Resolving the unresolved non-tariff barriers in the East African Community

Second and final report

Annexes

June 2017

Annex I: Outputs

The second stage of this project produced a series of outputs, listed below:

Policy briefs:

1) What types of non-tariff barriers affect the East African Community?
2) What are the causes of non-tariff barriers in the East African Community?
3) Non-tariff barriers and 'complaints' in the East African Community's reporting process
4) Would more trade facilitation lead to lower transport cost in the East African Community? (forthcoming)
5) The cost of transport and logistics barriers in East Africa (forthcoming)

Event:

One event was organised in Nairobi on "Measuring and quantifying the impact of the removal of NTBs in the EAC". The event was held on 20 July 2016 at the Hilton Hotel in Nairobi, Kenya as a side event to the 14th United Nations Conference on Trade and Development.

The event was very well attended with participation from the EAC Secretariat, Ministries of Trade and EAC affairs, the East African Business Council, the United Nations Economic Commission for Africa, the East African Trade and Investment Hub, the Northern Corridor Secretariat, investment agencies, transporters and freight forwarders, private sector associations and civil society, development partners and research organisations.

Academic paper:

The team is currently preparing a paper to be submitted to an academic journal. The focus on the paper will be on the transport sector, and it will draw on the data collected to show the cost structure and the competitiveness of the East African transport sector. The draft will be completed by June 2017, and will then be submitted for publication.

Reports:

1) Stage 1 report (submitted in May 2016).
2) Stage 2 report.

Annex II: Current status of NTBs in the EAC

The EAC introduced a Customs Union in 2005 and a Common Market in 2009, to achieve free circulation of goods, people, services and capital among the five East African Partner States.[1] However, trade in East Africa is still riddled by a number of NTBs. The EAC defines NTBs as quantitative restrictions and specific limitations that act as obstacles to trade (EACS, 2009).

The EAC Partner States are working together to address NTBs. One of the most recent efforts is the Elimination of Non-Tariff Barriers Act, enacted by the East African Legislative Assembly (EALA) in 2015.[2] This sets out the creation of a mechanism by means of which National Monitoring Committees (NMCs) coordinate national work on NTBs (including reporting new NTBs and progress achieved on the old ones) and then convene through the Regional Monitoring Committee.

Even before the enactment of the Act, Partner States already had mechanisms in place to tackle the issue of NTBs. The main instrument is the EAC Time-Bound Programme for Elimination of Identified Non-Tariff Barriers (EACS, 2009). This works through a list of NTBs reported by Partner States. This schedule is updated through quarterly meeting, during which new NTBs are reported and resolved ones are moved to the end of the list. Reports of the Time-Bound Programme constitute a living document on how NTBs have evolved in the East African region. While they do not describe how NTBs have been resolved, they reveal which countries have resolved which type of NTBs. An analysis of this information can provide interesting insights into both resolved and unresolved NTBs and provide lessons for East Africa and beyond.

In this section we draw on the information contained in these status reports, through an analysis of a total of 16 reports (from March 2012 to June 2016) covering NTBs from 2009 to 2016. We compare the key characteristics (type, country of responsibility and coverage) of resolved and unresolved NTBs in the EAC and also make some observations about the time taken to resolve NTBs in the region, drawing a few conclusions based on the findings.

1. What types of NTBs still affect the EAC?

As of June 2016, 25 NTBs continued to restrict intra-EAC trade; 106 had been removed since the establishment of the NTB Monitoring Mechanism. This section reviews these lists in view of their characteristics and establishes the type of NTBs that have been resolved in the past, comparing their key characteristics with those of the NTBs that remain in place.

The EAC regularly produced reports on the Status of Elimination of Non-Tariff Barriers in the EAC, which divide the NTBs into two lists: resolved and unresolved NTBs. For each set of NTBs, these list the source, the affected parties, a short description and a timeframe for resolution, among others. We also look at the resolution mechanisms to assess whether they are the most appropriate means to address these NTBs, or whether other systems should be devised.

The NTBs listed in these reports can be classified into the following four broad categories:

Tax-like measures: These involve measures that impose monetary costs on imports (including non-application of preferential tax arrangements). One example is the application of non-harmonised road user charges/road tolls. However, it excludes any trade-related monitoring and enforcement costs that the authorities may incur.

Quality and safety standards: These include all quality- and safety-related measures and their enforcement but exclude outright bans (regardless of whether the ban is safety- or quality-related). An example is the

[1] Burundi, Kenya, Rwanda, Tanzania and Uganda. South Sudan is also a member of the EAC, but the NTB monitoring systems has not been rolled out yet.

[2] East African Legislative Assembly (2015). ' End of the road for non tariff barriers as EALA enacts key legislation'. Press release, available on http://www.eala.org/new/index.php/media-centre/press-releases/806-end-of-the-road-for-non-tariff-barriers-as-eala-enacts-key-legislation

requirement by the Tanzania Food and Drugs Authority for companies importing into Tanzania to register, re-label and retest their products.

Import bans: These comprise all outright import bans regardless of the reason. The main example is the restriction applied by Uganda on beef and beef products from Kenya.

Customs and trade facilitation measures: These involve all cost-increasing measures that are incurred as a result of the monitoring and enforcement of trade facilitation and customs rules (excluding the enforcement and monitoring of standards and quality and safety measures). An example is the presence of several weighbridges along trade corridors.

As reported in Table A1:, 45% of the NTBs resolved to date were cross-cutting barriers related to customs and trade facilitation, affecting all trade transactions across the region. Tax-like measures make up 35% of the NTBs that have been resolved since 2009, encompassing a range of charges, transit levies and non-application of preferential treatment of imports. Standard-related measures and import bans account for the remaining 20% of resolved NTBs.

Tax-like measures account for the largest share (40%) of unresolved NTBs. The share of customs and trade facilitation measures in unresolved NTBs (28%) is significantly smaller than its share in resolved NTBs (45%). Meanwhile, the share of NTBs falling into the standards and bans categories is also higher among unresolved NTBs.

Table A1: Distribution of resolved and unresolved NTBs by type of measure

	Resolved NTBs	Unresolved NTBs
Tax-like measures	35%	40%
Quality and safety standards	10%	24%
Bans	10%	8%
Customs and trade facilitation measures	45%	28%

A second way to classify NTBs is according to the breadth of discrimination. Table A2: compares resolved and unresolved NTBs based on whether they discriminate against a specific country, a product or a brand or if they impose costs on all goods. For example, the ban on beef and beef products imposed by Uganda on Kenya discriminates against a product (beef) and a country (Kenya). The application of non-harmonised road tolls, on the other hand, is a general measure.

Of the 25 NTB measures that remain to be resolved, 48% discriminate across all imports regardless of origin and product, more or less in line with the share of resolved NTBs. At 53%, the share of NTBs applied to imports coming from a particular country is larger among resolved than among unresolved measures.

Table A2: Distribution of NTBs by breadth of discrimination

	Unresolved NTBs	Resolved NTBs
General	48%	42%
Country	24%	53%
Product	16%	37%
Brand	16%	7%

Note: NTBs can be discriminatory at several levels simultaneously (e.g. an NTB that discriminates against a particular product coming from a specific country).

NTBs can also be divided into 'resource-using' and 'rent-creating'. NTBs are defined as resource-using when their impact stems mainly from the imposition of costs on importers and there is no clear domestic industry that would benefit from their existence. By contrast, NTBs are defined as rent-creating when these appear to be applied to protect specific domestic industries from foreign competition.

While the former make it more expensive to trade within the region, the latter generate gains for some particular stakeholders (see Table A3:). For instance, presence of weighbridges on transport corridors is a resource-using NTB, whereas the requirement for cigarettes exported to Tanzania to have at least 75% of local tobacco content is rent-creating, as it benefits Tanzania's tobacco growers. The share of NTBs that are predominantly rent-creating amounts to 35% among resolved NTBs and 24% among unresolved NTBs.

Table A3: Rent-creating vs. resource-using NTBs

	Unresolved NTBs	Resolved NTBs
Rent-creating	24%	35%
Resource-using	76%	65%

1.1. Characteristics of resolved NTBs

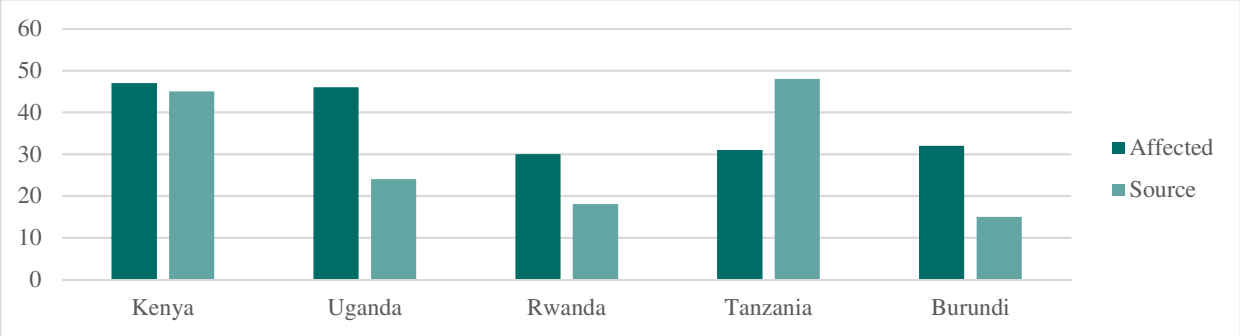
The list of resolved NTBs identifies 106 measures (up to June 2016) that have been satisfactorily addressed since the NTB Monitoring Mechanism was adopted in 2009. We first analyse the extent to which resolved NTBs have been more common in some countries than in others, and whether NTBs have been more heavily geared against certain member states in the EAC. We then use the same classification of NTBs described above to shed further light on the key characteristics of those NTBs that have been resolved to date.

1.1.1. Frequency of resolution of NTBs across EAC member states

The degree to which member states have been either responsible for establishing (now resolved) NTBs or affected by (now resolved) NTBs has varied significantly across the EAC, as illustrated in Figure A1. Overall, NTBs have affected Kenya and Uganda relatively more than they have Rwanda, Tanzania and Burundi. Tanzania has generated the largest number of NTBs, followed closely by Kenya. Figure 1 also reveals that Uganda, Rwanda and Burundi have been significantly more affected by NTBs than they have been a source of NTBs.

This may suggest the fact that coastal countries have control over a very important part of trade (the port-related segment) and have higher chances to impose NTBs on other countries. it might also reflect. different degrees of commitment to the EAC integration process across the five countries.

Figure A1: Number of resolved NTBs affecting each country vs. number originating from each country



Note: For each NTB, both affected and source countries were identified. Note that NTBs can affect and originate in several countries at the same time.

1.1.2. Tax-like measures

The large majority of tax-like NTBs reported to the EAC Secretariat (EACS) in the past were raised by Tanzania, which accounts for 33% of the list of resolved NTBs. The remaining four countries of the EAC were responsible for a much smaller share of tax-like NTB complaints, as reported in **Error! Reference source not found.**. Most of the tax-like complaints on the list of resolved NTBs related to the failure of Partner States in applying preferential access under the East African Customs Union Protocol, which resulted in higher duties being imposed on a range of goods. Strictly speaking, these are not NTBs but rather complaints about the inadequate application of the protocol.

Failure to allow some imports to benefit from preferential treatment in line with the Customs Union regulations was particularly prevalent for specific products. In the manufacturing sector, complaints about duties imposed on the importation of construction (galvanised aluminium products) or plastic materials appear several times on the list of resolved NTBs. Given that these products are currently being produced in Kenya, Tanzania and Uganda, this suggests resistance to implementing the protocol was particularly high when regional liberalisation efforts could potentially harm the domestic industries. Complaints raised in the

agriculture sector were less product-specific and often covered food products in general, with the exception of rice, which was mentioned in two separate complaints.

Table A4: Tax-like NTBs by country of responsibility

Country	Number	Share
Tanzania	16	34.4%
Uganda	7	19.4.2%
Kenya	5	13.9%
Rwanda	4	11.1%
Burundi	2	5.6%
Multi-country	2	5.6%

Table A5: Tax-like NTBs by type

Type	Number	Share
Non-application of Customs Union preferential access	17	47.2%
Entry fees and transit charges	15	41.6%
Other charges	4	11.1%

1.1.3. Quality and safety standards

The country responsible for most of the quality and safety standard-related NTBs appearing on the list of resolved NTBs was again Tanzania, with a total of three NTB complaints; Tanzania was followed by Uganda and Kenya. Burundi and Rwanda were not responsible for any of the quality and safety standards NTBs that have been resolved since the NTB Monitoring Mechanism has been in place. The majority (60%) of the NTB complaints that were raised were related to challenges in country-specific certification, standardisation and the testing procedures of products.

Table A6: Quality and safety standards by country of responsibility

Country	Number	Share
Tanzania	3	30.0%
Uganda	2	20.0%
Kenya	2	20.0%
Burundi	0	0%
Rwanda	0	0%
Multi-country	3	30.0%

Table A7: Quality and safety standards by type

Type	Number	Share
Challenges with certification, standardisation and testing	6	60.0%
Other	4	40.0%

Exactly half of the NTBs under this category are sanitary and phytosanitary (SPS)-related complaints, with the remaining half being more of a technical nature. The only product mentioned in several complaints was rice, which was the focus of three complaints.

1.1.4. Import bans

In total, 10 of the resolved NTBs were import bans or import restrictions, most of them (four) raised by Kenya, with Rwanda, Uganda and Tanzania each responsible for two complaints each. There was no clear sector pattern among this type of NTB, possibly due to the small number of NTBs identified under this type.

Table A8: Import bans by country of responsibility

Country	Number	Share
Kenya	4	40.0%
Rwanda	2	20.0%
Uganda	2	20.0%
Tanzania	1	10.0%
Burundi	1	10.0%
Multi-country	0	0%

1.1.5. Customs and trade facilitation measures

As outlined above, NTBs related to customs and trade facilitation were the most prevalent category on the list of resolved NTBs. Responsibility for the majority of measures lay with Kenya (20); Tanzania followed, with 12. None of the remaining three countries bore the sole responsibility for any measures in this category. This is not surprising, given that both Tanzania and Kenya host the major ports of the region and the largest stretches of the southern and northern corridors, respectively. It should be noted that several countries jointly bore responsibility for an important number of these customs and trade facilitation measures. This was the case for a range of customs and trade facilitation measures that required coordinated responses, such as those related to customs opening times, harmonised customs procedures, etc.

Table A9: Customs and trade facilitation measures by country of responsibility

Country	Number	Share
Kenya	21	42.6%
Tanzania	16	25.5%
Burundi	0	0%
Rwanda	0	0%
Uganda	0	0%
Multi-country	110	31.9%

Table A10: Customs and trade facilitation measures by type

Type	Number	Share
Non-application of rules agreed under the Customs Union Protocol	14	29.8%
Cumbersome import procedures	10	21.3%
Transit requirements	9	19.1%
Delays	8	17.0%
Other	6	12.8%

In terms of the different types of trade facilitation NTBs, the majority related to the failure of member states to apply agreed rules and procedures. Nine complaints on the list also related to the introduction of country-specific procedures that were perceived as cumbersome and costly. Eight complaints were about delays in general and another eight were about specific transit requirements imposed, mostly by Kenya and Tanzania, for the EAC's hinterland.

1.2. The NTBs removal process

Building on the analysis of the characteristics of resolved and unresolved NTBs presented above, this section sheds light on the process leading up to the removal of NTBs under the EAC NTB Monitoring Mechanism. To this end, we first analyse the time to resolve NTBs and then review the different resolution methods that were pursued. Contrary to the preceding sections where we analysed the full list of NTBs, here we take into consideration only NTBs resolved in the period since March 2012, as this is the period for which more detailed reports are available. Consequently, the analysis is confined to the 78 NTBs that were resolved through the Monitoring Mechanism over the period from March 2012 to June 2016.[3]

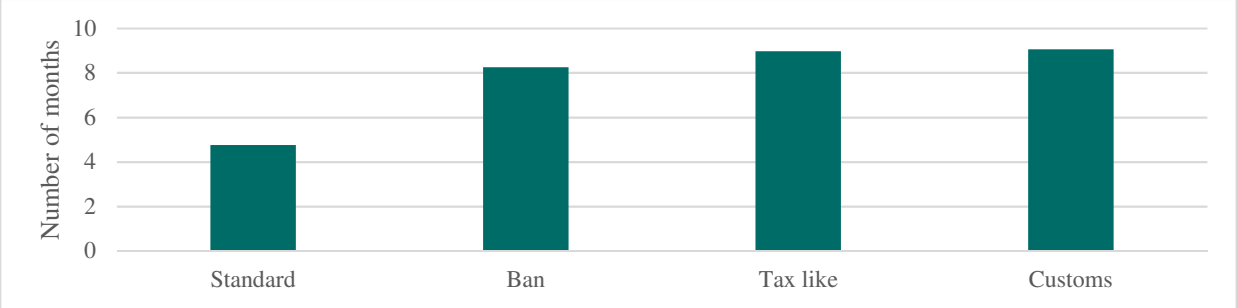
The information contained in the EAC Regional Monitoring Committee meeting reports also provides a basis from which we can make inferences about the time period in which each of the resolved NTBs was first reported by the affected country/countries as well as the period in which each was resolved. Using this information, we can estimate the average time taken to resolve different types of NTBs in the region. We measure this as the number of months between when the NTB first appeared in a meeting report under the category of 'new NTBs' and the month in which it was first reported as resolved. The latter is adjusted to account for the possibility that the NTB was actually resolved in the period between the month in which it was first reported resolved and the publication of the preceding meeting report. To do so, we use the mid-point of the number of months between these two periods.[4]

[3] The following meeting reports are included: March, June, November and December 2012; March, June, October and December 2013; May, September and December 2014; March, September and December 2015; April and June 2016.

[4] For example, if a NTB first appeared as a new NTB in the December 2014 meeting report and was subsequently reported as resolved in the December 2015 meeting report, and the meeting report immediately preceding that one was published in September 2015, then the time taken to resolve the NTB (10.5 months) would be calculated as: 9 (the number of months between December 2014 and September 2015) + 1.5 (the mid-point of the three months between September 2015 and December 2015).

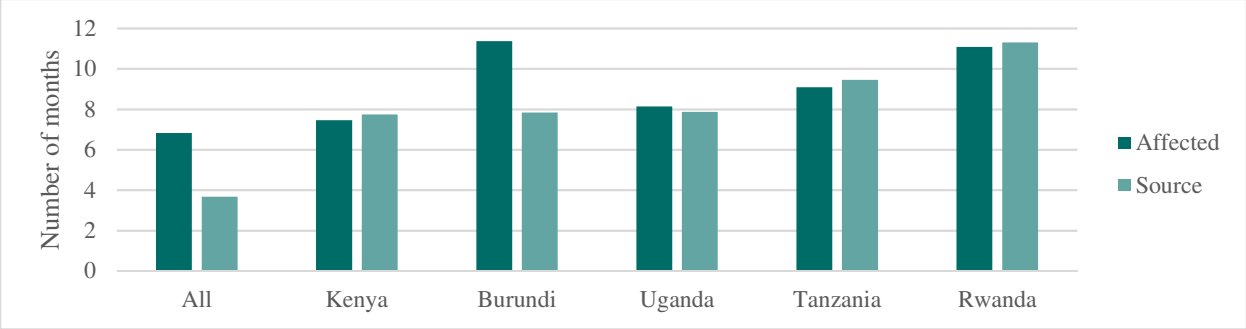
This information enables us to examine the time taken to resolve the various types of NTBs from a variety of different perspectives. First, we compare the average time in months for NTBs to be resolved across each of the four broad categories (see Figure A2:). The NTBs related to customs and trade facilitation measures have generally taken the longest time to resolve, with resolution taking, on average, close to 10 months. Resolving tax-like measures and bans is marginally faster, on average, at between eight and nine months. The resolution of NTBs relating to quality and safety standards in the region tends to be fastest, although the computed average is based on just two observations.

Figure A2: Average time taken to resolve NTBs by category



We now adopt a more aggregate approach (combining all four categories) and compare the average time taken to resolve NTBs from the perspective of each EAC Partner State, distinguishing between instances where the country either has been affected by the NTB or is the source of the NTB. The results in Figure A3: show that, on average, NTBs that involve all countries in the region are generally resolved in the shortest timeframe – less than four months when the NTB is applied by all countries and less than seven months when all countries are affected by the NTB. This is perhaps because of the greater scope for regional intervention to address these barriers. At the level of individual countries, NTBs involving Kenya (both when Kenya is affected by the NTB and when the NTB originates in the country) are, on average, resolved more expeditiously (in less than eight months, on average). NTBs originating in Burundi and Uganda are, on average, resolved more rapidly than those for which Tanzania or Rwanda is the source. At the opposite end of the spectrum, NTBs affecting Burundi generally take the longest time to resolve (nearly 11.5 months, on average), followed by Rwanda (marginally more than 11 months, on average, although the number of NTBs affecting Rwanda is comparatively small in comparison with in Uganda, Tanzania and Kenya).

Figure A3: Average time taken to resolve NTBs when a country is affected by the NTB vs. when the country is the source of the NTB



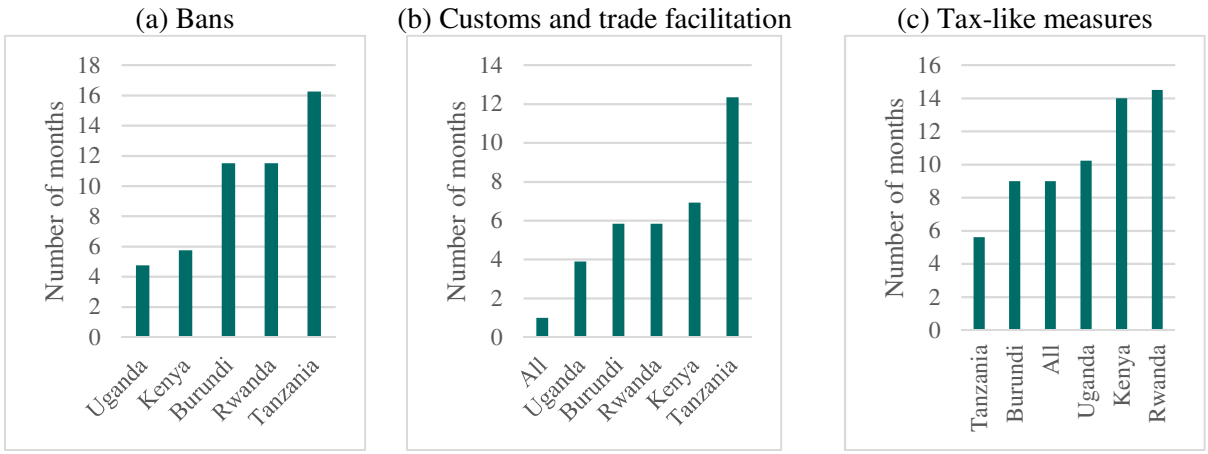
Panels (a), (b) and (c) in Figure 4 disaggregate the information presented in Figure A3: into three of the four categories of NTB,5 focusing on the average time taken to resolve barriers by the country source of the barrier. On average, the NTB-related bans caused by Tanzania took the longest time to resolve (around 16 months), followed by those caused by Rwanda and Burundi (marginally less than one year in both countries). Bans originating from these three countries took notably longer to resolve compared with those imposed by Uganda and Kenya (both less than six months, on average). In the customs and trade facilitation category,

[5] We exclude the quality and safety standards category as there are only two NTBs in this category were resolved between March 2012 and June 2016.

NTBs imposed by Tanzania again took the longest time to resolve (around one year, on average), this time followed by those originating in Kenya. NTBs in this category imposed by the other EAC Partner States were generally resolved in less than six months. A different pattern is evident for the tax-like measures, which, on average, were resolved fastest when imposed by Tanzania (in less than six months) and least rapidly when originating in Rwanda, followed by Kenya (with resolution of this type of barrier in both countries taking more than one year, on average).

For one final comparison, we consider the average time to resolve each category of NTB when a particular country is affected by the barrier vs. when it is imposing the barrier affecting other EAC Partner States. There is wide variation across the different categories of barrier and between countries. For all countries with the exception of Kenya, bans take longer, on average, to resolve when the countries are the source of the barrier rather than the affected party. In the category of customs and trade facilitation measures, NTBs take longer to resolve in Burundi and Kenya (but only marginally so) when these countries are affected rather than the source of the barrier, but the opposite is true for Tanzania and Uganda. Tax-like measures take longer on average to resolve in Burundi, Kenya, Rwanda and Uganda when these countries are the source of the barrier rather than being affected by it, but the opposite holds for Tanzania.

Figure A4: Average time taken to resolve NTBs by category and source country



Annex III: Data Collection

Extensive data collection was undertaken for this project. This included the collection of secondary data on trade and transport flows, as well as primary data collected through interviews and an online questionnaire. This section describes the process.

Preliminary interviews

In order to scope the main issues on the ground, the team undertook interviews with experts in government and in the private sector in Nairobi, Dar es Salaam and Kampala. They constitute the main origins and destinations of trade in the region. The results of the interviews can be extended, with the necessary qualification, to Rwanda and Burundi. The schedule was the following:

- Nairobi, July 2016. The researchers organised an event on Measuring and Quantifying the Impact of the Removal of NTBs in the EAC. During and around the event, discussions were held with governments of the EAC countries and EACS staff, as well as representatives of the private sector and regional organisations. One-on-one meetings were also held with the Kenya Manufacturers Association, the Federation of East African Freight Forwarders and the Ministry of EAC, Labour and Social Protection, Government of Kenya.
- Dar es Salaam, August 2016. The researchers met with the Ministry of Trade, the Tanzania Trade Development Authority, the Tanzania Truck Owners Association and the Tanzania Chamber for Commerce, Industry and Agriculture.
- Kampala, August–September 2016. The researchers met with two associations of freight forwarders, a private logistics company, the Uganda Manufacturers Associations, the Customs Department at the Uganda Revenue Authority, the Ministry of Trade and the Regional Lorry Drivers Association.

These meetings informed the approach of the study and helped identify the main issues to be investigated. The findings of these meetings are included in the discussion presented in Section 2. The meetings also informed the main issues to be explored in the questionnaire (see below).

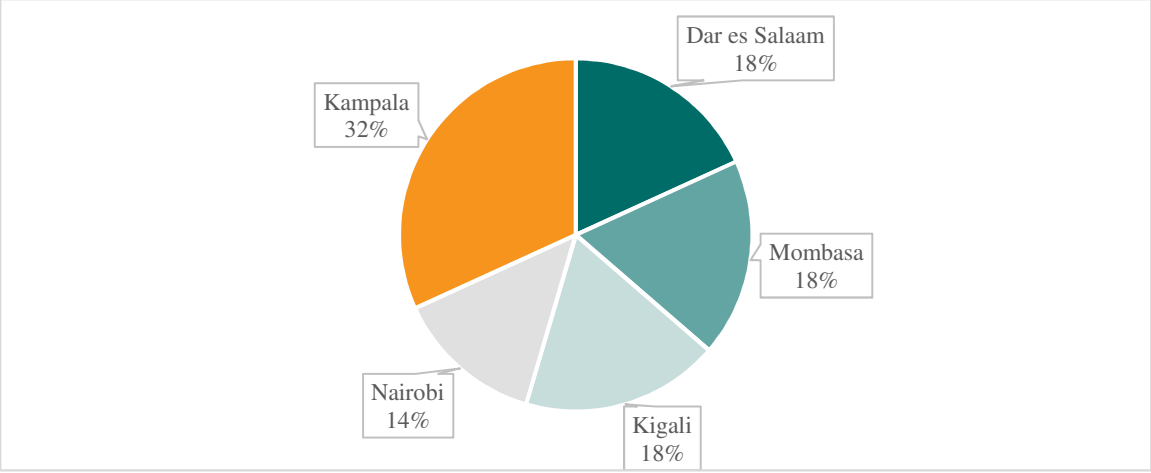
Questionnaire

In September/October 2016, a questionnaire was prepared to be circulated among the private sector. The aim of this was to identify the main NTBs still affecting the private sector, and to benchmark the cost figures collected through interviews.

The questionnaire was intended for two main audiences: manufacturers and transporters/freight forwarders. The rationale of this was to gather information about the cost structure of the transport sector and its implications for production. It comprised 23–37 questions depending on the sector in which the interviewee was operating. It was intentionally kept short and simple to maximise response rates. The questions were kept closed/multiple choice as much as possible, to ensure uniformity in the responses and a maximum response rate. The questionnaire was also anonymous: respondents could choose whether to provide details about their identity.

Once completed, the questionnaire was tested by an informant and it was then put into an online tool (SurveyMonkey). It was then distributed to a list of contacts, which included manufacturers, transporters and their associations. We asked the association to circulate the questionnaire among their members. The questionnaire was completed between November and December 2016. It received over 55 responses, mostly from Kenya but also from Tanzania, Rwanda and Uganda. The respondents were mostly transporters and freight forwarders (a mix of large and small companies, with a fleet of their own or hiring lorries from others), but also manufacturers. These firms covered the entire EAC area, including Burundi (even though we did not have respondents from Burundi). However, Figure A5 shows the most common destinations for our interviewees.

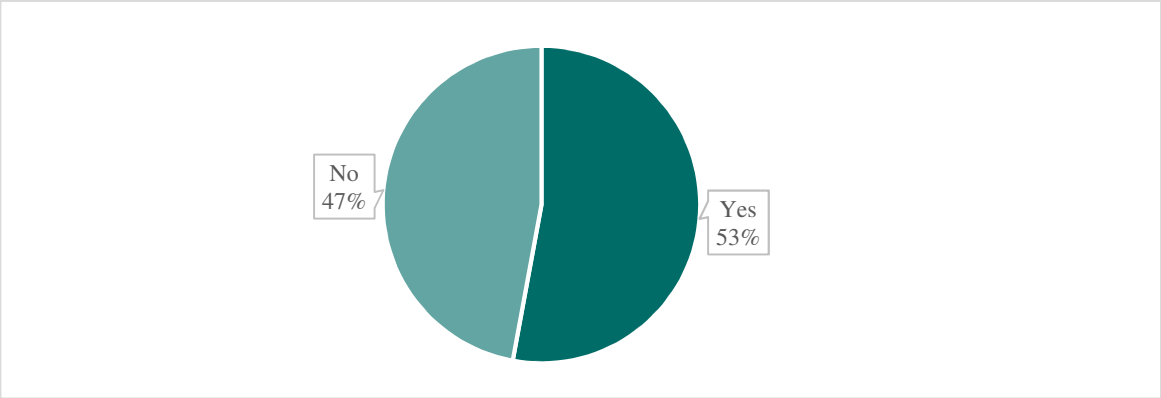
Figure A5: 'Which of these destinations listed above is the most common one you service?'



The figures collected were used to benchmark and compare the information obtained during the interview. From the answers to the questionnaire, we identified the need to understand in more detail the cost structure of the transport sector. To this end, two data collection exercises were undertaken, in Uganda and Kenya (see below).

Interestingly, respondents were almost equally split between those who believed that transport costs had decreased in the recent past and those who did not.

Figure A6: Do you think that transport costs within the EAC have decreased in the past five years?



Summary notes interviews in Mombasa

Date: 15th / 02/ 2017 to 17th /02/ 2017

1. **Company A: Transport manager**

Transport sector

Company A is a medium sized transport company based in Portraize area in Mombasa. Currently, the company has a fleet of 80 semi-trailers. The competitors of the company own fewer trucks. According to

the interviewed manager, a typical midsize trucking business owns an average of 30 semi-trailers. The company considers itself to be in direct competition with about seven other trucking firms.

Truck Characteristics

Mercedes is the preferred brand for the company. Currently, company has different models of Mercedes including Actros and Axor. Mercedes is preferred because of its efficiency, reliability, and durability. On average, the company would require Kenya shillings 15 million (about USD 145,631 at the current exchange rate of 103 shillings to the USD) to purchase a brand new trailer. This price includes the truck head, which cost at most Kshs. 12 million and the trailer, which cost at most Kshs. 3 million. Assuming the truck is operating at full capacity by making at least 4 round trips to Kampala in a month, the cost of buying it would be recovered in about 5 years. A brand new Mercedes is expected to last for at least 10 years if operating at normal capacity.

Employees

The company employs one driver per truck to operate its fleet. Thus, the total number of drivers is 80. The company also employs one driver assistant/ helpers per truck who accompany the truck driver on each trip. Thus, the company has 80 driver assistants. The assistant is mainly responsible for handling mechanical issues such as repairing the truck in case it breaks down during the trip. The assistant also drives the truck for a limited period when the driver is tired or unwell. The base salary for a driver ranges from Kshs. 30,000 to 40,000 per month depending on years of experience. The driver assistants are paid a base salary of Kshs. 10,000 per month. The current base salaries are higher than the rates paid in 2013. In 2013, the company was paying drivers a base salary of between Kshs. 25,000 and 35,000 per month depending on years of experience, whereas the driver assistants were paid Kshs. 7,000 per month.

Mombasa-Kampala Route Characteristics

The company sends a driver and an assistant when trucking a shipment from Mombasa to Kampala. Because of the long distance, it is important for the driver to have an assistant to help him in case of a breakdown or if he falls ill. The driver and his assistant are paid a total allowance of Kshs. 26,000. The allowance covers the following expenses:

Item	Expense (in Kshs.)
Breakdown/ truck repair	3,000
Parking fees	2,000
Truck security	1,000
Accommodation	6,000
Meals	4,000
Bribes/ fines for traffic offences	5,000
Road user fees/ levies	5,000

The allowance has increased from Kshs. 20,000, which was paid in 2013. The increase is mainly explained by the general rise in inflation. The cost of accommodation, meals, parking fees, and truck repair services has increased in the last five years, thereby necessitating an increase in the allowance.

Transit Time on Mombasa- Kampala Route

The company expects its drivers to reach Kampala in 4 days at most after loading the shipment at the Port of Mombasa. The drivers are allowed to drive only between 6am in the morning and 8pm in the evening to avoid fatigue that may lead to accidents. The time is broken down as follows:

Item	Time (hours per day)
Driving	9

Resting/ sleeping	10
Eating	1
Waiting at weighbridge etc	4

The company takes action against drivers who take longer than the normal time to deliver a shipment in Kampala, especially if the delay is due to a driver's personal reasons. The action involves issuing two warning letters for the first two delays. In the third delay, the driver can be dismissed. This has helped to reduce unnecessary delays. However, the allowances are usually not cut/ reduced even if the driver delays.

Trucking Prices

The company has reduced the price of shipping a 40ft container from Mombasa to Kampala from about USD 3,000 in 2013 to around USD 1,900 to 2,000 in 2017. The price of a particular run is determined by several factors. These include the weight of the container, the goods in the container, prevailing market price, and fuel cost. The factors that have contributed to the reduction in price include high competition occasioned by the increase in the number of trucking companies. Additionally, demand for trucking services has been declining due to a general reduction of containers that require transportation from Mombasa to Kampala. The decline in price has reduced the company's profit margin by almost 10 per cent. No lay-offs have been implemented due to the decline in profits. However, the company is considering laying off some drivers and driver assistants in future, if the profits continue to decline. The decline in price and profit margin is expected to worsen once the Standard Gauge Railway (SGR) is complete.

The Driver

Activity as Driver

The interviewed driver has worked as a truck driver for 10 years. He is employed as a permanent employee at Company A. The driver currently earns a base salary of Kshs. 30,000. In 2013, the base salary was Kshs. 25,000.

Transit Time on Mombasa-Kampala Route

The driver is accompanied by one assistant when transporting a shipment on a standard semi-trailer from Mombasa to Kampala. The driver is expected to reach Kampala is 4-5 days after loading the shipment at the Port of Mombasa. However, the driver can reach Kampala in 3 days if there are no major delays at roadblocks, weighbridges etc. along the way. The driver indicated that he adheres to the company's policy of driving only between 6am to 8 pm. So the time is used as follows:

Item	Time (hours per day)
Driving	7-9
Off time (Resting/ sleeping	10
Eating	1
Waiting at weighbridge etc	3-6

Expense on Mombasa-Kampala Route

The driver is paid an allowance of Kshs. 26,000 to cover expenses on the route. The expenses covered by the allowance include the following:

Item	Expense (in Kshs.)
Road user fees	5,000
Breakdown/ truck repair	3,000
Parking fees	2,000

Truck security	1,000
Accommodation	5,000
Meals	3,000
Bribes/ fines for traffic offences	4,000
Person upkeep/ emergencies	3,000

The drivers try to minimize the expenses covered by the allowance so that they can save for emergencies. However, when the allowance is too little to cover the expenses, the company has to send additional money. For instance, if the driver is to pay a high fine for an offense such as transporting an overweight container, the money has to be sent from the company.

Past Expense

The allowance has increased in the last five years. In 2013, the driver was paid Kshs. 20,000 as an allowance. The increase is mainly attributed to the rise in inflation and demand for bribes by police officers along the route. For instance, parking fees has increased from Kshs. 300 to 500, whereas accommodation has increased from around Kshs. 600 to 800 in towns such as Malaba and Busia etc.

2. Company B: General Manager

Transport Sector

Company B is a midsize trucking company based in Mombasa, Kenya. Currently, Company B has a fleet of 57 trucks of which 31 are coil semi-trailers and 26 are flatbed semi-trailers. The company's main competitors have more trucks. According to the general manager, most of the competitors have an average of 100 trucks. The company competes with about 10-50 other trucking companies.

Truck Characteristics

Company B normally goes for Mercedes as its preferred brand when buying new trucks. A brand new Mercedes would cost the company Kshs. 11 million for the truck head and another Kshs. 2.5 to 3 million for the trailer. The flatbed trailer cost about 2.5 million at most, whereas the coil trailer costs Kshs. 3 million. Therefore, the total cost of acquiring a brand new truck is about Kshs. 13.5 to 14 million depending on the type of trailer used. The cost of buying the truck is expected to be recovered within 3 to 5 years depending on the demand for trucking services. A brand new Mercedes is expected to last for at least 10 years if operating at normal capacity.

Employees

WHC employs one driver per truck, meaning that it currently has 57 drivers. The company also has 57 driver assistants who accompany the drivers on each trip. The driver assistants are mainly mechanics who also assist with driving when the driver is resting. The company pays its drivers a base salary of Kshs. 30,000 to Kshs. 50,000 depending on experience. The driver assistants are paid a salary of Kshs. 25,000. The current salaries are higher than those paid in 2013. WHC has a policy of reviewing/ increasing the salaries of its drivers and driver assistants by 10-15 per cent annually.

Mombasa-Kampala Route Characteristics

The company would send a driver and an assistant if it were to truck a shipment from Mombasa to Kampala. The allowance that would be paid to cover the expenses is Kshs. 25,000. The allowance covers the following expenses:

Item	Expense (in Kshs.)
Parking fees	2,500
Bribes/ fines	3,000
Offloading of containers/ goods	2,500

Truck maintenance/ repair	3,000
Accommodation	6,000
Meals	3,000
Road levies/ fees	5,000

The current allowance is high given that in 2013, the company paid Kshs. 20,000 to its drivers as allowance. The increase is attributed to increase in regulation (speed limit, truck condition, etc) which results into more bribes for non-compliance, roadblocks where police collect fines and bribes, and general increase in cost of living.

Transit Time on Mombasa-Kampala Route

The truck driver is expected to reach Kampala after loading the shipment in Mombasa within 3 days. The journey can take 2 days if there are no major delays at the border. In terms of the breakdown of the time, the trucks are driven continuously with the driver and his assistant alternating. The resting and eating time is about 3 hours during the day, whereas sleeping is allocated 6 hours. Driving time is about 12 hours and waiting at the weighbridges and border takes around 3 hours. The company has a disciplinary system for drivers who take longer than normal to deliver shipments. The company has a trucking system that alerts the management whenever a truck stops for over 30 minutes. In this case, the driver is called to explain the reason for stopping for over 30 minutes. Drivers found to take longer due to personal reasons are given 2 warning letters after which their allowance is reduced.

Trucking Prices

The manager acknowledged that prices have reduced significantly since 2013. Currently, they are charging between USD 1,800 and 2,200. The price is determined by taking into consideration the weight of the container, loading and offloading cost, expected number of days to reach destination, expenses to be incurred along the way such as payments made at weighbridges, and any damages that might occur on the container when it is returned. The prices have been declining mainly because of the high competition caused by an increase in trucking companies and low demand for trucking services. The price reduction has had negative effects on the company's profit margins (the extent of decline was not given). Additionally, the company has faced financial difficulties resulting into layoffs and delays in paying its suppliers.

The Driver

Activity as Truck Driver

The interviewed driver has been a truck driver for 15 years. He is currently working for Company B on a permanent contract. His monthly base salary is Kshs. 45,000. In 2013, the driver earned Kshs. 30,000.

Transit Time on Mombasa-Kampala Route

The company would send the driver with an assistant if he were to transport a shipment to Kampala. However, the diver currently lacks an assistant and drives alone to Kampala. The driver is expected to reach Kampala in 3-4 days after loading at the port of Mombasa. The driver drives for 12 hours and takes an hour's break from 6am to 6pm. He stops occasionally at roadblocks, weighbridges and border point where waiting time can take up to 2-3 hours. The remaining time after 6 pm is used for resting/ sleeping.

Current Expenses on Mombasa-Kampala Route

The driver indicated that he is allocated an allowance of about Kshs. 20,000 when travelling from Mombasa to Kampala. The allowance covers the following expenses: Accommodation; 5,000; parking fees, 2,000; bribes, 4,000; truck cleaning/ washing, 1,000; meals 3,000; road user fees, 5,000.

Past Expense

The allowance has increased from 17,000. The expenses that have increased include parking fees, accommodation, and meals, which have increased by at least 10 per cent in the last five years.

3. Matano Transporters: General Manager/ owner

Matano currently has 26 trailers. This fleet size was considered by the manager to be significantly small given that other companies in the business have up to 200 trucks. The company is competing with 10-50 other trucking companies.

Truck Characteristics

Matano uses both Scania and Mercedes as the preferred brands. When the company started facing financial difficulties, all the Scania trucks were sold to trucking companies in Tanzania where they have a high demand. Currently, the fleet consists of only Mercedes trucks. A brand new complete Mercedes truck (head and trailer) would cost Matano Kshs. 15 million. The purchasing cost would be recovered in 7-8 years given the difficulties the company is currently facing in getting customers. The truck is expected to last for over 10 years if used at normal capacity given that the fleet consists of Mercedes trucks that have been used for 20 years and are still in good condition.

Employees

The trucks are operated by 26 drivers and 26 assistants i.e. one driver and assistant per truck. The driver assistants accompany the drivers for each trip. The base salary for the driver is Kshs. 25,000 whereas that for an assistant is Kshs. 10,000 per month. The current salaries are higher than those paid five years ago. In 2013, drivers were paid Kshs. 18,000 and assistants were paid Kshs. 7,000 per month.

Mombasa-Kampala Route Characteristics

When transporting a shipment from Mombasa to Kampala the driver would be accompanied by an assistant. The allowance that would be paid to cover expenses on the route is Kshs. 20,000. The driver mainly determines the use of the allowance. However, on average the allowance is expected to cover: accommodation, 5,000; parking fees 2,000; security for the truck/ cargo being transported, 1,500; bribes/ fines, 2,000; meals, 3,500; and truck maintenance/ repair and any other charge or emergency expense 6,000. The allowance has not changed since 2013 given the financial difficulties facing the company.

Transit Time

The truck drivers are expected to take a maximum of 5 days to reach Kampala after loading at the port of Mombasa. The time is utilized as follows: driving 10-12 hrs; resting/ sleeping 6-8 hrs; waiting at border/ weighbridge 3-4 hrs; eating 1 hr, per day. There is no disciplinary action for drivers who take longer than normal to deliver a shipment.

Trucking Prices

The prices have reduced significantly from around USD 3,000 to the current rate of USD 1,800 to 1,900. The price is determined by taking into account the weight of the container, the goods being transported, fuel cost, and prevailing market prices. The decline in trucking prices is mainly explained by the sharp increase in competition and low demand for trucking services. Corruption and tribalism has also made it difficult to win government contacts for trucking services. The reduction in prices has had a negative impact on the company's profit margins. Since 2013, the company has sold 41 trucks, thereby reducing its fleet size to 26 trucks.

The Driver

The driver has worked for 7 years as a truck driver. He is currently working for Matano. He is employed on permanent basis. The driver's salary is kshs. 25,000. The salary has increased from Kshs 19,000 per month that was paid in 2013.

Transit Time

The driver would be accompanied by an assistant if he were to truck a shipment to Kampala. The driver would be expected to reach Kampala within 4-5 days. The time is spent as follows: driving 7-9 hrs; waiting at border/ weighbridge etc. 3-6 hrs; eating 1hr; and the remaining time is used for resting/ sleeping.

Current Expense

The allowance to cover the expenses for a round trip is Kshs. 20,000. The allowance covers: Fines/ bribes paid at roadblocks 3,000, mechanical issues 6,000; meals 4,500; accommodation 4,500; and parking fees/ truck safety 2,000.

Past Expenses

In 2013, the allowance was Kshs. 20,000. The allowance has not increased although the costs of meals, accommodation, parking fees and bribes have increased in the last five years.

4. Company C: Transport Manager

Transport Sector

The company has 30 trucks (semi-trailers) that it uses for transportation. The company's main competitors have more trucks. However, the manager noted that the fleet size mainly depend on the operations of the company in terms of the customers it has to serve at a particular time. Most companies have up to 100 trucks in the industry. Currently, Company C competes with about 10-50 other trucking companies.

Truck Characteristics

The company uses Scania as its preferred truck brand. A brand new Scania would cost the company Kshs. 8 million to acquire. If the truck is operating efficiently and at full capacity, the cost of purchasing it would be recovered within 3 years. The truck is expected to last for at least 7 years if it is operating at normal capacity.

Employees

In order to operate the trucks, Company C has employed 34 drivers i.e. one driver per truck plus 4 standby drivers who stand in for drivers who are either on leave or unwell. The company also has 30 driver assistants. The drivers are paid a base salary of between Kshs. 25,000 and 30,000 per month, whereas the assistants are paid between Kshs. 20,000 and 25, 000 per month depending on experience. The current salaries are higher than those paid in 2013. There has been a salary increment of up to 5 per cent in the last five years.

Mombasa-Kampala Route Characteristics

The company would send a driver and an assistant if it were to transport a shipment to Kampala. The allowance for covering the expenses on this trip would be Kshs. 20,000. The allowance would cover: Fines/ bribes paid at roadblocks 5,000, tyre bursts or any other minor mechanical issue 5,000; meals 4,000; accommodation 4,000; and general upkeep (communication, emergencies etc) 2,000. The allowance has increased by about 5 per cent since 2013. The increase is attributed to inflation and increase in roadblocks that lead to more fines/ bribes.

Transit Time

The truck driver would be expected to reach Kampala in 4-5 days after loading at the port of Mombasa. On a typical day, the time is spent as follows: driving 7 hrs; waiting at border/ weighbridge etc. 3-5 hrs; eating 1hr; and the remaining time is used for resting/ sleeping.

Tracking Prices

The trucking prices have been declining since 2013. The price of trucking a shipment is determined by taking into account, the market prices, existing demand, weight of the container, and trip expenses (fuel, staff costs, offloading etc). The decline in prices has not affected the profit margins of the company.

5. Company D/ Company E Ltd: Transport Manager

Transport Sector

Company D collaborates with Company E to offer transport and logistics services, where the former does logistics management and the latter uses its fleet to transport the cargo. Shiva has a fleet of 150 trucks. Some of its competitors have more trucks, but the average size of a typical trucking company is about 50 trucks/ semi-trailers. The company competes with about 10-50 trucking companies.

Truck Characteristics

The company (Company E) generally goes for Mercedes when buying new trucks. This brand dominates its fleet. The company would have to spend at least Kshs. 12 million to purchase a brand new Mercedes truck. The cost of purchasing the truck would be recovered in 3-5 years depending on demand for trucking services. The truck would last for 6-10 years if used at normal operating capacity.

Employees

The company employs 150 drivers and 150 driver assistants to operate the trucks. The driver's base salary is Kshs. 30,000 to 50,000 per month depending on experience. The driver assistants are paid Kshs. 20,000 per month. The salaries are higher today than 2013 by at least 10 per cent.

Mombasa-Kampala Route Characteristics

The driver would be sent with an assistant if he were to truck a shipment to Kampala from Mombasa using a semi-trailer. The allowance for covering expenses on the route would be Kshs. 25,000. The allowance is expected to cover: truck maintenance/ repair 6,000; parking fees, 2,000 fines/ bribes 2,000; meals, 3,000 accommodation, 5,000; emergencies, 2,000; and road user fees, 5,000. The allowance has increased by nearly 10 per cent since 2013 mainly due to high inflation rate in the last five years.

Transit Time

The company expects its drivers to deliver a container in Kampala in 3 days after loading at the port of Mombasa. The time includes: driving 8-10 hrs; waiting at border/ weighbridges etc. 3-6 hrs; eating 1hr; and the remaining time is used for resting/ sleeping. Cases of unnecessary delays are not common because the drivers try to make as many trips as possible within a month to earn more allowances. A disciplinary system has not been implemented for unnecessary delays.

Trucking Prices

The price of trucking services is determined by the weight of the container, current average market price, and trip expenses such as fuel, offloading etc. The prices have generally been declining mainly due to increasing competition and declining demand for trucking services. The decline has negatively affected profit margins. However, no major financial difficult has been experienced.

Additional Driver Interviews

1. **Company F: The Driver**

The driver has worked for five years as a truck driver. He is currently working for Freighters. He is employed on contract basis. The driver's salary is Kshs. 25,000. The salary has increased slight from the 2013 rate of Kshs. 22,000 per month.

Transit Time

An assistant would accompany the driver if he were to truck a shipment to Kampala. The driver would be expected to reach Kampala within 4 days. The time is spent as follows on a typical day: driving 8-10 hrs; waiting at border/ weighbridge etc. 3-6 hrs; eating 1hr; and the remaining time is used for resting/ sleeping.

Current Expense

The allowance to cover the expenses for a round trip is Kshs. 20,000. The allowance covers: Fines/ bribes paid at roadblocks 4,000, mechanical issue 5,000; meals 2,500; accommodation 3,500; parking fees/ truck safety 3,000 and personal upkeep/ emergencies 2,000.

Past Expenses

In 2013, the allowance would have been Kshs. 17,000. The increase in allowance is attributed to high cost of living and prevalence of corruption characterized by increased demand for bribes. The expenses that have increased include parking fees, meals, and accommodation. These have increased by between 5 and 15 per cent over the least five years.

2. **Company G: The Driver**

The driver has worked for 10 years as a truck driver. Currently, the driver is working for Compnay G on a permanent basis. The driver's salary is Kshs. 35,000 per month. In 2013, the salary was Kshs. 28,000 per month.

Transit Time

An assistant would accompany the driver if he were to truck a shipment form Mombasa to Kampala. The driver would be expected to reach Kampala within 3-4 days. The time is spent as follows on a typical day:

driving 8-10 hrs; waiting at border/ weighbridge etc. 3-5 hrs; eating 1 hr; and the remaining time is used for resting/ sleeping.

Current Expense

The allowance to cover the expenses for around trip to Kampala from Mombasa is Kshs. 20,000. The allowance covers: Fines/ bribes paid to police 3,000, mechanical issue 6,000; meals 3,000; accommodation 4,000; parking fees 2,000 and personal upkeep/ emergencies 2,000.

Past Expenses

The allowance has increased by about 10 per cent since 2013. Inflation and increase in roadblocks that lead to more fines/ bribes are the main causes of the increase. The prices of meals, accommodation and parking fees etc. have increased by up to 5-10 per cent in the last five years.

Summary notes interviews in Uganda

Date 28/11/16 to 02/12/16

Interview with Company A on 30/11/12:

Company A provides an overall picture of the manufacturing sector. In 2011 when he returned to the company there was a lot of optimism in the industry with the prospect of oil and the sense of a booming economy. This led to strong investment in manufacturing sector, particularly in construction related activities such as iron and steel. Five years later, this optimism has waned and the prospect for oil in Uganda is uncertain. Moreover, key export markets such as South Sudan have had very negative effects on demand. Rwanda is also becoming increasingly protective and iron and steel products have recently been put on Rwanda's sensitive list, meaning that they face high tariffs although Rwanda is part of the EACU. Therefore, with up to 10 companies active in iron and steel, which used to be the Company A main product, the market is congested. Moreover, as a landlocked country Uganda is at an absolute disadvantage in manufacturing activities that rely heavily on inputs from abroad relative to Kenya and Tanzania that have a direct access to the sea. This means that Company A is now re-focusing its strategy to products that can be produced entirely in Uganda and do not rely on inputs. Hence sugar has replaced iron & steel as the leading product manufactured by the company. Although the Company A is the only company in East Africa that produces iron and steel products with iron ore from Kabale, the low world price for iron billets, means it cannot cash in on this advantage. Other product lines such as agricultural tools have also been disestablished. Its main export product to the EAC is thus sugar which is produced using outgrowers and contract farming schemes. But Company A does not get involved to transport sugar to its destination, and sells it at the 'farm gate' to transporters. They are thus not in a position to give an estimate for the transport cost involved in shipping these goods to the destination markets.

Mr X gives a more detailed account of the shipping/transport costs that the company faces. A standard container of 20ft and 40ft cost costs USD 3000 and USD3200 to be shipped from Mombasa port to Kampala (including all charges from Port to destination). In terms of time, the company calculates about 10-12 days from the moment the shipment is offloaded at the port (4-5 port dwell times, 3-4 transit Kenya including 24 h at the border, and 1 day between Malaba/Busia and Kampala). They do all clearing either at the border or in Kampala. This represents a big improvement relative to five years ago (ca 2011/12) when it used to take about a month. This reduction has contributed to lower shipping prices. Shipping costs used to be USD 3800 and USD 4000 USD for a standard 20 and 40 ft container respectively. However, this reduction is only partly attributable to the reduction in transit times. Mr. X attributes the reduction mostly to lower oil prices

and a less favourable global environment. This is also one of the contributor to the reduction in port dwell times due to lower congestion at the port.

Interview with Company B on 01/12/16:

Ms Y explains that Compnay B is now nine years old in Uganda and provides Freight Forwarding services. It does not own a fleet of trucks (asset light) and specialises in the whole management of freight forwarding services from origin to destination. However, inland distribution is not part of their services. The company ships over 100 standard containers from Mombasa to Kampala per month and charges USD 2300-2500 and USD 3000-3500 for 20ft and 40ft container respectively depending on the type and number of different goods in a container and the client. This includes everything except customs clearance for which Company B charges USD 200-250 and other charges accruing for delays Company B is not responsible for (e.g. inadequate/wrong documentation, delays at customs due to network/system failure, demurrage). The profit margin for Company B is about 10-15% on the price excluding customs clearance charges. Shipping a container from Kampala to Port of Mombasa costs USD 900-1000 regardless of size weight, due the large number of empty containers returning to Mombasa. In terms of time it takes about 7-14 days to ship of container from the Port of Mombasa to Kampala (optimally 4 days at the port and 3 days trucking and customs clearance which is usually entirely responsible when cargo takes more time to reach KLA). Factors that influence the customs clearance time are authenticity and accurateness of papers, system network issues of customs agencies (Ms Y attributes this mostly to software issues and capacity gaps in IT knowledge, as generators and broadband/satellite network has improved a lot in the region; there is not back-up system), the number of products within a container (when over 5 they need to be cleared in KLA). Ms Y also highlights that in recent years the customs clearance process has become stricter. All shipments have to be declared at the port of entry (T1 declaration form), and there is very little room for amendments after goods have been declared. Delays at the port are thus more likely because goods cannot move until exact and full declaration has been made, even in cases when customs clearance is done in KLA. In the past cargo would be allowed to leave Mombasa before the declaration had taken place. 60% of cargo arrives later than expected (compared to the 7/8 days benchmark). Company B has faced great difficulties in reducing this threshold, although one of its KPI stipulates a target of 10%. One of the strategies pursued by Company B is to start the document vetting as early as one month before the arrival of the container in Mombasa. To minimise the impact of delays on companies that need imports urgently, Company B has managed to engage UNRA to allow the goods to be released prior clearance but this only applies to airfreight and large/important clients that Company B has vetted previously. Delays can be very costly as there are demurrage charges that can apply by shipping line, trucking company ($200-$300 per day).

Over the last five years, transit times have improved significantly. A container used to take 21 days to reach the KLA from Mombasa Port. The reduction is on account of greater efficiency of the port, better infrastructure, reduction in road blocks, better equipment and more modern systems, and to a certain degree bilateral agreements between GoU and GoK. This has translated into lower shipping prices which used to be 3600 for ft container and 4500 for a 40 ft container excluding customs clearance. There are also much less opportunities for bribery. Stella believes that the customs clearance system is pretty much corruption free. This does not apply to the transit of goods, i.e. weighbridges road blocks. The reduction in costs has come a reduction in delays which lead to the incurrence of demurrage costs, lower cost of fuel, better infrastructure, better quality of trucks (i.e. efficiency), and more competition due to an oversupply of trucking services in the market ('transporters have *uped* their game')

Interview with Company C on 01/12/16

Although the EAC came into operation over 15 years ago, real cooperation did not start until 2010. This is when issues of NTBs gained prominence and were put on the national policy making agenda. Tangible steps towards greater market integration involved establishing a time-bound programme for the elimination of NTBs, the establishment of National Monitoring Committees which started to meet on a regular basis involving both the government and the private sector though representative bodies, the establishment of an online reporting mechanism which was eventually complemented with an real time SMS system. The biggest issues that remain to be resolved are:

- Weighbridges that have become superseded disguised roadblocks and are a fertile ground for corruption ('transport companies have them on their payroll). Although there was an apparent improvement in the number of weighbridges, with a reduction in their number and the implementation of 'moving weighbridges', they have re-surfaced as a main problem, as there were major pressures due to political economy factors.
- Borders are still hard and the varying interrelation and application of rules of origin imply that trade within the region is severely restricted. E.g. Mr R mentions that since the 2015 changes to the Rules of Origin Rwanda does not allow Company C to import refined sunflower and soybean oil on the basis that Company C imported the raw oil from outside the EAC and did not add sufficient value to the product. Company C argues that it paid the full CET on the imports of the raw material and should thus not be prevented from exporting to Rwanda.
- Taxes and SPS rules are not harmonized.
- General issue around overlapping FTAs and special raw materials list that allow countries to import goods circumventing the CET and thus attaining competitive edge. Kenya has Trade Remission Office that intends to promote Kenyan exports to the world but in reality, results in products being imported duty free and dumped on the regional market.

Company C's biggest export market in the EAC is Rwanda due to its proximity and high transport costs which give it a competitive edge. Kenya and Tanzania are more difficult because they have access to the sea and can thus import raw material more cheaply. Company C operates its own transport fleet because it wants to be in control of consumer prices. Occasionally it hires transport services from third parties. It also operates a system where it reaches an agreement with its distributor who is paid a fixed percentage of the sales transport costs are reimbursed. The product yielding the highest revenue on the Rwandan market is laundry soap. A standard shipment is a shipment carrying 29metric tonnes, costing approximately USD 80-90 to Kigali. In terms of time it takes 2 days. This is a significant reduction relative to the period before the SCT when a shipment took up to 7 days to Kigali. A key advantage of the Kampala-Kigali route is that Rwanda and Uganda share the same customs system (Asycuda World). Kenya uses a different system (Simba), which explain why exporting goods from Kampala to Nairobi (about 100km longer than Kampala to Kigali) take longer although the Kampala to Nairobi route is only marginally longer (about 100km) than the Kampala-Kigali route. Company C exports seed meal for animal feed and sunflower oil to Nairobi, which reach Nairobi on average in 5-7 days, two of which can be directly attributed to system issues compatibility issues (Radex is used as an interface/translator of the Simba and Asycuda World customs systems). However, this represents a reduction relative to the average travel time for goods on this route, as cargo used to take up to 10 days five years ago before the introduction of the SCT. Interestingly, despite the higher travel time for cargo on the Kampala-Nairobi route the cost per tonne exported on this route (around USD 60 per tonne) is lower than the cost on the Kampala-Kigali route. This is on account of the high number of empty trucks that travel this route, as they return to Mombasa. Over the last five years there has been an important reduction in transport cost on the Kampala-Nairobi route from USD 75 per tonne to USD 60 per tonne, on account of lower oil prices and weaker global environment. However, there has been little change in terms of cost on the Kampala-Kigali route over the last five years, which has remained at around USD75 per tonne.

Interview with Company D on 01/12/2016

Company D started as a single butchery shop supplying the upper end of the consumer market in Kampala with processed meat products. It later expanded by establishing a new plant capable of processing larger amounts of meat which have been marketed under the company's sister brand. In recent years the company has sought to expand into neighbouring countries, predominantly to South Sudan, Rwanda, and Tanzania. Following the crisis in South Sudan, most of its exports go to DRC where it supplies two gold mines (Bukavu and Kibali). Mr M argues that DRC has a very strong potential as it does not have any processed meat production of its own. A new plant which will allow to integrate the whole meat production process is currently under construction. This will allow the company to get ISO certification for the entire production and thus enable to increase the number of its potential customers. In Rwanda the company the company is targeting the hotel/hospitality industry. They have considered the Tanzanian market but the company perceives the country to be too protective which do not make it to invest into an expansion to Tanzanian, as

high levels of NTBs (certification, inspection, transport cost) do not make it a profitable market for the time being. Kenya has a ban on processed meat products that have prevented the company to venture into this market, although it continues to monitor the situation in case the ban is abandoned. Mr M also notes that in the past some of its products were indeed exported to the Kenyan market, as it was supplying a local retailer close to the Kenyan border which was exporting Company D produce to Kenya by partitioning the exports into small quantities (informal cross border trade flows that do not surpass a certain threshold are allowed without requiring official registration with customs authorities). This practice was uncovered when the supplied company claimed it did not have to pay for VAT, as it was exporting to Kenya. Company D decided to discontinue supplying this company, as it considered this a risk to the reputation of its brand in Kenya in view of its attempts to penetrate the market in the future.

In terms of transport arrangement, the company owns two trucks and takes care of its own clearing and transport arrangements. The trucks measure 20ft each with a maximum capacity of 10.6 tonnes of refrigerated/frozen produce. The small volume of its Rwandan exports imply shipment do not exceed 5 tonnes, resulting higher transport costs per kilo transported, than if trucks were operating at full capacity. Transport cost for a single shipment from Kampala to Kigali amount to USD 2500 including cost of return trip (i.e. USD 500 per tonne at trucks' half capacity and USD 250 at full capacity). However, this is still cheaper than airfreight. The company stipulates travel time of 4-5 days to reach Kigali. This is higher than for other companies because Company D adheres to strict driving standards, requiring drivers to rest for 2h after every 5h. This is seen as way to minimise risk of accidents and loss of cargo, as accidents are believed to correlate strongly with tiredness of drivers. The overall time it takes to ship produce in the region is thus seen as a lesser constrained. Only if delays occur at the border, this becomes a problem due to lack of/ or more expensive fuel and security issues. This is mostly a problem when exporting to DRC and South Sudan but not on the Rwandan border (Company D uses the Gatuna border post). The Rwandese import requirements are very clear and transparent and free from corruption ("The Rwandan system is tight"). To comply with the Rwandese requirements the company SGS has to inspect the processing factory in situ and produce a certificate. A certificate of origin which is attained through adequate VET certification is also necessary. Evidence of the company's quality assurance system needs to be provided (ISO). If all documents are in order, clearance at the border takes ten minutes. Overall, it is perceived that Rwanda has very strict rules (this also includes certain standards that need to be fulfilled by the truck carrying the cargo i.e. security equipment, insurance, proof of ownership, cleanliness of truck), but if one complies exporting is not made difficult. When exporting to DRC, the company faces much greater problems. It takes 5 to 10 days to ship a cargo to the Kibali mine through the Vurra border post on the DRC. However, the market in the DRC is willing to pay for a premium that covers for these additional costs. Moreover, the company prefers official registering its exports rather than engaging in cross border trade, in order to qualify for VAT exemption. Security issues have also not been a hindrance thus far in the DRC, and the company has not lost a single shipment due to security issues. To minimise the potential threat of looting of its shipment the company ensures that shipments move in convoys. Mike also mentions the benefits of greater exchange between the Congolese and Ugandan communities which have allowed to build a sense of mutual trust (there is a large Congolese community living in Uganda given Uganda's open policy towards refugees).

Company D pays drivers USD 400 a month and an extra allowance for every trip of USD 150. An extra facilitation of up to USD 50 is also paid to cover for extraordinary expenses (including bribes).

Company E:

Company E provides logistics services ranging from trucking supply chain management, customs clearing, warehousing, and coordination. Road Freighters is a sister company which specializes in provision of trucking services. The companies are mainly serving routes from Kampala outside the main transport corridors, i.e. their main business is not importing goods from Mombasa. This year orders have predominantly involved the shipment of goods to the DRC (mainly dairy and food products), to Rwanda (particularly the airport which is currently being expanded), and to the oil fields in Mtwara south of Dar es Salaam (machinery being shipped from Uganda's oil fields). The companies also recently shipped construction machinery from Malawi for ongoing construction projects in Uganda.

Company E owns a fleet of 20 trucks but has partnership agreements with other trucking companies which brings the total fleet to 300. There cost (net of 18% VAT) of acquiring a new semi-trailer in Uganda are:

Chinese truck: USD 65,000 for trailer head plus USD 27,000 for trailer. These trucks are currently favoured by most Ugandan buyers. Their life expectancy is 7-10 years.

Scania truck: USD 85,000 for trailer head plus USD 27,000 for trailer. Their life expectancy is 12-15 years.

Mercedes truck: USD 120,000 for trailer head plus USD 27,000 for trailer. The main advantage of these trucks is that they are very fuel efficient and have a very long life expectancy. Mercedes is the only company that has conducted extensive research to increase the endurance of its vehicles in a tropical climate and rough roads.

Under normal circumstances it takes 3-4 years to pay off a Chinese truck, although this requires operating on USD routes and not relying on bank financing. With bank financing the period required to pay off a truck usually extends to 5 years.

Shipping a 20ft container from Kampala to Kigali currently costs between USD 1,800-2,300. This compares favourably to five years ago, when rates stood at USD2700-2800. The reduction is predominantly on account of increased competition, subdues world demand, and lower fuel prices. The ultimate price depends on the weight not necessarily on the length of the container because the type of goods shipped from Uganda to Rwanda are of a heavy nature and do not generally allow to ship more than one container on a semi-trailer due to axle-load limitations. It also depends on where the trucks bought their fuel (Kampala-Kigali will require about 550 litres; Kampala to Mombasa will require 950-1250 litres of fuel). Kenyan trucks coming from Mombasa that continue to Rwanda will have tanked in Mombasa where fuel is cheap. Clearing fees on the Kampala Kigali route amount to USD 300.

In terms of time, it currently takes a minimum of 2 days to transport a container to Kigali from Kampala, a strong reduction compared to five years ago, when it took a minimum of 4 days at the border to clear goods. However, Mr K admits that it is only in 50% of cases that a shipment reach within two days. This is mostly on account of the Ugandan and Rwandan customs systems that are linked (both countries use Asycuda world) and the one stop border post which has greatly facilitated clearance of goods. In contrast, transporting a container from Kampala to Nairobi takes much longer due to the unreliability of the customs systems which are not integrated. Therefore, between Kampala and Nairobi one should count with a 2-3 days of transport time plus 24-48h on average at the border (although there have been instances where network/systems issues have resulted in delays of up to 5-6 days at the border). At the Mutukula border to Tanzania clearance of good also take 24-48h on average.

Weighbridges continue to be an important problem on major transport corridors, predominantly due to a lack of harmonization of calibration. Readings thus vary from one weighbridge to the next and cargo sometimes shift. On the Kampala-Kigali route there are three weighbridges (2 in Uganda and 1 in Rwanda) and there may be several additional mobile ones. These weighbridges breed corruption. When a truck is not compliant and has to go to court it generally loses two business days. Each day a loaded truck is delayed it loses USD 200-250.

Company F on 02/12/2016

Company F provides freight forwarding services predominately on the Mombasa-Malaba-Kampala and Dar-Mutukula-Kampala routes, however it does not own trucks. The company charges USD 3000 and USD 3400 to import a 20ft and 40ft container respectively from Mombasa. For a 20ft container the charge can be split into transport (USD 2300) charges, port handling charges (USD290), shipping line charges (USD 400). Customs clearance is charged separately at USD 500 for 40ft container and USD 400 for a 20ft container. All charges do not include extra demurrage/detention charges due to delays in clearing. After a grace period of 9 days the port charges demurrage charges of USD30 per day and USD40 per day for a 20ft and 40ft container respectively. Truck detention charges are USD 200-300, although if relationship is good with trucking company then the detention charge may be lowered to USD100.

In terms of timing on average it takes 12 days to ship goods from Mombasa to Kampala, which can be split into 2-3 days of port handling, 4-5 days of customs clearance and 5 days of trucking. The greatest problem/uncertainty in terms of planning for the days required to import a consignment comes with customs clearance due to system failures. Up to 80% of containers imported through Mombasa face some system delays at one point or the other. Mr Kazekia provides a specific example for this: He says that when lodging an entry, it is common for the system to fail to automatically assign an officer. In this case this needs to be

done manually, requiring the issue to be raised with UNRA and then a customs officer to be assigned manually. He also mentions that problems emerge when the responsibility for an assignment is transferred between officers, as this creates issues within the system. Network/system issues are responsible on average for 3 days of the time required to clear goods when importing through Mombasa. Crossing the border of Malaba takes up to a maximum of 24 hours, if the clearance of goods has taken place in Mombasa.

Weighbridges continue to be a significant problem on the Mombasa-Kampala route. The total number is difficult to estimate because there are various mobile weighbridges. He says that if the number of weighbridges was to be limited to 2 (one in Uganda and one in Kenya) trucking time would go down to an average of 3 days down from the current 5.

Mr. K, believes that the number of days required to import containers from Mombasa has not improved. He states that discussions at the top do not reflect the reality on the ground. In fact, he believes that corruption has worsened.

Company G

Mr. M explains that the USC represents the interests of cargo owners (those that own the goods that are being imported and exported) working as an advocacy organisation. He explains that the current cost for importing a container through Mombasa depend on the size and weight of the container:

20ft standard container:	below 12t	USD 2000
	12t-15t	USD 2300
	15t-18t	USD 2700
	above 18t	USD 3300
40ft standard container:		USD 3500

20ft container weighing less than 18t can be paired and are thus cheaper. Heavier 20ft container and 40ft container cannot be pared on one semi-trailer and are thus more expensive. Charges for an entire semi-trailer going from the port of Mombasa to Kampala are USD 2500. Port charges and agency fees for clearing a container are about USD 800. The margin of a freight forwarder is generally USD 200 on each container.

In terms of time, the grace period in the port is 9 days after which extra charges apply. Normally a container takes 7 days in the port followed by trucking to Kampala which generally takes 4-5 days. Crossing the border normally takes 24h. However, this depends on the type of goods. Some goods require more extensive testing. Fuel is generally the quickest to be cleared, as large companies have special arrangements to pay customs duties ahead. The clearing time of cargo also depends on the number of different items in a container (if more than 5 different items in a container, clearance takes place in Kampala). Network/system problems are also responsible for important delays. Overall, when a container arrives within 2 weeks of its arrival time in Mombasa, this is considered as good. The impact of weighbridges has improved. Several weighbridges are now weigh-in-motion bridges and the number has reduced, especially the fixed weighbridges. The problem are mobile weighbridges that continue to be placed randomly along the corridor. Moreover, weighbridges are not harmonized the same and thus produce different readings which creates a lot of problems.

Interview with Company H on 30/11/2016

Company H is an international logistics company that provides logistics services along the whole import/export and distribution chain. Company H Uganda owns a few trucks which it uses mostly to distribute goods within the country and to ship cargo to DRC or South Sudan. For a 20ft and a 40ft container the company charges USD 2450 and USD 3250 respectively (although this may vary somewhat with the weight of the cargo). These quotes include port clearance, shipping line charges transport and bond charges but excludes extra charges that may accrue due to demurrage truck detention (the company has shared a list of these other charges that may be incurred when a cargo is delayed). To ship a container to Mombasa including hand-over to shipping line it charges about USD 1500. The lower price is due to the fact that a lot of trucks return empty and are thus happy to ship goods for a much lower price. The time that it takes to import goods from Mombasa to Kampala is currently about 11-12 days out of which 6 are spent at the port

and 5.6 in transit from the port to Kampala. Goods that are being piloted under the SCT are cleared at the port while other goods are cleared at the border unless a container includes more than 5 different goods, in which case it is cleared at the Kampala ICD (Inland Container Depot). The company has 20 employees at the border in Malaba and 5 at the border in Busia (Mrs N explains that Busia experiences less traffic because Busia specialises in a few commodities particularly fuel, this is reflected in the type of border officials stationed in each of the two border posts). Clearance at the border generally takes 2 hours for one item goods, but this can increase significantly if a container includes more items. Moreover, recently there have been significant network/system issues that lead to recurrent delays at the border. Bollore generally leaves the dealing of weighbridges to transporters and does not get involved when a truck does not comply with axle load regulations unless this is necessary to resolve an impasse (eg fine needs to be paid). If incorrect weight has been indicated by customer this will involve a surcharge. The company puts a lot of emphasis in receipt of all import documentation well ahead of the arrival of the container in Mombasa, so that entry can be lodged in time in ASYCUDA system.

Five years ago, a container arriving in Mombasa would take up to 20 days to eventually reach Kampala. Most of the reduction in the global time required to ship a cargo from Mombasa to Kampala is due to faster way of clearance, better coordination among customs authorities, better infrastructure, tracking of cargo… Moreover, the market has seen a 15-20% decline in the rates over the last five years due to increased competition, weaker global demand, and lower fuel prices. Moreover, extra charges which are not part of the overall charge have also reduced significantly. Whereas 50-60% of containers incurred extra charges five years ago, more about 90% of containers do not face extra charges due to more reliable port transit services.

Compnay I on 28/11/2016

Mr O explains that his company Company I does not own any trucks anymore. The few trucks that the company owned were sold. Currently the company leases trucks from companies. The main reason for this decision is that Uganda has been facing problems to compete with transporters of other EAC countries:

- Road charges in Kenya and Tanzania amount to USD200 USD500 respectively but only USD 50 in Uganda
- Transport sector in Uganda is in its infancy, of a total of 18,000 truck in the region only 3% belong to Uganda.
- Most companies are based in Mombasa; greater market access, turnover, location advantage.
- A Ugandan truck in transit in Kenya is not allowed to transport goods within Kenya, given that the portion of the transport route to Kampala from the port of Mombasa is mostly in Kenya.

Leasing transport services from other companies is thus a strategy to compensate for this disadvantage. The leasing agreements that Nordic Freight has with transporters guarantees Nordic Freight special rates and greater flexibility.

Hiring a truck from Mombasa to Kampala costs USD1700 for a 20ft container weighing less than 15t and USD2300 for a container weighing more than 15t. Transport for a 40ft container costs between USD2200-2600 depending on the weight as fuel usage increases when container is heavier.

The entire charge for importing a container through Mombasa including all charges (shipping line charges, port charges, clearing charges, border charges, border clearing charges) costs USD3200 for light cargo and USD3400 for heavy cargo. This is about 10-15% cheaper than 5 years ago.

The time that it takes to import a cargo from the point of arrival at Mombasa port until hand-over in Kampala is 9 days but this can go up to 15 days if clearing problems emerge on the way. At the port it takes 4 days until container is loaded on the truck, followed by 3 days for transit, and 2 days overall for customs clearing (one day for products piloted under the SCT). Mr O also mentions the problems that are recurrent with regards to the reliability of network/system problems.

Company J

Mr. A provides freight forwarding services mostly on the Mombasa-Kampala route. The company does not own any trucks due to the capital-intensive nature of this. Moreover, when offering transport services, clients want to operate against credit (i.e. payment is only made once cargo has been delivered) which makes it difficult to operate unless a company achieves significant economies of scale. Hence, he subcontracts transport services (he also tries to subcontract clearing services). On average Mr A forwards 10-15 containers between Mombasa and Kampala a month. He charges depending on the container size and weight:

20ft container:	below 12t	USD2,300 (USD1500 for transport)
	12t-15t	USD2,800 (USD2000 for transport)
	above 15t	USD3,300 (USD2600 for transport)
40ft container		3500 regardless of weight (as no additional cargo will be allowed on the truck due to axle load regulations) (USD 2600 for transport)

These charges are inclusive of transport fees clearing fees and port and shipping line charges. To export a container through Mombasa Mr A charges USD 1500 for a 20ft container and USD 1650 for a 40ft container.

The wage of a truck driver is UGX 900,000 per month base salary. In addition, each driver gets a lump sum for each trip of 450USD out which he has to pay for road user charges (USD200 in Kenya) and other charges (generally USD20-30USD incidental costs, i.e. policy bribes) and parking fees at the border of UGX 10,000 per day.

In terms of weighbridges, officially there are only two (Mariakani and Busitema) but in reality there are many more. Mr A estimates that on average 10 weighbridges should currently be expected between Mombasa and Kampala (5 fixed in Kenya, 3 mobile, and 2 fixed in Uganda). Weighbridges are money making points for officials, although they are operated by private firms such as SGS. On average 5-7h are lost by each truck travelling on the Mombasa-Kampala route when compliant with axle load regulations. Each axle may weigh up to 8t although there is a margin of 0.5t that is generally accepted. Above 0.5-1t you are generally requested to pay an express penalty in the range of USD200-300. This is generally decided by roadside court magistrates. If the axle load exceeds the limit by less than 1t trucks are generally allowed to continue. Above that they may be forced to realign the cargo or other ad hoc measures may be adopted depending on the type of cargo.

Currently it takes 9-10 days from the arrival time of a container in Mombasa to its hand over to the customer in Kampala. 5 of these 9 days accrue to time needed for port clearance and loading of container to truck, 4 days in transit. To cross the border in Malaba it takes about 4h and 2h in Busia.

Mr Alimondo is of the opinion that overall port dwell and cargo times have not gone down much over the last five years. The SCT has in some instances even made things more complicated as it follows a different documentation procedure (documents need to be lodged before the cargo can leave Mombasa). There is a gap between the initiatives agreed at the top and the implementation on the ground.

Annex IV: Questionnaire

Questionnaire

-

Non-Tariff barriers in the East African Community

Description of Questionnaire
This questionnaire is administered to collect information for the study on "Resolving Unresolved Non-Tariff Barriers in the EAC". The aim of this questionnaire is to understand what costs Non-Tariff Barriers cause to businesses and transport firms in the East African region. The geographical focus of this survey is the East African Community (EAC). For the purpose of this work we will refer to the EAC as composed of Burundi, Kenya, Rwanda, Tanzania and Uganda.[6] The questionnaire will only take 20 minutes to complete. The statistical unit for this survey is the enterprise. Costs are expressed in USD.
Confidentiality
The questionnaire is completely anonymous and it will be administered to a large number of firms. It will not be possible for ODI, Sussex or CUTS Nairobi to identify the firms interviewed. All information gathered by this survey will be held in strictest confidence. Under no circumstances will ODI, University of Sussex or CUTS Nairobi release, or disclose any information on, or identifiable with, individual persons or enterprises.

[6] While South Sudan has recently joined the EAC, the EAC NTBs monitoring mechanism has not yet included South Sudan, and therefore this is beyond the scope of our survey.

List of questions (for internal use only)

- **Section 1: Company Overview**

- **Section 2: Manufacturing questionnaire**

• Section 3: Manufacturers + transport questionnaire

Section 1: Company Overview
Description of section (for internal use only): This section intends to identify the location of and type of company that is being interviewed.

1. **Q1. 1: Respondent's Job Title:**		
2. **Q1. 2: Which country are you based in?**	☐ Burundi ☐ Kenya ☐ Rwanda ☐ Tanzania ☐ Uganda	3. **Q1. 3: Which city are you based in?** _____
4. **Q1. 4: Which of the following describes you best?**	A manufacturer that hires transport services from a third company to ship goods within the EAC	☐ Please answer 2 only
	A manufacturer that operates its own trucks to ship goods within the EAC	☐ Please answer 3 only
	A transporter, clearing agent, and/or freight forwarder not involved in the manufacture of goods	☐ Please answer 4 only

Section 2: Manufacturing questionnaire

Description of section (for internal use only): This section should target all companies that describe themselves as manufacturing companies and that do not transport their own goods within the EAC. The objective of the questionnaire is to establish the time and cost faced by these firms when transporting goods within the EAC.

5. **Q2. 1: How many full-time employees did you employ last month?**	_____		
6. **Q2. 2: In the last month, which of your products generated the highest revenue (in terms of sales) for the company?**	_____		
7. **Q2. 3: Do you export this product out of your country?**	YES	☐	Please go to Q2. 4
	NO	☐	Please go to Q2. 10
8. **Q2. 4. To which of the following countries do you export this product? (select as many as applicable)**	Burundi		☐
	Kenya		☐
	Rwanda		☐
	Tanzania		☐
	Uganda		☐
	DRC		☐
	South Sudan		☐
	Outside the EAC		☐
9. **Q2. 5: How do you export this product?**	In a standard container		☐
	In a tank (for liquids)		☐
	In an open-top truck/pick-up lorry		☐
	Flat truck/platform		☐
	Refrigerated/insulated container		☐
	Other (specify)		☐
10. **Q2. 6: Of the following selected destinations, to which one do you ship your products? (Select as many as applicable)**	Port of Mombasa for exporting outside EAC		☐
	Port of Dar es Salaam for exporting outside EAC		☐
	City of Nairobi		☐
	City of Dar es Salaam		☐
	City of Kampala		☐
	City of Kigali		☐
	City of Bujumbura		☐
	City of Arusha		☐
	City of Mombasa		☐
	City of Mwanza		☐
	City of Kisumu		☐
11. **Q2. 7: Of the destinations listed in the previous question, which one is the one that you most frequently send products to? (Please provide name of destination)**	_____		

12. **Q2. 8: In the last month, how much did it cost you to hire a transport company to ship your main product (as defined in question 2.2to this most frequent destination (including transport, agent fees and other fees; excluding duties)?** 13. ***Please only provide costs incurred <u>within the EAC</u> (for example if exporting a container to China through to the port of Mombasa your answer should only include the cost from your factory to the port of Mombasa)***	20 feet container 40 feet container Other sizes (please specify)	USD_____ USD_____ USD_____
14. **Q2. 9: In the last month, how many days (on average) did it take a transport company to ship your main product to this most common destination?**	_____days	

15. **Q2. 10: Do you import any inputs from outside your country?**	YES NO	☐ ☐	Please go to Q2. 11 Please go to Q2. 18
16. **Q2. 11: What is your main import (in terms of total costs)?**	_____		
17. **Q2. 12: From which country do you import these inputs? (select as many as applicable)**	Burundi Kenya Rwanda Tanzania Uganda DRC South Sudan Outside the EAC	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
18. **Q2. 13: How do you import this product?**	In a standard container In a tank (for liquids) In an open-top truck/pick-up lorry Flat truck/platform Refrigerated/insulated container Other (specify)	☐ ☐ ☐ ☐ ☐ ☐	
19. **Q2. 14: Of the following selected origins, where do your imports come from? (Select as many as applicable)**	From the port of Mombasa as they have been imported from outside the EAC From the port of Dar es Salaam as they have been imported from outside the EAC City of Nairobi City of Dar es Salaam City of Kampala City of Kigali City of Bujumbura City of Arusha City of Mombasa City of Mwanza City of Kisumu	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	

20. **Q2. 15: Of the places listed in the previous question, which is the one that you most frequently import from? (Please provide name)**	_____	
21. **Q2. 16: In the last month, how much did it cost you to hire a transport company to ship this main input to your factory (including transport, agent fees and other fees; excluding duties)?** 22. ***Please only provide costs incurred <u>within the EAC</u> (for example if importing a container from China to the port of Mombasa your answer should only include the cost from the port of Mombasa to your factory)***	20 feet container 40 feet container Other sizes (please specify)	USD_____ USD_____ USD_____
23. **Q2. 17: In the last month, how many days (on average) did it take a transport company to import this main input to your factory?** 24. ***Please only provide time incurred within the EAC (for example if importing a container from China to the port of Mombasa your answer should only include the time from the port of Mombasa to your factory)***	_____days	

25.

26. **Q2. 18: Have transport cost within the EAC decreased in the past five years?**	YES NO	☐ ☐
27. **Q2. 19: Have transport times within the EAC decreased in the past five years?**	YES NO	☐ ☐

Section 3: Manufacturing + transport questionnaire

Description of section (for internal use only): This section should target all companies that describe themselves as manufacturing companies and that transport their own goods within the EAC. The objective of the questionnaire is to establish the time and cost faced by these firms when transporting goods within the EAC.

28. **Q3. 1: How many full-time employees did you employ last month?**	_____
29.	
30. **Q3. 2: In the last month, which of your products generated the highest revenue (in terms of sales) for the company?**	_____
31. **Q3. 3: How many trucks are in your company's fleet at present to transport your goods?**	_____trucks
32. **Q3. 4: Do you ever rent trucks from someone else?**	YES ☐ NO ☐
33. **Q3. 5: How much would you have to pay per day if you needed to rent a truck with a driver today?**	_____USD

34. **Q3. 6: Do you export this product out of your country?**	YES	☐	Please go to Q3. 7**Q3. 7: To which of the following countries do you export this product? (select as many as applicable)**
	NO	☐	Please go to Q3. 33

35. **Q3. 7: To which of the following countries do you export this product? (select as many as applicable)**	Burundi	☐
	Kenya	☐
	Rwanda	☐
	Tanzania	☐
	Uganda	☐
	DRC	☐
	South Sudan	☐
	Outside the EAC	☐
36. **Q3. 8: How do you export this product?**	In a standard container	☐
	In a tank (for liquids)	☐
	In an open-top truck/pick-up lorry	☐
	Flat truck/platform	☐
	Refrigerated/insulated container	☐
	Other (specify)	☐
37. **Q3. 9: Of the following selected destinations, to which one do you ship your**	Port of Mombasa for exporting outside EAC	☐
	Port of Dar es Salaam for exporting outside EAC	☐
	City of Nairobi	☐
	City of Dar es Salaam	☐
	City of Kampala	☐

products? (Select as many as applicable)	City of Kigali City of Bujumbura City of Arusha City of Mombasa City of Mwanza City of Kisumu	☐ ☐ ☐ ☐ ☐ ☐

38. **Q3. 10: Of the destinations listed in the previous question, which one is the one that you most frequently send products to? (Please provide name of destination)** _____

39. **Q3. 11: On average how many separate shipments of your most common product (as defined above) do you transport each month on the route between your home depot to this most common destination specified in Q3. 10?**	Less than 5 5 to 20 21 to 50 51 to 100 More than 100	☐ ☐ ☐ ☐ ☐

40. **Q3. 12: What is the estimated cost for your company for shipping a separate shipment of your most common product to this most common destination (excluding any duties)?** USD_____

41. **Q3. 13: Does the price quoted above include (tick as relevant)**	Transport costs (includes truck, fuel, driver) Clearing fees at the port (if applicable) Clearing fees at the borders	☐ ☐ ☐

42. **Q3. 14: In the last month, how many days (on average) did it take you to transport a separate shipment of your most common product between your factory and this most common destination?** _____days

43. **Q3. 15: Did you face any of the following charges when transporting goods on the route to this place?**		44. **Q3. 16: Can you specify how much you paid each time you travelled the route?**
Road charges	☐	USD _____
Charges at weighbridges	☐	USD _____
Parking fees (other than at the borders)	☐	USD _____
Local government charges	☐	USD _____
Certificates of transit	☐	USD _____
Informal payments	☐	USD _____
Other	☐	USD _____

45. **Q3. 17: On your most common route, do you encounter weighbridges?**			46. **Q3. 18: How many weighbridges did you encounter on this most common route**
YES	☐	Go to Q3. 18	_____weighbridges
NO	☐	Go to Q3. 25	

47. **Q3. 19: In the last month how many hours (on average) did you spent at weighbridges each time you travelled on this route when compliant with axle load and weight regulations?**		_____hours
48. **Q3. 20: If you were found not to be compliant with axle load and weight regulations, how many hours (on average) did you spent on weighbridges over the total trip?**		_____hours
49. **Q3. 21: If you were found not to be compliant with axle load and weight regulations, how much would you have to pay over the total trip?** 50. ***Please include formal and informal fees, parking charges etc***		_____USD
51. **Q3. 22: In the last month, how many times did your shipments arrive later than expected to this most common destination by ...**	...less than one day?	_____times
	...1 to 2 days?	_____times
	...2 to 3 days?	_____times
	...more than 3 days?	_____times
52. **Q3. 23: In the last month, how many times did your shipments arrive earlier than expected to this most common destination by ...**	...less than one day?	_____times
	...1 to 2 days?	_____times
	...2 to 3 days?	_____times
	...more than 3 days?	_____times
53. **Q3. 24: During the last month, how many trucks did you keep parked in your depot to accommodate for the delays (on average)?**		_____ trucks

54. **Q3. 25: How many borders do you have to cross to reach this most common destination?**				One Border ☐ Please answer row 1 below Two Borders ☐ Please answer rows 1 & 2 below Three Borders ☐ Please answer rows 1 & 2 & 3 below		
ROWS	55. **Q3. 26: What border posts do you use to reach this most common destination?**	56. **Q3. 27: During which hours can you cross this border?**	57. **Q3. 28: On average how many hours does it take to cross this border from the moment the truck reaches the border to the time it has cleared and it is ready to travel again?** 58. ***Please include waiting time that you incur on average waiting for the border to open.***	59. **Q3. 29: Do you have any permanent employees at this border to speed up the clearing process? If yes, what is their total cost per month (including salary, facilitation, utilities, etc.)?**	60. **Q3. 30: Apart from employees, do you normally pay other facilitators at this border to speed up the clearing process? If yes, how much do you pay them per month?**	61. **Q3. 31: Can you estimate the other direct costs that you incur each time you cross this border?** 62. ***Answer zero, if charge did not apply.***
1				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD _____ Inspection Charges USD _____ Other(incl. informal payments) USD _____
2				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD _____ Inspection Charges USD _____ Other(incl. informal payments) USD _____
3				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD _____ Inspection Charges USD _____ Other(incl. informal payments) USD _____

63. **Q3. 32: Have transport cost within the EAC decreased in the past five years?**	YES NO	☐ ☐
64. **Q3. 33: Have transport times within the EAC decreased in the past five years?**	YES NO	☐ ☐

Section 4: Transport and logistics questionnaire

Description of section (for internal use only): This section should target all companies that describe themselves either as offering transport and logistics services as their main business activity and/or as a manufacturers with their own transport fleet. The objective of the questionnaire is to establish direct and indirect cost faced by these firms when transporting goods within the EAC. To this end, the questionnaire tries to establish each firm's main route of operation and the associated costs in terms of travel time, charges, and indirect costs borne by the company when servicing the main route. The information should be inquired in a way that allows estimating:

- The daily opportunity cost of having a standard truck in operation (estimated through implied rental cost of truck, daily salary of driver including any daily allowance and per diems)
- The variable cost for each mile travelled (mainly fuel costs)
- The fixed costs of crossing the border (clearing fees and any associated bribes, parking fees, and any other charges incurred directly for crossing the border,)
- The fixed costs for operating the route (weighbridges, transit charges, local government charges, en-route bribes, etc.)
- In addition the questionnaire should elicit waiting time needed borders crossings and weighbridges.

65. **Q4. 1: How many trucks are in your company's fleet at present?**	_____trucks
66. **Q4. 2: Do you ever rent trucks from someone else?**	YES ☐ NO ☐
67. **Q4. 3: How much would you have to pay per day if you needed to rent a truck with a driver today?**	_____USD

68. **Q4. 4: Do you transport any goods <u>to or from</u> a destination outside your country?**	Yes ☐	Go to question **Error! Reference source not found.**
	No ☐	Go to question **Error! Reference source not found.**

69. **Q4. 5: Which of the following EAC destinations outside your country do you service? (Select as many as applicable)**	Port of Mombasa (to import/export outside the EAC)	☐
	Port of Dar es Salaam (to import/export outside the EAC)	☐
	Nairobi	☐
	Dar es Salaam	☐
	Kampala	☐
	Kigali	☐
	Bujumbura	☐
	Arusha	☐
	Mombasa	☐
	Mwanza	☐
	Kisumu	☐

70. **Q4. 6: Which of these destinations listed in Q4. 5 is the most common one you service? (please write down name of destination)**	_____

71. **Q4. 7: On average how many standard containers of 20 and 40 feet do you transport each month on the route between your home depot to this most common destination specified in Q4. 6?**	Less than 5 5 to 20 21 to 50 51 to 100 More than 100	☐ ☐ ☐ ☐ ☐
72. **Q4. 8: In the last month, how much did you charge for shipping a standard container from your home depot to this most common destination?**	20 feet container 40 feet container	USD_____ USD_____
73. **Q4. 9: Does the price quoted above include** 74. **(check as relevant)**	Transport fees Clearing fees at the port (if applicable) Clearing fees at the borders	☐ ☐ ☐
75. **Q4. 10: In the last month, how much did you charge for shipping a standard container from this most common destination back to your home country?**	20 feet container 40 feet container	USD_____ USD_____
76. **Q4. 11: Does the price quoted above include** 77. **(check as relevant)**	Transport fees Clearing fees at the port (if applicable) Clearing fees at the borders	☐ ☐ ☐
78. **Q4. 12: In the last month, how many days (on average) did it take you to transport a standard <u>full</u> container between your home depot and this most common destination?**	_____days	

79. **Q4. 13: Did you face any of the following charges when transporting goods on the route from or to this place?**		80. **Q4. 14: Can you specify how much you paid each time you travelled the route?**
Road charges	☐	USD _____
Charges at weighbridges	☐	USD _____
Parking fees (other than at the borders)	☐	USD _____
Local government charges	☐	USD _____
Certificates of transit	☐	USD _____
Informal payments	☐	USD _____
Other	☐	USD _____

81. **Q4. 15: On your most common route, do you encounter weighbridges?**			82. **Q4. 16: How many weighbridges did you encounter on this most common route**
YES	☐	Go to Q4. 16	_____weighbridges
NO	☐	Go to Q4. 29	

83. **Q4. 17: In the last month how many hours (on average) did you spent at weighbridges each time you travelled on this route <u>when compliant with axle load and weight regulations</u>?**		_____hours
84. **Q4. 18: If you were found not to be compliant with axle load and weight regulations, how many hours (on average) did you spent on weighbridges over the total trip?**		_____hours
85. **Q4. 19: If you were found not to be compliant with axle load and weight regulations, how much would you have to pay over the total trip?** 86. ***Please include formal and informal fees, parking charges etc***		_____USD
87. **Q4. 20: In the last month, how many times did your shipments arrive later than expected to this most common destination by ...**	...less than one day?	_____times
	...1 to 2 days?	_____times
	...2 to 3 days?	_____times
	...more than 3 days?	_____times
88. **Q4. 21: In the last month, how many times did your shipments arrive earlier than expected to this most common destination by ...**	...less than one day?	_____times
	...1 to 2 days?	_____times
	...2 to 3 days?	_____times
	...more than 3 days?	_____times
89. **During the last month, how many trucks did you keep parked in your depot to accommodate for the delays (on average)?**		_____trucks

90. **Q4. 22: How many borders do you have to cross to reach this most common destination?**	One Border ☐ Please answer row 1 below Two Borders ☐ Please answer rows 1 & 2 below Three Borders ☐ Please answer rows 1 & 2 & 3 below

ROWS	91. **Q4. 23: What border posts do you use to reach this most common destination?**	92. **Q4. 24: During which hours can you cross this border?**	93. **Q4. 25: On average how many hours does it take to cross this border from the moment the truck reaches the border to the time it has cleared and it is ready to travel again?** 94. ***Please include waiting time that you incur on average waiting for the border to open.***	95. **Q4. 26: Do you have any permanent employees at this border to speed up the clearing process? If yes, what is their total cost per month (including salary, facilitation, utilities, etc.)?**	96. **Q4. 27 : Apart from employees, do you normally pay other facilitators at this border to speed up the clearing process? If yes, how much do you pay them per month?**	97. **Q4. 28: Can you estimate the other direct costs that you incur each time you cross this border? Answer zero, if charge did not apply.**
1				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD ____ Inspection Charges USD ____ Other(incl. informal payments) USD ____
2				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD ____ Inspection Charges USD ____ Other(incl. informal payments) USD ____
3				YES ☐ USD _____ NO ☐	YES ☐ USD ____ NO ☐	Parking Fees USD ____ Inspection Charges USD ____ Other(incl. informal payments) USD ____

98. **Q4. 29: Have transport cost within the EAC decreased in the past five years?**	YES NO	☐ ☐
99. **Q4. 30: Have transport times within the EAC decreased in the past five years?**	YES NO	☐ ☐

END

Thank You

Annex V: Estimating the potential impact of a reduction in transit times and costs on EAC trade corridors

During the months of November and December 2016 extensive information was collected through an online survey and a series of qualitative interviews, in order to establish direct and indirect cost faced by transporters in the EAC region. This annex explain how this information is used to estimate the potential transport cost impact of a reduction in transit times on key EAC trade corridors based on the example of the Mombasa-Kampala route.

The online survey results and the qualitative interviews revealed a detailed picture of the operating structure of transporters in the region. The information can be used to generate a series of key baseline indicators to calculate the annual cost and profit structure of a transport firm offering transport services on the Mombasa-Kampala route.[7] Moreover, each assumption is validated against other publicly available sources such as the Northern Corridor Transport Observatory (NCTO) platform, which compiles a series of indictors measuring improvements in trade facilitation on the Norther Corridor.[8]

Applying a standard accounting approach, it is possible to estimate current annual revenue, operating cost and profit margins of a truck, as well the implicit internal rate of return (IRR) of a semi-trailer in the region. Table A11 summarizes the economics for a semi-trailer.. The resulting annual profit of roughly USD 28,000 is in line with information emerging from the qualitative interviews, which suggest that under normal circumstances it takes 3-4 years to recover the cost of USD 92,000 for a semi-trailer Moreover, an IRR of 25-26% aligns well with returns on physical capital that have been reported to often exceed 20% in Africa (Bigsten et al., 1998).

Table A11: The economics of acquiring a truck in the EAC

Yearly revenue	**USD 84,883.72**
Yearly fuel cost	USD 32,173.57
Driver Salary	USD 3,000.00
Yearly incidental cost	USD 10,186.05
Depreciation (linear)	USD 11,500.00
Annual Profit (before tax)	USD 28,024.11
IRR	25.516%

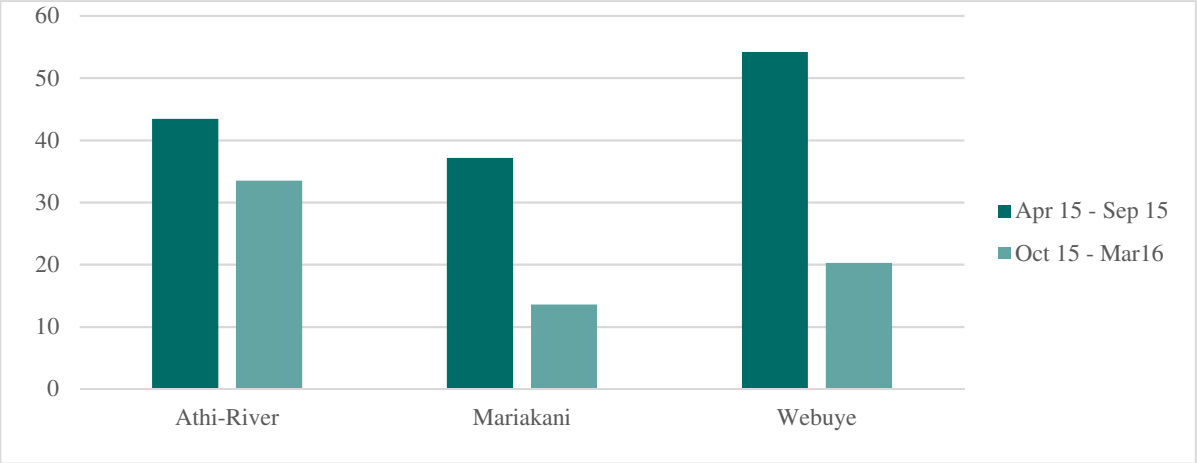
The potential transport cost impact of a reduction transit times and lower incidental costs associated with NTBs can then be assessed by comparing different scenarios against the baseline results

[7] Table A3 summarizes the key baseline indicators assumed for this purpose, based on actual data that was collected during interviews.
[8] See http://top.ttcanc.org/

summarized in table A11. To this end, interview and survey responses were scanned for information on the time lost due to the existence of weighbridges and due other impediments along the trade corridor such as police stops. This undertaking encountered several problems.

First, most respondents agreed that weighbridges continued to severely constrain the flow of transit cargo on the trade corridor, particularly due to the use of mobile weighbridges. By one account the estimated number of weighbridges to be expected on the trade corridor was ten (five and two fixed weighbridges in Kenya and Uganda respectively, and three mobile weighbridges placed randomly on the route). Yet the estimated time lost at weighbridges between Mombasa and Kampala varied significantly from answer to answer. According to one of the interviewees, if the number of weighbridges were to be reduced to two on the Mombasa-Kampala route, trucking time would fall by two days. Other responses (including the answers to the online survey) considered the average time lost due to weighbridges to be significantly less: between 3 and 7 hours. Recent GPS surveys conducted by the Northern Corridor Transit and Transport Coordination Authority (NCTTCA) corroborate these lower estimates. Moreover, the GPS surveys show that the weighbridge crossing time depends on the type of weighbridge. For instance, some weighbridges have recently introduced modern weigh in motion technology, which does not require trucks to stop. This has led to a strong reduction in the crossing time of weighbridges, as illustrated in figure A7. While Mariakani and Webuye weighbridges introduced weigh-in motion technology in late 2015, Athi River weighbridge did not do so until August 2016. This explains the much smaller reduction in weighbridge crossing time experienced at Athi-River weighbridge between the two periods than at the other weighbridges. Overall it was thus not possible to establish the exact increase in transit time between Mombasa and Kampala that is attributable to the existence of weighbridges.

Figure A7: Time to cross weighbridges (minutes)



Source: Norther Corridor Transport Observatory Report, Issue 8, May 2016

Secondly, the average Mombasa-Kampala transit times provided by interviewees disguised the fact that transit times vary significantly depending on whether customs clearance takes place at the port of Mombasa, at the border of Malaba, or the ICD in Kampala. Nowadays, most goods are either cleared in Mombasa or in Kampala thus not contributing to longer on-route transit times. However, in the exceptional circumstances that customs clearance takes place in Malaba resulting in significantly longer border crossing times and thus an increase in overall transit times.

Finally, the online survey responses and the qualitative interviews did not provide sufficient information to allow for a breakdown of the other cost faced by truckers on the corridor, such as parking fees, weighbridge fees, bribes, etc. Instead, it was only possible to gauge the overall incidental cost incurred when on route. This is generally paid out by truck owners to drivers in form of an allowance which also covers for personal expenses like meals and accommodation.

These difficulties notwithstanding, three scenarios where considered to estimate the transport cost implications of a reduction in transit times and transit cost. Scenario 1 stipulates a reduction in outbound transit times from the current 138 hours to 96 and a reduction in the overall transit costs from USD 300 to USD 200. Scenario 2 is more ambitious and considers a reduction in outbound transit times to three days in line with the more optimistic travel time saving estimates due to a lower incidence of weighbridges provided by some respondents and overall transit costs of USD 150. Scenario 3 assumes a maximum reduction in transit times (outbound and return) to 58 hours. This is calculated on the basis of a 12-hour working day with an average trucking speed of 40km/h where on-route stops are kept to a minimum and there are no delays at the border.

The potential cost savings implications of each of these scenarios relative to the baseline case is summarized in Table A12. The last row provides the maximum potential reduction in transport costs assuming a competitive transport sector. This is calculated by estimating the price differential between the baseline price and the price that would result in the same return on investment for the owner of a semi-trailer as in the baseline scenario but with lower transit times and costs. Scenario 3 implies that the elimination of all NTBs encountered on route between Mombasa and Kampala could lead to a reduction of 26% in the overall transport price per tonne. Of course, this results builds on the strong assumption of the existence of a competitive transport sector which is not self-evident in the East Africa. If other forms of market structure were assumed, the transport cost savings would indeed be significantly lower.

Table A12: Cost saving impact of a reduction in transit times and costs

	Baseline Scenario	Scenario 1	Scenario 2	Scenario 3
Transit time outbound (hours)	138	96	72	58
Transit time return (hours)	72	72	72	58
Transit costs (excluding fuel)	300	200	150	100
Maximum possible reduction in transport costs per tonne		-12.1%	-18.8%	-26.1%

Table A13: Key Baseline indicators

Indicator	Assumed baseline	Supporting evidence
Distance from Mombasa to Kampala via the Malaba border	1169 km	Figure taken from the Norther Corridor Transport Observatory (NCTO) of the Northern Corridor Transit and Transport Coordination Authority (NCTTCA)
Overall transit time outbound from departure in Mombasa to arrival in Kampala	138 hours	The qualitative interviews revealed that trucking between Mombasa and Kampala currently takes about 5-6 days. This was corroborated by the indicators availed by Bollore (In October 2016 it took 5.8 days to transport a container from Mombasa to Kampala). A recent GPS survey by the NCTTCA revealed that transit times from Mombasa to Kampala stood at 137.5 hours on average between Oct 2015 and March 2016. It should be noted, however, that this an average figure, which is likely to disguise some variation depending on whether customs clearance (this is not transit clearance!) takes place at the border or not (i.e. goods cleared under the SCT are cleared at the port of entry, the remainder either at Kampala's Inland Container Depot or at the Malaba/Busia border).
Overall transit time return to Mombasa from Kampala	72 hours	An empty truck is assumed to return to Mombasa at an average speed of 40km per hour driving for 12 hours a day. Allowing for some minor delays at the border this implies an approximate transit time of 72 hours for the return trip.
Truck idle time after each return trip	48 hours	A truck is assumed to stand still for 48 hours between every trip, allowing for repairs and maintenance and turn-over of jobs.
Hiring cost of semi-trailer carrying a maximum load of 27 tonnes for Mombasa Kampala route.	USD 2500	The qualitative interviews showed that transport cost for shipping cargo from Mombasa to Kampala varied strongly with type and weight of container. Hence the collected information was used to estimate the hiring price for a fully loaded semi-trailer (max of around 27 tonnes due to axle load regulations) on the Mombasa Kampala route, which was estimated at around 2500 USD (excluding shipping line charges and cargo clearing charges). This is in line with the average 2015 price suggested by other sources such as the NCTTCA and the East Africa Logistics Performance Survey 2015.
Driver base salary per month	USD 250	Two interviewees provided details about truck driver's salaries. The estimate of USD 250 corresponds to the information provided by a local freight forwarder. This figure was deemed to be more reliable than the second figure (USD 400) which came from a foreign owned manufacturing company. USD 250 are also in line with information found on the internet (e.g. http://www.careerpointkenya.co.ke/van-truck-driver-jobs-in-kenya-25k/)
Driver's allowance for each trip (direct transit cost)	USD 300	The qualitative interviews revealed that each driver gets a lump sum for every trip. A Ugandan trucker would receive USD 450 out of which he has to pay for road user charges (USD 200 in Kenya) and other charges such as parking fees and bribes. Given that the industry is by and large dominated by Kenyan trucks which only have to pay USD 50 as a transit charge in Uganda, a slightly lower allowance of USD 300 is assumed. This is also broadly in line with the average on-route costs between Mombasa and Kampala suggested by the respondents to the online survey (although responses show a large variation which raises doubts about their reliability).
Cost of semi-trailer	USD 92,000	One respondent of the qualitative interviews provided details about the costs of a semi-trailer. A Chinese trailer head, which currently dominates the trucking fleet in the EAC, costs 65,000 plus USD 27,000 for a trailer (this is exclusive of value added tax).
Life expectancy of truck	8 years	According to qualitative interviews the life expectancy of a Chinese truck operating at full capacity is 7-10 years (i.e. 365 days a year except truck idle time assumed above). An average of 8 is thus assumed
Average fuel consumption for return trip	53 litres per 100 km	According to one of the interviewees a return trip from Mombasa to Kampala will require 950-1250 litres depending on the load. Given the assumption of a maximum load, an average fuel consumption of 53 litres per 100 km is stipulated, implying a total fuel consumption of USD 1239 litres for each trip.

Cost of fuel	USD 0.765 per litre	It is assumed that the truck refuels in Mombasa, where fuel is cheapest. Average pump price of fuel in the first two weeks of December 2016 was KHS78.79 (http://www.erc.go.ke/index.php?option=com_content&view=article&id=162&Itemid=666)

Summary of baseline data

Table A14: Key baseline data

Indicator	Assumed baseline figure	Supporting evidence
Reference Route	Mombasa port to Kampala (1169km)	Distance figure taken from the Norther Corridor Transport Observatory (NCTO) of the Northern Corridor Transit and Transport Coordination Authority (NCTTCA)
Reference Vehicle	Semi-trailer carrying up 27 tonnes	The semi-trailer is the most common transport vehicle on the Northern Corridor. It can carry a maximum load of up to 27 tonnes due to current EAC axle load regulations.
Cost of semi-trailer	USD 150,000	Interviews with truck owners provided details about the costs of a semi-trailer depending on the brand. Most truck owners identified Mercedes trucks (Actor and Axor types) as their preferred choice, costing about US$120,000 when new on the local market. The price of a trailer was quoted to amount to about US$30,000.
Life expectancy of truck (w/o major repairs)	10 years	Truck owners estimated that they expect a Mercedes truck (preferred choice) to last for 10 years w/o repairs when operating at full capacity. provided details about the costs of a semi-trailer depending on the brand. Most truck owners identified Mercedes trucks (Actor and Axor types) as their preferred choice, costing about US$120,000 when new on the local market. The price of a trailer was quoted to amount to about USD 30,000.
Resale value after 10 years	95,631	This was established using asking price data for second hand trucks (only Mercedes Actor or Mercedes Axor were considered) sold in Kenya (retrieved from www.olx.co.ke in January and February 2017). Price data was then regressed on the number of years since the truck's registration in Kenya. This allowed generating average annual depreciation rates of trucks when operating on EAC's roads and thus establish the average resale value of a truck after 10 years of operation.
Average fuel consumption for return trip	53 litres per 100 km	Interviews revealed that a return trip from Mombasa to Kampala will require 950-1250 litres depending on the load and the age of the truck. Given the assumption of a maximum load (27tonnes) and the relatively new trucks assumed for the purpose of this exercise, an average fuel consumption of 50 litres per 100 km is stipulated, implying a total fuel consumption of USD 1169 litres for each trip.
Hiring cost of semi-trailer carrying a maximum load of 27 tonnes for Mombasa Kampala route.	US$ 2,237	The qualitative interviews showed that transport cost for shipping cargo from Mombasa to Kampala varied strongly with type and weight of container. Hence the collected information was used to estimate the hiring price for a fully loaded semi-trailer (max of around 27 tonnes due to axle load regulations) on the Mombasa Kampala route, which was estimated between US$2,000 and US$2,500 (excluding shipping line charges and cargo clearing charges). This is in line with the average 2015 price suggested by the most recent NCTTCA survey of US$2,237. This latter figure was used for the calculations.

Driver base salary per month	US$ 330	Interviews provided details about truck driver's salaries, which varied according to the type of company and the experience of the truck driver. US$330 corresponds to the average salary provided by all truck owners interviewed in Mombasa.
Assistant base salary	US$ 172	Industry interviews revealed that truck drivers operating the Mombasa Kampala route are typically accompanied by a truck driver assistant. Average base salaries for truck driver assistants were reported at US$172.
Driver's allowance for each trip (direct transit cost)	US$ 249	The qualitative industry interviews revealed that drivers get a lump sum for every trip. A Kenyan truck driver would receive about USD 249 for a return trip between Mombasa and Kampala. Drivers reported that the allowance is used for truck maintenance (18%), parking fees and security (9%), personal expenses for accommodation and food (34%), bribes and extra-official fines (13%), road usage charges (20%), and other miscellaneous expenses (5%).
Cost of fuel	USD 0.765 per litre	It is assumed that the truck refuels in Mombasa, where fuel is cheapest. Average pump price of fuel in the first two weeks of December 2016 was KHS78.79 (http://www.erc.go.ke/index.php?option=com_content&view=article&id=162&Itemid=666)
Overall transit time outbound from departure in Mombasa to arrival in Kampala	134 hours	The qualitative interviews revealed that trucking between Mombasa and Kampala currently takes about 5-6 days. This was corroborated by the KPIs availed by Bollore (In October 2016 it took 5.8 days to transport a container from Mombasa to Kampala). A recent GPS survey by the NCTTCA revealed that transit times from Mombasa to Kampala stood at 137.5 hours on average between Oct 2015 and March 2016. It should be noted, however, that this an average figure, which is likely to disguise some variation depending on whether customs clearance (this is not transit clearance!) takes place at the border or not (i.e. goods cleared under the SCT are cleared at the port of entry, the remainder either at Kampala's ICD or at the border of Malaba/Busia).
Average border crossing time on outbound trip	14.49 hours	A Baseline Time and Traffic Survey was conducted at Malaba Border Post in 2016, reporting an average border crossing time of 21.95h. This figure appears to include time spent in border towns for personal reasons (border towns are popular for en-route stops due to the availability of amenities). Actual customs processing time was reported to amount to 14.49 hours only. This is in line with times reported by truckers themselves and is thus used for the purpose of this study.
Average time spent at weighbridges	5 hours	Stakeholder interviews revealed that truck drivers can expect up to 10 weighbridges between Mombasa and Kampala (five and two fixed weighbridges in Kenya and Uganda, respectively, and three mobile weighbridges placed randomly on the route). We assume 30 minutes per weighbridge. This allows for the smaller crossing times for weigh in motion weighbridges (e.g. Mariakani and Webuye) that have recently been confirmed in GPS surveys conducted by the NCTTCA and somewhat higher for static weighbridges.
Average time spent resting	40.2 hours	Interviewed truck drivers estimated that on average they spend 30% of the total transit time either resting, eating or doing other personal activities.
Average time spent driving	48.6 hours	Interviewed truck drivers estimated that on average they spend 36% of the total transit time driving.
Average time spent on unaccounted activities	25.7 hours	Time spend on miscellaneous activities was calculated as a residual subtracting border crossing times, weighbridge crossing times, driving times and resting times from the total transit times.
Overall transit time return to	72 hours	An empty truck is assumed to return to Mombasa at an average speed of 40km per hour driving for 12 hours a day. Allowing for some minor delays at the border this implies an approximate transit time of 72 hours for the return trip.

Mombasa from Kampala		
Truck idle time after each return trip	48 hours	A truck is assumed to stand still for 48 hours between every trip, allowing for repairs and maintenance and turn-over of jobs.

Methodology to calculate Ad-Valorem Equivalents by sector under each scenario

First, we disaggregate Uganda's total cost of importing a 40 feet container by country of origin and with a maximum load of 27 tonnes into three components: (i) sea freight charges, (ii) customs clearance, (iii) and intra-EAC road transport. Estimates for sea freight charges between country of origin and Mombasa were retrieved from http://worldfreightrates.com/en/freight.[9] Information on current intra-EAC transport and custom clearance charges were taken from stakeholder interviews. All imports from outside the EAC, South Sudan, and the Democratic Republic of Congo were assumed to transit through Mombasa and the Northern Corridor on their way to Uganda. Using data on imports by country of origin for 2016 as reported by the Bank of Uganda, a weighted average share of intra-EAC transport cost relative to total import cost was calculated by applying the following formula:

$$EACRoad\_share = \sum \left\{ \frac{CIF_i}{\sum CIF_i} \times \frac{EACRoad_i}{(Sea_i + Customs_i + EACRoad_i)} \right\},$$

where CIF_i stands for Uganda's imports from country i in 2016 at CIF prices. Sea_i, $Customs_i$, $EACRoad_i$ are the respective cost for sea freight, customs clearance, and overland transport within the EAC when importing a 27 tones 40 feet container.

Second, we used Uganda's most recent Input-Output (I/O) tables for 2009/10 as a basis for the calculation of AVEs by sector. In terms of imports, Uganda's 2009/10 I/O tables record information on payments made to the rest of the world for importing 67 different commodities at CIF prices and the respective domestic import margins (DIM) for each of these commodities. DIM are defined as payments made to domestic traders for transporting a particular commodity from Uganda's border to its consumer (intermediary and final). Foreign import margins (FIM), which are paid to foreign transporters, freight forwarders and shipping lines, are not disaggregated by sector in the I/O tables. However, with data from the Bank of Uganda, it was possible to attain an estimate for total FIM by comparing total imports at CIF and FOB prices. In a subsequent step, total FIM were then disaggregated by commodity assuming the same distribution of DIM across sectors reported in the I/O tables. Hence, the following formula was calculated:

$$FIM_j = (CIF - FOB) \times \frac{DIM_j}{\sum DIM_j},$$

where CIF and FOB are Uganda's total imports in 2009/10 at CIF and FOB prices respectively, and FIM_j and DIM_j stand for foreign and domestic import margins of commodity j respectively. The sum of FIM_j and DIM_j are the total annual cost Uganda faces for importing a particular commodity, equivalent to the total import cost established in step 4 above. Thus,

$$\sum (FIM_j + DIM_j) = \sum (Sea_i + Sea_i + EACRoad_i),$$

and

[9] For simplicity, data on sea freight charges was only retrieved for those five countries within each region (Africa, Asia, Europe, Middle East, Rest of the World) Uganda imports from most. Average sea freight charges by region were used for countries Uganda imports from less.

$EACRoad_j = DIM_j + \alpha_j \times FIM_j.$

The import cost attributable to overland transport within the EAC are the total DIM in sector j plus the share FIM attributable to overland transport within the EAC, $\alpha_j \times FIM_j$. Data limitation did not allow us to establish α_j directly. Instead, we had to assume α_j to remain constant across sectors at the average share of intra-EAC transport cost relative to total import cost, defined as $EACRoad\_share$ above. The final AVEs for each sector j across the six NTB trade facilitation scenarios were then calculated as:

$$AVE_{jk} = \frac{EACRoad_j \times Saving_k}{CIF_j + DIM_j},$$

where $Saving_k$ represents the total cost savings under each scenario k.

Calculating sector specific Ad-Valorem Equivalents for each scenario

We used Uganda's most recent Input-Output (I/O) tables for 2009/10 as a basis for the calculation of AVEs by sector. In terms of imports, Uganda's 2009/10 I/O tables record information on payments made to the rest of the world for importing 67 different commodities/services. We then established the cost of intra-EAC transport incurred by Uganda when importing these 67 commodities/services. To this end, we gathered information on domestic import margins (defined as payments made to domestic traders for transporting a particular commodity from Uganda's border to its consumer) and foreign import margins (defined as payments made to foreign transporters, freight forwarders and shipping lines). We then multiplied the savings estimated above with the cost of intra-EAC transport incurred for importing a specific commodity. The final AVEs were then attained by dividing each of these figures across all sectors by the total import value of each commodity. A more detailed account of methodology followed in these calculations can be found in annex V.

Table A15 reports the resulting AVEs which vary significantly across commodities/services. The variation in AVEs comes from three factors. First, a higher import exposure of a commodity causes greater AVEs irrespective of scenario. For instance, Uganda does not import services according to its 2009/10 I/O tables resulting in AVEs of zero across for services. Meanwhile textiles or edible oils are imported quite heavily resulting in higher AVEs. Second, higher cost of import relative to the value of the imported commodity cause larger AVEs. Although some commodities, such as for cotton or rice, are not imported very heavily, they face relatively high import costs relative total import value (including both the value of the commodity and import costs). This leads to higher AVEs in these sectors. Third, AVEs vary across scenarios due to their different cost savings implications described above.

Table A15: Ad Valorem Equivalents by sector and scenario

	Scenario 1 No Border	Scenario 2 No Weighbridge	Scenario 3 No Other Delays	Scenario 4 - Better Infrastructure	Scenario 5 - No Bribes	Scenario 5 - No Road Usage Fee
a-cotton	1.513%	0.522%	3.678%	2.632%	0.494%	0.737%
a-flowers	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
a-coffee	1.456%	0.502%	3.538%	2.532%	0.475%	0.709%
a-tea	0.481%	0.166%	1.170%	0.837%	0.157%	0.234%
a-othcashcrops	1.052%	0.363%	2.558%	1.830%	0.343%	0.512%
a-maize	1.664%	0.574%	4.045%	2.894%	0.543%	0.810%
a-rice	0.913%	0.315%	2.219%	1.588%	0.298%	0.444%
a-othcereal	1.072%	0.370%	2.606%	1.865%	0.350%	0.522%
a-othagr	1.094%	0.377%	2.658%	1.902%	0.357%	0.532%
a-oilseeds	1.054%	0.363%	2.561%	1.832%	0.344%	0.513%
a-potatoes	0.759%	0.262%	1.844%	1.319%	0.247%	0.369%
a-cassava	0.950%	0.327%	2.308%	1.651%	0.310%	0.462%

a-beans	1.143%	0.394%	2.778%	1.988%	0.373%	0.556%
a-othlegumes	0.803%	0.277%	1.952%	1.397%	0.262%	0.391%
a-bananas	0.928%	0.320%	2.255%	1.613%	0.303%	0.452%
a-cattlebuffaloes	1.512%	0.521%	3.674%	2.629%	0.493%	0.736%
a-dairyfarming	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
a-othanimal	1.129%	0.389%	2.744%	1.963%	0.368%	0.550%
a-forestry	0.988%	0.341%	2.401%	1.718%	0.322%	0.481%
a-fishing	1.572%	0.542%	3.820%	2.733%	0.513%	0.765%
a-crudepetroleumgas	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
a-othmining	2.491%	0.859%	6.054%	4.332%	0.813%	1.213%
a-processedmeat	0.674%	0.232%	1.638%	1.172%	0.220%	0.328%
a-processedfish	0.895%	0.309%	2.176%	1.557%	0.292%	0.436%
a-edibleoilsfats	1.021%	0.352%	2.480%	1.775%	0.333%	0.497%
a-dairy	1.305%	0.450%	3.171%	2.269%	0.426%	0.635%
a-grainmillstarch	0.612%	0.211%	1.488%	1.065%	0.200%	0.298%
a-bakery	1.143%	0.394%	2.779%	1.988%	0.373%	0.557%
a-manufactsugar	1.022%	0.352%	2.485%	1.778%	0.334%	0.498%
a-manufactcoffee	0.098%	0.034%	0.238%	0.171%	0.032%	0.048%
a-manufacttea	1.029%	0.355%	2.502%	1.790%	0.336%	0.501%
a-othfood	0.662%	0.228%	1.608%	1.150%	0.216%	0.322%
a-animalfeeds	1.408%	0.485%	3.421%	2.448%	0.459%	0.685%
a-bebtob	0.934%	0.322%	2.269%	1.624%	0.305%	0.455%
a-textiles	1.873%	0.646%	4.551%	3.257%	0.611%	0.912%
a-oilref	0.977%	0.337%	2.374%	1.699%	0.319%	0.476%
a-chemplastrubber	1.299%	0.448%	3.157%	2.259%	0.424%	0.632%
a-nonmetprod	0.856%	0.295%	2.081%	1.489%	0.279%	0.417%
a-metalprod	0.605%	0.209%	1.471%	1.053%	0.197%	0.295%
a-electequipment	1.557%	0.537%	3.785%	2.708%	0.508%	0.758%
a-transportequipment	0.789%	0.272%	1.917%	1.372%	0.257%	0.384%
a-othmanufact	1.453%	0.501%	3.531%	2.526%	0.474%	0.707%

Annex VI: The GLOBE Model

GLOBE is a theory-grounded, comparative-static, multi-region, multi-sectoral CGE model of global production and trade developed by McDonald, Robinson and Thierfelder (2007). The model version used here is calibrated to the new GTAP 9 database that reflects the global input-output structure of production and trade by origin and destination in 2011.

International Trade

Domestically produced commodities are assumed to be imperfect substitutes for traded goods. Import demand is modelled via a series of nested constant elasticity of substitution (CES) functions; imported commodities from different source regions to a destination region are assumed to be imperfect substitutes for each other and are aggregated to form composite import commodities that are assumed to be imperfect substitutes for their counterpart domestic commodities The composite imported commodities and their counterpart domestic commodities are then combined to produce composite consumption commodities, which are the commodities demanded by domestic agents as intermediate inputs and final demand (private consumption, government, and investment). Export supply is modelled via a series of nested constant elasticity of transformation (CET) functions; the composite export commodities are assumed to be imperfect substitutes for domestically consumed commodities, while the exported commodities from a source region to different destination regions are assumed to be imperfect substitutes for each other. The composite exported commodities and their counterpart domestic commodities are then combined as composite production commodities. The use of nested CET functions for export supply implies that domestic producers adjust their export supply decisions in response to changes in the relative prices of exports and domestic commodities. This specification is desirable in a global model with a mix of developing and developed countries that produce different kinds of traded goods with the same aggregate commodity classification, and yields more realistic behaviour of international prices than models assuming perfect substitution on the export side.

Production, Input Demand and Factor Markets

Production relationships by activities are characterized by nested Constant Elasticity of Substitution (CES) production functions. Activity output is a CES composite of aggregate intermediate inputs and aggregate value added, while aggregate intermediate inputs are a Leontief aggregate of the individual intermediate commodity inputs and aggregate value added is a CES composite of primary factors demanded by each activity. The determination of product supply and input demand is based on the assumption of profit maximizing behaviour. In the present application, a standard neoclassical factor market closure is adopted. Factor markets in all regions are characterized by inelastic factor supplies and the model solves for market-clearing factor prices. The primary factors except activity-specific natural resource endowments are mobile across production activities, but immobile across borders.

Final Domestic Demand by Commodity

The commodity composition of government consumption demand and investment demand is fixed, with demand patterns from the benchmark data set. Households are utility maximizers who respond to changes in relative prices and incomes. In this version of the model, the utility functions for private households take the Stone-Geary form and hence consumer demand by commodity is described by a Linear Expenditure System (LES) specification.

Macro Closure

For this exercise a "neutral" or "balanced" set of macro closure rules is specified. Current account balances for all regions are assumed to be fixed at initial benchmark levels in terms of a global numeraire and real exchange rates adjust to maintain external equilibrium. The assumption of fixed current account balances ensures that there are no changes in future "claims" on exports across the regions in the model, i.e. net asset positions are fixed. In addition, we assume a "balanced" macro adjustment to the trade policy shocks within countries. Changes in aggregate absorption are assumed to be shared equally (to maintain the shares from the base data) among private consumption, government, and investment demands. Household and government saving rates adjust residually to establish the macroeconomic saving-investment balance in each region.

Benchmark Data and Calibration

The model is calibrated to the GTAP 9 database that combines detailed bilateral trade, and protection data reflecting economic linkages among regions with individual country input-output data, which account for intersectoral linkages within regions, for the benchmark year 2011. Production, trade and income elasticities are drawn from the GTAP behavioural data base (Hertel and van der Mensbrugghe, 2017).

Sectoral and Regional Aggregation

The GLOBE model is calibrated to the GTAP 9 data base (Narayanan et al (eds.), 2015). This data set provides a detailed and consistent representation of the global economy-wide structure of production, demand and international trade at a regionally and sectorally disaggregated level. GTAP 9 combines detailed bilateral trade and protection data reflecting economic linkages among regions with individual country input-output data, which account for inter-sectoral linkages within regions, for the benchmark year 2011.

GTAP 9 allows to identify four (Kenya, Rwanda, Tanzania and Uganda) of the five EAC members as separate countries, while Burundi is part of a residual composite 'Rest of East Africa' region. Correspondingly, the geographical aggregation structure of the model distinguishes six regions (Table A16). All bilateral trade flows among the six regions are explicitly represented in the model, and thus simulated changes in trade barriers are specified individually for each trade flow by origin, destination and commodity group.

The specification of the sectoral and commodity aggregation structure for the CGE analysis (Table A16) is based on an inspection of the current commodity composition of intra-EAC trade (EAC Secretariat, 2015) and identifies, as far as feasible, the HS2-digit commodity aggregates with the largest intra-EAC 2014 trade flows as separate commodities in the model. Given that the NTBs considered in this study directly affect the ground transport margins associated with international merchandise trade flows, road transport services are treated as a distinct service category in the CGE model.

Table A16: Sectoral and Regional Aggregation of the CGE Model

Short Code	Commodity Groups / Production Sectors	Regions
Cereals	Cereals	Kenya
Vegs Fruits	Vegetables and Fruits	Rwanda
O Agriculture	Other Agriculture	Tanzania
Mining	Mining and Quarrying	Uganda

Sugar Prd	Sugar Products	Rest of EAC+
O Food Prd	Other Processed Food Products	Rest of the World
Beverages	Beverages and Tobacco	
Textiles	Textiles, Apparel and Leather	
Refined Petrol	Refined Petrol	
Chemicals	Chemicals, Rubber and Plastics	
Metal Prd	Metals and Metal Products	
NM Mineral Prd	Non-Metallic Mineral Products	
Wood Paper Prd	Wood and Paper Products	
O Manufacturing	Other Manufacturing	
Utilities	Utilities	
Construction	Construction	
Trade	Trade Services	
Road Transport	Road Transport Services	
O Transport	Other Transport Services	
O Services	Other Services	

The composite Rest of EAC+ region includes Burundi, the EAC accession candidates Somalia and Sudan, as well as Eritrea, Djibouti, Comoros, Seychelles and Mayotte.

Annex VII: 2011 Baseline Equilibrium Structure – Selected Tables

Table A17: Sector Shares in GDP

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus	RoW
Cereals	0.057	0.078	0.017	0.036	0.027	0.008
Vegs Fruits	0.047	0.084	0.111	0.227	0.044	0.012
O Agriculture	0.139	0.128	0.125	0.111	0.070	0.024
Mining	0.001	0.034	0.073	0.075	0.112	0.046
Sugar Prd	0.002	0.002	0.000	0.001	0.000	0.001
O Food Prd	0.166	0.045	0.030	0.011	0.036	0.021
Beverages	0.093	0.015	0.014	0.032	0.009	0.006
Textiles	0.011	0.009	0.006	0.004	0.009	0.013
Refined Petrol	0.001	0.000	0.000	0.000	0.002	0.004
Chemicals	0.009	0.004	0.007	0.004	0.024	0.029
Metal Prd	0.003	0.032	0.004	0.001	0.017	0.027
NM Mineral Prd	0.013	0.012	0.014	0.009	0.020	0.009
Wood Paper Prd	0.019	0.005	0.003	0.003	0.019	0.019
O Manufacturing	0.018	0.010	0.019	0.007	0.089	0.072
Utilities	0.006	0.016	0.033	0.009	0.012	0.020
Construction	0.035	0.106	0.109	0.089	0.088	0.065
Trade	0.048	0.176	0.124	0.092	0.107	0.113
Road Transport	0.042	0.018	0.027	0.032	0.035	0.034
O Transport	0.019	0.001	0.002	0.005	0.004	0.009
O Services	0.271	0.225	0.281	0.253	0.277	0.469
Total	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**

Table A18: Sector Shares in Gross Output Value

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus	RoW
Cereals	0.045	0.061	0.011	0.026	0.019	0.006
Vegs Fruits	0.044	0.055	0.080	0.165	0.026	0.007
O Agriculture	0.114	0.094	0.086	0.079	0.068	0.020
Mining	0.002	0.025	0.072	0.095	0.114	0.031
Sugar Prd	0.009	0.002	0.005	0.002	0.001	0.001
O Food Prd	0.173	0.082	0.090	0.032	0.066	0.038
Beverages	0.080	0.022	0.029	0.061	0.014	0.009
Textiles	0.036	0.012	0.012	0.010	0.009	0.021
Refined Petrol	0.021	0.000	0.001	0.001	0.047	0.031
Chemicals	0.018	0.008	0.017	0.018	0.024	0.050
Metal Prd	0.011	0.043	0.010	0.003	0.025	0.047
NM Mineral Prd	0.012	0.015	0.018	0.013	0.023	0.013
Wood Paper Prd	0.022	0.006	0.012	0.006	0.023	0.024
O Manufacturing	0.030	0.016	0.026	0.021	0.093	0.119
Utilities	0.017	0.024	0.037	0.017	0.017	0.023
Construction	0.028	0.128	0.109	0.111	0.108	0.074
Trade	0.034	0.141	0.100	0.072	0.095	0.092
Road Transport	0.035	0.030	0.029	0.046	0.043	0.038
O Transport	0.024	0.005	0.003	0.007	0.019	0.015
O Services	0.247	0.233	0.253	0.216	0.165	0.340
Total	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**

Table A19: Share of Intra-EAC Imports in Country's Total Imports by Commodity

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus	RoW
Cereals	0.048	0.012	0.028	0.168	0.015	0.001
Vegs Fruits	0.252	0.105	0.411	0.378	0.049	0.005
O Agriculture	0.384	0.205	0.501	0.782	0.397	0.018
Mining	0.004	0.423	0.757	0.425	0.118	0.008
Sugar Prd	0.029	0.013	0.013	0.576	0.041	0.002
O Food Prd	0.060	0.114	0.428	0.698	0.045	0.002
Beverages	0.131	0.113	0.673	0.386	0.370	0.002
Textiles	0.038	0.060	0.134	0.365	0.010	0.001
Refined Petrol	0.000	0.001	0.108	0.155	0.027	0.000
Chemicals	0.003	0.054	0.212	0.395	0.032	0.000
Metal Prd	0.013	0.066	0.230	0.387	0.041	0.001
NM Mineral Prd	0.004	0.095	0.767	0.927	0.150	0.001
Wood Paper Prd	0.067	0.107	0.228	0.443	0.041	0.000
O Manufacturing	0.009	0.037	0.052	0.085	0.007	0.000
Utilities	0.003	0.003	0.126	0.001	0.004	0.003
Construction	0.003	0.001	0.003	0.001	0.002	0.001
Trade	0.002	0.001	0.001	0.001	0.002	0.001
Road Transport	0.002	0.002	0.002	0.002	0.002	0.002
O Transport	0.001	0.002	0.004	0.001	0.002	0.003
O Services	0.002	0.002	0.002	0.002	0.002	0.002

Table A20: Share of Exports to EAC Partners in Country's Total Exports by Commodity

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus
Cereals	0.235	0.131	0.984	0.147	0.118
Vegs Fruits	0.054	0.037	0.334	0.294	0.009
O Agriculture	0.059	0.023	0.137	0.070	0.004
Mining	0.336	0.013	0.001	0.001	0.000
Sugar Prd	0.039	0.762	0.641	0.000	0.095
O Food Prd	0.279	0.094	0.382	0.100	0.082
Beverages	0.510	0.170	0.185	0.098	0.021
Textiles	0.119	0.135	0.259	0.032	0.007
Refined Petrol	0.677	1.000	0.397	0.006	0.081
Chemicals	0.448	0.228	0.640	0.202	0.021
Metal Prd	0.521	0.015	0.456	0.629	0.005
NM Mineral Prd	0.886	0.287	0.732	0.175	0.010
Wood Paper Prd	0.599	0.509	0.655	0.219	0.013
O Manufacturing	0.610	0.125	0.430	0.159	0.034
Utilities	0.213	0.003	0.000	0.004	0.002
Construction	0.003	0.003	0.002	0.003	0.002
Trade	0.003	0.003	0.003	0.001	0.002
Road Transport	0.777	0.701	0.042	0.083	0.117
O Transport	0.141	0.151	0.471	0.127	0.322
O Services	0.002	0.002	0.002	0.003	0.002

Table A21: Share of Exports in Total Domestic Production by Commodity

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus	RoW
Cereals	0.016	0.030	0.085	0.005	0.015	0.128
Vegs Fruits	0.100	0.142	0.019	0.006	0.010	0.122
O Agriculture	0.269	0.291	0.385	0.176	0.110	0.093
Mining	0.696	0.723	0.960	0.987	0.825	0.479
Sugar Prd	0.026	0.232	0.588	0.006	0.113	0.187
O Food Prd	0.045	0.159	0.124	0.092	0.046	0.136
Beverages	0.040	0.075	0.023	0.014	0.013	0.106
Textiles	0.196	0.494	0.238	0.253	0.071	0.279
Refined Petrol	0.094	0.007	0.015	0.042	0.049	0.193
Chemicals	0.433	0.373	0.157	0.030	0.043	0.327
Metal Prd	0.354	0.700	0.339	0.264	0.152	0.230
NM Mineral Prd	0.160	0.134	0.219	0.043	0.009	0.095
Wood Paper Prd	0.084	0.298	0.117	0.039	0.013	0.154
O Manufacturing	0.138	0.310	0.158	0.064	0.029	0.356
Utilities	0.011	0.021	0.210	0.420	0.005	0.027
Construction	0.002	0.004	0.018	0.000	0.002	0.011
Trade	0.003	0.051	0.029	0.021	0.007	0.029
Road Transport	0.255	0.673	0.213	0.165	0.048	0.107
O Transport	0.649	0.396	0.314	0.112	0.114	0.465
O Services	0.092	0.075	0.058	0.051	0.038	0.041

Table A22: Baseline Import Share in Country's Total Demand by Commodity

	Kenya	Tanzania	Uganda	Rwanda	RoEACPlus	RoW
Cereals	0.154	0.130	0.317	0.090	0.313	0.152
Vegs Fruits	0.031	0.006	0.003	0.006	0.110	0.149
O Agriculture	0.032	0.018	0.014	0.020	0.055	0.108
Mining	0.971	0.117	0.434	0.596	0.028	0.514
Sugar Prd	0.399	0.838	0.637	0.621	0.840	0.211
O Food Prd	0.076	0.240	0.073	0.347	0.209	0.153
Beverages	0.014	0.124	0.121	0.035	0.091	0.119
Textiles	0.362	0.786	0.540	0.460	0.564	0.312
Refined Petrol	0.631	0.997	0.956	0.972	0.159	0.209
Chemicals	0.773	0.909	0.663	0.509	0.423	0.343
Metal Prd	0.739	0.647	0.655	0.864	0.348	0.241
NM Mineral Prd	0.252	0.366	0.351	0.434	0.139	0.110
Wood Paper Prd	0.319	0.664	0.456	0.554	0.176	0.168
O Manufacturing	0.713	0.889	0.751	0.651	0.316	0.369
Utilities	0.004	0.010	0.033	0.091	0.008	0.027
Construction	0.002	0.019	0.001	0.004	0.004	0.011
Trade	0.025	0.024	0.028	0.048	0.031	0.029
Road Transport	0.048	0.371	0.088	0.072	0.083	0.069
O Transport	0.178	0.437	0.701	0.231	0.087	0.275
O Services	0.052	0.075	0.051	0.074	0.063	0.041

Table A23: Baseline Shares of EAC Imports in Countries' Total Imports by Commodity Group

	Kenya	Tanzania	Uganda	Rwanda
Cereals	0.046	0.012	0.027	0.161
Vegs Fruits	0.246	0.104	0.384	0.326
O Agriculture	0.377	0.208	0.493	0.777
Mining	0.004	0.303	0.663	0.326
Sugar Prd	0.028	0.013	0.013	0.574
O Food Prd	0.059	0.115	0.425	0.695
Beverages	0.127	0.118	0.671	0.418
Textiles	0.029	0.056	0.125	0.333
Refined Petrol	0.000	0.001	0.101	0.145
Chemicals	0.003	0.051	0.197	0.361
Metal Prd	0.013	0.064	0.222	0.377
NM Mineral Prd	0.003	0.084	0.716	0.909
Wood Paper Prd	0.060	0.104	0.213	0.424
O Manufacturing	0.009	0.035	0.049	0.082

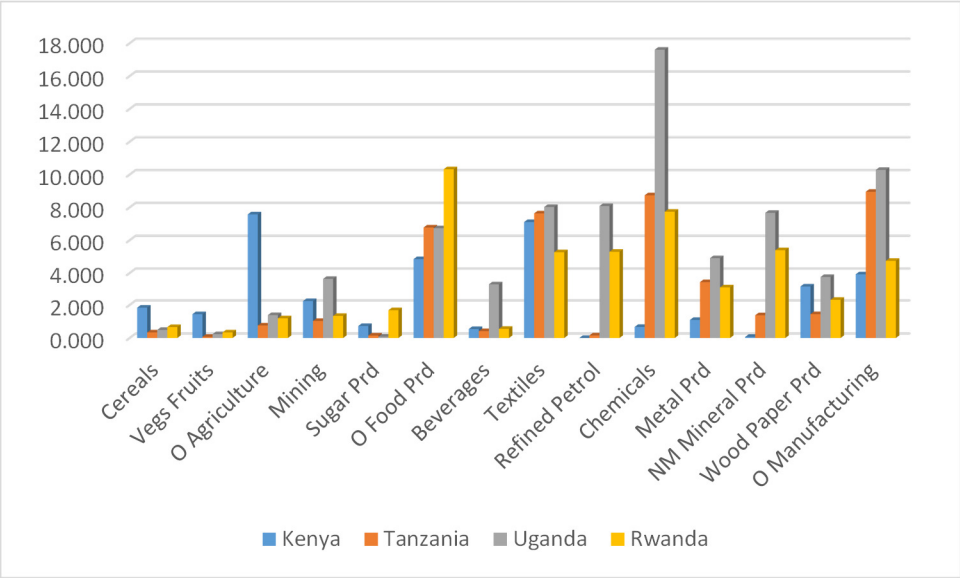
Annex VIII: Sectoral effects for extended SAll scenario

NTB reductions on intra-EAC imports only

Figure A4 displays the absolute impacts on intra-EAC merchandise import flows by commodity group and destination country for the SAll scenario, while Figure A8 shows the same intra-EAC trade flow impacts by country of origin. Overall, the commodity groups with the largest increases in intra-EAC trade volumes are chemicals, rubber and plastic products, processed food products, textiles and apparel, and other manufactures. In all these commodity groups, the additional imports are predominantly supplied by Kenyan producers, whereas exports from Uganda account for the second-largest portion of the total increase in trade volumes.

Figure A8: Change in intra-EAC import volumes by commodity and importer – SAll scenario

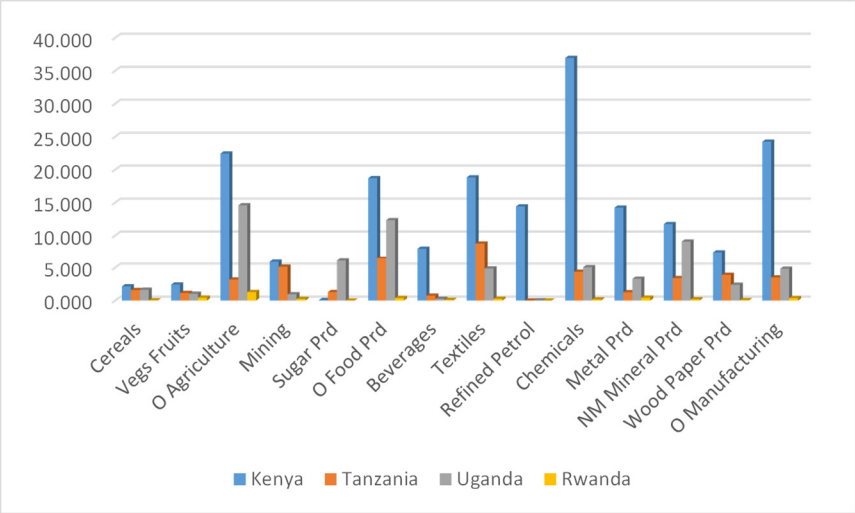
(US$ million at constant baseline prices)



Kenya's intra-EAC trade surplus increases and Uganda's intra-EAC trade deficit declines, whereas the intra-EAC trade deficit of Rwanda increases and that of Tanzania remains virtually unchanged. Given the overall balance of payments constraint facing each country, this means Kenya and Uganda can increase their trade deficits with the rest of the world, whereas Rwanda must reduce its trade deficit with the rest of the world in order to maintain balance of payments equilibrium. In other words, in the new equilibrium, Kenya's and Tanzania's effective real exchange rates with the rest of the world appreciate, whereas Rwanda's deteriorates.

Figure A9: Change in intra-EAC export volumes by commodity and exporter– SAll scenario

(US$ million at constant baseline prices)



To understand the impacts on the sectoral patterns of production and employment in the EAC Partner States reported in Tables A24 and A25, we need to take a closer look at the impacts on total exports and imports by commodity group. The proportional effects on import volumes are most pronounced for commodity groups where both the direct effect on the country's imports from EAC partners is strong

and the EAC baseline origin share in total imports of that commodity is relatively large. For instance, Uganda's EAC imports of 'other agricultural' goods rise by 16.7%, and nearly 50% of its total baseline imports in that commodity group are of EAC partner origin, hence Uganda's total 'other agricultural' imports rise by over 8% under the SAll scenario. Its 'other manufacturing' EAC imports rise similarly by 15.7%, yet EAC imports account for only 5% of Uganda's total imports in this commodity group, and hence its total 'other manufacturing' imports rise by only 0.7%.

The increases in import penetration lead to a contractionary impact on domestic output and employment in sectors where the import effect is strong, the baseline import share in total domestic demand is large and contravening export effects are weak or absent. For example, Rwanda's imports of non-metallic mineral products rise by 5.8% and the baseline import share in total domestic demand for this commodity group is 43%, which explains the drop in gross output by -3.5% relative to the baseline. The other significantly negative effects on sectoral production reported in Table A26 – such as for other processed food, textiles, chemicals and wood products in Rwanda, mining in Kenya and non-metallic mineral products in Uganda – can be explained in the same manner.[10] In contrast, the strong percentage increase in 'other agricultural' import volumes across all EAC4 countries has no noteworthy impacts on domestic other agricultural production, because the import shares in total domestic demand for this commodity group are very low.

Table A24: Impact on total import volume by commodity – SAll scenario

(Percentage changes)

Kenya	Tanzania	Uganda	Rwanda
Cereals	0.9	0.4	1.1	1.5
Vegs Fruits	2.6	1.1	4.3	2.5
O Agriculture	5.6	2.7	8.4	8.8
Mining	1.0	3.9	6.4	5.1
Sugar Prd	0.7	0.0	0.2	2.9
O Food Prd	1.5	1.3	5.2	5.9
Beverages	1.3	0.7	4.0	2.0
Textiles	1.3	0.6	2.5	6.8
Refined Petrol	0.3	0.1	0.4	0.3
Chemicals	0.3	0.3	1.6	2.9
Metal Prd	0.5	0.5	0.6	0.5
NM Mineral Prd	0.7	0.9	5.1	5.8
Wood Paper Prd	1.1	0.2	1.6	1.8
O Manufacturing	0.2	0.2	0.7	0.5
Utilities	0.8	0.3	0.8	-1.6

[10] The mining sectors in Uganda and Rwanda have large import shares and the model projects large proportional increases in imports under the SAll scenario, yet the domestic output effects are small. The reason is that these sectors are characterised by exceptionally high export-output ratios (96% and 99%, respectively), and most of these exports are shipped to the rest of the world. Thus, even a large proportional drop in domestic sales owing to stronger competition from imports has little impact on total output.

Construction	0.8	0.3	0.8	-0.3
Trade	1.0	0.4	1.2	-0.7
Road Trans	0.8	0.3	0.7	-0.8
O Transport	0.7	0.2	-0.1	-0.7
O Services	0.9	0.3	1.1	-0.2

Significant expansionary domestic output effects occur in sectors that benefit from a strong expansion in total exports (Table A25) as a result of the NTB removals (i.e. sectors with a relatively high share of EAC exports in total exports), and that have simultaneously a relatively high export-output ratio sectors include chemicals, metal products and other manufacturing in Kenya, textiles and wood products in Tanzania, and metal products in Rwanda.

The aforementioned real exchange rate effects with respect to the rest of the world have generally only small effects on trade with the rest of the world. An exception is the case of other agriculture in Kenya. As noted earlier, the Kenyan real exchange rate appreciates and this effect discourages Kenyan exports to the rest of the world. As Kenyan merchandise exports to the rest of the world consist primarily of other agricultural goods, the reduction of this sector's exports to the rest of the world dominates the increase in its exports to EAC partners, and this effect causes the moderate contraction in its gross output – and thus triggers the drop in agricultural land rents in Kenya under this scenario noted earlier.

Table A25: Impact on total export volume by commodity – SAll scenario

(Percentage changes)

	Kenya	Tanzania	Uganda	Rwanda
Cereals	1.5	0.8	7.7	1.6
Vegs Fruits	-0.3	-0.1	0.6	1.6
O Agriculture	-0.5	-0.1	-0.4	0.7
Mining	-1.5	-0.2	-0.2	0.3
Sugar Prd	-0.9	5.1	4.4	-1.7
O Food Prd	1.1	0.1	1.4	-0.2
Beverages	0.4	0.3	-0.1	0.5
Textiles	1.8	4.2	3.8	-1.0
Refined Petrol	5.6	7.6	2.7	0.2
Chemicals	4.9	2.4	3.4	0.7
Metal Prd	3.8	-0.7	2.1	4.6
NM Mineral Prd	2.8	1.1	1.2	-0.8
Wood Paper Prd	2.8	4.1	3.4	0.3
O Manufacturing	6.3	1.2	3.6	2.6
Utilities	0.3	-0.1	-0.3	2.0
Construction	-0.6	0.0	-0.1	0.8
Trade	-0.9	-0.3	-1.1	-0.1
Road Trans	-0.8	-0.3	-0.4	0.9
O Transport	-0.9	-0.1	-0.3	1.0
O Services	-0.9	-0.3	-1.1	0.4

Table A26: Impact on real gross output by sector – SAll scenario

(Percentage changes)

	Kenya	Tanzania	Uganda	Rwanda
Cereals	-0.1	-0.1	0.3	-0.2
Vegs Fruits	0.0	0.0	0.1	0.1
O Agriculture	-0.3	0.0	-0.1	-0.1
Mining	-1.1	-0.2	-0.3	0.3
Sugar Prd	-0.5	1.7	2.8	-3.4
O Food Prd	0.0	-0.2	0.0	-2.1
Beverages	0.1	0.0	-0.1	0.0
Textiles	0.3	2.4	-0.2	-2.9
Refined Petrol	1.1	-0.2	-2.0	4.2
Chemicals	3.0	1.1	-0.9	-2.0
Metal Prd	2.3	-0.7	0.4	1.3
NM Mineral Prd	0.4	0.0	-1.8	-3.5
Wood Paper Prd	0.0	1.3	-0.2	-2.3
O Manufacturing	1.3	0.3	0.2	0.5
Utilities	0.7	0.1	0.1	1.1
Construction	0.1	0.2	0.5	0.4
Trade	0.0	0.1	0.0	-0.5
Road Trans	-0.2	-0.2	0.1	0.2
O Transport	-0.6	0.0	-0.3	0.3
O Services	-0.1	-0.1	-0.1	0.1

The employment effects for skilled and unskilled labour by sector reported in Table A27 are very similar to the real output effects displayed in Table A16 in terms of direction and order of magnitude. The percentage of the total labour force affected by a shift to a different production sector is very small in all EAC Partner States and ranges from 0.06 (Tanzania) to 0.13 (Rwanda) according to the simulation results for SAll. These figures indicate that the potential labour market adjustment costs associated with the NTB reduction shocks would be very low.

To ensure proper interpretation of the comparative static simulation results in Tables A26 and A27 we need to bear in mind that these inter-sectoral shifts would actually happen in a context of positive macroeconomic growth. Correspondingly, the percentage changes in these tables need to be understood as deviations from a baseline growth path that would prevail in the absence of the simulated NTB shocks. This means that negatively signed entries in Table 23 and 24 must be interpreted as a reduction in a sector's output and employment growth rate relative to the baseline path rather than as an absolute contraction relative to current output and employment. Measured by the observed growth performance over the past five years, the present annual trend growth rate of real GDP is around 7% for Tanzania

and Rwanda and around 5% for Kenya and Uganda. Given that baseline sectoral manufacturing output grows roughly in line with GDP, and baseline manufacturing employment growth is slightly lower as a result of labour-saving technical progress, even relatively large negative entries in Table A27 (such as for unskilled sugar processing and non-metallic minerals manufacturing in Rwanda) do not imply net job losses for present workers in these sectors. The implication is merely that fewer new workers are hired in these sectors than would be the case along the baseline growth path.

Table A27: Impact on employment by sector – SAll scenario

(Percentage changes)

	Unskilled labour				**Skilled labour**			
	Kenya	Tanzania	Uganda	Rwanda	Kenya	Tanzania	Uganda	Rwanda
Cereals	-0.1	-0.1	0.1	-0.2	-0.1	-0.1	0.1	-0.2
Vegs Fruits	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.1
O Agriculture	-0.3	0.0	0.0	-0.1	-0.3	0.0	0.0	-0.1
Mining	3.7	-0.2	-1.0	0.4	3.8	-0.2	-0.9	0.4
Sugar Prd	-0.7	2.6	5.3	-3.7	-0.8	2.7	5.8	-3.6
O Food Prd	0.1	-0.1	0.2	-2.2	0.0	0.0	0.3	-2.2
Beverages	0.2	0.1	0.0	0.0	0.2	0.1	0.1	0.0
Textiles	0.2	2.4	-0.3	-2.9	0.2	2.5	-0.2	-2.8
Refined Petrol	1.6	-0.4	-2.4	7.0	1.6	-0.4	-2.2	7.5
Chemicals	3.6	2.1	-0.3	-2.2	3.7	2.2	-0.2	-2.1
Metal Prd	2.9	-1.2	1.1	2.2	3.0	-1.1	1.2	2.2
NM Mineral Prd	1.6	0.5	0.5	-5.3	1.6	0.5	0.6	-5.1
Wood Paper Prd	0.1	1.8	0.1	-2.3	0.0	1.9	0.3	-2.3
O Manufacturing	1.1	0.2	-0.6	0.5	1.0	0.2	-0.5	0.5
Utilities	1.0	0.1	0.0	1.1	1.0	0.2	0.1	1.1
Construction	0.2	0.1	0.6	0.5	0.2	0.2	0.8	0.4
Trade	0.1	0.0	0.0	-0.6	0.1	0.1	0.2	-0.7
Road Trans	-0.2	-0.4	-0.1	0.1	-0.3	-0.3	0.0	0.1
O Transport	-0.9	0.0	-1.2	0.2	-0.9	0.0	-1.0	0.2
O Services	-0.1	-0.1	-0.2	0.1	-0.1	-0.1	-0.1	0.1

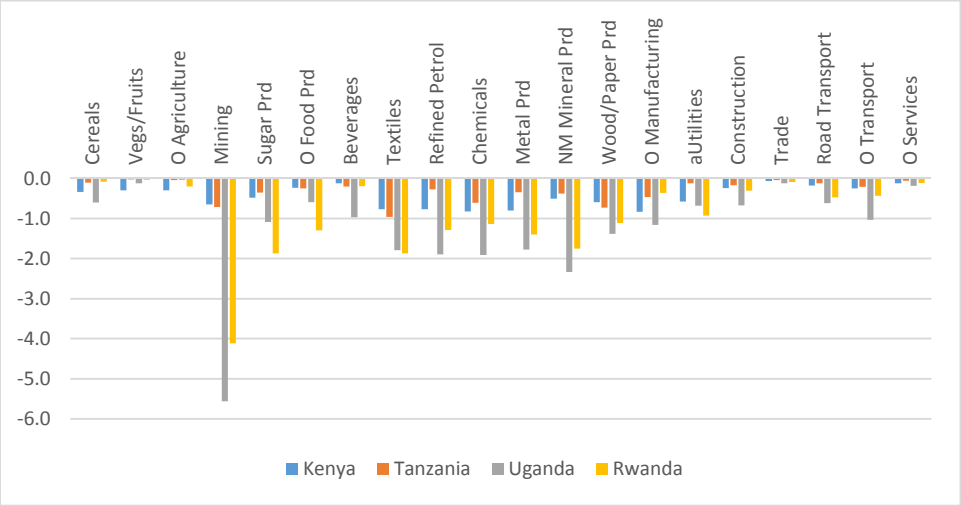
Finally, Figure A10 displays the effects on average user price indices (defined over domestically produced and imported varieties) by commodity group and EAC country. Since consumers and producers in the CGE model are by assumption rational agents and thus do not suffer from money illusion, only relative price matters. In Figure A16, the price changes are expressed in relation to the unskilled wage in the corresponding country – that is, the graph shows the price changes from the material perspective of an unskilled labour household. The size orders of the reported price changes

depend primarily on the size orders of the NTB AVEs and the initial shares of EAC imports in a country's total demand for the commodity group. For instance, the price reductions are most pronounced for mining products used by Uganda and Rwanda, since the direct transport cost reductions owing to the NTB reductions are highest for this commodity group and the baseline shares of EAC imports in total mining demand (28.7% for Uganda and 19.4% for Rwanda – Table A26 with A27) are quite significant. In contrast, the corresponding EAC mining import demand shares for Kenya (0.4%) and Tanzania (3.5%) are low, and hence the mining user price effects in Figure 18 are far lower for these countries.

In relation to unskilled wages, the economy-wide consumer price index drops by 0.6% in Uganda, 0.4% in Rwanda and 0.3% in Kenya and Tanzania under the SAll scenario.

Figure A10: Impact on average purchaser price by commodity – SAll scenario

(Percentage changes in sectoral price index over domestic and imported varieties)



NTB reductions on all imports

To elucidate the impact of the NTB reductions on sectoral production patterns in the EAC (Table A20), it is again instructive to look at the effects on trade flows by commodity group (Table A18 and A19) that drive the inter-sectoral reallocation effects. Here, we focus again on the SAll scenario.

Sectors for which the simulation results suggest a relatively pronounced drop in domestic output are the sectors with a strong increase in imports (Table A28), a significant initial share of imports in total domestic demand for the corresponding commodity group according to Table A7 and no strong expansionary effect on domestic exports (Table A29) that would push output in the opposite direction. These sectors include *inter alia* textiles and apparel, other manufacturing, wood products, sugar products, wood and paper products and (to a lesser extent) cereals across all EAC countries, as well as refined petrol products in Uganda and Tanzania and chemicals in Uganda and Rwanda.

Conversely, industrial sectors with a positive net effect on domestic production relative to the baseline are sectors with an increase in exports, a significant baseline share of exports in total domestic production according to Table A30 and relatively weak import penetration effects. These sectors include *inter alia* mining, petrol refining,[11] metal products and chemicals in Kenya, beverages and tobacco in Tanzania and other food processing in Uganda.

[11] The authors are aware that Kenya's domestic petrol refining sector actually ceased production in the second half of 2013. However, as noted in Willenbockel (2017), Kenya's 2015 National Energy and Petroleum Policy envisages a reactivation of this sector, and therefore Kenyan petrol refining is treated as an active industry in this forward-looking simulation analysis.

The sectoral net output effects reported in Table A20 are of course also influenced by indirect input-output linkage effects, as the change in the output of any sector affects its demand for intermediate inputs produced by other sectors, and by economy-wide income effects as the strongly positive GDP and real household income impacts raise the demand for domestically produced goods and services across the board.

Table A28: Impact on total import volume by commodity – extended SAll scenario

(Percentage changes)

	Kenya	Tanzania	Uganda	Rwanda
Cereals	7.0	8.2	10.4	12.4
Vegs Fruits	7.9	7.0	10.7	11.5
O Agriculture	10.2	7.6	13.3	14.1
Mining	10.1	10.7	12.7	15.2
Sugar Prd	6.0	3.4	6.4	5.8
O Food Prd	10.1	7.7	11.1	11.0
Beverages	6.1	4.2	5.5	7.0
Textiles	14.2	8.7	15.8	22.4
Refined Petrol	1.9	3.9	3.2	3.4
Chemicals	4.7	3.2	5.6	9.1
Metal Prd	-0.2	3.2	1.6	1.5
NM Mineral Prd	7.2	7.1	7.8	10.2
Wood Paper Prd	6.6	3.5	5.9	6.1
O Manufacturing	3.4	3.3	5.3	8.8
Utilities	-4.5	-2.2	-0.6	-8.2
Construction	2.5	1.0	2.1	0.9
Trade	2.3	0.9	2.7	-1.4
Road Transport	0.8	-1.6	-0.4	-2.0
O Transport	-2.2	-2.8	-1.8	-3.4
O Services	2.7	0.9	2.2	0.7

Table A29: Impact on total export volume by commodity – extended SAll scenario

(Percentage changes)

	Kenya	Tanzania	Uganda	Rwanda

Cereals	-1.0	-0.5	-0.9	-0.8
Vegs Fruits	-0.4	-0.2	0.7	1.3
O Agriculture	-1.6	-0.4	-1.5	-0.5
Mining	6.5	-0.6	-0.3	0.4
Sugar Prd	-4.7	-0.1	-3.9	-3.9
O Food Prd	-0.8	-0.2	2.0	-1.4
Beverages	0.5	1.2	1.2	0.4
Textiles	-1.8	-5.3	-6.8	-6.7
Refined Petrol	21.1	-4.1	-2.4	0.2
Chemicals	2.9	3.0	0.1	-1.8
Metal Prd	7.1	-0.3	1.3	6.7
NM Mineral Prd	5.6	2.0	5.8	-0.3
Wood Paper Prd	-0.3	-0.3	2.2	-3.0
O Manufacturing	-1.2	-4.5	-6.3	-5.6
Utilities	8.8	3.0	3.2	11.5
Construction	0.2	1.4	0.8	1.7
Trade	-3.0	-0.4	-2.0	-2.2
Road Transport	0.5	5.5	2.8	3.5
O Transport	6.1	9.5	7.0	5.7
O Services	-1.7	-0.7	-1.8	0.1

Table A30: Impact on real gross output by sector – extended SAll scenario

(Percentage changes)

	Kenya	**Tanzania**	**Uganda**	**Rwanda**
Cereals	-0.5	-1.3	-3.8	-0.9
Vegs Fruits	0.6	0.3	0.5	0.5
O Agriculture	-0.6	-0.3	-0.9	-0.4
Mining	2.3	-0.4	-0.5	0.1
Sugar Prd	-4.9	-4.4	-5.2	-5.9
O Food Prd	-0.6	-0.9	0.4	-3.4

Beverages	0.4	0.5	0.9	0.2
Textiles	-4.4	-8.3	-11.5	-9.8
Refined Petrol	10.3	-7.7	-11.4	3.7
Chemicals	0.4	-0.3	-5.4	-5.5
Metal Prd	3.4	-0.8	-1.9	1.4
NM Mineral Prd	-0.5	-1.0	-0.6	-4.1
Wood Paper Prd	-2.5	-3.3	-2.4	-6.7
O Manufacturing	-6.0	-7.0	-10.2	-9.6
Utilities	3.7	0.8	1.8	6.4
Construction	2.0	1.8	2.1	1.9
Trade	-0.6	0.3	0.4	-2.7
Road Transport	1.3	4.8	2.0	1.4
O Transport	5.0	6.6	4.8	2.0
O Services	0.5	0.1	0.2	0.5

Table A31: Impact on employment by sector – SAll scenario

(Percentage changes)

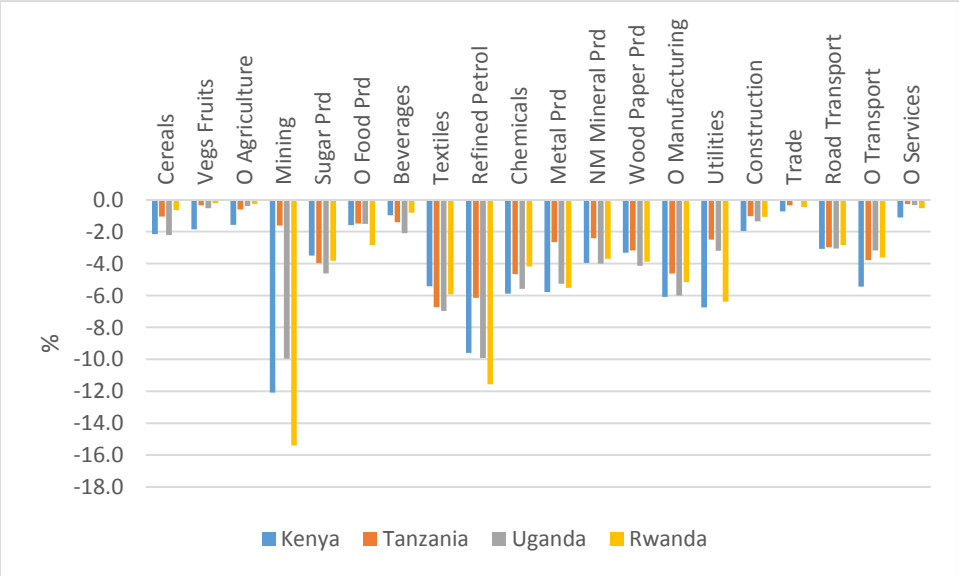
	Unskilled Labour				Skilled Labour			
	Kenya	Tanzania	Uganda	Rwanda	Kenya	Tanzania	Uganda	Rwanda
Cereals	-0.5	-1.4	-4.0	-0.9	-0.7	-1.5	-4.1	-1.0
Vegs Fruits	0.5	0.2	0.5	0.5	0.4	0.1	0.3	0.4
O Agriculture	-0.7	-0.4	-1.0	-0.4	-0.8	-0.5	-1.1	-0.4
Mining	3.3	-0.5	-0.7	0.2	3.2	-0.6	-0.8	0.2
Sugar Prd	-5.0	-4.6	-5.1	-6.4	-5.5	-5.0	-5.8	-6.6
O Food Prd	-0.4	-0.9	0.8	-3.6	-0.9	-1.3	0.2	-3.8
Beverages	0.6	0.5	1.5	0.1	0.1	0.1	0.9	-0.1
Textiles	-4.4	-9.1	-12.4	-10.9	-5.0	-9.5	-13.2	-11.2
Refined Petrol	9.6	-8.4	-12.1	3.5	9.1	-8.8	-12.9	3.3
Chemicals	0.6	-0.3	-5.0	-6.0	0.0	-0.7	-5.8	-6.2
Metal Prd	3.5	-0.9	-1.3	1.3	2.9	-1.3	-2.0	1.0
NM Mineral Prd	-0.3	-1.1	0.2	-4.5	-0.8	-1.5	-0.4	-4.7
Wood Paper Prd	-2.3	-3.5	-2.0	-7.3	-2.9	-3.9	-2.7	-7.5
O Manufacturing	-6.1	-7.6	-10.7	-10.8	-6.7	-8.0	-11.4	-11.0
Utilities	3.8	0.7	2.6	5.9	3.2	0.3	1.9	5.7
Construction	2.3	1.8	2.9	1.8	1.6	1.4	2.2	1.6
Trade	-0.2	0.3	1.3	-2.9	-1.0	-0.2	0.4	-3.1
Road Transport	1.7	4.5	2.9	1.3	0.9	4.0	2.0	1.0
O Transport	5.1	6.1	5.5	1.9	4.4	5.6	4.7	1.6
O Services	0.8	0.3	0.8	0.5	0.2	-0.1	0.1	0.3

In terms of direction and order of magnitude, the employment effects for skilled and unskilled labour by sector reported in Table A31 are again closely similar to the real output effects displayed in Table A30. Given the more pronounced trade impacts, the inter-sectoral labour reallocation effects are considerably stronger than in the first set of scenarios. However, in relation to total economy-wide labour volumes, the inter-sectoral employment shifts remain moderate: in the extended SAll scenario around 0.3% (Tanzania) to 0.5% (Kenya, Uganda, Rwanda) of the labour force would have to shift to a different sector in response to the higher import penetration.

Figure A11 shows the impacts on average user price indices by commodity group and EAC country for the SAll scenario. The variation in the price effects is driven primarily by the variation of import shares in total demand and the variation in the initial NTB AVEs by commodity group and importing country.

Figure A11: impact on average purchaser price by commodity – extended SAll scenario

(Percentage changes in sectoral price index over domestic and imported varieties)



The key messages that emerge from the analysis can be summarised as follows. If NTB removals are applied in a discriminatory fashion to EAC imports of EAC origin only, aggregate welfare gains are moderately positive for all EAC Partner States. Total intra-EAC trade volume rises by up to 13%, but, since the baseline shares of trade with EAC partners in EAC countries' total exports and imports are generally small, the macroeconomic effects triggered by this trade expansion remain modest for all EAC members: the real GDP of Kenya, Uganda and Rwanda rises by around 0.5% and consumer welfare rises by 0.3–0.4%. For Tanzania, the EAC country with the lowest EAC shares in its total trade, the GDP effects (less than +0.3%) and consumer welfare effects (less than 0.2%) are noticeably lower. The effects on the functional distribution of income and on the sectoral structure of production and employment remain likewise small in all EAC countries.

The picture changes profoundly when the NTB reduction measures are extended to the intra-EAC road transport of imports from the rest of the world. Given that imports of non-EAC origin strongly dominate imports of EAC origin in all EAC countries, it is not surprising that the gains from the reduction in trade costs are considerably larger in this case. Under a comprehensive implementation of the transport-cost-reducing NTBs considered in this study, the real GDP impacts range from +2.8% for Kenya to +1.7% for Rwanda. Similarly, the consumer welfare gains range from +2.2% (Kenya) to 1.5% for Rwanda. The differences in the welfare and GDP gains by country are largely determined by cross-country differences in the baseline imports–GDP ratio. This ratio is highest for Kenya (55%) and lowest for Rwanda (26%).

Given the more pronounced trade impacts, the inter-sectoral labour reallocation effects are likewise more pronounced in this case. A closer look at the simulated impacts on the functional distribution of income reveals that skilled workers gain slightly more than unskilled workers in all EAC Partner States: the skills premium as measured by the relative wage of skilled to unskilled labour rises by 0.6% in Uganda, 0.5% in Kenya, 0.3% in Tanzania and 0.2% in Rwanda. This indicates that on balance the inter-sectoral reallocation effects triggered by the NTB reductions pull resources slightly more in the direction of sectors with a higher skills intensity. The effects on the factor price relation between capital and unskilled labour are less clear-cut and range from +0.8% in Uganda to -0.2% in Rwanda.

Annex IX: Constraints and opportunities to poverty reduction

The impact of the removal of NTBs on poverty will depend on three factors: the extent of the liberalisation process (I.e. the scope and depth of the liberalisation process), the structures of production and consumption and the size of the constraints to poverty alleviation (see Gasiorek and Martuscelli, 2017).

Scope and depth

Which prices and sectors are affected will depend on the nature of the trade liberalisation process. Increasingly, trade liberalisation occurs with the signing of regional trade agreements and so will depend on regional specificities and on which sectors are liberalised within the regional grouping. Clearly, which products are included matters considerably for the impact of the regional integration process on poverty. This is even more the case where the regional integration takes place under an enabling clause that gives developing countries full autonomy as to which, and therefore how many, sectors are included .

Trade liberalisation and integration agreements increasingly include provisions of 'deep' integration, and, while such measures can also be introduced unilaterally, this occurs much less often. The extent to which such measures are introduced and their characteristics will also have a differential impact on products/sectors and their prices. Just as the scope and depth of tariff reductions will impact on poverty differentially, so too with regard to NTB reductions. Examples of this relate to the role of infrastructure, migration or cross-border trade: where cross-border small-scale trade is important, there may be considerably more trade than that recorded in the official data. This is the case in many East African countries, where trade often takes place in local markets situated on either side of a border. Regional integration may facilitate increased cross-border trade, for example arising from the simplification of customs formalities, thus leading to increased access to markets and changes in prices, in turn leading to changes in incomes and employment possibilities.

Structures of production and consumption

The way changing NTBs actually affects poverty will then depend on the existing economic structure (i.e. production and consumption) and on the distribution of these patterns geographically and between different groups within the country (rural/urban; formal/informal). For example, if agricultural or consumer products are liberalised and these form a significant part of the consumption bundle, then this increases the real incomes of consumers. For domestic producers of these products, however, incomes may fall, as foreign competition induces lower prices. It is also possible that liberalisation will provide increased export opportunities for producers, as well as the ability to source higher-quality or cheaper intermediates, increasing their competitiveness. However, in the case of agricultural products, this may raise the domestic prices consumers face. Each of these may increase producer incomes. Changes in trade policy are also likely to lead to changes in production, employment and wages across different sectors, affecting those working in both formal and informal work. This again will have differential impacts depending on what is being liberalised, which sectors have domestic production and where consumers and producers are located. The size of the impacts will depend on how responsive supply, and similarly demand, is to changes in price.

Size of constraints

The actual impact on poverty will critically depend on the constraints facing the poor in the economy, where these constraints may refer to the quality of institutions and infrastructure, levels of education, the business environment and governance. These constraints in turn will be closely related to the characteristics of the poor. The World Bank and the World Trade Organization (WTO) (2015) suggest four key characteristics: living in a rural area; being a in fragile or conflict-affected state; operating mostly in the informal sector; and households being managed by women.

As economic integration occurs, the extent to which this affects consumers and producers and poverty levels will depend critically on these constraints. The constraints will have an impact on (i) the ability of the poor to respond/adjust to negative shocks and (ii) the ability of the poor to benefit from the liberalisation and seize the opportunities that may arise from the liberalisation or the reductions in either tariff or NTBs..

With regard to negative shocks, producers facing competition from imports will need to adjust, as will workers in import-competing industries who face unemployment and/or reductions in wages. The reduction of NTBs may imply increased competition from foreign suppliers. With regard to the opportunities from liberalisation, these could relate to the ability of consumers to benefit from the lower prices from cheaper imports, or from increased employment and/or higher wages and formal employment opportunities in expanding sectors; or they could relate to possibilities for producers to realise the putative improved access to export markets or to cheaper and/or higher-quality intermediates, and similarly with regard to increased investment.

The impact on poverty will therefore be complex and highly dependent on the pre-existing conditions, the specific provisions included in each regional agreement and how these interact with the constraints that exist. As stressed earlier, there is likely to be a differential impact depending on whether one is considering the opportunities derived from the liberalisation or the adjustment to negative shocks arising from that liberalisation.