ReSAKSS ECA East & Central Africa
Regional Strategic Analysis and Knowledge Support System
FACILITATED BY IFPRI

Issue Brief
July 2009
No. 13

The Impact of Nontariff Barriers on Cross-Border Trade in Maize and Beef Within the East African Community

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The East African Customs Union was established in 2005 with the aim of increasing intraregional trade. The Customs Union protocol abolished intra-East-African-community (EAC) tariffs and required member states to eliminate nontariff barriers (NTBs) to intraregional trade.

It is generally accepted that NTBs diminish the potential benefits that could be derived from the trade preferences offered through regional trading arrangements. These trade preference benefits include better access to partner country markets, increased export volumes and prices, improved economic welfare, more jobs, and more rapid economic growth. In the EAC protocol, NTBs are defined as "laws, regulations, administrative and technical requirements other than tariffs imposed by a partner state whose effect is to impede trade." In spite of their commitment to eliminate them, member states continue to apply various NTBs to trade, which raises concerns among policymakers and the business community. In this brief, we present results of a study that identified the existing NTBs in maize and beef trade and quantified their impact on the trade and welfare of EAC citizens.

Data on NTBs were collected from traders and transporters of maize and beef cattle in East Africa. A field survey of maize and beef cattle traders and transporters was carried out to assess the transportation cost and various NTBs that they face while trading in maize and beef cattle. A total of 450 maize and 357 beef cattle traders and transporters were interviewed. Other data assembled were the quantities of maize and beef supplied and consumed in the three EAC countries and their corresponding prices and estimates of supply and demand elasticities. The impacts of NTBs on cross-border trade and welfare were computed using a spatial equilibrium model (SEM).

TYPES OF NTBS IN MAIZE AND BEEF TRADE

The results of the survey showed that NTBs experiences are similar in the three EAC countries and in the two commodities considered in the study. They include administrative requirements (mainly licenses and municipal and council permits), taxes and duties (mainly excise and cess duties), roadblocks, cumbersome customs procedures, weighbridges, licensing procedures, corruption, and transiting costs. The licenses required include a business license, road-transport license, and livestock-clearance certificate. Not only do these NTBs imply extra monetary costs, they also result in potential trade time being wasted by traders and transporters.

Roadblocks were identified as a major NTB in the region. Kenya has the highest total number of roadblocks impeding free trade in the EAC. There are on average 11 roadblocks in Kenya at an average distance of 194 kilometers (km), while in Tanzania 6 roadblocks were reported at an average distance of 310 km, and in Uganda 10 roadblocks were experienced at an average distance of 213 km. The Kenyan government has indicated that it intends to reduce the roadblocks from 47 to 15 from Mombasa to Busia (a 68 percent reduction) to encourage international trade. Roadblocks were reported to be an inefficient use of time, excessive in number, staffed by unfriendly police officers, and an avenue for corruption. More than half of the traders and transporters were bribed at various levels of the trade transactions in order to pass through trade barriers.

The number of weighbridges that traders and transporters were subjected to in Kenya, Uganda, and Tanzania was low (five in Uganda for both beef cattle and maize traders, three in Tanzania for both types of traders, and two for maize traders but zero for beef

cattle traders in Kenya). Overall, the majority of traders in the three countries do not regard weighbridges as serious obstacles to trade.

Traders and transporters encountered long queues at customs offices. The longest time spent in queues per trip was approximately seven hours in Uganda by maize traders. Kenya beef cattle and maize traders spent on average three hours at customs offices while, in Tanzania, the traders spent less than one hour there per trip. These long queues were reported to be caused by inadequate staffing at customs offices, discrimination by customs officials, and failure by customs officials to clarify the rules and regulations of trade. The inspection process at customs points required unnecessary unloading of commodities.

NTBs as a Percentage of Transfer Costs

Transfer cost of maize and beef per ton per kilometer was estimated by the summation of all costs incurred as the traders moved from trade point of origin to destination. The main components of transfer costs were split into two groups: non-NTB transfer costs (including vehicle hire and maintenance, loading and offloading, and transporters' allowances) and NTB transfer costs (including weighbridges, security, transiting, customs clearance, road toll stations, branding of cattle, standards and certifications, and bribes). Table 1 shows that approximately 35 percent of total maize transfer costs is attributed to various NTBs in Kenya. Uganda reported that more than 50 percent of total maize transfer costs from origin to destination comes from NTBs. Only 12 percent of total maize transfer costs in Tanzania was composed of NTBs, however. On beef cattle trade, Kenya and Uganda reported that NTBs constitute more than 25 percent of total transfer costs while Tanzania reported approximately 19 percent. Reduction or elimination of NTBs will reduce the high transfer costs in the region.

WELFARE IMPACTS

The impacts of NTBs on cross-border trade and welfare were computed using a SEM, which was calibrated to the price and quantity values for 2006. Three policy scenarios were considered: (1) a 50 percent reduction in all NTBs, (2) a complete elimination of all NTBs, and (3) the elimination of specific types of NTBs. At the 2006 base scenario, the three EAC countries trade in both maize and beef. Kenya imports maize from both Uganda and Tanzania while Uganda exports beef to both Kenya (74,000 tons) and Tanzania (75,000 tons). In each case, the price is lower in the exporting country relative to the importing country.

Scenario1: Impact of Reducing NTBs by 50 Percent

When the NTB rates within the EAC are reduced by half, various changes from the base scenario are observed. Maize prices fall by about 5 percent in Kenya but remain unchanged in both Uganda and Tanzania (see Table 2). The drop in price benefits Kenyan maize consumers, but producers lose. Consumers in Kenya gain US$35 million while producers lose $9 million. This results in a rise in maize consumption in Kenya, but leaves domestic maize production unchanged. Maize consumption in both Uganda and Tanzania remains unchanged. On the other hand, Uganda's maize production increases by about 9 percent (127,000 tons) while there is no change in Tanzania's maize production. These changes are accompanied by changes in the trade pattern. Uganda's maize exports to Kenya increase by 127,000 tons, and Kenya's maize imports increase by 127,000 tons with the reduction in NTBs (Table 2). Ugandan producers benefit from the increased production, but no similar gains accrue for Tanzanian producers when NTBs are reduced by half. Consequently, the social welfare increase is higher in Uganda compared to Tanzania since the trade impacts of reducing the NTBs are smaller in Tanzania. Overall, total benefit in the maize subsector increases by 4 percent ($26 million) in Kenya and by 6 percent ($21 million) in Uganda. There is neither a gain nor a loss in Tanzania's welfare.

Within the beef subsector, the reduction of NTBs by half results in an increase in beef prices in Tanzania, but leads to a decline in beef prices in both Kenya and Uganda (Table 2). The increased beef prices in Tanzania lead to a decline in beef consumption while production increases. On the other hand, beef consumption in Kenya and Uganda increases by 1 and 4 percent respectively, while Uganda's beef production falls sharply by about 25 percent (75,000 tons). As a result, Uganda's beef exports to Kenya increase by 2 percentage points (1,000 tons), but her beef exports to Tanzania decline by 17 percent (13,000 tons). Reduction in beef prices in Kenya and Uganda will also benefit consumers but be a loss to producers in both countries. Beef prices in Tanzania will rise, thus benefiting producers. The effect of this is that the welfare of beef consumers in both Kenya and Uganda increases by 1 and 8 percent respectively. On the other hand, reducing the cost of NTBs by half in the beef subsector causes producers to lose 2 or 8 percent from the base scenario in Kenya and Uganda respectively. As prices for beef in Tanzania rise, consumption will decline leading to a fall in consumer benefit of about 5 percent ($28 million), but a rise in producers' benefit by about 10 percent, or $40 million.

Scenario 2: Impact of Total Elimination of NTBs

When NTBs are completely eliminated, maize and beef prices within the three EAC countries adjust to $178 per ton and $862 per ton respectively. The uniform equilibrium prices within the EAC allow for increased regional trade in both maize and beef. In Kenya, the price of maize declines, which will lead to increased maize consumption. Unlike Kenya, the price of maize increases in Uganda and Tanzania, where they will experience an expansion in maize production and a decline in maize consumption. With regard to maize trade, a complete elimination of NTBs within the EAC leads to increased regional trade. Uganda and Tanzania substantially increase their exports of maize to Kenya (160,000 tons from Uganda and 428,000 tons from Tanzania).

The welfare changes emanating from a complete elimination of NTBs within the EAC varies from one country to another. In Kenya's maize subsector, consumer benefit increases by $45 million while producer benefit falls by $86 million due to reduced production. The loss by Kenya's maize producers outweighs the gain by its consumers. Thus, the net effect is a 6 percent decline in social welfare. In contrast, the benefit to maize consumers in Uganda and Tanzania will fall by $11 million and $24 million respectively, due to increased prices. But the benefit to producers increases disproportionately in the two countries, by $35 million in Uganda and by $66 million in Tanzania. Thus, the net welfare effect within the maize subsectors in Tanzania and Uganda is positive. It can therefore be concluded that the maize subsectors within Uganda and Tanzania are better off with a complete elimination of NTBs.

Within the beef subsector, a complete removal of NTBs causes a decline in beef prices in both Kenya and Uganda but leads to a price increase in Tanzania. As a result, Uganda's beef exports to Kenya increase by 23,000 tons while those to Tanzania decline by 33,000 tons. The welfare impacts follow suit with consumer benefit in both Uganda and Kenya increasing by $33 million and $8 million respectively while it declines by $52 million in Tanzania. On the other hand, producers' benefits within the beef subsector in Kenya and Uganda fall while they increase in Tanzania relative to the base solution. When both beef producers and consumers are considered, total benefit declines in Kenya and Uganda by $13 million and $19 million respectively but increases in Tanzania by $21 million. Because total welfare increases, the gainers from a complete removal of NTBs within the EAC can potentially compensate the losers.

Scenario 3: Impact of Eliminating Roadblocks, Permits, and Customs Barriers

The welfare effects of eliminating specific types of NTBs were also analyzed. In particular, the effects of eliminating roadblocks and permits and improving customs procedures were considered. Overall, the welfare impacts of eliminating individual NTBs were marginal especially for the maize subsector in the three countries. However, the welfare impacts in the beef subsector in Uganda and Tanzania gave compelling evidence in support of eliminating individual NTBs.

CONCLUSIONS AND RECOMMENDATIONS

The study found that NTBs exist and are largely similar across the East Africa (EA) region. The main NTBs are roadblock checks, bribes, customs procedures, and discrimination when obtaining permits and licenses. There are also numerous administrative requirements (at least ten) while trading in maize and beef cattle in EA. Licenses and municipal and council permits are the main requirements across the three countries. The SEM results show that complete removal of all NTBs brings positive welfare change in EA. It was also noted that selective removal of individual NTBs brings very minimal welfare change. Thus the study recommends the following: (1) streamlining administrative procedures at border points to improve efficiency by harmonizing and simplifying trade regulations, (2) increasing the speed at which procedures at points of origin and border points are carried out by ensuring adequate staffing by well-trained personnel and requiring transparent customs regulations, (3) minimizing time loss at checkpoints such as roadblocks and weighbridges, (4) taking a regional approach to removing non-tariff barriers since they are similar across member countries and commodities so as to exploit economies of scale, and (5) designing and implementing efficient monitoring systems to provide feedback to the relevant authorities on the removal of unnecessary barriers to trade in the EAC region.

Table 1: NTBs as a percentage of total transfer costs

	Maize			Beef cattle		
NTB description	**Kenya**	**Tanzania**	**Uganda**	**Kenya**	**Tanzania**	**Uganda**
Weighbridges	2.41	0.97	4.25	0	0.1	0
Security	0.45	0.73	0.26	0.26	6.69	1.48
Transiting	0.49	0	33.87	0.49	0	9.47
Municipal permits	3.61	2.39	2.21	4.2	3.69	3.18
Council permits	3.74	4.31	1.79	4.24	4.69	3.15
Licenses	2.75	0.37	4.46	1.74	0.17	5.93
Customs clearance	12.83	0.75	2.75	0.62	0.05	2.98
Immigration	0	0.13	0.31	0	0	2.35
Standards and certification	4.92	0.41	2.63	8.53	1.14	3.89
Road toll stations	1.42	0.35	0.63	0	0.34	2.89
Bribes	1.94	1.27	1.41	7.43	1.47	3.17
Branding of cattle	0	0	0	0.63	0.36	1.08
Transfer costs taken up by NTBs (%)	**34.56**	**11.68**	**54.57**	**28.14**	**18.7**	**39.57**

Source: Survey results, 2008.

Table 2. Welfare impacts of reducing the existing NTBs by half

Variable description	Kenya	Uganda	Tanzania
Maize			
Producer price (US$/MT)	-7 (-4.43)	11 (8.27)	-9 (-5.66)
Consumer price (US$/MT)	-4 (-1.97)	29 (20.14)	-7 (-4.19)
Quantity demanded ('000 MT)	33 (2.97)	16 (1.53)	-16 (-1.42)
Quantity supplied ('000 MT)	-85 (-2.63)	370 (2.79)	34 (1.89)
Quantity traded ('000 MT)			
Kenya	0 (0)	0 (0)	0 (0)
Uganda	67 (25)	-29 (-2.65)	0 (0)
Tanzania	15 (17.44)	0 (0)	-5 (-0.13)
Consumer surplus (US$ million)	7 (3.39)	-7 (-4.34)	-1 (-0.3)
Producer surplus (US$ million)	-6 (-2.05)	8 (6.15)	2 (0.64)
Social surplus (US$ million)	1 (1.34)	1 (1.84)	1 (0.34)
Beef			
Producer price (US$/MT)	-659 (-5.45)	384 (19.54)	-749 (-8.32)
Consumer price (US$/MT)	-1048 (-7.27)	538 (19.56)	-904 (-9.86)
Quantity demanded ('000 MT)	295 (9.61)	-45 (-17.19)	154 (6)
Quantity supplied ('000 MT)	-121 (-9.06)	43 (7.65)	-79 (-6.46)
Quantity traded ('000 MT)			
Kenya	0 (0)	0 (0)	0 (0)
Uganda	1 (4)	-1 (-0.6)	2 (7.69)
Tanzania	0 (0)	0 (0)	0 (0)
Consumer surplus (US$ million)	1 (0.15)	-3 (-2.01)	4 (0.82)
Producer surplus (US$ million)	-0.5 (-0.09)	3 (3.63)	-4 (-0.48)
Social surplus (US$ million)	0.5 (0.14)	3 (1.62)	1 (0.34)
Total surplus (US$ million)	**1 (0.04)**	**2 (0.23)**	**1 (0.06)**

Note: The values represent differences from the base scenario; figures in parentheses are percentage changes from the base solution and total surplus is the summation of consumer and producer surplus for both maize and beef; MT = metric ton.

Source: Author's SEM Analysis, 2008.

The research results presented here are based on a study on impacts of nontariff barriers on cross-border trade in maize and beef within the EA region. Joseph Karugia, Julliet Wanjiku, Sika Gbegbelegbe, Stella Massawe, and Eric Macharia are, respectively, coordinator, research associate, postdoctoral scientist, monitoring and evaluation expert, and data analyst in the Regional Strategic and Knowledge Support System for Eastern and Central Africa (ReSAKSS-ECA). Jonathan Nzuma is a lecturer at the University of Nairobi. Ade Freeman is the director of the targeting and innovation theme at the International Livestock Research Institute (ILRI). Michael Waithaka is the manager of the Policy Analysis and Advocacy Programme (PAAP) of the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA), and Simeon Kaitibie is an agricultural economist at ILRI.

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The ReSAKSS nodes offer high-quality analyses to improve policymaking, track progress, document success, and derive lessons for the implementation of the CAADP agenda. ReSAKSS is jointly funded by the United States Agency for International Development (USAID), the UK Department for International Development (DFID), and the Swedish International Development Cooperation Agency (SIDA). The nodes are implemented by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Institute of Tropical Agriculture (IITA), the International Livestock Research Institute (ILRI), and the International Water Management Institute (IWMI), in collaboration with regional and national partners.

This brief has undergone a standard peer-review process involving one reviewer from within the ReSAKSS network of technical partners.

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