

METHODOLOGICAL APPROACH FOR IDENTIFYING AND MEASURING THE ECONOMIC BENEFITS OF TRADE FACILITATION THROUGH THE PORTS AND LANDS OF ARAB COUNTRIES

Fathey El-Sayed Al-Tony¹ & Mohamed Sadek Serag^{2*}

¹Department of Transport Economics, Egyptian National Institute for Transport, Cairo, Egypt

²Department of Civil Engineering, Faculty of Engineering, Port Said University, Port Said, Egypt

*Corresponding Author: *sadek1234@hotmail.com*

Abstract: This research paper aims to develop a methodological approach that can be employed to identify and measure the economic benefits of trade facilitation procedures among the ports and lands of Arab countries. The research developed the methodology framework, the benefit algorithm, and the analyses. The developed approach is then applied to the case of Lebanon, Syria, and Jordan to derive the obtained benefits for each country as a result of improving trade facilitation conditions of the three countries under several proposed scenarios. The results obtained show that easing trade through the proposed scenarios of improvement would yield significant economic benefits in various sectors of the economy. The methodological approach can be considered as a generic tool kit that can be utilized for many trade corridors, routes, and countries as required.

Keywords: *Trade facilitation, economic benefits, transport, logistics, Arab countries*

1.0 Introduction

Intra-regional trade has been very low among the 13 member countries of the United Nations Economic and Social Commission for Western Asia (ESCWA). Between 1990 and 1997, their export share fell from 10.9% to 8.6% of their total world exports and their import share rose from 9.1% to 10.4% of their total world imports (Serag and Al-Tony, 2013). Among the main reasons were complicated (i.e. long procedures with many documents), costly (i.e. impose extra costs on the cargo), and time-consuming border controls and customs formalities. In other words, the procedures of cross border between these countries still too long, many documents are required. This imposes an amount of extra costs on the cargo, which in turn reduces the flow of cargo between countries. To overcome these obstacles and to promote greater economic integration among its members, ESCWA developed an integrated transport system in the Arab

Mashreq (ITSAM) (Safwat, 1998), (ESCWA, 2000). ITSAM comprises three basic components: an integrated (multimodal) transport network, an associated information system, and a methodological framework for issue analysis and policy formulation. In this respect, Jordan, Syria, and Lebanon took the initiative towards studying the economic feasibility of improving the transport and trade facilities of the international movements of goods through the ports and lands of the three countries. This economic feasibility study was carried out by ESCWA (ESCWA, 2003). During this study, a process of data and information collection was carried out for to the analysis and assessment of alternative scenarios and recommendations to help achieve the objective of the study. A recent research was carried out for modeling international freight transport through the ports and lands of Arab countries (Serag and Al-Tony, 2013). This research aims to develop a methodology for modeling trade movements among the ports and lands of Jordan, Syria and Lebanon.

This research paper is a step forward in the direction of developing a methodology to be used for identifying, deriving and measuring the potential economic benefits of trade ease/facilitation between countries. The aim is to develop the appropriate methodology, and then test it for a case study (for trade ease between Syria, Lebanon and Jordan), to make sure that it can be used elsewhere and for any number of trade partners (countries).

2.0 Research Objective

The objective of this research paper is to develop a methodology/ approach that identifies and measures the economic benefits of improving the flow of international freight movements between Arab countries. In addition, the research examines the developed methodology/approach for measuring the economic benefits for the case of trade improvements between Syria, Jordan and Lebanon. This improvement in the flow of freight would be a result of implementing some policies, measures, strategies, and investments for the ports and inland transport facilities of the three countries so as to reduce the door-to-door cost and time of freight movements for the three countries.

3.0 Targets to be achieved for the Facilitation of Trade and Transport between Arab Countries

To improve the facilities, capacities, and procedures for the movement of cargo with an appropriate cost, time and condition, the following targets have to be achieved:

- To improve the facilities and capacities of Ports, inland border points, and airports of Arab countries.
- To improve cargo procedures, time, and cost throughout Ports, inland border points, and airports of Arab countries.

- To improve the infrastructure, capacities, and service efficiency of inland transport modes and facilities of Arab countries.
- To improve the efficiency of logistics' operations (i.e. transport, customs, storage, handling, storage, and other related activities) of Arab countries.

4.0 Involved Parties in Trade and Transport Facilitation Procedures/Activities

Several parties and bodies are involved in the trade flows and cargo movements between Arab countries, these are as follows:

- Transport and logistics facilities: ports, airports, inland crossing points, truck transport companies, multimodal transport operators, dry ports (if any), multimodal terminals (if any), container stations and terminals, transport modes, etc.
- Customs: custom authorities, ministry of finance, and any related government bodies.
- Communications and EDI authorities, departments, and companies.
- Banking and insurance.
- Commercial information: trade and industry ministries and authority of national statistics.
- Export and import: exporters, importers, traders, brokers, and export and import authorities.
- Control authorities: ministries of interior, trade, agriculture, health, etc.
- Private sector companies: freight forwarders, shipping agencies, trade and industry unions, insurance companies, brokers, etc.

The interaction between the above mentioned parties is vital in the process of cargo movements and trade flows from, to, and through Arab countries. Hence, the efficiency and/or the deficiency of the performance of any of these bodies/parties can hinder the ease of trade among Arab countries.

5.0 Potential Economic Benefits of Improving Trade, Logistics, and Transport Facilities of Arab Countries

There is a clear fact that improving transport and logistics facilities of Arab countries yields many economic benefits for both national economies and for Arab Continent as a whole. The following are examples of these benefits (AL-Tony, 2012), (Commonwealth of Australia, 2002) (Wilson, J.S., C.L. Mann and T. Otsuki, 2003 and 2004):

- Enhancing the competitiveness of their exports.
- Reducing the cost of their imports.

- Improving the balance of payments for each country (increase the country hard currency).
- Improving the connectivity of Arab countries (locally, regionally, and internationally).
- Attracting more foreign investments to the Arab country.
- Enhancing the economic integration between Arab countries.
- Allowing for optimum location of industries within the Arab countries land which optimize production costs and the use of raw materials.

It is worth mentioning that the above stated benefits are considered (among others) as pillars for positive economic growth of Arab country as a whole. Hence, improving port competitiveness and transport and logistics facilities would, at the end, enhance the economies and help for faster and higher growth rates of Gross Domestic Product (GDP) of each country in its own.

6.0 Interaction between Transport Services, Logistics Facilities, and Trade Flows and Chains

The interaction between transport, logistics facilities, and trade flows is very clear since transport and logistics serve directly trade flows. This has been looked at and investigated in various studies and researches. What is clear also is that trade facilitation and trade ease improvements have great and direct economic impacts (OECD, 2005) (Commonwealth of Australia, 2002). Figure 1 illustrates trade chains and its interaction with transport and logistics facilities (AL-Tony, 2012). As can be seen, the final price, quality, and delivery time of a commodity in an export chain is affected by the efficiency of logistics facilities and services of the country. These facilities comprise transport infrastructure (ports, airports, roads, railways, etc.), and operation efficiency of logistics facilities. The adequacy, efficiency, and performance of port, airport, and other transport infrastructure and operations have direct impact on the following:

- Final cost/price of commodity being exported or imported.
- Quality of commodity being exported or imported.
- Total time taken for delivery from the origin to the final destination country.

The three components constitute together the level of satisfaction of the importer and then affect his decision to buy more from this market/country or to escape to another market/country.

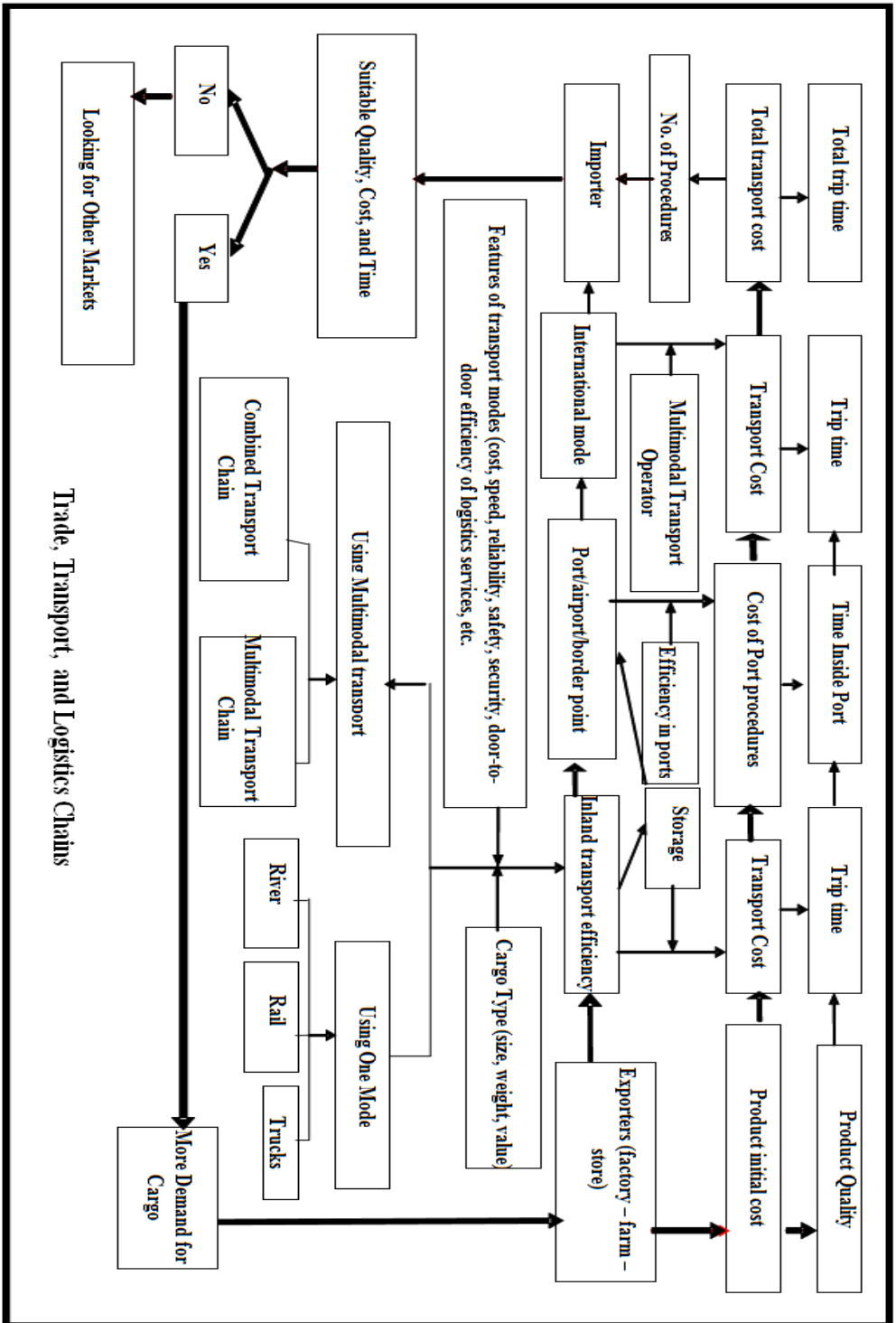


Figure 1: Impact of transport and logistics efficiency on trade chains and the country competitiveness

In addition, the efficiency of logistics and transport facilities has a direct impact on the cost (the final delivery price) of both exports and imports. This is clearly shown in Figures 2 and 3. As can be seen, the International Commercial Terms (INCOTERMS) (ICC, 2010) identify the relationship between buyer (importer) and seller (exporter). For example, FOB means Free On Board (i.e. delivering exports on the ship board on the export country), while CIF means Cost, Insurance, and Freight (i.e. delivering exports on the ship board on the export country). FOB and CIF prices of exports are directly affected by the efficiency of inland transport, port operation efficiency, and maritime transport cost. The country export competitiveness is a direct translation of FOB and CIF prices. Then, enhancing the effectiveness of transport and logistics services would directly improve the ease of trade to and from Arab countries. This yields many significant benefits for the economies of Arab countries as explained above.

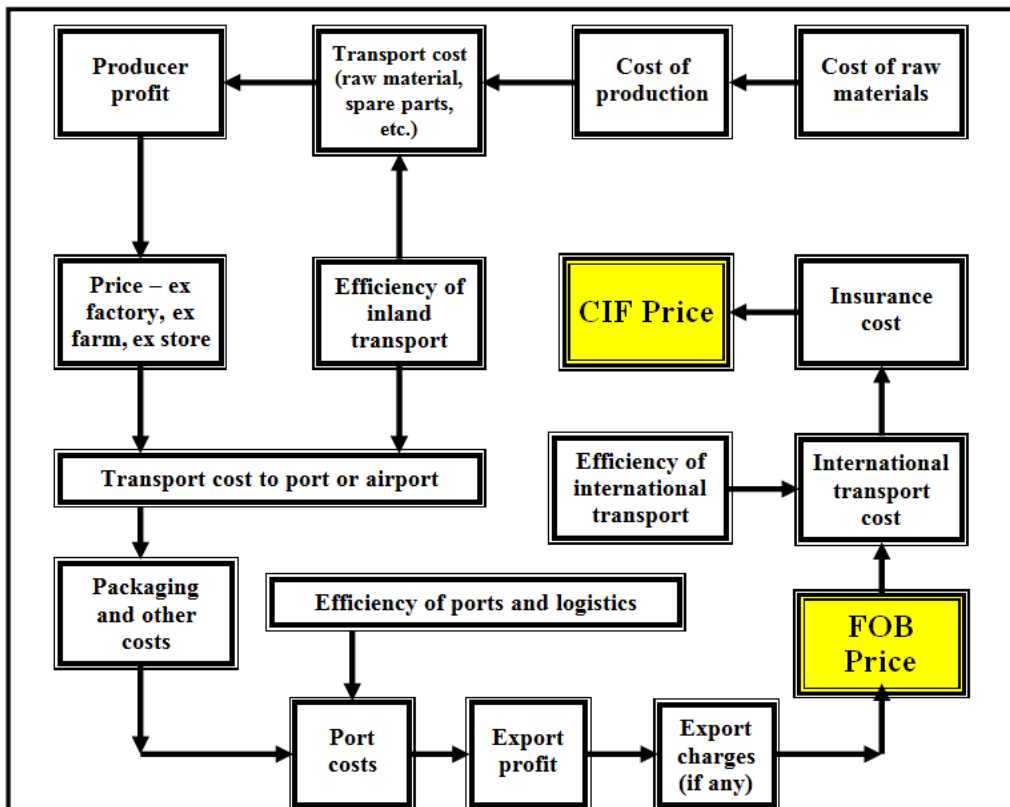


Figure 2: Impact of port and transport efficiency on the cost of the country imports and exports

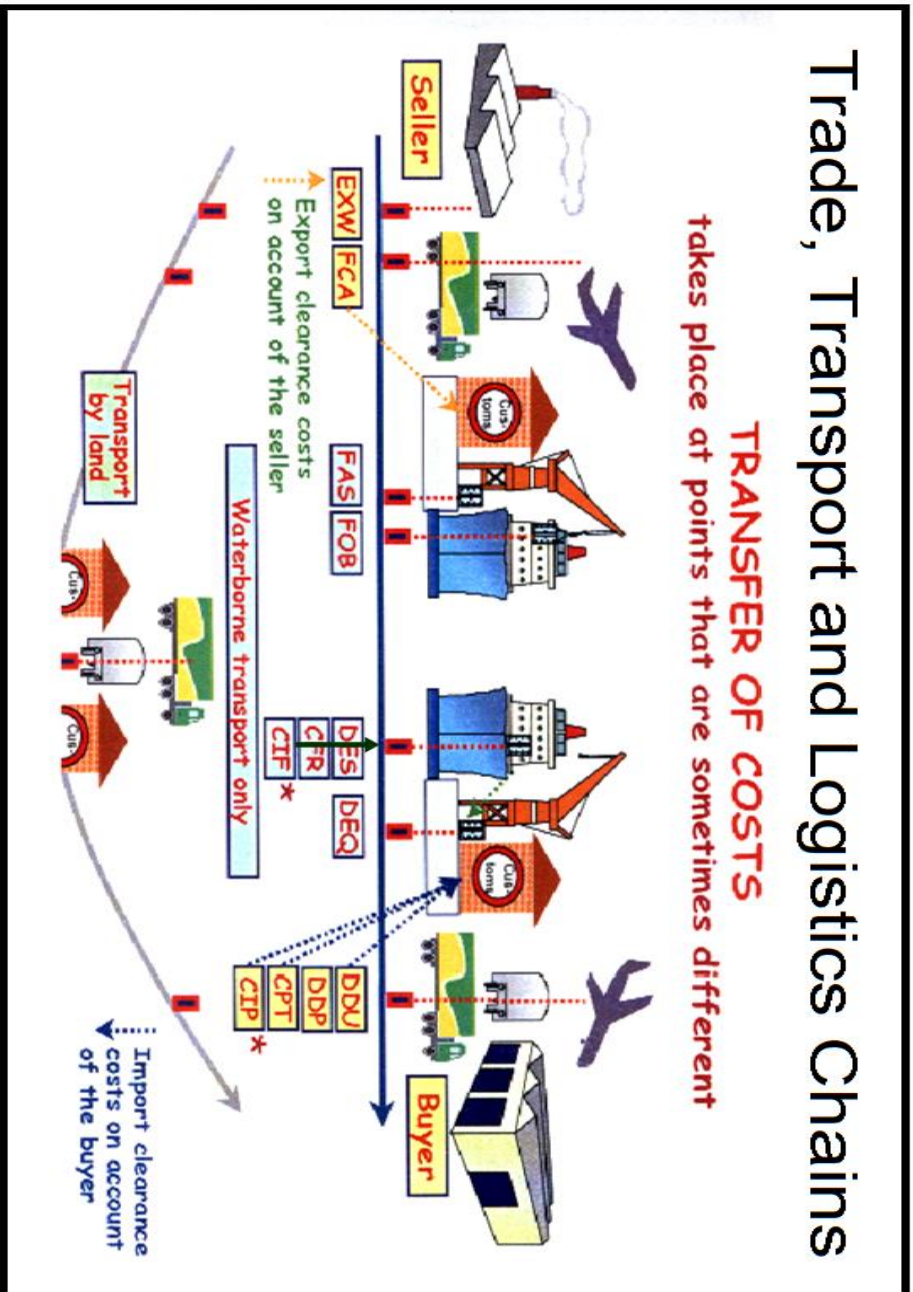


Figure 3. Interaction between logistics chains, ports, transport facilities, and trade

Key for Figure 3: the abbreviations are the international commercial terms, used for international trade between buyers and sellers (INCOTERMS). The INCOTERMS identify the place of cargo delivery and the dividends of total cargo and logistics costs between the buyer and seller. Examples of these abbreviations are:

EXW: ex-works

FAS: Free Alongside Ship

FOB: Free On Board

7.0 Structure and Framework of the Developed Methodology/Approach

This research developed a group of improvements for transport and logistics facilities of the three countries, Syria, Lebanon, and Jordan. This covers infrastructure, fleet, and operation systems for sea ports, roads, and land border points. Figure 4 depicts the structure of the developed methodology/approach. As can be seen from this figure, the methodology comprises the following main steps:

Step One: Collecting Current conditions data-1 (transport and logistics facilities and customs procedures): this includes all the details data of Inland transport cost, Procedures and formalities in ports and boarder points, facilities in ports, port capacities, transit charges, road conditions, port charges, transport modes used, etc.

Step Two: Collecting Current conditions data-2 (trade flows): this includes all data and information concerning International trade movements between Arab countries, main trade corridors and routes, volume, commodity types, etc.

Step Three: Developing the proposed scenarios and improvements for trade ease: this step includes all the proposed improvements in the current conditions of transport, logistics facilities and customs procedures that can be applied in order to improve the trade between Arab countries (proposed scenarios and improvements for trade ease and facilitation).

Step Four: estimating the potential increase in international trade movements between Arab Countries in volume and commodity types in case of applying the proposed set of improvements developed/provided in step three.

Step Five: Developing the Benefit Algorithm: this step includes developing the set of equations that identify and measure different types of economic benefits as a result of applying the proposed set of trade ease/facilitation improvements. The developed algorithm considers all trade corridors and routes (i.e. inland trade corridors and routes, maritime trade corridors and routes etc.) between trade partners/countries. It is prepared to accommodate as many trade corridors and routes as required, so as it can be employed in any other cases beside the current case.

Step Six: Applying the developed methodology for the case of Syria, Jordan and Lebanon: this step includes the process of economic analyses, employing the developed benefit algorithm, with the data collected to estimate the three types of economic benefits for trade ease between the three countries.

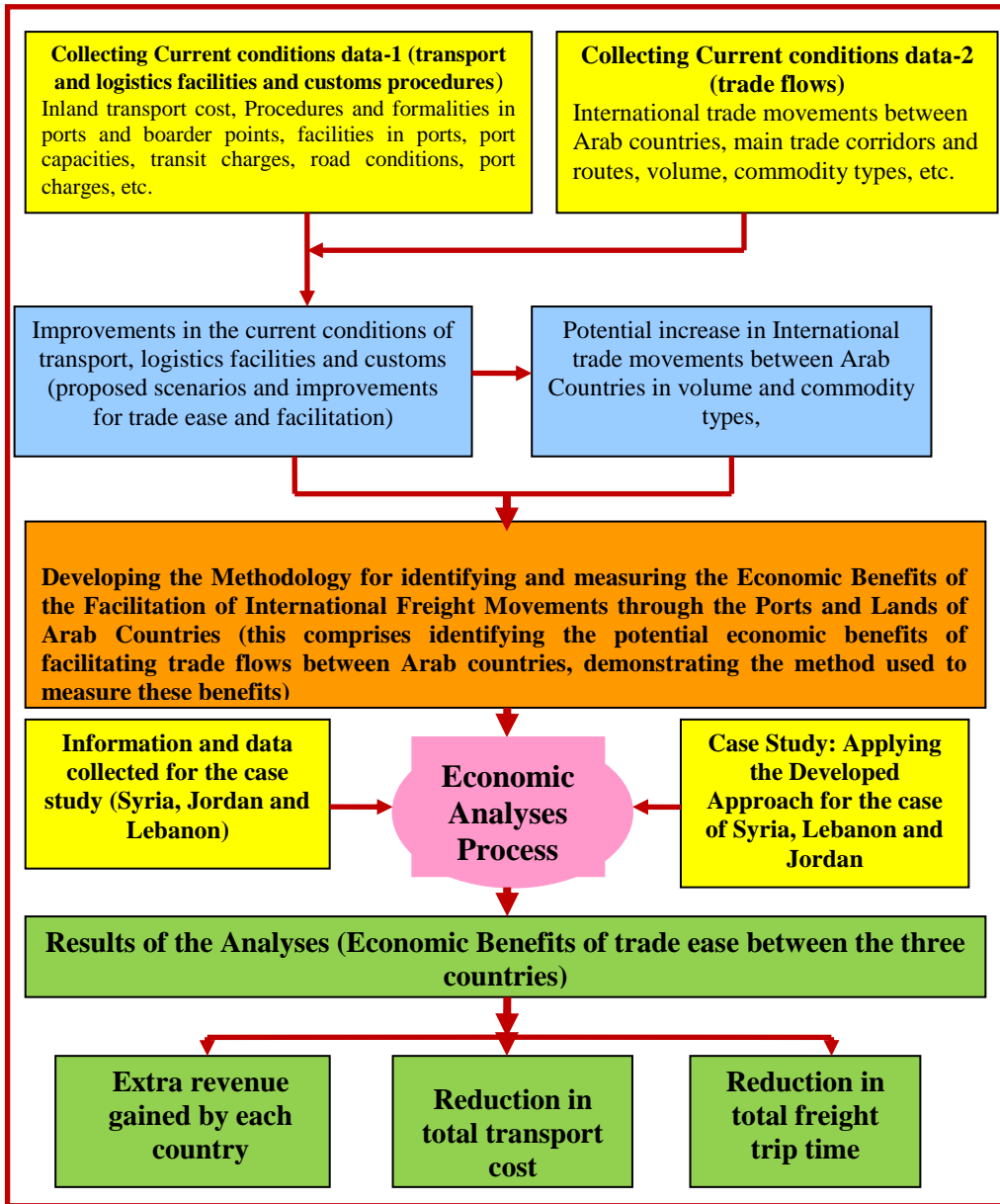


Figure 4: Structure of the research methodology for identifying and measuring the economic benefits of the facilitation of international freight movements through the ports and lands of Arab countries

8.0 The Developed Benefit Algorithm for Deriving and Measuring the Economic Benefits of Trade Facilitation

This research proves that improving trade between Arab countries has many positive impacts. The current research paper identifies three main types of economic benefits for the improvement in the freight movements between countries. These are:

- Extra revenue gained by each country
- Savings in total cost of freight movements for each country (imports and exports)
- Savings in total freight trip time for the imports and exports of each country

The following sections illustrate how each of the three types of benefits is estimated in this research. This benefit algorithm is developed and created completely by the authors. The algorithm contains the equations that are developed and completely created in this research to be used as a tool for measuring the three types of potential economic benefits for trade ease between Arab countries. In addition to the current case study, the developed Benefit Algorithm stands alone as a tool kit for generic use in any other case, when estimating the economic benefits of trade ease between any pair of countries (or more).

8.1 Changes in Total Revenue Gained by Each Country

Equation (1) depicts the estimation process of the change in the country revenue as a result of applying a group of improvements.

$$\sum_{i=1}^N TRC_i^a = \sum_{c=1}^n \sum_{r=1}^t TF_{cr}^a * RO_{cr}^a - \sum_{c=1}^n \sum_{r=1}^t TF_{cr}^b * RO_{cr}^b \dots\dots\dots(1)$$

Where:

- TRC_i^a = Total change in gained revenue from imported and transit freight for country i in case of applying a certain scenario a (US\$)
- RO_{cr}^a = Total charges applied in country i for imported and transit freight on corridor c and route r when applying a certain scenario a (with case) (\$/ton or \$/TEU container)
- RO_{cr}^b = Total charges applied in country i for imported and transit freight on corridor c and route r in the current conditions scenario b (without case) (\$/ton or \$/TEU container)
- TF_{cr}^a = Total imported and transit freight in country i on corridor c and route r when applying a certain scenario a (with case) (ton or TEU container)
- TF_{cr}^b = Total imported and transit freight in country i on corridor c and route r in the current conditions scenario b (without case) (ton or TEU container)
- n = Number of potential cargo/trade corridors used for imported commodities of country i

- t = Number of trade/cargo routes inside each corridor used for imported commodities of country i
- N = Number of Arab countries involved in the analyses

8.2 Savings in Transport Costs

Equation (2) illustrates the estimation process of the savings in transport costs for the imported commodities for each country as a result of applying a group of improvements.

$$\sum_{i=1}^N TCR_i^a = \sum_{c=1}^n \sum_{r=1}^t F_{cr}^a * TC_{cr}^a - \sum_{c=1}^n \sum_{r=1}^t F_{cr}^b * TC_{cr}^b \dots\dots\dots(2)$$

Where:

- TCR_i^a = Total savings in transport cost of imported commodities for country i when applying a certain scenario a (with case) (US\$)
- F_{cr}^a = Total amount of imported commodities for country i on corridor c and route r when applying a certain scenario a (with case) (tons or TEU containers)
- F_{cr}^b = Total amount of imported commodities for country i on corridor c and route r in the current conditions scenario (without case) (tons or TEU containers)
- TC_{cr}^a = Total door-to-door transport cost on corridor c and route r when applying a certain scenario of improvements (with case) (US\$/ton or US\$/TEU)
- TC_{cr}^b = Total door-to-door transport cost on corridor c and route r in the current conditions scenario (without case) (US\$/ton or US\$/TEU)

8.3 Savings in Trip Time for Freight Movements

Equation (3) illustrates the estimation process of the savings in trip time for the imported commodities for each country as a result of applying a group of improvements

$$\sum_{i=1}^N TTR_i^a = \sum_{c=1}^n \sum_{r=1}^t F_{cr}^a * TT_{cr}^a - \sum_{c=1}^n \sum_{r=1}^t F_{cr}^b * TT_{cr}^b \dots\dots\dots(3)$$

Where:

- TTR_i^a = Total savings in trip time of imported commodities for country i when applying a certain scenario a (with case) (days)
- TT_{cr}^a = Total door-to-door trip time on corridor c and route r when applying a certain scenario of improvements (with case) (days)
- TT_{cr}^b = Total door-to-door trip time on corridor c and route r in the current conditions scenario (without case) (days)

9.0 Application of the Developed Approach for the Case of Syria, Lebanon, and Jordan

9.1 Proposed Scenarios for the Facilitation of International Freight Movements

The research has developed a group of proposed improvements to be made for the ports, customs authorities, and inland border points of the three countries. Table 1 depicts the proposed improvements categorized and classified by concerned authority and body. The improvements covered all procedures of trade flows between Arab countries as follows:

- Procedures before cargo arriving at ports
- Port procedures
- Customs procedures
- Joint procedures between ports and customs
- Land border points procedures
- Transit procedures
- Road transport procedures
- Country Specific Rules and Restrictions

The proposed improvements for trade ease were analyzed under seven scenarios as follows:

- Scenario 1: Applying all proposed improvements.
- Scenario 2: Applying all proposed improvements but keep the country specific general rules and restrictions such as restrictions made for the imports of the country that has to come through the country ports only and not through other country ports.
- Scenario 3: Applying all proposed improvements concerning removing the informal costs.
- Scenario 4-a: Establishing a unified border point, instead of two, between countries but keep the country specific general rules and restrictions. So the procedures of trade flows are only made once and get inspected and pass through one entry.
- Scenario 4-b: Establishing a unified border point between countries and removing the country specific general rules and restrictions.
- Scenario 5: Applying all proposed improvements without changing any of the current taxes and charges imposed by each country such as fuel tax and transit charges.
- Scenario 6: Unifying transit charges among countries
- Scenario 7: Automation of all procedures of trade flows in ports and inland border points.

Table 1: Proposed improvements for transport and trade facilitation among the three countries

Type of procedure	Proposed improvements
Procedures before cargo arriving at ports	<ol style="list-style-type: none"> 1. Obtaining the required permissions from one central authority 2. Obtaining the required certificates of control authorities from one central authority 3. Providing applications, documents, and pay charges electronically
Port procedures	<ol style="list-style-type: none"> 4. Applying advanced technology systems in dealing with ships concerning the permissions for ships to enter the port and to discharge cargo 5. Using advanced technology systems in container handling, storage and searching for containers such as electronic bay system and GPS 6. Using electronic manifest in ports, customs, and shipping agencies and unifying its form 7. Providing the possibility of connecting the manifest system, customs information systems and storage systems electronically 8. Providing the required capacity of handling equipments with higher efficiency and upgrade the equipment on regular bases attracting more freight liners for ports
Customs procedures	<ol style="list-style-type: none"> 9. Applying automated system for custom clearance 10. Applying a unified customs form 11. Providing the possibility for cargo owners (clients) to feed their data and information by themselves directly to computers 12. Minimizing number of customs employees who deal direct an be in contact between customs officials and freight owners (clients) 13. Applying risk management system in selecting the sample for inspection among clients 14. Applying technology systems in cargo inspection such as electronic scanning systems 15. Providing the possibility of starting custom procedures before cargo arrival at ports 16. Providing clear criteria for identifying the value of cargo and customs exemptions
Joint procedures between ports and customs	<ol style="list-style-type: none"> 17. Enhance the skills of customs and port employees by providing the required training 18. Providing the possibility of identifying and paying charges in one step 19. Unifying working hours and make it suitable for commercial and private sector companies
Land border points procedures	<ol style="list-style-type: none"> 20. Applying electronic data interchange between ports and all land border points 21. Establishing joint border point between countries for cargo exit and entry procedures instead of having two border points one in each country 22. Supplying all required modern and advanced equipments for cargo inspection such as labs and scanners 23. Enhance the skills of employees by providing the required training

Type of procedure	Proposed improvements
	24. Unifying the shape, type, and number of procedures and documents for all border points in all Arab countries 25. Unifying working hours for all border points in all Arab countries and make it suitable for commercial and private sector companies
Transit procedures	26. Unifying transit charges among all countries 27. Increase number of cargo conveys 28. Empty containers should not be considered as cargo, but be considered as empty containers 29. Shippers do not have to return empty containers on the same truck, as happen now 30. Unifying cargo documents for imports and transit cargo between all Arab countries
Road transport procedures	31. Allowing road trucks fro any Arab nationality to load cargo from any Arab port 32. Unifying dealing with and treating all trucks from any Arab nationality in terms of charges and priority to load or discharge. 33. Improving road conditions in all Arab countries 34. Unifying axle loads in all Arab countries roads 35. Improving road safety and applying unified safety systems in Arab roads 36. Using advanced systems and technology in traffic monitoring on roads 37. Do not apply fines for trucks delay to exit after been discharged in a destination country other than truck nationality
Country specific rules and restrictions	38. Removing the restrictions made for the country imports that all country imports have to come via its national ports 39. Activating all bilateral and regional trade and transport agreements among Arab countries

9.2 Results

The developed approach and methodology have been employed and applied on the three chosen countries. As explained in details above, the application of the developed approach and methodology would require a lot of data and information concerning cost, time, and procedures of cargo movements to, from, and via the ports and lands of Arab countries. The complete set of data required to apply the developed methodology comprises many details about each stage of cargo movement. The available data inputs required for the analyses were for year 2007. Based on that, the research paper used the available data of year 2007 to derive the potential economic benefits of applying the proposed scenarios. Moreover, supplementary data and forecasts of transport demand were obtained from previous study (Serag and Al-Tony, 2013). The results of the analyses are depicted in Table 2.

It is worth mentioning that the developed methodology stands alone as a comprehensive approach that can be employed for any selected countries. Hence, the research is mainly

to develop that approach, and to make it generic and flexible to be used and employed for various cases, once the data and information be available in the level of details required.

As can be seen from Table 2, implementing the proposed improvements would generate significant economic benefits to the economy of the three countries. The derived set of benefits comprises:

- Extra gained cash revenue by the country authorities: this type of benefits is significant for authorities working in the trade movements as it can be reinvested once again to have more improvements in the procedures and facilities in ports, land crossing points, etc.
- Reduction in both total transport cost and total trip time for imported/exported cargo: this type of benefits is crucial and has many multiplier impacts on the society leading to more economic savings and benefits in various sectors of the economy as traded cargo is either inputs or outputs various industries, agriculture sector industries, mining, and other sectors. Reducing time and cost of cargo in this case yields many savings to the economy. In addition, reducing time and cost of cargo movements among Arab countries would reduce the total cost of the country imports which is reflected positively on the balance of payments as well as on consumers of commodities. On the other hand, this would increase the country competitiveness in the export market, which again can be reflected positively on the balance of payments of each country.

It is clear that all involved countries are gainers. This proves the fact that trade ease results in a win-win situation, and any effort or investment directed to trade facilitation would have a direct positive return for all countries.

This result is an encouraging indication, stating the fact that Arab countries can benefit so much from the ease of in-between trade, subject to introducing the appropriate measures and improvements to their ports, inland crossing points, and transport and logistics facilities in their countries.

Table 2: Economic benefits of applying the proposed facilitation scenarios for Syria, Jordan, and Lebanon (million US\$) per year for year 2007

Scenario	Country	Change in revenue	Savings in total transport cost	Savings in total trip time	Total economic benefits by country	Total economic benefits for the three countries
<i>Scenario 1:</i> Applying all proposed improvements	Jordan	- 8.82	9.73	69.28	70.19	199.61
	Syria	- 3.56	42.67	33.98	73.09	
	Lebanon	14.49	32.01	9.83	56.33	
<i>Scenario 2:</i> Applying all proposed improvements but keep the country general rules	Jordan	- 9.58	12.30	65.38	68.09	145.96
	Syria	11.80	9.51	9.62	30.93	
	Lebanon	5.10	32.01	9.83	46.94	
<i>Scenario 3:</i> Applying all proposed improvements concerning removing the informal costs	Jordan	- 6.56	7.95	18.23	19.63	90.34
	Syria	- 9.29	42.22	22.77	55.71	
	Lebanon	11.29	2.88	0.83	15.00	
<i>Scenario 4-a:</i> Establishing a unified border point between countries but keep the country general rules	Jordan	- 5.52	0.33	10.91	5.73	22.43
	Syria	4.53	0.00	0.00	4.53	
	Lebanon	3.61	6.44	2.12	12.17	
<i>Scenario 4-b:</i> Establishing a unified border point between countries and removing the country general rules	Jordan	- 0.33	- 0.70	11.05	10.02	68.85
	Syria	- 15.98	34.43	23.38	41.83	
	Lebanon	8.44	6.44	2.12	17.00	
<i>Scenario 5:</i> Applying all proposed improvements without changing charges	Jordan	- 8.38	10.48	69.91	72.01	193.99
	Syria	- 6.29	42.32	33.86	69.90	
	Lebanon	15.89	27.86	8.33	52.08	
<i>Scenario 6:</i> Unify transit charges among countries	Jordan	2.27	0.61	7.03	9.91	58.85
	Syria	- 17.85	35.80	23.05	41.00	
	Lebanon	5.70	1.60	0.65	7.94	
<i>Scenario 7:</i> Automation of sea ports	Jordan	- 6.69	7.88	29.28	30.47	104.66
	Syria	- 8.88	42.25	25.08	58.45	
	Lebanon	11.31	2.95	1.48	15.74	

10.0 Conclusions and Recommendations

This research paper has developed a methodological approach to identify and estimate the economic benefits of trade facilitation procedures among the ports and lands of Arab countries. The developed methodology stands alone as a tool kit for identifying, deriving and measuring the potential economic and financial benefits of trade facilitation

procedures among any pair or more countries.

The research main conclusions are that Arab countries can benefit significantly from increasing the amount of trade among them. This can happen when improving trade and transport facilities and procedures of ports and inland crossing points. The developed methodology can be used as a tool kit to demonstrate the effectiveness and benefits of improving trade facilitation procedures. The tool kit can accommodate as many countries as desired, as well as accommodating as many trade routes and corridors as wanted. Moreover, the developed methodology demonstrates the required information and data for the analyses process and for deriving the potential benefits of trade ease among Arab countries.

The research paper has used the developed tool kit in a case study to measure the economic benefits of trade ease between the lands and ports of Jordan, Syria and Lebanon. The economic analyses have been based on the developed benefit algorithm which proves a significant success in measuring the potential economic benefits of trade ease among the three countries. As shown in table (2), the analyses has proved that improving the conditions and procedures of trade flows between the three countries would yield significant economic benefits for all trade partners (i.e. economic benefits for the three countries). In other words, trade ease would benefit all trade partners/countries in a win-win situation. The analysis in this research also proves that the developed tool kit can be used in other cases easily, given that all required data are collected.

The main recommendations of this research are as follows:

Arab countries should improve trade procedures and transport and logistics facilities in order to increase the in-between trade and to gain the economic benefits of that.

The developed methodology in this research paper can easily be employed and used to model and estimate the economic benefits of trade ease and facilitation between any pair or more of trader partners/countries. So it is recommended to use it as a tool kit for measuring the economic benefits of trade facilitation and ease among Arab countries or elsewhere.

The developed methodology can accommodate as many trade corridors and routes as required given that the required data is available, so it is recommended to use it as a tool kit for measuring the economic benefits of trade facilitation and ease.

References

- AL-Tony, F.E. (2012). *Trade and Transport Facilitation: Egypt Case*. Working Paper, Workshop in trade facilitation, Organization of Islamic Countries Regional, Ankara, Turkey.
- Commonwealth of Australia (2002). *APEC Economies: Realizing the Benefits of Trade Facilitation*. Report prepared for the APEC ministerial meeting, Los Cabos, Mexico, 2002.
- ESCWA (2003). *Economic Feasibility Study on the Facilitation of Goods Trade Through the Ports and Lands of Jordan, Syria, and Lebanon*. United Nations Economic and Social Commission for Western Asia, Report E/ESCWA/GRID/2003/33.
- ESCWA (2000). *Methodological Framework for the Integrated Transport System in the Arab Mashreq (ITSAM-Framework, Volume II: a Policy-Sensitive Model for Predicting International Freight Flows (trade))*. Report E/ESCWA/TRANS/2000/2/Add.1, 2000.
- Organization for Economic Co-operation and Development OECD (2005). *The Economic Impact of Trade Facilitation*. OECD Trade Policy Working Paper No. 21, TD/TC/WP(2005)12/FINAL.
- Safwat, N. (1998). *Proposed Methodological Framework for the Analysis and Development of an Integrated Transport System in the Arab Mashreq*. A paper presented at the Expert Group Meeting on Economic Reform and Coordination of Transport Policies in the ESCWA Region within the Emerging Globalization Trends, Report E/ESCWA/TRANS/1998/WG.1/18.
- Serag, M.S. and Al-Tony, F.E. (2013). *Modeling International Freight Transport Through the Ports and Lands of Arab Countries*. Alexandria Engineering Journal 52: 433–445.
- The International Chamber of Commerce (ICC) (2010). *Incoterms*. ICC Publication 715E.
- Wilson, J.S., C.L. Mann and T. Otsuki (2003). *Trade Facilitation and Economic Development: Measuring the Impact*. World Bank Policy Research Working Paper 2988.
- Wilson, J.S., C.L. Mann and T. Otsuki (2004). *Assessing the Potential Benefit of Trade Facilitation: A Global Perspective*. World Bank Policy Research Working Paper 322