Improving Agricultural Market Access for African LDCs:
Deepening, Widening, Broadening and Strengthening Trade Preferences

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1. Introduction

African least developed countries (ALDC) have enjoyed preferential treatment in exporting agricultural products to developed countries. However, multilateral trade liberalization may erode the benefits of these preferences. Facing the possibility of preference erosion, many African countries have asked for further preferential treatment from developed and advanced developing countries and exemptions from reforming their own policies in the current WTO negotiations and this has led to the inclusion of the following text in the recent July Package of the WTO agricultural trade negotiations (WTO, 2004): "*developed Members, and developing country Members in a position to do so, should provide duty-free and quota-free market access for products originating from least-developed countries.*"

There have been ongoing debates on the desirability and feasibility of adopting this proposal. Some worry about the inability of preferences in promoting agriculture exports and economic development in the LDCs and discount the value of preferences as an effective measure of Special and Differential Treatment. This worry is compounded by the fear that the preferential approach may slow down the multilateral liberalization process. Others point out that developing countries in general could gain more from market access reforms based on the Most Favored Nation (MFN) approach and that the erosion of preferences does not appear to be a serious issue if substantial MFN reforms are conducted multilaterally. Still others argue that the LDCs do not necessarily gain from multilateral trade reforms, that the existing preferences are important to their interests, and that enhanced preferences would help mitigate any adverse effects from multilateral reforms. Lastly, many have noticed that various conditions, clauses and rules attached to existing preference programs may have hindered recipient countries from taking full advantage of these programs and therefore preferences per se should not be held responsible for the poor export performance of the LDCs. Instead of giving up on preferences altogether, some argue that improving these rules will make them more effective.

Taking the July Package text as the departure point, this paper examines empirically the value of existing agricultural preference programs to the ALDCs and investigates the merits of enhancing these programs in the current negotiations. Specifically, Section 2 surveys and synthesizes recent studies on the utilization of agricultural preferences to gauge their perceived value to the recipient countries. Possibility and extent of preferences erosions in the presence of multilateral trade liberalization are then analyzed. Section 3 argues the case for adopting the July Package text through deepening, widening, broadening and strengthening trade preferences. The proposal's feasibility is evaluated against the current market access barriers maintained by the preference-granting countries. Section 4 uses a numerical model to quantify the extent of possible preference erosion and the likely consequences of adopting the proposal on improving agricultural market access for the ALDCs in the Doha Round. The last section concludes.

2. The debate on trade preferences: a brief survey

Existing preference programs were often established for promoting exports from the recipient countries by creating a wedge between the preferential barriers and the corresponding MFN barriers (i.e., the preference margin). The magnitude of the benefits obtainable from such preferences relies on the size of the preference margin and the distribution of the associated rents. The debate on preferences not only concerns the associated short-term commercial value but also on their long run implications concerning export-led economic growth. Moreover, as this favorable treatment is not meant to be constant and permanent,[1] the wisdom of lobbying for this intrinsically temporary favor has also been questioned.

2.1 To what extent have preferences been used by beneficiary countries?

Judging from the poor export and general economic performance of the LDCs, it seems that preferences have not realized their declared purposes. However, it would be difficult to lay the blame solely on trade preferences and to simply declare the demise of such programs. To do so, one would have to establish a counterfactual scenario in which preference-receiving economies had faced the MFN trade barriers and then compare this hypothetical scenario with reality, a difficult if not impossible task. Indeed, the debate on the role of preference remains theoretical and speculative.

Instead of debating the general role of preferences, this paper focuses on their actual utilization by the recipient countries, a measure directly revealing the perceived value of preferences to the recipient countries. A few recent papers explore this issue and they usually involve painstakingly collecting very detailed trade data at tariff line levels and identifying whether exports under a specific tariff line in a certain market actually applied the available preferential tariffs. Drawing from the utilization rates of various preference programs, these studies then proceed to explain why preferences have not been utilized fully and suggest ways to make them more effective.

Inama (2004) observed under-utilization of several trade preference programs (covering both agriculture and non-agriculture products) by the so-called QUAD countries (the US, Canada, the EU and Japan). The study argues that the value and effectiveness of the preferences available to LDCs' exports are discounted by the observed low utilization rates. It concludes that in order to improve the utilization of existing preferences programs, in addition to expanding product coverage of such programs (especially those of the US and Japan), it is important to change the attached rules of origin to make it less burdensome for the LDCs to comply with such rules[2].

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[1] Unless preferential market access barriers fall at the same rate as the corresponding MFN barriers, multilateral reforms will inevitably reduce the preferences margin. This indeed points to the nature of such programs – they are meant to be temporary and exporters from the LDCs are expected to become competitive when the preference margin disappears.

[2] Brenton (2003) found that utilization of the EBA by non-ACP LDCs was low in 2001 and suggested that the rules of origin may be to blame. However, the fact that the study only used data gathered for the first year of the EBA and the limited effective product coverage of the EBA may also explain the low utilization rate found in the study.

Unlike the Inama study, an OECD study (2004) focuses exclusively on the utilization of agricultural preferences granted by the EU and the US. The distinct feature of the study is that it takes into account the fact that exports from beneficiary countries may be eligible for multiple preference programs (i.e. multiple eligibility). The study finds that preference utilization rates are actually quite high for both the EU and the US preference programs once multiple eligibility is taken into account. For instance, the overall utilization rate of EU preferences exceeded 89% in 2002. Half of the eligible imports that did not use preferences entered into the EU by mostly duty-free quotas and tariff suspensions. For the US programs, the utilization rate was 88% in 2002. Some of the eligible exports entered the US market under MFN rates due to rules of origin and compliance costs, whereas other eligible exports opted for the low available MFN rates.

While drawing the conclusion that the US and EU agricultural preference programs have been utilized to a great extent, the OECD study also points out that in comparison to the substantial trade flows under the EU programs, trade volumes under the US programs were quite small, especially those from the African countries. It suggests that the issue of low export volumes is not so much associated with the utilization of existing programs, but has more to do with the limited product coverage of and the safety and sanitary standards attached to the programs. It also notes that rules of origin are unlikely a big issue for agricultural products, as compared to the more processed products.

Low export volumes under the US programs have also been observed in Wainio and Gehlhar (2004). They found that many products important to the LDCs are not covered by any US programs. Further, the MFN tariff rates for many covered products are quite low, thereby making the preference margins very small. Although the second observation leaves not much room for the LDCs to gain special advantages at present, the first does imply that widening product coverage may help stimulate exports from the LDCs in the future.

In summary, by observing multiple eligibility it appears that agricultural trade preferences have indeed been utilized, suggesting non-negligible commercial values of these programs. The main problem associated with these programs is the observed low export volumes, which is partially related to the limited product coverage of existing preference programs. Therefore, it appears that the July Package proposal has the possibility of expanding exports from the recipient countries.

2.2 Is enhancement of existing preference programs necessary? Preference erosion and multilateral liberalization

The case for enhancing agricultural trade preferences can be further argued in the context of possible preference erosions following the conclusion of the Doha negotiations. MFN reforms by preference granting countries or multilateral MFN reforms under the WTO erode trade preferences through two channels. By definition, MFN trade liberalization reduces preference margins, thereby eroding the advantages enjoyed by the ALDCs over their competitors. Moreover, liberalization actions by the

preference-granting countries will likely lower their high domestic prices and further hurt the high cost exporters from the preference-receiving countries.[3, 4] Several recent studies have discussed the impact of multilateral liberalization or MFN liberalization by individual preference-granting countries on preference-receiving countries.

Wainio and Gibson (2004) point out that the exact impact of MFN tariff cuts by the US on countries receiving its non-reciprocal preference programs depends on the scope of the preferential treatment granted, the size of preference margins, and the depth of the MFN tariff cuts. Their results show that for countries highly dependent on preferences, the negative effects of preference erosion outweigh the positive effects of MFN tariff liberalization, whereas for countries that are not as dependent on preferences, MFN tariff cuts by the US brings about positive effects and the larger the MFN cuts, the higher the benefits as measured in increased exports. Overall, the beneficiary countries of the US preference programs would gain from MFN tariff liberalization. The study does not provide a breakdown of the effects for individual African LDCs or for these countries as a group. Therefore, it is unclear if they would be better or worse off from the MFN liberalization. Nevertheless, it does confirm that preference erosion would be an issue for those who are dependent on preferences.

A slightly later study by Wainio and Gehlhar (2004) provides a detailed description of US non-reciprocal preference programs, covering eligible products and countries, margins of the preferences (as compared to the MFN rates), products excluded from the preferences and the applicable MFN rates, and the export patterns of the beneficiary countries in the US market. Based on this detailed data analysis, the study examines whether beneficiaries of US non-reciprocal trade preference programs gain more from cutting MFN rates on products excluded from these programs or lose more from the erosion of the preferences that they do enjoy. They conclude that developing countries as a whole would gain market shares in the US market from substantial MFN tariff liberalization, and that it is counterproductive for these countries as a group to oppose MFN liberalization. In drawing this conclusion, they emphasize the potential gains from liberalizing those products that are not included in the preference programs. However, their results also show that there would be only very minor export expansions in the US market for the LDCs (Tables 7-9 in Wainio and

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[3] An example is the reform of the Common Agricultural Policy (CAP) of the EU. Frandsen et al. (2003) shows that EU sugar policy reform may hurt the recipient countries of tariff-free quotas and benefit more efficient non-recipients.

[4] In addition to the erosion caused by market access reforms, possible negative terms-of-trade effects caused by removing agricultural subsidies in the OECD countries are also a concern for net food importing LDCs. Lowering these subsidies will likely reduce the incentives for farmers to overproduce in the OECD countries and will lead to higher world market prices. Moreover, many LDCs have already had difficulties in keeping their balance of payment in check. These price shocks will likely exacerbate the situation. Lastly, these negative effects may well be compounded and reinforced by the many domestic supply side constraints and the chronic external debt burdens of these countries. Some of these points have been addressed in Yu and Jensen (2005) in their analysis of the EBA initiative of the EU.

Gehlhar, 2004) and their share in total US imports would drop after MFN reforms, therefore confirming the likely vulnerable position of the LDCs in the upcoming multilateral trade liberalization.

Unlike the US preferences, which have incomplete coverage for agriculture and food products, the EU preferences granted to the LDCs provide broader product coverage and have recently been enhanced with the adoption of the EBA initiative, a move granting full duty and quota-free market access to all the LDCs. Yu and Jensen (2005) assess the impact of the EBA initiative on the ALDCs and show that further multilateral trade liberalizations may erode the EBA preferences. Due to its limited improvement (in terms of product coverage) from previous preferences programs, welfare impacts of the EBA on the ALDCs are shown to be small. Moreover, these small gains are likely to disappear if the EU conducts MFN trade policy reforms, resulting in an actually worse-off situation for the ALDCs. Extending the analysis to a multilateral trade liberalization scenario reinforces the above results that the LDCs may well lose due to preference erosion and higher world market prices for their imports. These results are echoed in Bureau et al. (2004). They find that the implementation of the "Harbinson proposal" would lead to a slight welfare gain (0.3 percent) for the poorest countries. However, the gain is not evenly spread – Sub-Saharan African countries as a whole would experience a slight loss (0.1 percent), due to preference erosion and higher costs for imported food.

Because of the differences in the EU and US preference programs and the narrower focus on the ALDCs by the Yu and Jensen study, the above cited studies reach different policy implications. While the Wainio and Gehlhar study illustrates that MFN reforms would lead to more gains in the US market to developing countries as a whole and that multilateral liberalization is generally a better option for developing countries, the Yu and Jensen study concludes that the ALDCs may well lose from this process. However, it appears from the results of the Wainio and Gehlhar study that the LDCs' share in the US import market would decline following the MFN reform, which is consistent with Yu and Jensen. The Wainio and Gibson study provides indirect support to this point as well by concluding that countries highly dependent on trade preferences may lose from preference erosion.

3. How can market access for the ALDCs be improved through trade preferences?

As the evidence gathered above suggests that agricultural trade preferences have been utilized and that preferences erosion is a legitimate concern from the perspective of the ALDCs (if not for developing countries as a whole), the next logic question is how the preferential treatment for the LDCs– as stipulated in the Doha Development Agenda and the July Package – can be improved.

3.1 Deepening, widening, broadening and strengthening agricultural trade preferences[5]

First, developed countries can "deepen" their preference programs by granting the ALDCs duty and quota-free market access to all agricultural products that are covered in existing programs. Second,

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[5] Blandford (2004) argued that they could help improve the effective participation of the LDCs in the multilateral trading system.

developed countries can "widening" the coverage of their preference programs by extending the duty and quota-free access to currently un-covered agricultural products. These two types of actions essentially imply EBA style preference programs by all developed countries to the ALDCs. Third, preferential market access for ALDC exports can be "broadened" to include advanced developing countries to the group of preference-granting countries. Lastly, preference-granting countries can "strengthen" existing and new preferences programs by making them permanent and unconditional, possibly in the form of special WTO rules.

3.2 Existing preference programs and scopes for further improvement

The policy space for implementing this proposal can be revealed by comparing the distance between the current preferences programs and the target of duty and quota-free access. "Broadening" preferences is possible as developing countries generally have not yet provided the LDCs extensive and substantial trade preferences. The possibility of "deepening" and "widening" preferences granted by developed countries, however, deserves some elaboration.

In the case of the EU, there seems to be limited room for improving its preference programs because of the recent EBA initiative. Upon fully implementing the EBA (i.e. phasing out of transitory measures for sugar, banana and rice), the EU will be in a good position to argue for EBA style preference from all developed countries and advanced developing countries.[6] The cases of the US and Japan, however, are quite different. There, deepening and widening preferences for the ALDCs will require meaningful actions. In the case of the US, this requires expanding the coverage of the existing programs to currently excluded products. For the Japanese programs, this implies both expanding the product coverage and deepening the preference margins for the covered products.

The ALDCs receive preferences from the US through the GSP program for the LDCs, which is typically more favorable (duty-free access to covered exports) as compared to that for the non-LDC countries. Many ALDCs have also become eligible for the African Growth and Opportunity Act (AGOA). Data from the USITC data web[7] show that out of around 1800 US tariff lines, about 400 MFN tariff lines are duty free. Among the remaining tariff lines, about 1100 lines are duty free for the LDCs through the US preference programs. However, these preferences only lower the simple average tariffs faced by the LDCs marginally (from an overall simple average of 9.7 percent to 5.6 percent for the GSP-LDC countries). This is because the dutiable tariff lines not covered in the preference programs generally have higher tariffs than those of covered products. Therefore, there is indeed scope for extending preferences to currently un-covered dutiable lines.

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[6] One nuance is that the EU may need to balance the interests of different types of recipients of its preference programs. For example, the transitory measure adopted for sugar exports from the LDCs may be more a response to the demands from non-LDC ACP countries than to those from domestic producers in the EU.

[7] These are drawn from the summary compiled by Breton and Ikezuki (2004), and Wainio and Gehlhar (2004).

Like the US, Japan grants preferences to the LDCs through the GSP program. Prior to 2003, this program granted preferences to around 300 tariff lines (out of around 2000 lines) for the LDCs, reducing the average duty for the LDCs from 15.6 percent to 14.2 percent. For those lines that are not covered by the GSP, there are around 400 duty-free lines and more than 1300 dutiable lines. Those uncovered dutiable lines generally have higher tariff rates. Unlike the US GSP program, the Japanese GSP programs did not grant duty-free access for the covered products and the average tariff rate for covered products were 9.8 percent for the LDCs, only slightly lower than the average rate for non-LDC GSP countries. Since 2003, Japan expanded the GSP product coverage for the LDCs by adding around 200 products or about 10 percent of total tariff lines. So, it seems that Japan would have to make extensive concessions to the LDCs in order for them to enjoy universal duty and quota-free access to its market. [8]

"Strengthening" existing trade preferences is also feasible due to the many problems associated with individual programs that limit their effectiveness in promoting exports from the recipient countries. Blandford (2004) provided a long list of difficulties associated with the implementation of existing preferences, ranging from eligibility, product coverage, rules of origin, certainty of commitments, to the number of schemes. Take the recent EBA initiative as an example. The safeguard measures specified in the GSP of the EU are largely retained in the EBA, with some amendments. Most notable among the amendments is the addition of the situation of "massive imports into the EU market" as a trigger for withdrawing the preferences. With regard to the three sensitive products (sugar, bananas, and rice), the EU is allowed to suspend the preferences entirely if imports cause serious disruptions to the EU's mechanisms that regulate these products. In addition, the rules of origin specified in the GSP also apply to the EBA initiative. Likewise, the US and Japan GSP program also contains various pre-conditions and clauses. According to the USITC data web (www.usitc.gov), the preferences offered through the AGOA are meant for all 48 Sub-Saharan African countries but until recently only 37 countries from this region have gained eligibility. Similarly, only 41 LDCs are deemed eligible for its GSP-LDC preferences. The Japanese GSP program also contains safeguard clauses and there is a graduation clause to exclude one country's exports from the program when they reach certain market share and certain minimum value. These measures and preconditions are clearly detrimental to creating a stable trading environment for the ALDCs and it may discourage producers in the ALDCs from committing investment necessary for reducing their high production cost. Making these preferences universal, permanent and binding by WTO rules could well remedy the problems.

4. A numerical evaluation of broadening, widening and deepening trade preferences

4.1 Methodology and data

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[8] Numbers in this paragraph are drawn from Breton and Ikezuki (2004).

In this section, hypothetical scenarios of deepening, widening and broadening agricultural trade preferences for the ALDCs are conducted using a global computable general equilibrium model named GTAP (Chapter 2, Hertel 1997). The GTAP model is a standard global trade model that allows for computing trade policy reforms induced changes of terms of trade, trade volumes and economic welfare. This model is accompanied by a global data set commonly known as the GTAP database (Dimaranan and McDougall, 2002). The database contains detailed input-output tables, globally consistent bilateral trade flows, a protection data set that covers ad valorem tariff equivalents[9], export subsidies, as well as domestic support measures, and macroeconomic aggregates. The latest version of the database contains data for 86 regions and 57 commodities for the year of 2001, including fairly detailed breakdown of agricultural and food products. This study applies an aggregated version of the database with 21 aggregated regions and 24 aggregated products. Six individual African LDCs (Malawi, Mozambique, Tanzania, Zambia, Madagascar and Uganda) from the disaggregated GTAP database are aggregated as one group (with the short name of SSA-1), whereas other African LDCs are largely included in an aggregated Rest of Sub-Sahara African (SSA-2) region.[10] Among the non-LDC regions are influential agricultural trading countries/regions such as Australia and New Zealand, China, Japan, India, Canada, the US, Argentina, Brazil, and EU-25. Seventeen agriculture and food products are included in the aggregated database. Non-agricultural products are aggregated as natural resources, textile and clothing, manufacturing, and services.

4.2 Scenarios

The deepening, widening and broadening scenarios are formulated as reduction/removal of relevant tariffs facing exporters from the ALDCs. In this study, the GTAP database is viewed as the initial equilibrium point of the world economy. By applying the shocks pertaining to the policy scenarios to the model, new equilibria after these shocks will be computed and updated datasets corresponding to and describing the new equilibria will then be generated. Effects of the policy changes can be calculated as percentage differences between the original dataset and the updated datasets.

Three hypothetical scenarios are considered. Scenario 1 is a multilateral market access liberalization scenario in which all the non-LDC regions are assumed to halve their MFN tariff rates of all agricultural and food products. Howevre, the ALDCs are assumed to not conduct any reductions of their own trade barriers. This scenario sets a benchmark against which the subsequent broadening and

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[9] The GTAP 6 database incorporates market access barrier data contained in the MacMaps data set. (Bouet et al., 2004), which encompasses ad valorem tariff rates, and ad valorem equivalence of specific tariffs and Tariff Rate Quotas.

[10] The aggregated SSA-2 region contains 43 individual countries, 33 of which are LDCs and the rest are non-LDCs. The GTAP version 6 database does not provide further breakdown of this region. Therefore we are forced to treat this as an aggregated LDC region. Any preference granted by developed and advanced developing countries in practice and in the hypothetical scenarios of the study is assumed to be available to the non-LDC countries in SSA-2 region as well. Consequently, numerical results obtained for this aggregated region are for both the LDC members and non-LDC members of this group. Nevertheless, as the majority of countries in this group are LDCs and most of the non-LDC members also receive preferences, it is expected that this is a meaningful grouping.

deepening scenarios can be compared. Scenario 2 is the deepening and widening scenario. Subsequent to the MFN market access reforms in Scenario 1, advanced economies (Australia and New Zealand, Japan, Rest of East Asia – mainly Korea and Taiwan, Canada, the US, and the EU25) are assumed to deepen and widen their preferential treatment for the ALDCs to the extent that all tariffs imposed on exports from the ALDCs are eliminated. This is essentially to assume an EBA offer from all advanced countries. Scenario 3 is the broadening scenario, whereby EBA style preferences to the ALDCs are granted by several large developing economies, including China, India, Mexico, Argentina, Brazil, and ASEAN (the Association of Southeastern Asian Nations).

4.3 Preferential tariff rates facing the African LDCs

Before proceeding to the simulation results, it is necessary to discuss an adjustment made to the GTAP protection data, which are aggregated from the more detailed MacMaps data set at HS-6 levels, using bilateral trade weights. This aggregation scheme, nevertheless, causes serious problems in correctly measuring market access barriers facing the ALDCs. As the ALDCs have either very little or no exports under many tariff lines (see Appendix Tables 1 and 2), the actual protection are greatly underestimated by the trade-weighted tariffs, which in many instances are simply zeros. This is certainly not correct, considering the fact that preference programs in countries such as the US and Japan exclude many dutiable products, hence exposing the ALDCs to generally high MFN rates in those products. Thus, the trade-weighted aggregation scheme fails to capture the actual protection faced by the ALDCs.[11] It also leaves little room for implementing the broadening and deepening scenarios, which involves cutting the MFN rates to the preferential levels. Moreover, if these tariffs were used in simulating the above scenarios, the degree and extent of preference erosion due to multilateral liberalization would also be underestimated because cuts to preference margins relative to the initial preference margins implied by any MFN reform would be smaller with the trade-weighted tariffs (as the starting point) than it should be.

One way to remedy the downward bias associated with the trade-weight method is to apply a simple average scheme – which does not use trade flows as weights – to recalculate aggregate tariffs on exports from the ALDCs, based on the detailed source data from MacMaps. Owing to the fact that there are usually only a few tariff lines appearing for any individual ALDC country in MacMaps, taking the simple averages on a bilateral basis would lead to an incomplete representation of the barriers facing individual ALDCs. Therefore, in calculating the simple averages, tariff lines at the HS6 levels imposed on all ALDC are pooled together, with the assumption that for any given export destination, all ALDCs face the same import barriers.[12] This treatment can be justified by observing that the

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[11] A rather extreme example is the Japanese rice tariff: while the trade-weighted tariffs facing other exporters range from 300 percent (for the EU25) to 1000 percent (for China), they are simply zeros for the ALDCs!

[12] Of course, the ALDCs face different barriers in different export destinations.

ALDCs are typically grouped together under existing preference programs and generally face the same preferential and MFN tariffs in a given market. As such, a certain tariff line recorded for one ALDC but not for another may very well be the applicable rate for the latter, when the latter start to export under that line.

Using the above procedure, a better representation of trade barriers facing the ALDCs, including the existing preferential tariffs, are obtained. The original GTAP database is modified to reflect these changes and the modified database serves the starting point for the simulations.

4.4 Results

Simulation results from the three policy scenarios are reported in Tables 1 and 2. The focus is on the changes in total exports from the ALDCs and the resulting changes in economic welfare. To facilitate discussion, reported results under the headings of Scenarios 1, 2 and 3 reflect respectively the individual effects of multilateral market access reforms, deepening and widening of preferences, and broadening of preferences, results for Scenarios 1, 2 and 3.[13]

4.4.1 Scenario 1

As can be seen from Table 1, total agricultural and food exports from both SSA-1 and SSA-2 would drop by over six percent under Scenario 1. Underlying this aggregate change are near universal declines in agricultural exports. The largest percentage changes are in vegetable and fruits, bovine meats, other meats, and sugar. However, the most significant changes in terms of trade volumes are in other crops, other food, and vegetable and fruits, as these are the products in which the two ALDCs have substantial base case exports. For instance, the decreases in exports of other crops of 5.9 percent for SSA-1 and 4.4 percent for SSA-2 are equivalent to losses of export volumes of around US$60 million for the former and US$150 million for the latter. Among the few exceptions to this declining pattern are the slight increases in exports of rice and plant fibers. However, only the increases in plant fibers seem to be meaningful as the base case exports of rice are very small.

These results suggest that the two African regions would lose part of their exports in the wake of the assumed multilateral market access reforms, provided that no further preferences are granted. The decline in their exports is in stark contrast to increased world trade in virtually all agricultural and food products and an almost 6 percent increase in total world agricultural export volumes, implying that the ALDCs' shares of agriculture exports would shrink.

4.4.2 Scenario 2

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[13] The results presented in this section are computed without including the prohibitive Japanese rice tariff in the deepening and widening scenario. In the multilateral scenario, the assumed halving of this tariff would still result in a prohibitive new tariff. Meanwhile, a complete deepening scenario would remove this tariff for the two African regions. As a result, exports and hence outputs of rice in the two regions would increase dramatically, leading to massive resource reallocation into rice production. However, considering the size of the Japanese rice market, it is unlikely for Japan to maintain a prohibitive tariff on all but the ALDCs. As such, in the scenarios reported here, this possibility is excluded.

Deepening and widening trade preferences by developed countries would reverse the negative export effects on the two ALDCs created by the multilateral market access reform. Results from Scenario 2 (also in Table 1) show that as compared to Scenario 1, total exports of agricultural and food products from SSA-1 and SSA-2 would respectively increase by over 17 percent and around 30 percent. In dollar terms, total agricultural and food exports from SSA-1 would be over 2.4 billion, representing an increase of over US$360 million from Scenario 1. For SSA-2, the increase is almost US$2.5 billion. These increases more than make up for the losses sustained from the multilateral market access reform.

The increase in total agricultural exports would not be evenly distributed across products. Those products that are important to the ALDCs and that are excluded from the current preference programs are the ones that would experience the greatest increase. In percentage terms, the increases are the highest for meat products, dairy products, and sugar for both regions. In addition, exports of vegetable and fruits, and oil seeds would also increase significantly for SSA-2. Most notable among the changes are the increased exports of sugar, reaching over US$400 million for SSA-1 and around US$2.5 billion for SSA-2, due to the fact that current market access barriers are high for both non-LDC and LDC exporters.

In contrast to the large export expansions in many products, exports of several products from the two ALDCs would decrease. Notable examples are exports of plant fibers from both regions and other crops from SSA-2.This is due to the inter-sectoral resource movement triggered by the expansion of preferential coverage and the deepening of existing preference programs. In fact, the existing preferences may have distorted production and trade patterns in the beneficiary countries. Making such preferences universal and homogenized across sectors may help the beneficiary countries reconfigure their production and trade patterns according to true comparative advantages so as to avoid narrow or wrong specialization. For instance, the expansion of exports of "other food products" would lead to declining exports of "other crops" (mainly tropical products) in SSA-2. This in turn may also help mitigate the long term trend of declining prices of such products.

4.4.3 Scenario 3

Those developing countries chosen for conducting the broadening scenario (Scenario 3) generally do not offer extended preferential treatment targeting the ALDCs and their imports from the two African regions are very small and in some cases, no such imports exist according to the GTAP database. So the resulting changes in exports from the ALDCs in Scenario 3 not only depend on the MFN market access barriers of the chosen developing countries, but also are related to the initial export volumes from the ALDCs. The latter matters as the modeling framework adopted for this paper uses the so-called Armington trade structure, which is known to have difficulties in generating trade when there is none or little trade to begin with.

The overall increase in agricultural exports due to the broadening of trade preferences would be around US$130 million for SSA-1 and US$260 million for SSA-2. The main sources of such increase are from vegetable and fruits, plant fibers, other crops, and meat products. In contrast, exports of sugar, rice and oil seeds from both regions actually decrease slightly.

It should be noted that the overall increases in exports reported for Scenario 3 are much smaller than those obtained from the deepening and widening scenario (scenario 2). Although this result may have something to do the Armington trade structure employed in the model and the fact that there is little agricultural trade between the ALDCs and those developing countries (that are assumed to grant preferences), the market size of the developed countries and their role as the ALDCs' traditional markets may be more responsible for the relatively larger export effects from the deepening and widening scenario.[14] This result seems to discount the optimism on the South-South trade, at least in the short and medium run.

4.4.4 Welfare effects[15]

While the multilateral market access reforms would benefit most non-LDC countries, the welfare effects turn out to be negative for the two African regions (losses of about US$50 million and 184 million for SSA-1 and SSA-2, respectively), a result that is consistent with Yu and Jensen (2005).

To understand these welfare results from Scenario 1, focus should be on the negative export price effect, which dominates the total terms-of-trade effect for both regions. This negative export price effect is due to two reasons. On the one hand, multilateral market access reforms would lead to lower prices in the export markets and hence lower prices for those ALDC exports covered in preference programs. At the same time, lowering MFN market access barriers would lead to higher prices for exports from countries not receiving preferential treatment. Hence, non-LDCs countries would be able to export and crowd out exports originated from the ALDCs. On the other hand, preferential access granted to the ALDCs would actually "trap" their exports and prevent them from shifting to other markets, thereby further dampening the prices of ALDCs' exports. In addition, the ALDCs may be also hurt by higher world market prices for their imports.

The negative welfare effects on the two African regions would be more than offset by the deepening of existing preference programs of the developed countries. Results from Scenario 2 show that such a move by the developed countries would not only result in improved terms-of-trade for the

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[14] A simple sensitivity analysis with respect to the Armington elasticities has been carried out by re-running the three experiments with a new set of elasticities that are twice as large as the original ones used in the GTAP model. Results from these simulations show that the increases in agricultural exports from the African LDCs will be higher under both the deepening and broadening scenarios, as compared to those reported in Table 1. Nevertheless, higher Armington elasticities boost exports under the deepening scenario much more than under the broadening scenario, suggesting that the qualitative conclusion reported in the main text is quite stable with respect to the degree of substitution in the Armington structure.
[15] These are comparative static aggregate welfare effects measured in equivalent variations. They can not be directly used to evaluate the effect of trade policy changes on poverty. But it is well established in the literature that farm export expansion has important multiplier effects for economic development in the poor countries.

African LDCs, it would also lead to efficiency gains for them. For SSA-1, the total welfare improvement from Scenario 1 would be over US$110 million, whereas for SSA-2 this would be almost US$800 million. Most of these gains are due to improved terms-of-trade, with the positive export price effects being the dominant factor.

While deepening preferences by the developed countries seems to generate substantial benefits to the African LDCs, according to the simulation results, broadening preferences would not generate similar exports expansion and welfare gains to the African LDCs. The additional welfare gain to SSA-1 from the broadening scenario would be a little over US$50 million and that to SSA-2 would be around US$90 million.

4.4.5. Effects on preference-granting and other countries

Deepening trade preferences by developed preference-granting countries would lead to small terms-of-trade losses to these countries. For instance, the EU25 would suffer a welfare loss of US$582 million (see Table 2). However, this loss is much smaller than the gains obtained from the multilateral market access reforms (i.e. Scenario 1), resulting in significant net gains to the developed countries. For non-LDC developing countries, the negative impact of widening and deepening preferential treatment for the ALDCs would also be very small, implying that the expansion of exports from the ALDCs would generally not be a big concern for them. For example, China and India would only suffer welfare losses of 4 and 17 million US dollars, respectively. Moreover, broadening preferences by the advanced developing countries would lead to very minor welfare losses for themselves.

Overall, the cost of broadening and deepening preferences for African LDCs appear to be very minor to other countries. Although not presented here, the trade diversion effects are also very small, a result that is consistent with the ALDCs' very small exports in total world trade. Therefore, the concern on trade diversion does not appear to be a serious issue.

5. Conclusions

The July Package of WTO agricultural trade negotiations call for duty and quota-free access for exports from the LDCs. This paper discusses the merits of this proposal. The usefulness of preferences has been revealed by the high utilization rate of agricultural trade preferences and the case for improving trade preferences is further supported by the threat of preference erosions. Based on these, we propose deepening, widening, broadening and strengthening trade preferences for the ALDCs. A set of CGE simulations illustrates the potential impact of this proposal. The first scenario confirms the ALDCs' vulnerability in multilateral liberalization. However, these negative impacts would be more than offset by deepening and widening trade preferences (scenario 2). At the same time, offering universal duty and quota-free access to the ALDCs implies harmonization of preferences programs, which in turn would help reveal true comparative advantages of the ALDCs. Adding selected advanced developing

countries to the preference-granting group (i.e., broadening preferences) would further expand exports from the ALDCs. It should be noted that the added benefits from broadening preferences would be smaller than what could be achieved from the deepening and widening scenario. This result appears to support the long-standing importance of developed countries' agricultural markets to the ALDCs. Of course, these estimated benefits would not be fully realized without strengthening the legal foundation of the preference programs. And the ALDCs need to conduct domestic policies reforms aiming at creating an enabling environment for their export-oriented industry to take advantage of this opportunity.

While the current paper provides some support to the proposal of offering duty and quota-free access to exports from the LDCs, political feasibility of the proposal is entirely another matter. Nevertheless, the numerical results of the paper suggest that the proposal would impose little cost on the rest of the world due to limited trade diversion. And this narrow yet vital interest of the ALDCs will by no means jeopardize the whole dynamics among major trading nations and implementing this idea will not alter the world trade patterns. Moreover, such an offer would ease the LDCs' fear of preference erosion and should create the right incentive for them to agree to a new deal.

Having argued for improving preferences for the ALDCs, a caution should be issued. Just as one should not dismiss the value of the preference programs for their poor historical performance, one also needs to realize the limit and diminishing nature of this favorable treatment. Preferences cannot and should not be viewed as a source of competitiveness. Rather, they only provide an important yet temporary opportunity for the ALDCs to expand and develop their economy. Over-estimating the value of preferences is just as misleading as not granting this opportunity or not taking advantage of this opportunity.

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Table 1. Changes in exports of selected agriculture and food products from SSA-1 and SSA-2

| | Scenario 1 | | | | Scenario 2 | | | | Scenario 3 | | | |
| | Export volume (million US$) | | % change | | Export volume (million US$) | | % change | | Export volume (million US$) | | % change | |
	SSA-1	SSA-2	SSA-1	SSA-2	SSA-1	SSA-2	SSA-1	SSA-2	SSA-1	SSA-2	SSA-1	SSA-2
Grains	35.8	48.4	-2.6	-9.5	36.3	48.6	1.3	0.4	36.3	49.1	0.1	0.9
vege &fruits	130.0	810.1	-10.9	-8.3	130.2	1109.0	0.2	36.9	212.3	1192.5	63.0	7.5
oil seeds	25.2	236.1	0.7	-21.5	25.5	403.7	1.2	71.0	25.2	398.8	-1.3	-1.2
plant fibers	112.9	896.5	0.3	0.5	108.3	841.8	-4.1	-6.1	113.3	910.7	4.6	8.2
other crops	1040.6	3322.0	-5.9	-4.4	1078.7	3047.9	3.7	-8.3	1137.6	3104.8	5.5	1.9
bovine meats	1.6	25.8	-26.0	-14.4	1.9	24.4	17.6	-5.5	2.1	25.0	12.6	2.7
other meats	7.5	36.4	-11.4	-9.4	9.7	53.8	28.9	47.6	14.6	61.6	50.5	14.5
vege oils	6.8	142.7	-8.4	-7.8	6.5	130.0	-4.5	-8.9	6.8	129.4	5.5	-0.5
dairy	1.1	29.3	-8.0	-5.8	3.3	47.9	191.6	63.5	3.3	49.1	1.1	2.6
rice	5.7	30.9	2.3	1.8	5.5	28.8	-3.7	-6.6	5.3	28.5	-3.8	-1.1
sugar	93.6	169.9	-21.3	-49.8	411.6	2507.8	339.9	1376.1	402.6	2499.4	-2.2	-0.3
other food	508.3	2058.1	-5.6	-5.6	513.7	2034.3	1.1	-1.2	511.4	2079.8	-0.4	2.2
Total agrifood	2052.1	8226.2	-6.5	-6.9	2415.3	10697.5	17.7	30.0	2555.7	10960.3	5.8	2.5
Total	6569.2	52985.5	-0.7	-0.5	6674.8	53948.0	1.6	1.8	6718.2	54071.2	0.7	0.2

Sources: simulation results.

Table 2. Welfare results for selected countries/regions (million US$)

	Scenario 1			Scenario 2			Scenario 3		
	Efficiency	Terms of trade	Total	Efficiency	Terms of trade	Total	Efficiency	Terms of trade	Total
Australia & New Zealand	4.2	566.2	545.3	1.2	5.8	6.1	-0.2	-6.5	-6.8
China	830.8	-164.6	575.2	3.9	-1.6	-4.4	3.0	-6.1	-2.6
Japan	3263.5	-536.2	2766.7	-4.3	-37.3	-49.3	2.0	-0.7	0.5
Rest E. Asia	1141.5	-32.5	1067.6	-81.5	-27.0	-109.8	2.1	-0.9	1.1
ASEAN	554.7	289.6	760.9	-2.6	9.8	7.1	-7.5	-24.1	-31.2
India	830.8	-216.0	610.9	-6.9	-8.1	-16.6	22.5	-26.9	-4.6
Canada	674.5	-112.9	551.3	1.4	9.7	11.0	0.3	-2.4	-1.8
USA	87.5	957.0	1292.6	14.5	-68.3	-99.4	2.1	-10.7	-18.4
Mexico	321.2	-208.1	108.9	-0.1	6.3	5.8	4.2	-3.5	1.0
Argentina	46.3	259.4	270.1	-0.1	-2.4	-2.2	0.0	-1.8	-1.6
Brazil	162.2	888.0	1098.6	-3.0	-5.4	-10.3	1.2	-5.0	-4.3
EU25	5586.4	-1255.9	4276.2	-72.6	-494.1	-582.3	15.5	-33.0	-19.9
SSA-1	-1.4	-42.5	-50.0	3.9	91.4	111.8	-1.1	48.2	53.5
SSA-2	-38.9	-126.8	-184.2	168.2	527.9	772.4	17.0	66.4	91.2
World	16400.2	-12.2	16387.8	3.6	-4.6	-1.6	62.5	-0.2	62.3

Sources: simulation results.