Maritime transport and international trade: a study of transshipment opportunities and their impacts on The mediterranean region growth

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Key Words
Logistics, Maritime Transport, International Trade, Transshipment, Mediterranean Region, Growth.

Abstract

Since prehistoric times, trade was an important growth driver for the Mediterranean region. Indeed, foreign trade contributes to the stimulation of growth, job creation and poverty reduction. In addition, due to its geostrategic position, the Mediterranean region is located in the heart of world trade and a significant proportion of international flows of goods pass through this region. However, we deeply believe that the countries (outside the EU) in this region do not fully benefit from these locational and historical advantages. This opportunity cost can be explained by several factors, particularly by the lack of logistic infrastructure and equipment that facilitate trade.

In fact, logistics is a growth engine for the economy that contributes to the creation of value through the dynamic injected into the foreign relations as well as the enhancement of partnership with other countries. In this regard, several studies have shown the importance of the logistics sector to foreign trade and to the economy in general.

To understand the problem of underutilization of opportunities related to the development of international trade we try, as part of this research, to study the impact of logistics activities related to maritime transshipment on Mediterranean region countries.

Introduction

The area of the Mediterranean Sea occupies an important place in world trade. The volumes traded in the Mediterranean's pool are constantly increasing. This progression challenges the various countries to take advantage of economic opportunities and make it a real wealth creation driver.

While the transshipment traffic is less profitable for the port authority and handlers in general, the economic wealth created by this kind of traffic is undeniable. Its effects on port environment and wealth creation related to other activities such as packaging, labeling… are obvious.

However, maritime traffic in the Mediterranean region is very unbalanced. A major part of the trade is conducted between countries located in the north of the Mediterranean and between these countries and Asia or America. Countries of the south and east of the

Mediterranean Sea don't take advantage of growth opportunities offered by the multiplication of trade flows in the Mediterranean's basin.

We believe that increased investment in port infrastructure can help the countries of the southern Mediterranean to present an attractive port service, to attract more maritime operators and create economic dynamics in the region located around these ports.

Our study focused on the Tanger-Med port as a new port infrastructure establishment in northern Morocco. Tanger-Med is a cargo and passenger port located at the east of Tangier on the strait of Gibraltar and at only 15 km from European mainland.

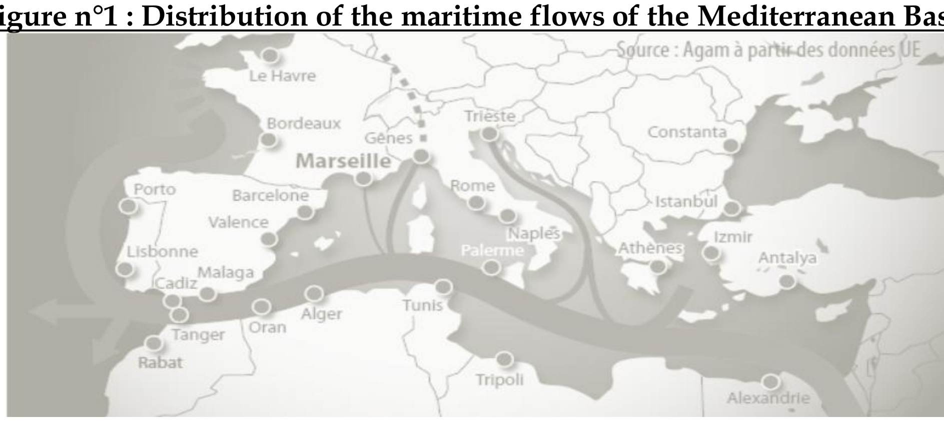
We have limited ourselves in this study to aspects related to the transshipment container traffic, knowing that transfer relates or may relate to other components of maritime traffic such as liquid bulk, dry bulk and unitized other traffics (cars, trucks...).

The Mediterranean: Inescapable zone in the international exchanges

The flows of the sea transport in Mediterranean represent 30 % of the maritime world business. The sea traffic in the Mediterranean region is in height progress. It recorded an increase of 50 % in terms of additional maritime transport capacity[1].However, the sea traffic within the Mediterranean is concentrated around merchandise flows between Europe and Asia as well as energy products forwarded by the Middle East to Europe.

Also, the Mediterranean sea traffic is unbalanced as far as approximately 90 % of the exchanges are made between country of the North of the Mediterranean either between these countries and Asia or America. The exchanges between country of the South and East Mediterranean Countries Sea (SEMC) and the EU represent only 7 % then the exchanges between the SEMC as for them represent only 1 %.

Figure n°1 : Distribution of the maritime flows of the Mediterranean Basin



Source : agency of town planning of the urban conglomeration from Marseille from the data of the EU

The major part of the exchanges at the level of the Mediterranean Basin is constituted by the liquid bulk, 31 % which includes the energy products, 24 % and chemicals, 7 % as well as the goods (except bulk) 36 % and in the third position the dry bulk, consisted essentially of aggregates, of cereal and of some coal with 27 % of the transported total volume.

It is necessary to also notice that the flows of the exchanges of the energy products at the level of the Mediterranean represent between 20 % and 25 % of the world oil traffic. These flows include the supply of Europe in energy from the countries of the Middle East including the Suez

[1] Synthesis Atlas of the harbour cities of the South and from the east of the Mediterranean, in October, 2013, Agency of town planning of the urban conglomeration from Marseille.

Canal or via the Sumed pipeline and from Russia via the Black Sea. Since 2003, flows from the Mediterranean East fell in favour of a significant increase of the exports of North Africa.

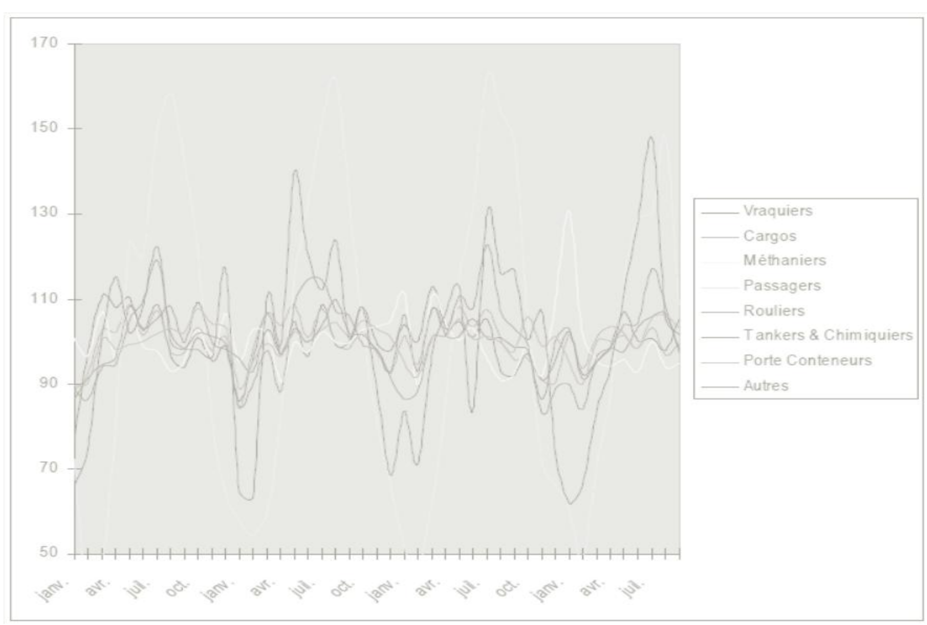
Figure 2 : Les flux pétrolier en Méditerranée – 2006 (en millions de tonnes)

Source : Les cahiers du plan bleu 7, à partir de AIE, BP et OME, Avril 2010

Overall, between 1997 and 2006, excluding bulk goods experienced the strongest growth with a growth rate of 8% followed by 7% liquid bulk and dry bulk 3%.

In addition, the overall traffic in the Mediterranean is characterized by a relatively strong seasonality. The intensity of this seasonality depends on the type of vessels. The vessels which are linked to the transport of people and passengers (ro, steamship, ferries) experiencing the highest seasonality. By cons, ships freight (cargo ships, container ships, bulk carriers, tankers ...) seem to be independent from this seasonality and more linked to economic need of transportation and logistics.

Figure 2 : Saisonnalité du trafic suivant la catégorie du navire



Source : Ministère de l'Équipement, des Transports, du Logement, du Tourisme et de la Mer Direction des Affaires Maritimes et des Gens de Mer, France, avril, 2004

Transshipment in the Mediterranean sea

The geographical position of the Mediterranean region in the center of the main shipping lines offer it real opportunities in terms of transshipment traffic (Action to transfer a load from one ship to another, possibly with update via dock. Concerned goods don't enter the country of transshipment port).

In fact, all countries of the Mediterranean outline can harbor successfully port transshipment traffic coming from (or going to) Northern Europe Rotterdam, Antwerp, Hamburg, Felixstowe, Dunkirk, Le havre ...) to Asia (Singapore, India, China ...), Middle East (Dubai, Musquat, Doha ...) to North America (Montreal, Quebec, New York ...).

This natural geographical advantage linked to the strategic position of the Mediterranean is strengthened by investments in certain ports of the Mediterranean region, in particular, Morocco (Tangier Med), Spain (Algeciras), Egypt (Suez Canal).

Transshipment logic prevails for container ships for their transport to hubs which generally do not have hinterland. These hubs are placed at the sea route between the Suez Canal and Gibraltar. Port productivity SEMC remains relatively insufficient compared to countries of Europe and Asia. Table 1 shows the ranking of the different ports of Europe, Middle East and Africa according to the productivity index BERTH.

Tableau n°1 : Top ports : Europe, Middle East, Africa

PORT	COUNTRY	BERTH PRODUCTIVITY
Jebel Ali	United Arab Emirates	81
Khor al Fakkan	United Arab Emirates	74
Salalah	Oman	72
Southampton	U.K.	71
Zeebrugge	Belgium	65
Rotterdam	Netherlands	63
Bremerhaven	Germany	62
Hamburg	Germany	62
Algeciras	Spain	53
Port Said	Egypt	52
Diliskelesi	Turkey	52
Beirut	Lebanon	52
Jeddah	Saudi Arabia	51
Antwerpen	Belgium	50
Felixstowe	U.K.	49
Tanger Med	Morocco	46
Piraeus	Greece	43
Karachi/Port Qasim	Pakistan	42
Le Havre	France	41
Barcelona	Spain	41

Source : The journal Of Commerce, July 22, 2013

Investment in port infrastructure is necessary to improve performance and therefore the attractiveness of ports SEMC.

Case study : Maritime transshipment in the port of Tanger –Med (Morocco)

The port of Tanger Med aims to provide in 2015 infrastructure for processing an annual traffic of more than 8 million TEUs, 7 million passengers, 700,000 trucks, 2 million vehicles, and 10 million tons of oil. Ultimately, the Tanger Med port traffic is expected to reach a tonnage of about 100 million tones. Port terminals are:

- **Vehicle terminal:** This terminal is dedicated to loading and unloading of vehicles; it's designed for a nominal processing capacity of 1 million units per year. This capacity will be partly used for the export of vehicles produced by the Renault-Nissan plant in Melloussa. The remaining capacity will be used for the transshipment vehicles activity in Tangier Med port aiming to build a regional hub for vehicles.
- **Passenger and ro-ro Port:** Having a capacity of seven million passengers and 700,000 trucks, passenger ro-ro port and ferry terminal also integrates a Ro-Ro and a TIR park set on 25 hectares of land and a railway station connected to the ferry terminal. This terminal has replaced from the end of 2009 the port of Tangier city.
- **Hydrocarbon terminal:** It encloses facilities for handling and storage of refined products. With a capacity of five million tons per year, it holds two main activities: the bunkering of stopover vessels, import of refined products for the Detroit region. The terminal is operated by Horizon Terminals Company (UAE), as part of a concession in association with IPG (Kuwait) companies and Afriquia (Morocco).
- **Container terminals:** Tanger Med has four container terminals dedicated to processing of container traffic and transshipment.
- **Bulk Terminal and Miscellaneous:** This terminal is intended primarily for the import of various goods and cereals (imports for its direct hinterland and Fez-Meknes region).

Tanger MED is characterized by the diversity of maritime liner dedicated to transshipment container traffic linking the following sea areas:

- Asia : China, singapore,
- Europe : Hambourg to leHavre
- Africa : Maghreb and Ouest Africa
- North and South America

These Regular buses four continents as shown in the following table:

Table 2 : Tanger Med : Regular line vessel - containers traffic

Continent	Import	Export	Total
Africa	57	6	63
America	10	48	58
Asia	37	26	63
Europe	85	59	144
Total	**189**	**139**	**328**

Source : according to TMPA

We notice that the main shipping companies and terminal operations serve the port by regular lines:

Table 3 : Tanger Med : Maritime Line / Regular Line

Maersk	115
CMA CGM	97
Delmas	39
Hamburg Sud	35
HS/HL	18
OPDR	10
Hapag Lolyd	9
XCL	5
Total	**328**

Source : according to TMPA

Thanks to the increase in traffic associated with transshipment at the port of Tanger Med from the transshipment has reached 25% at the end of 2013 of the Moroccan port traffic. The transshipment activity has increased by 63% from 15.4 million tons in 2012 to 25.2 tons to 2013.

Conclusion and discussion

Through our case study, we found that the development of a dedicated port of transshipment traffic has created a dynamic in the northwest region of Morocco. It also had much effect on the region economy and the Moroccan economy. This success is partly due to good operating location of this area at the crossroads of maritime lines east-west and north-south.

We believe that the transshipment with low financial return in terms of port fees, is very interesting in terms of generating activity in the hinterland of the port and contiguous areas to that port. Thereby encouraging this type of traffic is important for the development of the port industry and the economy in general.

To this end, we suggest the following actions:

- Promotion of the Suez-Gibraltar line
- Investment in infrastructure using public and private partnership modes with global powers in cargo handling;
- Involvement and motivation ocean carriers

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