

Research Methodology for Trade Facilitation Audit

Presented at

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Trade and Transport Facilitation Audit in South Asia
and
Promoting Micro, Small and Medium Enterprises (MSMEs) for Inclusive,
Equitable and Sustainable Development in South Asia

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Presentation outline

- ✓ Trade facilitation
- ✓ Objectives
- ✓ Trade and transport facilitation audit-scope and respondents
- ✓ Benefit assessment
- ✓ Investment requirement



Defining trade facilitation

- No consensus on the standard definition and the components of trade facilitation,
- In narrow sense, trade facilitation is associated with the reduction of on-the-border transaction costs other than tariffs, which essentially involves the simplification and standardization of customs formalities and administrative procedures related to international trade. (e.g. WTO)
- In broad sense, trade facilitation not only includes at-the-border issues, but also beyond-the-border issues, dealing for instance with the business environment, the quality of infrastructure, transparency, and domestic regulations. (e.g. UNCTAD, APEC, OECD etc.)



Defining trade facilitation

Trade facilitation is about the set of policies aiming at easing trade transaction and reducing export and import costs by improving efficiency in the transaction cycle.

‘Trade facilitation’ includes as measures related to :

- (a) publication and administration of policies related to trade issues,
- (b) rules and procedures for import and exports,
- (c) trade related infrastructure and services,
- (d) use of ICT for export and imports, and
- (e) measures for goods in transit.



Objectives

- To define a **regional benchmark** for an acceptable level of trade and transport facilitation in South Asia.
- To **identify trade- and transport-related bottlenecks** in the region,
- To **assess the benefits of removing trade and transport bottlenecks** based on the regional benchmark, and
- To **estimate the required investment**.



Benchmark

- Different level of infrastructure development, administrative capacity, technological uses and trade volume
- Using secondary information, benchmark the acceptable level of trade facilitation measures that enhance efficiency and reduce trade costs
 - Global best?
 - Upper middle income countries average?
 - ASEAN countries average?
- Validation with stakeholders



Trade and transport facilitation audit (1)

- To assess the status of trade facilitation measure in SAARC countries a 'Trade Facilitation Audit' will be conducted for each of the SAARC countries
- Purpose being to examine and evaluate difficulties, obstacles and inefficiency in the cross-frontier movement of a regular consignment
- Focuses is on the official and other authoritative procedure and related information flows as well as trade-related infrastructure
- Methodology developed by the World Bank will be adapted



Trade and transport facilitation audit (2)

Scope

A. Publication of policies related to trade issues

- Establishment of national customs website
- Publication of import export procedures
- Publication of border procedures
- Publication of fees and charges
- Publication of average released time
- Publication of clearance time
- Publication of changed regulations



Trade and transport facilitation audit (3)

Scope

B. Rules and procedures for import and export

- Flexibility in working hours
- Number of documents submitted for export/ import
- Time taken to prepare export/import documents
- Time taken to clear export/import shipment and to ship the consignment
- System of advance ruling
- Use of risk management
- Transparency in border procedures
- Use of single window
- Percent of physical inspections
- Percent of post clearance audit
- Customs valuation system
- Duty drawback, export refund and temporary admission regime
- Review and appeal procedures: its independence and time of verdict
- Irregular payments and bribe



Trade and transport facilitation audit (4)

Scope

C. Trade related infrastructure and services

Quality of infrastructure

- Port infrastructure
- Road infrastructure
- Airport infrastructure
- Rail infrastructure
- Warehouse/ trans-loading facilities
- Telecommunication infrastructure and IT services



Trade and transport facilitation audit (5) Scope

C. Trade related infrastructure and services

Cost of infrastructure services

- Port charges
- Airport charges
- Road transport rates
- Warehousing/ trans-loading service charges
- Telecommunication infrastructure and IT services
- Agent fees



Trade and transport facilitation audit (6) Scope

C. Trade related infrastructure and services

Efficiency of services

- Road transport service providers
- Rail transport service providers
- Maritime transport service providers
- Warehousing/ trans-loading and distribution operators
- Freight forwarders
- Customs agencies
- Quality/standard inspection agencies
- Health/SPS agencies
- Customs brokers
- Trade and transport related association



Trade and transport facilitation audit (7) Scope

D. Use of ICT for exports and imports

- Submission of customs declaration and supporting document electronically and on-line
- EDI and exchanging data electronically
- System of pre-arrival processing



Trade and transport facilitation audit (8) Scope

E. Treatment for goods in transit

- Transit fees
- Transit formalities
- Transit guarantees
- Transit agreement and cooperation
- Transit routes



Trade and transport facilitation audit (10) Respondents

- Forwarder/ Agent/ Broker / Multimodal Transport operator
- Exporter
- Importer
- Ship line and ship's agents
- Road carrier
- Airline operators
- Railway
- Port Authority
- Airport authority
- Border crossing point
- Customs
- Chamber of Commerce



Trade and transport facilitation audit (10) Methodology

- Structured questionnaire will be prepared and interviewed with the representatives of private and public sectors engaged in the transaction chain of identified products (both agriculture and non-agriculture)
- Respondents shall be asked to rate either in ordinal form in the scale of 1-5 (e.g. 1-very low, 2-low, 3-average, 4-high and 5- very high) or assign cardinal numbers (e.g. number of documents, number of days, percentage of physical inspection)
- Respondents shall be identified based on purposive sampling from various customs points (covering minimum of two-third of regional trade in total) and at least one sea/dry ports
- No of respondents: 30-50 at each of the interview point and central level.



Trade and transport facilitation audit (11) Methodology

- Structured questionnaire will be prepared and interviewed with the representatives of private and public sectors engaged in the trading process.
- Respondents shall be asked to rate either in ordinal form in the scale of 1-5 (e.g. 1-very low, 2-low, 3-average, 4-high and 5- very high) or assign cardinal numbers (e.g. number of documents, number of days, percentage of physical inspection)
- Respondents shall be identified based on purposive sampling from various customs points (covering minimum of two-third of regional trade in total) and at least one sea/dry ports
- No of respondents: 30-50 at each of the interview point and central level.
- An index shall be constructed using principal component analysis (PCA) for each of the dimension of Trade Facilitation.



Trade and transport facilitation audit (10) Methodology

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- Index shall be constructed using principal component analysis (PCA) for each of the dimension of Trade Facilitation and gaps with benchmark level will be assessed.



Assessment of benefits

- Use of augmented Gravity Equation ((Moise and Sorescu (2013), Bergstrand et. al (2013), Portugal-Perez and Wilson (2012), De (2011) Wilson et. al (2005) Duval and Utoktham (2012), Khan and Kalirajan (2011), Chen and Novy 2011).Anderson and Wincoop (2004)).

Trade impact

$$\begin{aligned} \ln(x_{ij}) = & \beta_0 + \beta_1 \ln(GDP_i, GDP_j) + \beta_2 \ln(POP_i, POP_j) + \beta_3 \ln(distance_{ij}) \\ & + \beta_4(contiguity_{ij}) + \beta_5(language_{ij}) + \beta_6(Trade\ Agreement_{ij}) \\ & + \beta_7 \ln(1 + \tau_{ij}) + \beta_8 landlocked_i + \beta_9(avgTFI_{ij}) + \beta_{10}(avgTFI_{ij}) + \beta_{11}(avgTFI_{ij}) \\ & + \beta_{12}(avgTFI_{ij}) + \beta_{13}(avgTFI_{ij}) + \beta_{14}(avgTFI_{ij}) \\ & + \beta_{15}TFI_{transit}(1 - contiguity_{ij}) + \beta_{16}SAARC_{ij} \\ & + (country\ pair\ dummies) + \epsilon_{ij} \end{aligned}$$



Where,

- $cost_{ij}$ is bilateral trade costs between from i to j.
- $distance_{ij}$ is the distance between i and j
- $contiguity_{ij}$ is a dummy which is unity if i and j share a common border and zero otherwise
- $language_{ij}$ is a dummy which is unity if i and j share a common language and zero otherwise
- $Trade\ Agreement_{ij}$ is a dummy which is unity if i and j are in a bilateral trade agreement and zero otherwise
- $Tariff_{ij}$ is the geometric average import tariffs from i to j and j to i.
- $LSCI_{ij}$ is a geometric average of (liner shipping connectivity index) of country i and j
- ICT_{ij} is the geometric average of no. Of internet users per 100 inhabitants in both countries i
- $avgTFI_{ij}$ is the geometric average of exporter and importer TFI on efficiency in border clearance process
- $avgTFI_{ij}$ is the geometric average of exporter and importer TFI on quality of infrastructure
- $avgTFI_{ij}$ is the geometric average of exporter and importer TFI on competitively priced transport and cargo services
- $avgTFI_{ij}$ is the geometric average of exporter and importer TFI on competence and quality of logistic services
- $avgTFI_{ij}$ is the geometric average of exporter and importer TFI on transparency
- $avgTFI_{transit}$ is the geometric average of exporter and importer TFI on treatment of goods in transit
- Note that: the geometric average of exporter and import TFI i.e. $avgTFI_{ij} = \sqrt{TFI_i TFI_j}$
- $SAARC_{ij}$ is a dummy which is unity if exporter and importers are SAARC members and zero otherwise.

Cost impact

$$\begin{aligned} \ln(\text{cost}_{ij}) = & \beta_0 + \beta_1 \ln(\text{distance}_{ij}) + \beta_2(\text{contiguity}_{ij}) + \beta_3 \text{language}_{ij} \\ & + \beta_4(\text{Trade Agreement}_{ij}) + \beta_5 \text{Tariff}_{ij} + \beta_6 \ln(\text{LSGI}_{ij}) + \beta_7 \ln(\text{ICT}_{ij}) \\ & + \beta_8(\text{avgTFI}_{\text{exp}}) + \beta_9(\text{avgTFI}_{\text{imp}}) + \beta_{10}(\text{avgTFI}_{\text{tr}}) + \beta_{11}(\text{avgTFI}_{\text{tr}}) \\ & + \beta_{12}(\text{avgTFI}_{\text{tr}}) + \beta_{13} \text{TFI}_{\text{maxim}}(1 - \text{contiguity}_{ij}) + \beta_{14} \text{SAARC}_{ij} \\ & + (\text{country pair dummies}) + \varepsilon_{ij} \end{aligned}$$

Where:

- cost_{ij} is bilateral trade costs between from i to j .
- distance_{ij} is the distance between i and j .
- contiguity_{ij} is a dummy which is unity if i and j share a common border and zero otherwise.
- language_{ij} is a dummy which is unity if i and j share a common language and zero otherwise.
- $\text{Trade Agreement}_{ij}$ is a dummy which is unity if i and j are in a bilateral trade agreement and zero otherwise.
- Tariff_{ij} is the geometric average import tariffs from i to j and j to i .
- LSGI_{ij} is a geometric average of (liner shipping connectivity index) of country i and j .
- ICT_{ij} is the geometric average of no. of internet users per 100 inhabitants in both countries i .
- $\text{avgTFI}_{\text{exp}}$ is the geometric average of exporter and importer TFI on efficiency in border clearance process.
- $\text{avgTFI}_{\text{tr}}$ is the geometric average of exporter and importer TFI on quality of infrastructure.
- $\text{avgTFI}_{\text{tr}}$ is the geometric average of exporter and importer TFI on competitively priced transport and cargo services.
- $\text{avgTFI}_{\text{tr}}$ is the geometric average of exporter and importer TFI on competence and quality of logistic services.
- $\text{avgTFI}_{\text{tr}}$ is the geometric average of exporter and importer TFI on transparency.
- $\text{avgTFI}_{\text{trmaxim}}$ is the geometric average of exporter and importer TFI on treatment of goods in transit.
- Note that: the geometric average of exporter and importer TFI i.e. $\text{avgTFI}_{\text{tr}} = \sqrt{\text{TFI}_i \cdot \text{TFI}_j}$.
- SAARC_{ij} is a dummy which is unity if exporter and importer are SAARC members and zero otherwise.

Assessment of benefits

- The equation will be estimated using OLS with cross section data. Country-pair dummies will also be used to account for heterogeneity and endogeneity. As a robustness check and to account for bilateral zero trade, the regression will also be estimated using poisson maximum likelihood estimator. Regressions will be run at aggregate level as well as for the agriculture and manufacturing goods.
- In order to estimate the contribution of each of the trade facilitation variables on total costs, contribution of the indicators to the total variance of trade costs will be calculated. (Moise et al. 2011, Duval and Utoktham 2011, Chen and Novy 2011).

Estimation of investment

Based on the analysis of the trade and cost impacts of various TFIs, priority areas of intervention will be identified for each of the country. An assessment of the gaps with the defined level of benchmark for each of the dimension of trade facilitation will be made. The required investment to fill the gaps will be estimated taking into account the following costs.

- Cost of enactment of new legislation/regulation,
- Cost of institutional changes,
- Cost of training to staffs and other stakeholders,
- Cost of equipment and infrastructure.



Thanks for
your kind attention

Suggestions/ comments
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