured tobacco substitutes	39	9476.8	0.96	6102	Women and girls' overcoats, car coats, capes, , anoraks and similar articles, knitted or crocheted	20	61400.0	1.00
1602	Other prepared or preserved meat, meat offal or blood	35	0.2	0.00	6101	Men's or boys' overcoats, car coats, capes, anoraks and similar articles, knitted or crocheted	18	39400.0	1.00
1101	Wheat or meslin flour	32	0.3	0.00	6114	Other garments, knitted or crocheted	17	6999.9	1.00
1102	Cereal flours other than of wheat or meslin	25	5.7	1.00	6208	Women's or girls' singlet and other vest, slips, petticoats, briefs, panties, nightdresses, pyjamas and similar articles	16	5.5	1.00
1103	Cereal groats, meal and pellets	25	8.5	0.89	6103	Men's or boys' suits, jackets, dresses, skirts, trousers, knitted or crocheted	16	49700.0	0.99
1104	Cereal grains otherwise worked (for example, hulled, rolled, flaked, pearled, sliced or kibbled), except rice of heading 1006; germ of cereals, whole, rolled, flaked or ground	21	10.8	0.98	6105	Men's or boys' shirts, knitted or crocheted	16	95300.0	1.00
1108	Starches; inulin	18	8.1	1.00	6104	Women's or girls' suits, jackets, dresses, skirts, trousers, knitted or crocheted	15	136000.0	1.00

Source: Eurostat for trade data and TRAINS for tariff data for the EU; USITC for trade and tariff data for the USA.

Table A5: Exports > 2% total: utilization Rates and preferential margins (HS4) (2016)

Jordan exports to EU					Jordan exports to USA				
HS4	Description	Export share (%)	Adjusted pref. margin	Utilization rate	HS4	Description	Export share (%)	Adjusted pref. margin	Utilization rate
8411	Turbojets, turbopropellers and other gas turbines	16.0	1.3	0.00	6110	Jerseys, pullovers and similar articles, knitted or crocheted	30.8	13.8	1.00
2834	Nitrates	10.5	0.2	1.00	6204	Women's or girls' suits, jackets, dresses, skirts, trousers, not knitted or crocheted	16.0	13.8	1.00
2801	Fluorine, chlorine, bromine and iodine	5.2	0.1	1.00	6104	Women's or girls' suits, jackets, dresses, skirts, trousers, knitted or crocheted	9.2	14.8	1.00
3105	Mineral or chemical fertilisers ; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg	4.8	3.2	1.00	7113	Articles of jewellery	8.1	2.9	1.00
3104	Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium	3.3	0.0		6105	Men's or boys' shirts, knitted or crocheted	6.4	15.6	1.00
6110	Jerseys, pullovers and similar articles, knitted or crocheted	3.3	5.5	0.00	6102	Women's or girls' overcoats, car coats, capes, anoraks and similar articles, knitted or crocheted	4.1	20.1	1.00
2510	Natural calcium phosphates, natural aluminium calcium phosphates and phosphatic chalk	3.1	0.0		6203	Men's or boys' suits, jackets, dresses, skirts, trousers, not knitted or crocheted	3.7	12.6	1.00
7108	Gold (including gold plated with platinum), unwrought or in semi-manufactured forms, or in powder form	3.1	0.0		6103	Men's or boys' suits, jackets, dresses, skirts, trousers, knitted or crocheted	3.4	15.7	0.99
2403	Other manufactured tobacco and manufactured tobacco substitutes	2.9	39.0	0.96	6109	T-shirts, singlets and other vests, knitted or crocheted	3.2	11.8	0.99
7112	Waste and scrap of precious metal	2.9	0.0		6101	Men's or boys' overcoats, car coats, capes, anoraks and similar articles, knitted or crocheted	2.7	17.8	1.00

6109	T-shirts, singlets and other vests, knitted or crocheted	2.6	4.0	0.00		3004	Medicaments	2.6	0.0	
7404	Copper waste and scrap	2.3	0.0							
2933	Heterocyclic compounds with nitrogen hetero-atom(s) only	2.2	3.2	0.00						
0709	Other vegetables, fresh or chilled	2.2	4.6	1.00						
4011	New pneumatic tyres, of rubber	2.1	3.1	0.00						

Source: Eurostat for trade data and TRAINS for tariff data for the EU; USITC for trade and tariff data for the USA

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