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***Effects of the global financial crisis on container terminal operators in the
Mediterranean Basin and in the Hamburg-Antwerp range***



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Chapter 1:

1.1 Introduction

1.1.1 From financial to global crisis

On September 15, 2008, investment bank Lehman Brothers filed for bankruptcy protection, its business collapsing under the weight of its own debt (Marketwatch, 2008). The financial turmoil that rapidly followed suit showed a much less friendly side of the modern, highly interconnected world economy. Indeed, crisis was not confined to the financial sector. As financing sources quickly dried up, virtually every sector of the economy came to experience the effects of the financial crisis. Demand for consumer goods in the West, long fuelled by cheap credit, suddenly plummeted, hitting the manufacturing sector worldwide. Trade collapsed, turning the clock back years on national economies as the Global Recession reached its climax.

Yet, the depressing effect of the credit crunch on western demand for imports has not been limited to the manufacturing sector itself. Entire sectors intimately linked to world demand for goods have suffered greatly because of the derived nature of their demands. The maritime shipping sector, characterized by a derived demand, had lived in a sort of derived bubble, with shipbuilders fully booked for years to come and port authorities all over the world planning and operating infrastructure expansion plans – both building up new capacity as there seemed to be no end in sight to extraordinary growth in world trade experienced since China's accession to the WTO in 2001.

1.1.2 Effects of the crisis on container ports

Nevertheless, as trade collapsed, so did container volumes transiting through ports. Between 2008 and 2009, 17 out of the 20 largest container ports experienced negative growth in their container throughput on the previous year (Notteboom et al., 2009), including gigantic ports such as Shanghai and Rotterdam. However, ports such as Rotterdam and Shanghai have since rapidly managed to come out of the recession, making the best out of their nature of gateway ports. Able to capture vast hinterlands,

the two ports weathered out of the financial storm stronger than ever, each relying on relatively steady and secure flows of containers to and from their hinterlands, functioning as the main hubs for the industrial hearts of Europe and China.

Rotterdam fared relatively better than its direct competitors in the Hamburg-Antwerp range, thanks to its ability to intercept much feeder traffic previously destined to nearby ports, as in the case of Baltic feeder traffic (Port Authority of Rotterdam, 2009), as well as thanks to a timely reduction of port dues (Cargo Systems, 2010a).

On the other hand, Rotterdam's direct competitors did not manage to match the port's strong performance, experiencing severe drops in their container throughputs: Antwerp's container throughput was down 15.6% in 2009, Hamburg's 28% and Bremerhaven's 17.4%, as the trade flow between Germany and China plummeted under the weight of the global recession (Port of Hamburg, 2011). Nevertheless, the range's particular relationship with Europe's industrial core is proving – and to prove – determinant for its recovery (Der Spiegel, 2010).

Nonetheless, wherever this strong relationship between port and hinterland has been missing, things have gone differently. Economic growth preceding the crisis brought increasing demand for port infrastructure in key areas of the world, situated on the most remunerative routes, able to receive large volumes of containers and transship them right away, routing cargo to its final destination through feeder vessels. This has been indeed the case for most container ports in the Mediterranean Basin, where specialized transshipment ports flourished on the route between Asia and North America, with old players such as the Italian, Spanish and French ports facing renewed competition from brand-new North African container ports such as Tangier Med and Port Said. Yet, when the trade flows dried up, this business model based on capturing transshipment traffic, eventually directed to other regions, finally showed the entity of its weakness. Container traffic, foot-loose by definition, quickly plummeted, leaving quay cranes idle all over the Basin, although with few significant exceptions. Gioia Tauro, the biggest Italian container port, saw its throughput fall by 17.6% in 2009 (World Port Ranking, 2009) and registering a further drop in 2010; similarly, Barcelona's throughput went down in the same period 29.9% (World Port Ranking, 2009).

Valencia, Port Said and Damietta were three significant exceptions, registering limited growth in 2009, with the Spanish port registering renewed record growth in 2010.

1.1.3 Aim of the thesis

As previously stated, the impact of the global recession has had different effects on transshipment-focused Mediterranean container ports and gateway ports in the Hamburg-Antwerp range. As such ports set up strategies to recover lost market share, the pre-crisis equilibriums in the two regions have undergone important changes.

Therefore, the aim of this thesis can be synthesized in the following research question:
What have been the effects of the global financial crisis on container terminal operators in the Mediterranean Basin and in the Hamburg-Antwerp range?

1.1.4 Methodology

In order to give an answer to the previously stated research question, a descriptive analysis of the consequences of the financial crisis on the largest container terminals in the Mediterranean and in the Hamburg-Antwerp range will be conducted. The analysis will take into account factors such as container throughput as well as, where available, more detailed data on the composition of throughput (i.e. gateway traffic, transshipment). Further on, this thesis will look into how the financial crisis brought widespread changes in the labour dynamics at the terminals affected, without neglecting the role played, in the Mediterranean, by the entrance of low-labour-cost North-African competitors in such changes.

1.1.5 Literature

As the global recession peaked in the year 2009 and, in actuality, its effects have not ceased to be felt, little literature is available on the strategies employed by

Mediterranean container ports in order to weather out of the financial storm. Sudden developments have not been rare throughout the crisis, making it therefore necessary, for the aims of this thesis, to refer to the main specialized publication in the sector, such as Lloyd's List and Containerization International, as well as the online review "Port Strategy". Additional material, for the most part in the form of articles and news clips, will be employed, as well as presentations and material provided by the port authorities of the ports taken into account for the aims of this piece of research.

Similarly, use will be made of articles and papers depicting the consequences of previous economic crises on container terminals.

1.1.6 Structure

For the aims of this analysis, this thesis will be divided into three parts:

- A first section, dealing with the effects of the current global financial crisis on the container ports in the Mediterranean Basin, will be further divided based on geographical position, with container terminals divided in three sub-sections, depending on whether they can be classified as Western, Central or Eastern Mediterranean container ports.
- A second section will deal with the effects of the crisis on the Hamburg-Antwerp range, with sub-sections dealing with the ports of Rotterdam, Hamburg, Antwerp and Bremen/Bremerhaven.
- Finally, conclusions will be drawn on the effects of the crisis on container terminals in the Mediterranean as well as within the Hamburg-Antwerp range, highlighting how differences in the way terminals approached the issue have influenced their path to full recovery.

Chapter 2:

2.1 Effects of the crisis on the Mediterranean Basin's container ports

2.1.1 Container ports in the Mediterranean

Container ports in the Mediterranean Basin rose in importance during the last couple of decades, on the wave of increasing trade with Asia. As a consequence, container ports in this macro-region have developed along two distinct lines: transshipment ports (for instance, Gioia Tauro, Tanger Med, Port Said), functioning within hub and spokes systems or as relay ports linking two routes (Algeciras, for example); gateway ports, serving large hinterland areas, such as Genoa, Barcelona and Marseilles (OpenMed, 2011). Fast growth in the decade to 2004 particularly benefited Central Mediterranean ports such as Gioia Tauro in Italy and Malta's Marsaxllok. However, capacity constraints and other problems in the Central Mediterranean range allowed for the development of strong competitors in the Western Mediterranean range, with Spanish Ports constantly increasing their market share against their Central Mediterranean competitors from 2000 on (OpenMed, 2011). Newer entrants, such as Port Said, have been focused on capturing transshipment traffic, as well as functioning as gateways to the developing Southern Mediterranean. Turkish ports such as Mersin and Ambarli have, on the other hand, profited of Turkey's sustained economic performance, serving the greater Istanbul area and its manufacturing industry.

Nevertheless, the importance of transshipment traffic in the Mediterranean is hard to underestimate. Between the year 2000 and the year 2008, transshipment was estimated to account for an average 43% of the container throughput registered by container terminals on the northern shore of the Mediterranean (Russo et al., 2010).

The following sub-sections will deal with the three main Mediterranean ranges: Western, Central, and Eastern Mediterranean. The following chart shows the throughput expressed in TEU of the six largest container ports in the Mediterranean.

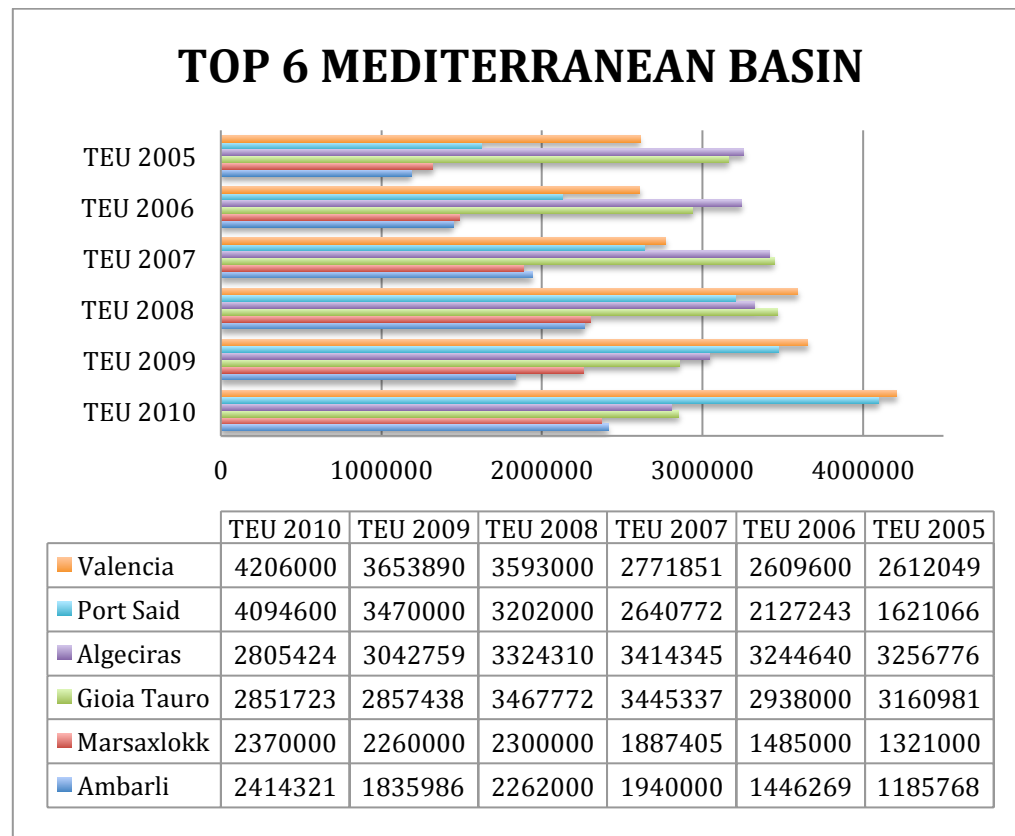


Figure 1: Top 6 container ports in the Mediterranean Basin. Throughputs from 2005 to 2010. 2010 throughput for Ambarli is an estimate. (Port of Hamburg, 2010; Cargo Systems, 2010b; Shipping Gazette, 2011; Malta Freeport, 2011; Cargo systems, 2011).

2.2 Western Mediterranean

This range mainly consists of Spanish ports such as Valencia, Algeciras, Malaga and Barcelona, as well one of the newest players to enter the market: the Moroccan port of Tanger Med. The next paragraphs will deal with these ports and their performance during the crisis.

2.2.1 *Valencia*

The increase in market share obtained by Spanish ports, beginning in 2000, was particularly beneficial to the port of Valencia, which was able to gradually establish itself as the leading Spanish container port and, recently, as the leading Mediterranean container port as well. Valencia's container throughput went from 1,821m TEU in 2002 (World Port Ranking, 2003) to 4,206m TEU in 2010 (Cargo Systems, 2010b),

by a record 56.7%, allowing the Spanish port to weather out of the global recession virtually unaffected and to meet its target throughput of 4m TEU five years earlier than expected (Cargo Systems, 2010b). Valencia's 2010 performance was surprisingly brilliant even when compared to the port's excellent results at the peak of the crisis in 2009, when it registered a limited, if positive, 1.7% increase in its container throughput, whereas its direct competitors' throughputs experienced falls ranging from limited to severe (World Port Ranking, 2010).

The port's excellent performance throughout the crisis is largely to be attributed to the ability to intercept transshipment traffic, in order to obviate to the unavoidable fall in import/export traffic from the Spanish peninsula. Indeed, at the peak of the crisis in the year 2009, the port's public terminal Maritima Valenciana, as well as the TCV terminal, which specialize in handling mostly gateway traffic, saw their throughput fall on a yearly basis respectively by 7% and 6.3% (Cargo Systems, 2010b). At the same time, Valencia's third container terminal, Mediterranean Shipping Company-operated Valencia Terminal saw its figures increase, with throughput rising by 18.8% on the previous year (Cargo Systems, 2010b). Indeed, MSC's strong foothold in the port holds the main responsibility for the port's strong performance, providing 56% of the total throughput (Port Strategy, 2009a). Equally fundamental, roughly 50% of the port's container throughput comes from transshipment (for a large chunk of which MSC is responsible).

Another reason for the port's performance is to be found in its commitment in investment in infrastructural and super-structural improvements.

In order to render the port more attractive in the eyes of liner shippers, the local port authority has been fast to adopt the latest developments in IT, making things easier for Valencia's logistics companies; red-tape has been gradually slashed thanks to the introduction of an online-payment portal; a new "track and trace" system will allow shippers to follow their cargo at the port and on rail, responding to the current needs of the just-in-time logistics (Port Strategy, 2010a). Customs operations at the gates have also been smoothed out, as trucks are automatically identified while transiting, making checks faster.

Moreover, the port, conscious of the volatile nature of transshipment traffic, has been investing in its ability to deal with gateway import/export traffic, by improving its hinterland connections, for instance by activating a dedicated rail link to the PLAZA logistics center of Zaragoza (Port Strategy, 2010a), a “13-million square-meter complex of distribution centers, transportation, dry port and intermodal services” (Zaragoza Logistics Center, 2011). Equally part of its renewed focus on intermodality and logistics, the port of Valencia has adopted a so-called Quality Mark, modeled on Barcelona’s one, aiming at providing a form of guarantee on the set of logistics services provided by single firms operating in Valencia’s maritime clusters, as if they were provided by a single entity, thus establishing “the right to financial compensation should any guarantee not be complied with” (Port Strategy, 2010a).

As for what infrastructural expansion is concerned, the port of Valencia, together with its terminal operators, has been very active in investing in capacity expansion. A northern extension of the port by 1.5m square meters is aiming at making the port fit to deal with increasingly larger vessels, at the same time expanding its total capacity by 4m TEU (Cargo Systems, 2010c). MSC, which sees its direct control on Valencian terminal operations as an effective way to guarantee capacity and low costs, in line with recent trends of vertical integration, is currently working on expanding its quay by 70 meters, in order to be able to handle at the same time one 14,000 TEU and one 11,000 TEU vessel; moreover, the area occupied by the MSC Valencia Terminal is set to expand by 22,000 square meters (Cargo Systems, 2010c).

Valencia’s strife for improvement has gone from being an answer to the global recession to being a necessity in the face of increasing competition from North African operators. The gradual opening of Tanger Med’s new terminals, together with the project for Nador West Med, will greatly increase capacity in the region; even then, the most difficult challenge will come from the Moroccan terminals’ lower labour costs and high flexibility. Indeed, the mere announcement of the two Moroccan port developments allowed liner shippers to put pressure on terminals on the northern shore of the Mediterranean, calling for re-discussion of previous labour agreements, calls immediately met by unions’ hostility. In the case of Valencia, rumors in the first quarter of 2010 of an imminent transfer from MSC of large quantities of feeder traffic to Tanger Med have, so far, not turned into real action, as

MSC has strengthened its ties with the Spanish terminal (Port Strategy, 2009a), by investing, as seen, in new infrastructure, as well as in new super-structure, such as equipment including 12 Konecranes RTGs and two STS gantries from Paceco (Cargo Systems, 2010c).

2.2.2 Algeciras

The port of Valencia's relatively strong performance during the crisis has not been mirrored by the fellow Spanish port of Algeciras. The Southern Spanish port, the second largest container port by throughput in Spain as well as in the Mediterranean Basin, has been hit relatively harder by the crisis, its figures declining in 2009 and 2010.

Grown out of the global trade boom generated by China's accession to the World Trade Organization (WTO), Algeciras experienced, together with other Mediterranean seaports, very strong growth between 2002 and 2008, its throughput increasing from 2,234m TEU to 3,324m TEU, meaning a 33% increase in 8 years (World Port Ranking, 2003, 2009). Nevertheless, the port's strong performance did not continue once the crisis made its effect felt in 2009, with its throughput shrinking by 8.5% on a year earlier. In 2010, after five first months of positive growth (+5.9% on the same period in 2009) (World Port Development, 2010a), the Spanish port witnessed a further fall in its throughput, at -7.8% (Shipping Gazette, 2011).

Algeciras's fall in throughput in 2009 came as the port was undergoing a series of expansion plans, designed to boost its capacity as well as its ability to attract the newest super-post-Panamax vessels. South Korean shipper Hanjin began works for the construction of a dedicated terminal the same year, the Total Terminal International Algeciras (TTIA). Completed at the end of April 2010, the terminal was inaugurated in July of the same year at the presence of the Spanish Crown Prince and of the Chairwoman of Hanjin shipping, with the new 10,000 TEU Hanjin Casablanca being the first container ship to enter the terminal (World Port Development, 2010a). Hanjin's investment, the largest ever South Korean investment in Spain (World Port Development, 2010a), has been aimed at increasing the liner shipper's presence on the route to Africa, as well as North American, Northern Europe and South America. TTIA will provide a capacity of 1,560m TEU to Hanjin and to third parties (namely

the CKYH Alliance, of which Hanjin is a member) (Beddow, 2010), as well as the first semi-automated container terminal in the Mediterranean (Port Strategy, 2009b), thanks to 32 new transtainer cranes, cutting labour costs and providing customers with higher reliability. Nonetheless, TTIA represents but one of several infrastructural expansion plans at the port of Algeciras. 120 hectares of reclaimed land, within the Isla Verde Exterior, are currently (as of 2011) being completed. Furthermore, the expansion of the terminal's capacity, of which the TTIA represents phase-A, is being accompanied by a further phase-B, amounting to 35 hectares, to be completed within the year 2011 (Cargo Systems, 2010d).

However, enthusiasm for the port's expansion plans has, so far, not been matched by equally grand results. The emergence of a strong competitor across the Strait of Gibraltar has readily shown to have dire consequences on the Spanish port, subtracting vital transshipment traffic. Danish liner shipper Maersk did not waste time, announcing plans to switch 500,000 TEU from its sister-company APM Terminals at Algeciras to Tanger Med, which would allow the firm to take advantage of the lower labour costs and wider contractual flexibility, together with the fact that the geographical proximity of Tanger Med would not force the Danish company's vessels to greatly deviate from its established liner services (Port Strategy, 2010b). As news of Maersk's decision came right after a row on wage cuts, its timing has come to be considered, at the very least, suspicious by the port's workers. Indeed, Maersk's sister company APM Terminals had just put forward demands for a 20% wage cut at its terminal in Algeciras, as a measure to foster its competitiveness in the face of the emergence of serious Moroccan competition across the Strait (Port Strategy, 2010b). Moreover, the local subsidiary of APM, Maersk España, had averaged a €5m profit over the past five years, bringing the company, just three years earlier, to negotiate with local trade unions a deal deemed "historical", which was to guarantee a steady volume of 3m TEU until 2017, in exchange for increased labour flexibility and abstention from striking (Port Strategy, 2010b). Such facts, together with the suspicious timing for the transfer of capacity to Tanger Med, has been seen by the local trade unions as a move to force stevedores to accept less favorable conditions. Maersk España's demands for a 20% wage cut has been so far rejected by the unions who, citing violations of the 2007 deal on the Danish operator's side, have been repeatedly striking. On May 4, 2011, 300 stevedores stopped working to protest

against the proposed wage cuts. Further industrial actions are to follow on selected days of the next months, for 24-hour periods (Leach, 2011a). On the other side of the barricade, Maersk España's management has announced to the Spanish press to be looking forward to reach a deal as soon as possible, as the service disruptions at Algeciras will end up tarnishing the terminal's reputation, diverting further traffic to Tanger Med (Leach, 2011a).

Meanwhile, Maersk has made good of its previously-announced decision to transfer some of its services from Algeciras to the new APM facilities at Tanger Med, by moving 500,000 TEU from Maersk España's terminal, as well as by declining to renew its contract with the other private terminal operator at the port, TCA, which previously handled a smaller share of Maersk's local container traffic. Unable to intervene directly on the wage dispute, the local port authority has instead slashed port duties, by applying a 35% discount on all ro-ro traffic to and from Tanger Med and 60% on all transshipment containers. Lower tariffs, together with a new rail link and better feeder connectivity seems to be sorting a positive effect in the first quarter of 2011, with a rising number of import/export containers being handled (Port Strategy, 2011a).

2.2.3 Malaga

The small container terminal of Malaga, situated on Spain's Southern coast as well, has been witnessing a rather similar situation with regard to its workers' contractual conditions. A much smaller port than the two fellow Spanish ports previously described, Malaga does not even make the Top-20 busiest container ports in the Mediterranean (Port of Hamburg, 2011). However, labour disputes in this port are of interest for the aims of this thesis, as they show a further case of a Mediterranean terminal having to adjust its labour costs in order not to be outcompeted by close competitors on the Southern shore of the *Mare Nostrum*.

Preventing unavoidable demands for wage cuts, the local trade unions decided to take the initiative in 2009 when, the crisis having virtually climaxed, local workers sought to compromise in order to save their jobs, in the face of a skyrocketing Spanish unemployment rate. In order to boost the Malaga's attractiveness in terms of

efficiency and labour costs, trade unions agreed to a series of measures, including a 25% reduction in wages, a strong reduction in the number of stevedores per crew, per shift, as well as an increase in the stevedores' output, increasing the number of containers handled per worker, per shift. Trade unions will abstain from striking, as workers are now collectively liable for negative consequences arising from terminal operations disruption. In exchange for this ground-breaking agreement, Malaga Container Terminal has agreed not to shed any of the 170 stevedoring jobs (Port Strategy, 2009c). Such agreement came a few months after the similar (although less harsh) agreement signed at Algeciras currently at the center of a row over further wage cuts. Recognizing the importance of this agreement, Malaga Container Terminal has deemed it "not optional" if Malaga is to stay in the container transshipment business as competition in the area increases (Port Strategy, 2009c). Nonetheless, the agreement did not spare Malaga from a harsh fall in its container throughput, down 33% in 2009 on a year earlier, though it stabilized at 290,000 TEU in 2010 (Port Strategy, 2010c).

2.2.4 Barcelona

The container port at Barcelona was the one hit the hardest by the recession, whose first symptoms surfaced already in 2008, when the port of Barcelona's container throughput fell by 1.5% on a year earlier. However, the worst was yet to come: in 2009, throughput plummeted to 1,800m TEU, -29.9% on a year earlier, a grim result, when compared with the port's previously relentless growth, 44% between 2002 and 2007. Containerized imports and exports suffered because of Spain's rather rapid fall into recession, but the worst fall was in transshipment, which was down 43% in 2009, almost halving a vital source of throughput for the Catalan port, with total throughput stabilizing in 2010, thanks to import/export recover (Cargo Systems, 2010e).

Similarly to the case of Algeciras, the throughput slump came when the port was in the process of beginning ambitious expansion plans. Again as for Algeciras, the Autoritat Portuaria de Barcelona moved forward with its plans. The Prat Wharf project's phase 1 began in 2009 and was completed in February 2010. The new area, under the management of TerCat, a HPH subsidiary, features a 1km-long quay, 8 super-post-Panamax quay cranes, a yard covering an area of approximately 100

hectares, as well as 18 container stacking blocks, 36 one-over-five automated stacking yard cranes (ASC), a fleet of shuttle carriers, tractors and trailers and an eight-track rail terminal, for a total yearly capacity of 2,650,000 TEU to be achieved by 2012 (World Port Development, 2010b). Further on, the ZAL Prat Logistic Area enlargement program was started in 2009 and continued throughout 2010, tripling the cluster's surface dedicated to logistic operations, with 209 hectares specifically dedicated to high added value services. In a move to improve Barcelona's stance as a gateway port for Spain and Southern France, expansion plans have also involved more efficient connectivity with the hinterland, thanks to a new rail link reaching Lyon, the "Barcelyon Express" (World Port Development, 2010b).

Nevertheless, the TerCat expansion plan has gone under criticism as it would add further capacity to an area, the Mediterranean, where it is currently not the problem. This, together with the fact that the port of Barcelona's container throughput is forecasted to grow 5.3% on average until 2014, puts in question the usefulness of such grand expansion plans (Business Monitor International, 2010). Fears for overcapacity have not been confined to business analysts, lately. A further expansion process, the Costa Quay development, for which a tender was published in July 2009 and later declared deserted in December 2009, as only Grimaldi and Balearia had participated. In April 2011, the port authority of Barcelona renewed its invitation for the two companies to place a bid (Port Strategy, 2011b).

2.2.5 Tanger Med

The Spanish container ports previously described have been going through a process of adaptation to profound changes caused by the global economic crisis. Unfortunately for well-established Spanish terminals, a general decrease in container flows (in particular with regard to transshipment activities) has been followed by the emergence of a new, strong competitor, the Tanger Med port complex, adding to pre-existing capacity, as well as putting a strain on southern European labor equilibriums, offering higher productivity for a lower price.

In the year 2009, amid the general decline in container throughputs all over the Mediterranean, Tanger Med emerged as a new force, growing by 32.7% on the previous year, to 1.222m TEU, less than two years after the completion of the port's phase 1 development (Cargo Systems, 2010f), thus becoming one the 100 busiest ports in the world by container throughput and set to beat the local port authority's own forecast of 1.4m TEU handled by 2011.

The 3m TEU Phase 1 completed between 2007 and 2008 consists of two container terminals, namely TC1 and TC2; TC1, although largely operated by global terminal operator APM, is at the center of a partnership between the Danish company itself and local Moroccan business conglomerate Akwa Group (Port Strategy, 2010d). TC2, on the other hand, is managed by Eurogate Tanger, a joint- venture between terminal operators Eurogate (Germany) and Contship Italia, together with liner shippers CMA-CGM and MSC (Port Strategy, 2010d).

Phase 1 development was to be followed rather soon by the second phase, consisting of two more terminals, for a total capacity at full completion of 8m TEU, creating a total of 25,000 more jobs. Development of the TC3 terminal was to be built next, for a total berth length of 1,600 m and a capacity of 3m TEU to be achieved by 2014 (Cargo Systems, 2010f), with the new terminal to serve Maersk's interests and to be managed by its sister-company APM. Nevertheless, fears about overcapacity have later pushed Maersk and APM to halt the project, sidelining it for at least 15 months (Fossey, 2009a). TC4, which was then supposed to represent the beginning of phase 2 has also encountered substantial difficulties. Now planned to start in 2012 and to be completed in 2014, this new phase has witnessed a series of important changes *en route*. Originally to be operated as a joint venture between PSA International and Moroccan terminal operator Marsa Maroc, the former pulled back from the deal, leaving the Moroccan operator to be sole operator of the terminal (Port Strategy, 2010d). TC4 will see the construction of 1,200 m of berth, with depths of up to 16 m and a 56ha container yard, for a total capacity of 2.200m TEU per year (Fossey, 2011a). Phase 2 is to be financed through a mix of public and private funds, including US\$249m from the Moroccan government (Port Strategy, 2010d) and €200m from the European Investment Bank; the Luxemburg-based institution will provide the loan through its Facility for Euro-Mediterranean Investment and Partnership to the local

port authority, the Tanger Mediterranean Special Agency, which is to use such funds for the Tanger Med II development under the guarantee of certain environmental standards (Containerization International, 2010).

Tanger Med's strong results in 2009 have so far not been an isolated case. Growth has been continued throughout 2010, with an increase by a record 70% in the number of boxes handled, to 2.06m TEU (Fossey, 2011b), with liner shippers Maersk, CMA-CGM, Delmas and Mitsui OSK all increasing their traffic at the Moroccan port. Liner shipper Maersk, in particular, contributed to Tanger Med's rising figures by transferring several services from the nearby Spanish port of Algeciras, allowing APM's terminal in the Moroccan port to reach a throughput of 1.4m TEU in 2010 (Fossey, 2011b). The other terminal, operated by Eurogate and comprising, among its shareholders, MSC, Comanav and CMA-CGM, witnessed a strong growth as well, to 680,000 TEU, up 56% on the previous year (Fossey, 2011b).

A much smaller share of Tanger Med's throughput came from its increasingly important role as Morocco's gateway port, gradually taking over a role traditionally covered by the now capacity-constrained port of Casablanca. Indeed, in 2010 Tanger Med witnessed an increase by 18% in its gateway traffic, to 54,397 TEU, a rapid growth even if it represented barely 2.6% of the total container throughput (Fossey, 2011b). Such a relatively high increase in import/export traffic has seemed to partially vindicate Tanger Med Special Agency's and the Moroccan government's joint efforts to boost this kind of traffic by investing in state-of-the-art connections between the country's economic centers. Indeed, the year 2009 saw the opening of a new rail link between Casablanca and Tanger Med, with trains able to carry 66 TEU each and now looking for a private company willing to become concessionaire (Fossey, 2009b).

Tanger Med's exalting performance seems to be continuing throughout 2011 too, thanks to encouraging Q1 results, more than doubling its throughput when compared to the same quarter of 2010. Such results are largely attributable to the increasing importance of Tanger Med as a hub on the routes to and from West Africa and South America, whose traffic transshipped at the Moroccan port surged by 70% and 30% respectively (Fossey, 2011b).

At the same time, gateway traffic continued to rise, up 30% on the previous year, although still constituting a rather small share of the hub's throughput (Fossey, 2011b).

Further on, the local port authority has been recently looking for ways to improve its financial situation, but obtaining further support from the Moroccan business community, through a long-term credit facility in collaboration with the main national banks worth \$430.7m to be reimbursed in 15 years. The loan will be used in part for further investments in Phase 1, as well as to facilitate the Phase-2-development of Terminal 3, now completely in the hands of Moroccan firm Marsa Maroc, replacing previous private debt (Fossey, 2011c).

2.3 Central Mediterranean

An area characterized the presence of just two major players, the container ports of Gioia Tauro and Marsaxlokk, the Central Mediterranean has seen a sharp drop in its share of containers handled, largely as a consequence of the Italian ports' negative performance throughout the financial crisis. The following paragraphs will deal with the most important ports in the area.

2.3.1 Gioia Tauro

The southern Italian port of Gioia Tauro was one of the major victims of the general strife for efficiency which hit the container-terminal business as a consequence of the global financial crisis. Numbers are clear: after handling roughly 2.954m TEU in 2002 (World Port Ranking, 2003), the port's throughput grew by 17.4% by 2008 (notwithstanding a temporary slump in 2006) (Port of Hamburg, 2011). Nevertheless, the port's growth in throughput came to a halt in 2009, dropping by 17.6% and therefore obliterating ten years of moderate growth (Cargo Systems, 2010g), the Italian port's situation hardly improving the following year, thanks to a further drop by 0.2% (Shipping Gazette, 2011).

Plummeting throughput in Gioia Tauro has been largely caused by liner shippers' reorganization of their loops, moving away from less efficient container terminals in favor of competitors offering better conditions, in particular with regard to labor flexibility. Liner shipping giant Maersk redirected two of its services to Port Said and Algeciras, thus moving its feeder traffic servicing Algeria and Tunisia (Cargo Systems, 2010g), a loss only partially compensated by increasing MSC traffic on a new service between the Mediterranean Sea and the Far East.

However, things seemed to be getting for the better as, in the first quarter of 2011, throughput rose by 10.7% on the same quarter of 2010 (Barnard, 2011), when hopes for renewed growth were crushed by Maersk's announcement of its decision to pull out of the Italian port. The Danish company's transshipment traffic is to be transferred, starting in July 2011, to Port Said (which will handle cargo destined to Turkey and the rest of the Eastern Mediterranean) and Marsaxlokk, thus depriving Gioia Tauro of roughly 25% of its current container traffic, generating further unrest among stevedores' unions, protesting against the lay-offs which will necessarily follow a reduced throughput.

2.3.2 Marsaxlokk

The Maltese container port of Marsaxlokk fared relatively better than its nearby Italian competitor in Gioia Tauro. Between 2005 and 2008 the port's container throughput grew by 74% to 2.300m TEU (Port of Hamburg, 2011), thanks also to new investments from global carriers such as CMA-CGM of France. Marsaxlokk managed to fare better in the midst of the recession, too, its throughput decreasing by an acceptable 1.7% in 2009 (Port of Hamburg, 2011) and then swiftly recovering the following year, 2010, reaching 2.37m TEU (+4.6%), the highest throughput ever recorded at the Maltese terminal (Malta Freeport, 2011).

Such good performance, as opposed to the general decline suffered by other ports in the region, can be largely explained by the strong investment policy pursued by Malta Freeport and its main shareholders, which include French global carrier CMA-CGM. Indeed, new services have been calling at Marsaxlokk, with carriers such as Delmas,

CMA-CGM, Maersk, Hanjin, Cosco, K-Line and Yang Ming all increasing their presence there (Cargo Systems, 2010h). Further on, even if specific data has not been available, it can be speculated that Malta Freeport has enjoyed throughout the crisis a higher level of efficiency and lower labor costs, when compared with its Italian competitors, thus providing Maersk with a further reason to move its local traffic to Marsaxlokk.

Since Malta Freeport Terminals' privatization in 2004, over €170m have been invested in new infrastructure and superstructure (Cargo Systems, 2010h), with the latter becoming increasingly important in the last few years, given the increasing size of container vessels; Malta Freeport answered the challenge by increasing the number of super post-Panamax cranes at the terminals' disposal, bringing their number to 23 in 2009, as four ZPMC STS-cranes were delivered, together with the commission of further 10 Konecranes RTGs to add to the 40 already operating at Marsaxlokk (Cargo Systems, 2010h). The port has also been investing in infrastructural improvements, planning to extend the West Quay of Terminal One from 168 meters to 300, and with dredging works being expedited in order to allow larger vessels to be handled.

2.4 Eastern Mediterranean

The eastern section of the Mediterranean Basin has been experiencing vast changes during the last few years. The Greek port of Piraeus has seen its container throughput completely dry out, as its highly-protected, highly-unionized workforce reacted vigorously to foreign investments. Meanwhile, in nearby Turkey, the Mersin container port serving Istanbul largely benefited from the area's booming export-driven economy. On the Southern shore of the Mediterranean, East Port Said has been increasingly becoming a top transshipment port, one of the few Mediterranean ports to grow in the midst of the financial crisis.

2.4.1 Piraeus

The Greek port of Piraeus was one of the worst-hit container ports in the whole Mediterranean Basin. The effects of the crisis were particularly hard on the port, as its widely-recognized inefficiencies began to weigh more than ever on liner shippers' choices. Possibly even more important, a row between port workers, the Greek government and the concessionary COSCO Pacific largely contributed to bring container operations to a halt.

Piraeus's growth had followed a pattern rather similar to that of other Mediterranean container ports, positioning itself as a transshipment hub, its container throughput reaching 1.403m TEU by 2006. However, already in 2007 the port was experiencing a decline, down 2% on a yearly basis. The year 2008 saw a huge drop in the port's container throughput, down 68% to 431,000 TEU.

The port's plummeting figures came as its terminal operations were experiencing a great degree of change, as the Greek government moved towards the terminal's privatization, leasing it to the Chinese global terminal operator COSCO Pacific for 35 years, under a \$4.2 billion provision (Leach, 2010). The year 2009, the first under the new Chinese management, saw the port's performance slightly improving on the previous year with container throughput up by 47%, still less than half the port's 2007 figures (Cargo Systems, 2010i).

However, the transfer of powers to COSCO was not a smooth process. Dockworkers at Piraeus conducted repeated industrial actions between 2009 and 2010, bringing terminal operations to sudden and prolonged halts, thus undermining liner shippers' confidence in the Greek port's ability to cater for their needs. The series of strikes (which was halted twice as courts ruled them excessive and unjustified) came as dockworkers were seeking guarantees that the new management would not lay off any jobs or change the work conditions (Barnard, 2009).

However, COSCO Pacific has stayed put on its commitment to turn the port of Piraeus into a hub for distribution of Chinese exports to Europe. After heavy start-up costs, container throughput has been estimated to have grown by 10.21% in 2010 and it is projected to stabilize in 2011 to -0.90% (Reuters, 2011).

2.4.2 *Ambarli*

Ambarli serves the Greater Istanbul Area, arguably Europe's largest metropolitan area and the center of Turkey's fast economic growth during the last decade. Thanks to its strategic position on the Marmara Sea, Ambarli is well placed to cater to the needs of Turkish shippers spacing from the Black Sea to the Aegean coast. As a result of this, the larger maritime cluster of Ambarli, which consists of several terminals in Ambarli proper and in adjacent towns, experienced sustained growth during the last decade, its container throughput growing from 1.185m TEU in 2005 to 2.262m TEU in 2008 (+48%) (Port of Hamburg, 2011).

Nevertheless, plummeting world trade made its effects felt in Turkey's export-driven economy as well, effects mirrored by Ambarli's performance in 2009, when the Greater Istanbul set of container ports registered a fall in their container throughput by 22.2%, as liner shippers cancelled services from the Far East to Turkey or switched from large container vessels to short sea traffic to serve Turkey (Cargo Systems, 2010j).

The Greater Istanbul maritime cluster is comprised of seven container terminals: Marport, Kumport, Gempport, Haydarpafla, Yilport, Mardafl, Borusan (ordered by decreasing container throughput). Marport, owned by Arkas Holding S.A., embarked on an ambitious expansion plans before the financial crisis, expanding the capacity of its three terminals in Ambarli to 1.7m TEU. Similarly, Yilport has been upgrading its super-structure by acquiring new software, gate systems and becoming the first Turkish terminal to utilize STS45E separating twinlift all-electric STS spreader (Cargo Systems, 2010j).

Fast-expanding Turkish economy allowed for Ambarli to quickly move forward and recover most of the traffic lost during the recession, with estimated growth in container throughput in 2010 by 31.5% (Business Monitor International, 2011). Forecasts place Ambarli on a favorable trend, with growth in container traffic forecasted to increase by 11.2% in 2011 and by 44.2% to 3.45m TEU by 2015 (Business Monitor International, 2011).

2.4.3 *Port Said*

The Egyptian complex of container terminals situated around Port Said, at the Mediterranean mouth of the Suez Canal, has experienced impressive growth rates during the last decade, left completely untouched by the recent global financial crisis.

Between the year 2006 and the year 2008, Port Said's total container throughput went up by 49%, from 1.621m TEU to 3.202m TEU. In 2009, at the peak of the crisis, Port Said experienced again sustained growth (+7.7%) placing itself as the second largest Mediterranean container port by throughput (Port of Hamburg, 2011).

However, growth was not spread equally throughout the container port, with APM-operated Suez Canal Container Terminal (SCCT) in Port Said East growing by 12.5% as opposed to Port Said West-based Port Said Container & Cargo Handling Company (PSCCHC) which experienced an 11% decline on its (much smaller) throughput (Cargo Systems, 2010k).

While SCCT attributed its positive performance to increasing investment and high levels of productivity, state-owned PSCCHC blamed the global crisis for their falling throughput. Yet, in the case of PSCCHC, the reason for its negative performance should be rather found in its rather shallow draft alongside (14 meters), which left the terminal incapable of handling larger vessels. As a consequence, the terminal has been operating a dredging program to increase draft to 16 meters, as well as to purchase new STS gantry cranes (Cargo Systems, 2010k).

Similarly, SCCT has been conducting an expansion plan, with phase II of its development plan which provide for 1.2km of additional quay and doubling the terminal's capacity to 5.4m TEU by 2012 (Cargo Systems, 2010k).

Indeed the two terminals' investment strategies seem to have been paying off, as they both registered positive results in 2010. PSCCHC's throughput rose by 40% compared to its 2009 figures, returning to a level of activity close to that of 2007.

In the same way, SCCT continued its positive trend, handling 2.85m TEU, for a 5% yearly increase (Cargo Systems, 2011). In total, Port Said's container throughput recorded an 18% increase in 2010.



Figure 2: the map gives a brief summary of the main developments in the Mediterranean Basin's container ports during the crisis.

Chapter 3:

3.1 Effects of the crisis on the Hamburg-Antwerp range

3.1.1 The Hamburg-Antwerp range

The Hamburg-Antwerp range comprises the four largest container ports in Europe: Hamburg, Bremerhaven, Rotterdam and Antwerp. These ports owe much of their high level of activity to their role as gateway ports to the industrial heart of Europe: the Ruhr region in Germany, as well as Northern France.

As the financial crisis hit global trade, these ports came to suffer from the fall in European imports from the Far East, as well as from the (temporary) fall in German exports. Whereas Rotterdam managed to weather out of the crisis relatively untouched, Antwerp and the two German ports of Hamburg and Bremerhaven suffered greatly, seeing their container throughputs fall decisively in 2009, at the crisis' apex. The chart on the following page shows the range's ports' throughputs, expressed in TEU, between 2005 and 2010.

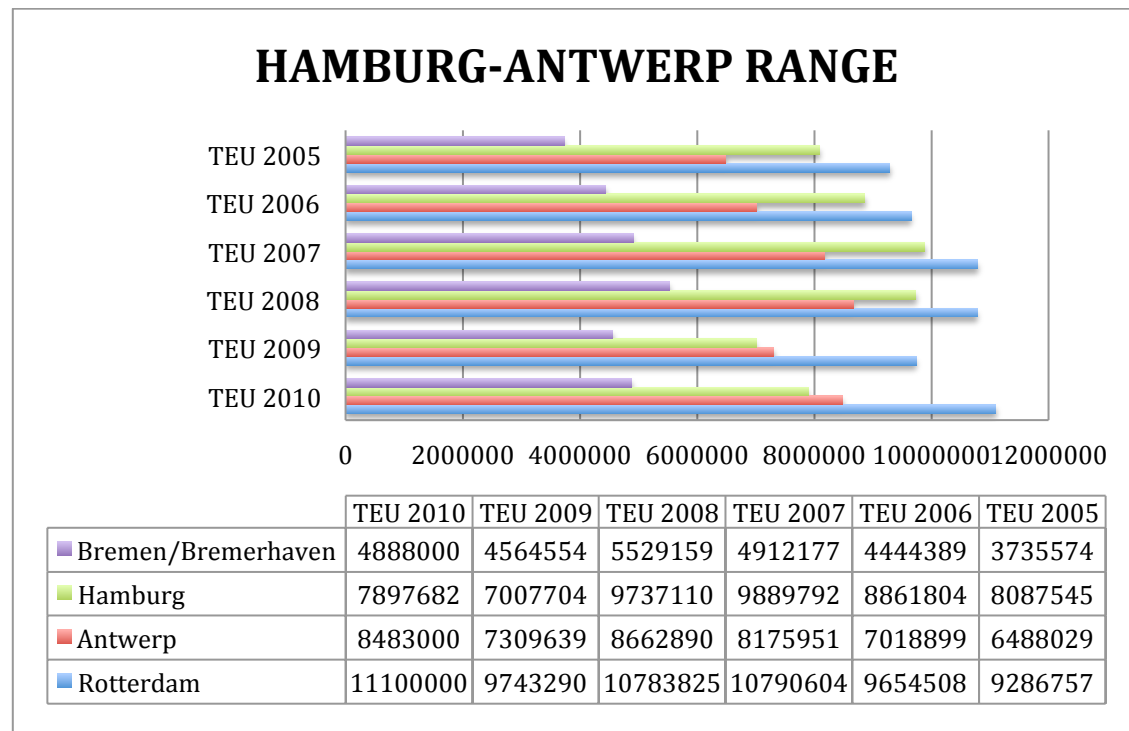


Figure 3: 2005-2010 container throughputs for the Hamburg-Antwerp Range's four largest container ports. (Port of Hamburg, 2011; Hellenic Shipping News Worldwide, 2011; Port of Rotterdam, 2010, 2011; Shipping Explorer, 2011).

3.1.2 Hamburg

The pre-crisis port of Hamburg was purportedly en route to take over Rotterdam's role as Europe's leading logistics hub. In the year 2002, Hamburg handled 5.374m TEU (World Port Ranking, 2003); five years later, in 2008, the port's container throughput had reached 9.889m TEU (Port of Hamburg, 2011), meaning a 45% increase over that period.

However, as in 2008 global trade began to suddenly slow down, the first signs of decline appeared, as container throughput for that year went down 1.5% on the previous year. The decline in Hamburg's figures peaked the following year, as the global crisis reached its zenith, down 28% on 2008 to 7.007m TEU (Port of Hamburg, 2011).

Germany's top container port witnessed an unexpected slump. Volumes on Hamburg's most important trades, such as those to/from Asia and the Baltic feeder traffic, went down rapidly, respectively by 24.3% and 44% in 2009, thus accounting for most of the port's loss in traffic that year (Cargo Systems, 2010l). New, larger vessels employed on the Asia-Europe trade found it more efficient to move to ports without draft and tidal restrictions, such as Rotterdam, while Baltic feeder traffic moved to recognizably cheaper terminals in Antwerp and Rotterdam itself (Cargo Systems, 2010l).

However, Hamburg's slump does not seem to be destined to last for long, as the German economy picks up again and import-export traffic flows again. Indeed, the year 2010 has seen Hamburg's return to growth, +12.7% on a year earlier, with pre-crisis figures forecasted to be reached once again by 2012 (Hellenic Shipping News Worldwide, 2011). Again, growth came from recovery in traffic from the port's main trades, with import-export to Asia growing 14.1%; similarly important, Baltic feeder traffic began to recover, up 9.8% (Hellenic Shipping News Worldwide, 2011), affirming again Hamburg's role as the main transshipment hub for the Baltic region.

Yet, the return of liner shippers calling at Hamburg on their Asia-Europe trades has brought renewed scrutiny on the port's ability to accommodate increasingly larger vessels, an issue on which its entire future rests upon. Dredging works on the River Elbe have started in the first quarter of 2011, amid strong criticism from German environmentalists (Der Spiegel Online, 2010), aimed at a 1-meter deepening, allowing the port to handle vessels drafting up to 14.5 meters. However, as current vessels are being designed to draft more than 16 meters, doubts remain whether Hamburg will be able to keep up with such trends, as further deepening of the Elbe seems currently out of question (Der Spiegel Online, 2010).

3.1.3 Bremerhaven

The German port of Bremerhaven was another victim of the slowdown in trade between Europe and Asia. Between 2005 and 2008, the German container port enjoyed sustained growth as its container throughput grew from 4.444m TEU to

5.529, meaning a 19.6% increase in three years. However, a climaxing financial crisis in 2009 did not spare Bremerhaven, which experienced a fall in its container throughput amounting to 964,867 TEU, or 17.5% on a year earlier, only relatively a better performance than Hamburg's (Cargo Systems, 2010m).

The port's relatively better performance was largely due to the commitment of two major liner shippers such as MSC and Maersk, which both have stakes in local terminals, making them less likely to abandon Bremerhaven altogether for another port in the region. Major terminal operator Eurogate further managed to limit the damages by reducing investments and by introducing early retirement schemes for its older employees (Cargo Systems, 2010m).

However, a freeze in investment has not translated in a reduction of capacity, as the new Terminal 4 has come to completion, thus bringing the port to its capacity limit. Furthermore, the announcement of the deepening of the River Weser has been met with favor at Bremerhaven, as it will improve the port's accessibility in all tidal conditions, allowing vessels drafting up to 13.8 meters to sail to and from the port at all times, while vessels drafting up to 15.5 meters will enjoy longer time windows (Eurogate, 2011).

Pushed by the German economic recovery and, in particular, by German car exports, Bremerhaven began recovering in 2010, achieving a 6.6% increase in its container throughput to 4.888m TEU (Port of Rotterdam, 2011).

3.1.4 Rotterdam

The port of Rotterdam, Europe's busiest container port, managed to limit the damage inflicted by plummeting global trade flows. The Dutch port experienced continued growth during the last decade, thanks to its role as the gateway for Europe's industrial core, handling 10.790m TEU in 2007 (Port of Hamburg, 2011). The first signs of falling trade volumes came the following year, as the port recorded a 6.5% contraction (Port of Hamburg, 2011). At the peak of the financial crisis, Rotterdam

handled 9.743m TEU, a 9.6% fall when compared with 2008 (Port of Hamburg, 2011).

When compared with its main regional competitors, such as Hamburg and Antwerp, the port of Rotterdam fared better during the crisis. Two fundamental factors contributed to this performance. The crisis saw a general rationalization on the side of liner shippers, who introduced more and more new generation vessels, able to carry larger amounts of containers; however, such container vessels have been growing not only in size, but also in draft, thus restricting the choice when deciding which port to call. Differently from Antwerp, Bremerhaven and Hamburg, which all suffer from depth and tidal restrictions, Rotterdam does not resent from such issues, making it much easier for liner shippers to access the port and thus pushing several of them to switch their ports of call from Germany and Belgium to Rotterdam.

Similarly important was the transfer of much Baltic feeder traffic to Rotterdam from their usual hubs in Germany, which accounted for a large share Hamburg's fall in throughput. Indeed Unifeeder, a leader company in Baltic feeder traffic and the port of Hamburg's largest single customer, has been lowering the number of calls its vessels make at the Hanseatic port, moving a large chunk of its traffic to Rotterdam (Port of Rotterdam, 2009). There are multiple reasons behind this trend; the previously mentioned transfer of several Europe-Asia services to Rotterdam means that the Dutch port has become more attractive for feeder services interested in catering for the needs of large ocean carriers (Port of Rotterdam, 2009). Further on, the global trend which has seen carriers adopting larger and larger vessels has not spared feeder traffic, with companies such as Unifeeder adopting larger vessels which can, thanks to the economies of scale generated by carrying more containers, as well as thanks to relatively low fuel prices, afford to take the Northern Route rather than cutting through the Nord-Ostsee-Kanal whose pilotage costs have been recently rising (Port of Rotterdam, 2009). Additionally, handling costs for feeder traffic in Rotterdam were, as of 2009, about €60 lower than in Hamburg, adding a further reason for switching to the Dutch port (Port of Rotterdam, 2009).

To add to these factors, the Port Authority of Rotterdam has been enacting throughout the crisis a policy of reducing port tariffs, in order to make its terminals more

attractive for cash-strapped liner shippers (Cargo Systems, 2010a). In 2009, the port authority increased tariffs by 1%, lagging behind the 1.6% inflation rate for that year, thus providing liner shippers with a relative discount in the midst of the crisis (Port in Action, 2009). Again, in 2010, the port authority provided companies with a crisis rebate of 7% which, given the 2% tariff increase for 2010, meant a 5% net saving for operators (Cargo Systems, 2010a); for the year 2011, a 3% recovery rebate will be issued to companies represented by Deltalings, which will generate 2% net savings as the tariffs will go up 1% for this year (Cargo Systems, 2010a).

Undeniably, this mix of measures and efficiency allowed for a quick recovery, making 2010 the year of full recovery as well as a record year for the Dutch port, as its container throughput reached the record figure of 11.1m TEU handled, meaning a 12.6% increase (Port of Rotterdam, 2010). As seen previously, much of the increase came from Rotterdam's renewed position as main hub on the trades between Europe and Asia, as well as for the port's ability to intercept a large share of Baltic feeder traffic (Port of Rotterdam, 2010). However, transshipment to other regions has been declining, in particular to the British Isles and the Iberian Peninsula, even though intra-European short-sea traffic to these two areas, plus Russia, has been substantially increasing (Port of Rotterdam, 2010).

Further on, the port has been actively pursuing a policy of infrastructural expansion, in particular through the land reclamation projects known as Maasvlakte II, which will bring the port of Rotterdam's maximum capacity to about 34m TEU by 2033, thus doubling its maximum capacity ("Next Generation", 2011).

However, critical issues remain, in particular with regard to the port's inland connections, with the Dutch highway network incapable to keep up with rising traffic volumes. As scarcity of public funds seem to be jeopardizing expansion plans in the near future, the Port Authority has been looking into viable alternatives, in particular with regard to potentiating its river connections via the Rhine and Meuse network which, according to the Port Authority itself, could easily allow for volumes seven times the current level to be transported inland (Maritime Sun, 2011). As part of this strife for better inland connections, the port authority has been looking for the right chance to establish inland terminals in order to bypass the congested Dutch highway

network; talks are currently ongoing with the Duisburger Hafen AG and the port authority is also looking into the possibility of establishing another inland terminal in southern Germany (Maritime Sun, 2011).

3.1.5 Antwerp

The widespread decline in container throughput that followed the global trade slump at the end of 2008 affected the container port of Antwerp too. After an uninterrupted decade of growth, the Belgian port closed the year 2008 with a container throughput of 8.662m TEU, the third largest in Europe behind Rotterdam and Hamburg (Port of Hamburg, 2011). At the peak of the crisis in 2009, Antwerp registered a 15.6% fall in its throughput, down to 7.309m TEU, a relatively better performance than Hamburg's, which allowed the Flemish container port to surpass the Hanseatic one to become the second largest in Europe behind Rotterdam (Port of Hamburg, 2011). Just as in the case of Hamburg, Antwerp's characteristic tidal constraints on the Western Scheldt caused to lose traffic conducted via the largest vessels to Rotterdam; however, similarly to its Dutch counterpart, Antwerp managed to intercept a significant share of the Baltic feeder traffic previously handled at the port of Hamburg.

In fact, the inland nature of the port of Antwerp has put it in a difficult situation, as the newest container vessels become larger and draft deeper. The issue of the deepening of the Western Scheldt had become a matter of friction between the Dutch and Belgian governments, as the former was seen as purposely delaying with petty excuses the dredging of the estuary on its side (Port Strategy, 2010d). Dredging finally began on the Dutch side in 2010. At completion, it will allow, under certain conditions, vessels drafting up to 15 meters to sail to and from Antwerp on an average low spring tide (Port Strategy, 2010e).

However, since 2010, the port's performance has been improving. In that year, the port of Antwerp handled 8.483m TEU, a 16.1% increase on 2009 (Shipping Explorer, 2011). Antwerp's performance seems to be destined to continue in 2011, as encouraging Q1 results have shown a 7.9% increase in container throughput on a year earlier, to 2.17m TEU (Leach, 2011b).

Antwerp's positive performance after 2009 can be explained with renewed trust between the port's stakeholders, as the port authority has been investing into improved hinterland connections to take advantage of the port's inland position (Port Strategy, 2011c). The acquisition of a stake in the Beverdonk Container Terminal can be seen as part of this strategy, as it will provide a 70,000 TEU capacity with open access on the Albert Canal in Grobbendonk, allowing for cargo to be transferred from trucks to barges (Port Strategy, 2011c). The port of Antwerp's strategy finally materialized into an investment program, the Total Plan, at the end of 2010, providing \$2.2bn for improvements to be achieved until 2015 and freezing tariffs for 2011 to the level of the previous year (Port Strategy, 2010f).



Figure 4: the map gives a brief summary of the main developments in the Hamburg-Antwerp Range's container ports during the crisis.

Chapter 4:

4.1 Analysis

The previous sections of this thesis have dealt with the major container ports operating in the Mediterranean Basin and in the Hamburg-Antwerp range. From the data collected a deep gap emerges with regard to the way ports in the two areas reacted to the global financial crisis. These striking differences might have been partly due to different business cultures but they should, nevertheless, be interpreted in the optic of the major changes which have been involving the relationship between container ports and terminal operators, on one side, and liner shippers on the other; a series of changes which began in the booming pre-crisis years but which have been accelerating during and because of the crisis.

The crisis has helped highlighting major contradictions, which eventually ended up changing the face of the Mediterranean container business. As previously observed, most well established terminals in the Mediterranean basin suffered greatly from the drop in global trade volumes. The reason is to be found in the region's focus on transshipment traffic. As highlighted by Notteboom and Rodrigue (2011), all the container ports in the Mediterranean rely heavily on transshipment traffic, which represents 44.6% of the total container throughput in the region, as opposed to the 24.2% figure for the North Sea ports. The large difference between the two figures partly helps to explain the different performances. Ports such as Antwerp, Hamburg and Rotterdam are able to function as gateways for the surrounding areas so that, in their case, competition means striving to capture the largest hinterland possible, so as to guarantee steady import-export flows; for instance, Antwerp finds itself in the position of having to compete on more fronts: for French cargo with Le Havre, for German cargo with Rotterdam and with German ports such as Bremen/Bremerhaven and Hamburg, as well as for the Alpine region the industrial heart of northern Italy (Notteboom, 2007). On the other hand, ports such as Gioia Tauro, Algeciras and Barcelona have been victims of their own over-reliance on transshipment flows. As this particular kind of container flows does not necessitate expensive and complicated connections with hinterlands and particularly developed logistic networks, transshipment is as footloose as ever.

When liner shippers began striving more than usual for efficiency, highly unionized, highly regulated transshipment ports such as Algeciras, Gioia Tauro and Piraeus found themselves caught in the middle, unable to substitute import-export traffic for falling numbers of transshipment boxes to be handled at their terminals.

Reliance on transshipment has often come together with a similar dependence on a single customer, as Gioia Tauro and Algeciras have both found out, as Maersk Line moved towards more efficient and less costly locations. The possibility for a liner shipper to move away all of its cargo to another port has been the result of the constantly increasing capacity all over the Mediterranean Basin: the emergence of new, efficient competitors such as Tanger Med and Port Said has guaranteed further capacity at a much lower cost, thanks to the highly flexible local labour and the eagerness of the local authorities to attract foreign direct investment. Tanger Med, in particular, has been able to capture a large share of transshipment flows previously handled at the main Spanish container ports; even Algeciras's new role as a hub for West Africa seems being jeopardized by Tanger Med's competition for the role.

In the Hamburg-Le Havre range, the former endured a further demonstration of the footloose and unpredictable behavior of transshipment flows, as Baltic feeder traffic, once given for captured, hemorrhaged out of the Hanseatic port, contributing to its disastrous performance in 2009, moving as it did to more efficient ports further West, such as Rotterdam and Antwerp.

As the transshipment share of the global container traffic shows no sign of being about to grow significantly in the medium term (Davidson, 2011), having grown by just 3% between 2000 and 2010 to 28% of the total, the arrival of new capacity in transshipment-reliant Mediterranean seems to be destined to cause further problems. Algeciras, Barcelona, Piraeus, Tanger Med and Port Said have increased or are about to increase their capacity, which will further increase the gap between demand and supply, further strengthening the position of liner shippers, while the average EBITDA margins for terminals are likely to stay stable for the next decade, ranging between 20% and 40% (Davidson, 2011).

As underlined by Davidson (2011), one of the typical traits of the container industry to have survived the crisis is the excessive focus on the short term and a somewhat overoptimistic attitude towards future growth. A very large share of Hamburg's, Bremerhaven's and Antwerp's throughput loss came as a result of the natural constraints generated by their upstream position. As pointed out by Davidson, the size of the largest ship employed in 2000 was 7,060 TEU; by contrast, in 2010 the largest available container vessel could carry 14,770 TEU and forecasts for 2020 see ships of up to 20,000 TEU being possibly employed. As increasing vessels size means increasing draft, this will put a strain on affirmed container ports such as above-mentioned ones. Having to rely on rather frequent dredging of the riverbeds which guarantee access to their docks seems not a viable option, given the amount of criticism which current dredging works have been attracting, such as in the case of the Western Scheldt and Elbe deepening. As the current deepening works will guarantee depths at low tide unable to allow the largest vessels being currently built in, as well as having done relatively little to lengthen the navigation windows at high tide for such vessels, the future of such ports as international gateway ports seems in jeopardy.

Yet, both ports in Hamburg and Antwerp still see their inland position as a point of strength. Antwerp's rather inland position does mean a considerable diversion for every vessel calling at its port; however, this could be also seen as an advantage, as it places the port in a closer position to the production centers. Indeed, as seen in Antwerp's sub-section, much investment has come in the form of improvements to the port's hinterland connectivity. As rightly noted by Notteboom (2007), the creation of intermodal corridors to extend a port's reach in the hinterland requires much more effort and investment than in the case of the formation of logistic "islands" through inland terminals which would allow them to expand their hinterland and compete more effectively. Antwerp and Rotterdam have, thus far, shown interest in such strategies, reliant as they are on road haul, with all the negative issues arising from such dependence. In the case of Antwerp, inland terminals would allow it to contend more effectively a hinterland largely shared with Rotterdam (Notteboom, 2007); in the case of Rotterdam, inland terminals mean the possibility of partly bypassing the congested Dutch road network and, as the interest for the river terminal of Duisburg shows, an attempt to capture the German industrial core.

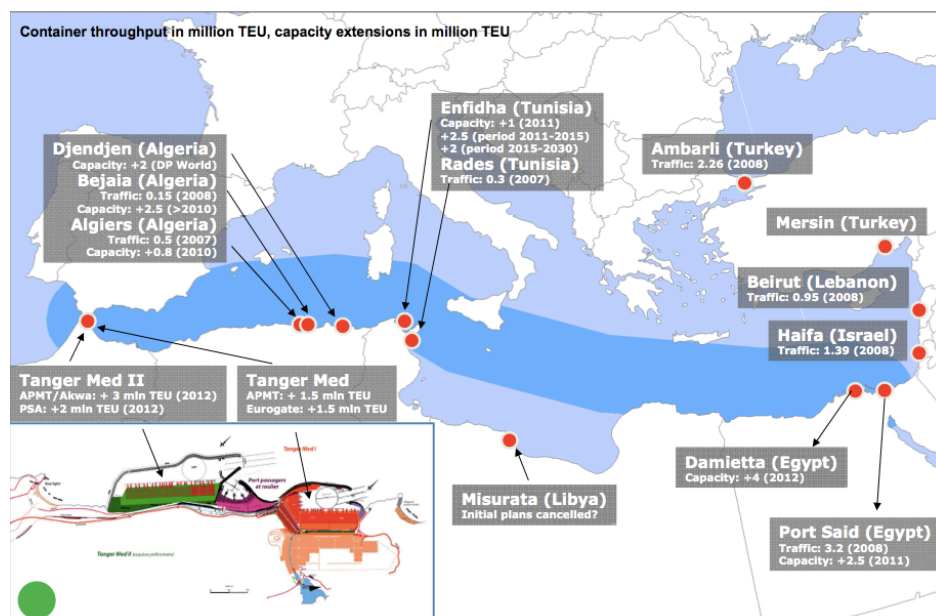
Such strategies are largely made possible by the position of Antwerp and Rotterdam on the greater Scheldt-Meuse-Rhine river network, which has allowed the two ports to move a significant share of their container traffic to hinterland destinations to barges, although the dominance of trucked traffic still remains intact (Notteboom, 2007). On the other hand, Hamburg has based its growth up till the crisis (and its recovery) on the outstanding German rail network, which allows for easy, fast and frequent connections with the whole German territory, further extending the port's reach to the Alpine region and Northern Italy (Notteboom, 2007).

Improved hinterland connections are indeed seen, nowadays, as a prerequisite for continuous growth. Valencia, the only relevant container port on the Mediterranean northern shore to grow throughout the crisis, has been investing in reducing its dependence on unstable transshipment flows by, as previously seen, adding rail links to the Spanish hinterland and by betting on the new inland logistic hub of Zaragoza. However, the current decline of Southern European economies such as the Spanish and Italian one, makes a transformation of their main container ports into regional gateways unlikely in the short term, meaning that reliance on transshipment is there to stay for the time being.

Hence, on one hand, the situation in the Hamburg-Antwerp range during the crisis has been the consequence of the derived demand for transport: falling trade has meant lower container flows; in turn, this accelerated liner shippers' adoption of larger vessels and caused them to strive even more efficiency, thus catching Antwerp, Bremerhaven and Hamburg largely unprepared to keep up with their customer's new strategies, thus explaining Rotterdam's *exploit* during the crisis. The challenges posed by increasing draft requirements will likely be the key to success in this area during the coming years.

On the other hand, the rather bad performance of most Mediterranean container ports is to be seen as the consequence of overcapacity and overreliance on transshipment flows. In turn, the rapid creation or commission of new capacity in the Mediterranean Sea can be explained as a result of the wave of financialization, which hit the container business during the booming years of the last decade, with the detachment from the reality that followed suit. The advent of venture capital and financial

speculation has further moved away the business from long-term planning, as terminal operators found themselves striving for quarterly results to present to their shareholders and dividends to distribute (Rodrigue et al, 2011). The cheap cost of financing during the pre-crisis, the gross misunderstanding of the strong business cycle influenced nature of the container business wherever the financial sector intervened, brought large investments in super-structure and additional capacity at terminals, as return on such investments was considered a safe bet to be cashed in in the very short term (Rodrigue et al, 2011). As investing in container terminals became increasingly popular, generating the so-called “herd-behaviour” (Rodrigue, et al, 2011) and adding increasingly to the capital available and thus generating a surplus that translated in excess capacity when trade collapsed. In the case of the Mediterranean, this is evident when the large pre-crisis expansion plans are considered. Knowledge and understanding of the container business seem to have lacked altogether during the boom years, as capital piled up in the shape of grand expansion plans in an area, the Mediterranean Basin, decisively reliant on notoriously unreliable transshipment traffic. Hence, expansion plans in ports such as Barcelona and Algeciras which have not met the current (and likely future) demand for capacity, generating, especially in the case of Barcelona, increasing worries for further excess capacity in the Iberian Peninsula. The situation is likely to get worse in terms of capacity as new entrants are to follow Tanger Med in providing low labor costs and high efficiency in the next years. The table below (Notteboom & Rodrigue, 2011) shows the current expansion plans on the Southern shore of the Mediterranean.



In Algeria, the ports of Djendjen, Bejaia and Algiers (the first one's container terminal being run by Dubai-based DP World) will shortly be able to offer a combined capacity of 5.3m TEU; in Tunisia, dramatic political changes do not seem to have permanently derailed the project for a large container port in Enfidha, whose capacity is set to reach 5.5m TEU between the 2011 and 2030; in Egypt, Damietta and West Port Said, also seemingly untouched by the local political changes, are set to add respectively 4m TEU and 2.5m TEU between 2011 and 2012 (Notteboom & Rodrigue, 2011). Therefore, as the transshipped share of the world container throughput is likely to remain stable, as forecasted by Drewry's Davidson (2011), any fast recovery for struggling container ports on the northern shore of the Mediterranean Sea is currently unlikely.

Chapter 5:

5.1 Conclusions:

As demand for transportation is, by definition, derived, the global fall in trade volumes has shown its consequences on container terminals worldwide. The Mediterranean Basin and the Hamburg-Antwerp range have been no exception, although the general fall in throughput has unleashed its effects in different fashions in the two regions.

In the Mediterranean Basin, the crisis has hit the hardest those ports which had engaged in pre-crisis expansion programs, focusing on increasing their capacity without necessarily increasing their efficiency. It is therefore straightforward to agree with Rodrigue, Notteboom and Pallis (2011) that the wave of capacity enhancements, which began before the financial crisis, was not based on proper knowledge of the market conditions and of its dynamics but, rather, it was the consequence of the financialization of the sector, as container terminals came to be seen as a safe haven for investments whose return was expected in the short term, thus infecting the container business with a short-sighted approach typical of the financial industry. Faced with the emergence of North-African competitors such as Port Said and Port Said, able to offer similar capacity but with much higher efficiency and much lower costs, the pre-crisis dominance of Southern European transshipment-focused container ports is likely to have come to an end, for the time being, as only deep changes in the local labor laws, as well as lower costs, would be able to attract again the necessary volumes to bring their increased capacity to nearly full utilization, as world trade picks up again.

In the Hamburg-Antwerp range, the performance of Rotterdam, as compared with its direct competitors in the range, is particularly significant when taking into account the current developments in liner shipping. The increased speed at which global carriers have been adopting larger and larger vessels has ended up deeply penalizing upstream ports such as Hamburg, Bremerhaven and Antwerp because of their tidal and draft restriction, as Rotterdam's characteristic accessibility rendered it as attractive as ever in times of crisis for large container vessels on the Asia-Europe trade, thus subtracting

traffic to its direct competitors. Since the general trend for larger vessels has been now involving short-sea traffic too, feeder traffic such as the Baltic one has been largely freed from its previous reliance on nearby German hubs, thus allowing further competition and rendering western ports such as Rotterdam and Antwerp equally attractive. Additionally, the coming years are to witness further battling for more extended hinterlands which more and more overlap each other; as rightly noted by Notteboom (2007) this will involve more and more the development of inland logistic “islands” which will allow ports to increase their inland reach without the huge investments necessary to establish intermodal corridors. However, this thesis finds Rotterdam to be once again advantaged in this battle for prominence in the range. On the one hand, the port of Rotterdam’s expansion on the second Maasvlakte will guarantee further capacity with no tidal or draft restrictions; on the other, Hamburg, Antwerp and Bremerhaven will be faced with the necessity of dredging the riverbeds guaranteeing their accessibility. As such dredging plans have caused widespread concerns in the past, coming to completion only after years of legal or even diplomatic battles, further plans of this kind would likely encounter ferocious resistance, possibly dead-locking such upstream ports in their current condition and thus condemning them to a regional role definitely short of their aspirations.

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