

A REVIEW OF PORT AUTHORITY FUNCTIONS: TOWARDS A RENAISSANCE?

Patrick VERHOEVEN¹

Secretary General - European Sea Ports Organisation (ESPO)

Treurenberg 6 – B-1000 Brussel

Tel + 32 2 736 34 63 – Fax + 32 2 736 63 25

Email: pverhoeven@espo.be – Web: www.espo.be

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Abstract

The ever-changing environment in which ports operate has put strong pressure on the traditional role of public port authorities. Market developments created the need for ports to be part of wider logistics networks and to provide value-added services. Powerful private players which are organised on a global scale, such as carriers, terminal operators and logistics service providers, struggle to gain control over port-oriented logistics networks whereas port authorities very often seem to remain local spectators with limited influence on these market-driven processes. Port authorities are on the other hand the focal point of criticism from societal interests such as local government, ngo's and citizens for negative externalities related to port development and port operations even if these do not always fall within their direct responsibility. In 1990 Richard Goss questioned, al be it rather rhetorically, the need to have public sector port authorities. Since then scholars have demonstrated a true renaissance or renewed interest in the role of port authorities, recommending repositioning and the development of new strategies. Parallel to the concept of the “renaissance man”, which is defined as a person who is well educated and excels in a wide variety of subjects or fields, a kind of “renaissance port authority” is emerging from literature which may take on a variety of facilitating and even entrepreneurial tasks. The purpose of this paper is to develop a conceptual framework for the various options at hand, based on an extensive literature review of port authority functions. The framework also identifies the principal governance-related factors that may in practice enable or prevent port authorities, particularly in Europe, from assuming the renaissance ambitions advocated by scholars. The hypotheses developed in this paper form the basis of a wider empirical research agenda into reform of port governance in Europe.

Subject: logistics and port economics

Keywords: port authorities, port governance, port strategies, port reform

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1. INTRODUCTION

The term “renaissance” generally refers to a renewal of interest in a particular subject matter, usually in the field of arts and literature, leading to novel insights and ideas. It is derived from the period in European history between the 14th and 17th century when the art, literature and ideas of ancient Greece and Rome were rediscovered and widely studied again, causing a rebirth of activity in these fields. The Renaissance originally flourished in Italian city-states and it was through powerful maritime republics as Genoa and Venice that it found its way throughout Europe (Juynboll 1947). The cultural heyday of the European Renaissance indeed coincided with the economic dominance of port cities in early modern Europe. Port cities such as the already quoted Genoa and Venice but also Bruges and Antwerp and, towards the 17th century, Amsterdam and London, were both centres of maritime trade and culture (Burke 1993).

A comprehensive study about how ports in early modern Europe were managed is yet to be written but research so far suggests a strong public influence (e.g. Bekemans and Beckwith 1996; Konvitz 1978; Van Hooydonk 1996; Vigarié 1975). Looking at more recent European history, Suykens (1995) identified three geographically-based traditions of port management and ownership: the Hanseatic tradition of local, and usually municipal, management which is typical for North Western Europe and Scandinavia, the Latin tradition with a strong influence of central government which can be found in France and Southern Europe and the Anglo-Saxon tradition which used to be dominated by the trust port, an independent form of public ownership which was exported all over the British Empire (see Goss 1979). With the port privatisation schemes introduced under the government of Margaret Thatcher, the UK became the only European country with its leading ports being fully privatised, thus adding a new dimension to the Anglo-Saxon tradition.

Most governments, either at national or local level, devolved throughout the 20th century the responsibility for port management to a “port authority”, a separate managing body in whatever legal shape or form that ran the port on behalf of government. Although initially the level of autonomy of these port authorities was quite limited - often they were not more than an administrative department of the city or state - their influence and prestige within the port community and political life was considerable and generally accepted (Van Hooydonk 2007). This changed with the advent of containerisation in the 1970s. Globalisation and liberalisation processes increased the power of private players and gradually reduced the role of the port authority. Reform processes, either through commercialisation or corporatisation, often did not succeed in restoring the centre-stage position of the port authority.

In 1990 Richard Goss questioned, al be it rather rhetorically, the need to have public sector port authorities (Goss 1990). Since then scholars have demonstrated a true renaissance or renewed interest in the role of port authorities, recommending repositioning and the development of new strategies. Parallel to the concept of the “renaissance man”, which is defined as a person who is well educated and excels in a

wide variety of subjects or fields, a kind of “renaissance port authority” is emerging from literature which may taken on a variety of facilitating and even entrepreneurial tasks.

This paper will start with a bird's-eye view on the evolution of the port concept, elaborating the operational, spatial and societal dimensions of a contemporary port. The next section will sketch how the role of port authorities has come under multiple pressure from a variety of stakeholders. The main part of the paper consists of a literature review of the traditional landlord, regulator and operator functions of port authorities and the conceptualisation of the “renaissance port authority”. The final section analyses a series of governance-related factors which may enable or inhibit the port authority from pursuing the renaissance ambitions that are advocated through literature. The conceptual framework forms the basis for an empirical research agenda.

The focus of this paper is on larger multi-purpose gateway seaports² which are managed by a publicly-owned port authority.

2. EVOLUTION OF THE PORT CONCEPT

As gateways, seaports have always been sensitive to changes in socio-economic trends. Whereas in the early modern age and well beyond European ports and port-cities were often trend-setters, both in commercial and societal terms, globalisation gradually moved these ports to the receiving end of change. From centre-stage positions they evolved into, admittedly still significant, elements in value-driven logistics chain systems. Containerisation intensified the competitive climate dramatically with larger ports struggling to keep their main-port status. Captive hinterlands diminished and port competitiveness became largely dependent on factors external to the port as such, being influenced by important shifts in the bargaining power of market players which underwent processes of horizontal and vertical integration. On the other hand, post-modern society does no longer grant automatic support to port development, nor does it value the vital contribution of ports to trade and welfare. Port expansion needs are frustrated by ecological concerns, urban development pressure and individualist NIMBY (Not In My Back Yard) attitudes. These market-related and societal trends are interwoven and in many cases public policies either reinforced (e.g. environmental rules) or controlled (e.g. competition rules) them. In Europe, such policies often find their origins at the supra-national level of the European Union. These trends have created a highly uncertain and complex environment for ports and fundamentally changed the port concept.

UNCTAD (1992) has framed the way the port concept evolved throughout the second half of the 20th century into three successive “generations”. This approach has been criticised since ports would evolve continuously rather than in discrete steps and because the composite reality of ports whereby several streams of evolution can be observed simultaneously in one and the same port would be ignored (Beresford *et al.* 2004; Bichou and Gray 2005). Whilst the generation approach indeed cannot pretend to provide more than a series of snapshots, it does provide some useful insights in the evolution of larger multi-purpose gateway ports. To its credit one should further add that it acknowledges that elements of previous generations may still be present in later generations as table 1 illustrates.

Table 1 – UNCTAD generations of ports

A. First generation	Prior to 1950	Sea approach, transfer of goods, temporary storage, delivery.
B. Second generation		Includes A plus industrial and commercial activities which give added value to the goods. The port is a handling and services centre.
C. Third generation	Since 1980	Includes A plus B plus structuring of the port community, plus strengthening links between town and port and between port-users, plus extension of the range of services offered beyond the port boundary, plus an integrated system of data collection and processing. The port has become a logistics platform for trade.
D. Fourth generation	Since 2000	Network of physically separated ports (terminals) linked through common operators or through a common administration.

Source: UNCTAD 1992; 1999

Perhaps rather than the conceptual approach itself, the key features of each generation need to be looked at more critically. For instance, the claim that third generation ports would see strengthened links with cities seems exactly opposite to what is happening in reality. Also the fourth generation port, which would consist of a network of physically separated ports (terminals) linked through common operators or through a common administration (UNCTAD 1999), seems to be interpreted quite differently in literature (e.g. Chlomoudis *et al.* 2003; Marlow and Paixão 2003; Perez-Labajos *et al.* 2004). Fact is that the UNCTAD definition of the fourth generation port is limited mainly to the spatial evolution whereas ports on the verge of the 21st century also went through further changes in operational and societal terms. A fuller, three-dimensional, concept is therefore needed, as illustrated in table 2.

Table 2 – Three-dimensional “fourth generation” multi-purpose gateway port concept

Dimension	Sub-dimension	Key features
Operational	Ship-shore operations	Core port services: cargo-handling (loading, unloading, storage), technical-nautical services and ancillary services. Strong focus on containers.
	Value-added logistics	Shift from core to non-core port activities (various paths possible).
	Industrial activities	Shift from traditional to sustainable industries (e.g. LNG installations, biofuel plants, ...).
Spatial	Terminalisation	Multinational operators develop networks of terminals under corporate logic. Competitive emphasis shifts to terminal level, extending into the supply chain.
	Port-city separation	Loosening of spatial relationship combined with the weakening of economic and societal ties (although first signs of re-integration initiatives

		appear – see societal dimension).
	Regionalisation	Network development beyond the port perimeter, involves co-operation with inland ports and dry ports (load centre development) as well as with other seaports in proximity.
Societal	Ecosystems	Seaport is part of a wider (coastal) ecosystem where it has a variety of environmental interactions with the outside.
	Human factor	Sustainable co-habitation with local communities, focus on avoiding negative (pollution, congestion, ...) and stimulating positive externalities (soft values).

Source: based on Hayuth 2007; Mangan et al. 2007; Notteboom and Rodrigue 2005; Olivier 2005; Theys et al. 2008; Vandermeulen 1996; Van Hooydonk 2007.

It follows from the above that the competitiveness and also the sustainability of a port is not only determined by operational features but depends on a proper integration of all three dimensions. The interaction between these three dimensions may nevertheless generate various forms of conflict which are essentially the result of conflicting dimensions between the stakeholders involved (De Langen 2007). Treating a port as a single unit would indeed lead to partial and even wrong conclusions (Slack 2007). Ports – and by extension – supply chains revolve around actors and organisations (Carbone and Gouvernal 2007) and these have each gone through their own process of evolution. The economic fabric of a port and the various inter-relations between the actors involved has indeed become very complex (Meersman *et al.* 2009). Relevant port-related stakeholders exist at different levels; at the internal level of the firm, and at the external level where a further distinction can be made between economic, societal and public policy stakeholders (Martin and Thomas 2001; Notteboom and Winkelmanns 2002). The actual involvement and management of these stakeholders will vary according to whether day-to-day operations of the port, implementation of port development projects and business plans or long-term strategic planning are concerned (Dooms and Verbeke 2007). Stakeholder management or “cluster governance” raises the principal question about the role of the port authority which has moved from an untouchable centre-stage position to a more vulnerable one which is inter-related with the activities of others (De Langen 2004).

3. ROLE OF PORT AUTHORITIES UNDER PRESSURE?

3.1. Definitions

When using the term “port governance” two levels can be distinguished: the governance of the port and the governance of the port authority. The former corresponds with the external cluster level identified above whereas the latter relates to the internal firm level or “corporate governance” of the port authority (Brooks and Cullinane 2007a; De Langen 2007). A port authority can be defined as the entity which, whether or not in conjunction with other activities, has as its objective under national law or regulation the administration and management of the port infrastructures, and the co-ordination and

control of the activities of the different operators present in the port (European Commission 2001). Most definitions underline the landlord and regulatory function, although other functions exist as will be elaborated in sections 4 and 5. The term ‘port authority’ implies a specific, i.e. public, form of port management, but it is used generally as the generic term for the body with statutory responsibilities that manages a port’s water and land-side domain (De Monie 2004). Regardless of the ownership and the managerial tradition to which they belong, port authorities are entities of a hybrid nature which contain elements of both public and private law. On the one hand they are bestowed with prerogatives of administrative action and in some cases even criminal law competence, at the same time they are undertakings which compete with each other (Van Hooydonk 1996). This corresponds with the fact that seaports as such possess characteristics of public utilities on the one hand and of private enterprise on the other (Meersman and Van de Voorde 2002).

3.2. Multiple stakeholder pressure

The uncertain and dynamic environment in which ports operate has put multi-directional pressure on port authorities to satisfy the needs and expectations of the various stakeholders concerned (Van de Voorde and Winkelmanns 2002). Three basic lines of pressure can be identified. First is the pressure of market players, such as carriers, terminal operators and logistics operators. Analysing the objectives and tools of port authorities, Suykens and Van de Voorde (1998) recognised the shift in the balance of power to the advantage of these actors and the need for port authorities to avoid being pushed out altogether. Market actors see the port authority at best as an assistant in achieving their own objectives, which are essentially profit-oriented (Heaver *et al.* 2000), but often also as a bureaucratic nuisance. It is clear that market actors prefer a “hands-free” approach without too much interference from the port authority (ESPO 2006; ESPO 2008). There are nuances between for instance the position of shipowners and terminal operators whereby the former may call on the port authority to avoid monopolistic behaviour of the latter. But with the growing vertical integration process and emergence of hybrid terminal operators these differences get blurred. The above-mentioned “terminalisation” of ports threatens to reduce the role of port authorities further to that of local spectators. The second line of pressure comes from government. As mentioned before, governments have in most cases devolved the responsibility for port management to port authorities and have granted them varying degrees of managerial autonomy whilst retaining control through sole or majority shareholder positions. At the same time, governments value less the strategic significance of seaports for the economy of a country or a region (Meersman and Van de Voorde 2002) which for instance goes hand in hand with reduced government spending in ports. Regional differences in government objectives may exist but the power balance with government is in any case the most important enabling or inhibiting factor for a renaissance of port authorities as will be seen in section 6.1. The final line of pressure comes from societal interest groups such as ngo’s, local communities and individual citizens which see the port authority as the focal point for complaints about negative externalities generated by the port, even if these are not directly the responsibility of the port authority (De Monie 2004).

3.3. Existential options for the future of the port authority

Port authorities have generally found it hard to keep up with the pace of change. The discussion thereby often focuses on the essential question whether the role of port management should be restricted to correctly enforcing regulation or whether port management should more actively participate as a market player (Meersman and Van de Voorde 2002). Heaver *et al.* (2000) identify three possible options: to become fully-fledged partners in the logistics chain, to have a role restricted to supporting activities (safety, land-use and concession policy) or to disappear from the scene entirely. Most scholars seem to advocate a combination of the first and second option, whereby port authorities focus on a mediating and coordinating role between stakeholders, acting as facilitators and catalysts in logistics networks, creating core competencies and activities of scope and pursuing strategic activities beyond traditional landlord functions (Chlomoudis *et al.* 2003; Comtois and Slack 2003; Notteboom and Winkelmanns 2001a; Van der Lugt and De Langen 2007). Very few authors predict extinction, although several have pointed at the inherent limitations that port authorities have (e.g. Notteboom and Rodrigue 2007; Slack 2007) or at the risks of becoming too entrepreneurial (e.g. De Monie 2004). The next section will provide a fuller analysis, based on how the traditional functions of port authorities evolve in the light of contemporary challenges. On the basis of this analysis, section five will then put the available options for a renaissance of the port authority into a conceptual perspective.

4. REVIEW OF TRADITIONAL PORT AUTHORITY FUNCTIONS

Port authorities have traditionally assumed three typical functions, that of landlord, regulator and operator (Baird 1995; Baltazar and Brooks 2001). These broadly correspond with the legal status of port authorities (Van Hooydonk 2003). Varieties on this classification exist (e.g. Stevens 1997) but these can be easily linked to the three main categories. This section provides a synopsis of how literature has viewed the evolution of these traditional functions in the light of socio-economic changes and strategic challenges.

4.1. Landlord function

Irrespective of whether the port authority actually owns the port land or manages the land on behalf of national or local government, the landlord function consists of a number of common elements, i.e. the management, maintenance and development of the port estate, the provision of infrastructure and facilities as well as the conception and implementation of policies and development strategies linked to the exploitation of the estate (Baird 2000; Baltazar and Brooks 2001; Van Hooydonk 2003). The landlord function can be considered as the principal function of contemporary port authorities, also when seen from the value chain perspective (Dooms and Verbeke 2007).

The landlord function has undergone substantial changes. Three influencing factors stand out. First is the competitive pressure to invest in infrastructure. Already in 1993 Slack noted that containerisation, which became the hallmark of respectability for any port of commercial significance, turned investment policy into somewhat of a lottery (Slack 1993). Port authorities, influenced by market forces in a deregulated environment, are pushed to take investment decisions in infrastructure which, due to the footloose nature of port users, are often of a speculative nature (Comtois and Slack 2003). Too often the belief prevails that the best workable strategy to defeat competitors is building highly new efficient terminals (Notteboom 2007a). Second factor is the financial pressure. Port authorities increasingly have to find own sources of funding or engage in partnerships with the private sector to finance investment projects since governments curb their financial support. Third is the competition for land-use, which is essentially driven by ecological and societal motives and influenced by the fact that the negative externalities of port development projects mainly reflect on the local level whereas the benefits often extend far beyond the port-city perimeter (Notteboom and Winkelmanns 2001a).

Literature has recommended a variety of strategic options to deal with the challenge of competitive pressure on investments (Bichou and Gray 2005; Jongman 1994; Meersman *et al.* 2009; Notteboom 2007; Notteboom and Winkelmanns 2001a; Slack 1993; Slack 2007; Slack *et al.* 1996), financial pressure (De Langen and Van der Lugt 2007; Vining and Boardman 2008) and the competition for land use (Comtois and Slack 2003; Doods and Verbeke 2007). It is not the intention to thoroughly evaluate or rank these according to importance but to give merely an indication of the varied spectrum recommended by scholars. The most significant strategic options are summarised in table 3.

Table 3 – Landlord function of port authorities: challenges and strategic response

Challenges	Strategic response options
Competitive pressure investments	Develop dedicated infrastructure to bind carriers Active promotion and marketing policy Develop niches (may include stepping out of the container rat race) Develop variety in service providers / customers Create value and facilitate operators to bind footloose customers Cluster commodity flows Integrate port in business relationships that shape supply chains
Financial pressure investments	Commercial policy regarding port dues and concession fees Generate income from non-core activities Develop public-private partnerships
Competition for land use	Active and integrated real estate management policy which incorporates environmental and urban development objectives

Source: based on Bichou and Gray 2005; Comtois and Slack 2003, De Langen and Van der Lugt 2007; Doods and Verbeke 2007; Jongman 1994; Meersman et al. 2009; Notteboom 2007; Notteboom and Winkelmanns 2001; Slack 1993; Slack 2007; Slack et al. 1996; Vining and Boardman 2008

4.2. Regulator function

The regulator function is somehow contained in the term “port authority” itself and combines a mixture of duties and responsibilities which can generally be referred to as controlling, surveillance and policing functions. These essentially relate to ensuring safety and security of ship and cargo operations within the port as well as enforcing applicable laws and regulations in these and other fields such as environmental protection and labour regulations (Baird 2000; Baltazar and Brooks 2001; De Monie 2004; Van Hooydonk 2003). In some cases port authorities will develop their own regulations in these fields and employ their own police force to exert control (Knatz 2008).

The increased focus on negative externalities of port operations has reinforced the regulator function of port authorities, in particular where it concerns environmental pollution surveillance, dangerous cargo control and security, a dimension which gained considerable importance since 9/11. Some authors extend the regulator role to controlling the correct implementation of concession agreements with private service providers (e.g. De Monie and Peeters 2006). Although it cannot be denied that this involves regulatory aspects, it is felt that it fits more appropriately with the operator function and will therefore be covered in section 4.3.

From the three traditional port authority functions, the regulator function seems the one which is least under pressure since it is less likely to be assumed by the private sector (Baird 2000). However, it should be noted that in many cases the regulatory role is not only performed by the port authority, but often in co-operation with government agencies. This co-operation may be necessary also to cover the costs related to the regulator function, which may only marginally be covered by port dues (De Monie 2004). Regional and national government may be inclined to take over the regulator function to avoid conflicts of interest, especially if port authorities would assume a more entrepreneurial landlord and operator role and also within the context of regionalisation processes that would stretch beyond the port perimeter (see further section 5).

4.3. Operator function

The operator function traditionally covers the provision of port services which can be broadly grouped in three categories: the physical transfer of goods and passengers between sea and land, the provision of technical-nautical services (pilotage, towage and mooring) and a range of other, ancillary, services.

The biggest change in most of the larger European ports is no doubt that privatisation processes have almost completely brought cargo handling services in the hands of private operators with the port authority acting only as service provider “of the last resort” or offering specialised services (e.g. crane service for heavy lifts). Some authors believe that this process is irreversible (De Monie 2004) and research so far confirms that the larger ports in Europe and indeed worldwide confer to the so-called “landlord port” model or are evolving in that direction (Baird 2002; Peters 2001; Verhoeven 2006). At the same time it

must be recognised that the landlord port model hides in many cases a wider diversity and that it is not always possible to classify ports precisely (Brooks and Cullinane 2007b). Further empirical research is therefore necessary to validate this thesis. For the time being it can however be concluded that the operator function of a port authority with regard to cargo handling is refocusing on landlord and regulatory aspects. Several authors have in this context highlighted the increased power of global terminal operators – that are of various background and nature – which makes it difficult for port authorities to determine their own destinies, jeopardises their independence in making strategic choices and decreases the coherence of local port communities (De Monie and Peeters 2006; Everett 2008; Hayuth 2007; Martin and Thomas 2001; Notteboom 2007; Olivier and Parola 2007; Slack and Frémont 2005). Literature confirms that the intelligent use, including active control and supervision, of concessions³ is the best strategic option for port authorities to deal with this challenge, allowing them to stimulate intra-port competition and market contestability as well as sustainable behaviour of terminal operators (De Monie 2004; Notteboom 2007b; Notteboom and Verhoeven 2009; Pallis *et al.* 2008). Some voices however do not exclude a more entrepreneurial role for the port authority as operator, e.g. by taking strategic shareholder positions in global terminal operators, and question the irreversibility of the landlord concept (Delwaide 2007). Others warn for the negative implications of such an approach, especially where it concerns jeopardising the impartiality of the port authority (De Monie 2004).

The landscape of technical-nautical services shows a very different picture. The general economic interest nature of these services explains why these are very often still provided by public entities, in casu port authorities themselves (ESPO 2005). Elements of market contestability and transparency however also apply here (European Commission 2007) and port authorities would need to take care in considering the operation of these services as separate business units.

Ancillary services can be defined rather diversely. These could be in the public area, such as waste handling, provision of shore power for vessels etc., or in the more commercial sphere, such as warehousing and logistics services. The latter could extend into the field of services which are not core to the port itself. As not all ports follow the same path in developing logistics activities (Theys *et al.* 2008), the same would logically apply to the entrepreneurial involvement of the port authority in the provision of these services.

Summarised, it can be said that the basic option for the operator function of the port authority in all service categories is whether or not to provide the service itself. Taking into account the complex mechanisms underlying the relationships between the most important port actors (Meersman *et al.* 2009), it seems clear that for cargo-handling outsourcing to private operators is the main trend which is also generally recommended by most scholars. The role of the port authority then shifts to being a “leader in dissatisfaction” rather than a defender of status quo. It means that the port authority should seek out areas for improvement and not wait for complaints of shippers and shipping lines (Heaver 1995). It requires port authorities to take a closer interest in the business activities of service providers (Goss 1990).

5. CONCEPT OF A RENAISSANCE PORT AUTHORITY

Taking into account the reviewed fourth generation port concept developed in section 2, sections 3 and 4 clearly identified a renaissance, i.e. a renewed interest of scholars in the role of port authorities. Economic literature has identified new views on traditional port authority functions within the challenging port landscape. The recent establishment of the Port Performance Research Network (PPRN) is a prime example of the broad academic interest in the issue. The renewed attention for the role of port authorities is also clear from the agenda of professional port associations such as the International Association of Ports and Harbours (IAPH), the American Association of Port Authorities (AAPA) and the European Sea Ports Organisation (ESPO). The latter has for instance held regular conferences and seminars on port governance issues since 2000 and issued several publications in this field. In 2008 a Port Governance Committee was established to exchange know-how and expertise among European port authorities. Finally, on-going reform processes in a number of European countries generated public debate on – and thus renewed interest in – the role of port authorities (Verhoeven 2006).

Drawing a parallel to the earlier defined concept of the “renaissance man”, a fourth generation port may moreover need a “renaissance port authority”. In its note on the fourth generation port, UNCTAD itself however gives a rather traditional view on the role of the port authority (UNCTAD 1999). This section therefore aims to further explore the possible features of a renaissance or fourth generation port authority by summarising the re-orientation of the traditional port authority functions analysed above, adding a new function and a new dimension. This will lead to a conceptual matrix and hypothetical typology of port authorities.

5.1. Transition of traditional and new functions

From section 4, it can be concluded that the traditional functions of port authorities have gone through substantial change. In the larger multipurpose gateway ports the actual operator function has, at least where it concerns cargo handling services, been shifted towards aspects of the landlord and regulator functions. The main feature of the operator role now consists of the granting and surveillance of concessions. The landlord and regulator function have become the two main functions and thus correspond to the general definition of the landlord port model. Both functions are however to be fulfilled in a much more “agile” (Paixão and Marlow 2003) and “smart” (Chlomoudis *et al.* 2003) way.

Meanwhile a new functional role has emerged which can best be referred to as that of the “community” or “cluster” manager, a functional concept which was mainly developed by De Langen (2004; 2007). This new function is intrinsically linked to the changing nature of port communities and stakeholders and has both an economic and societal dimension that corresponds with the stakeholder typology identified in section 3.2. The economic dimension is shaped by the evolution of economic actors. As long as these were locally organised, and therefore anchored and committed to the well-being of the port, the role of the port authority could be confined to its traditional functions and was pretty evident and straightforward. The globalisation process, marked by a power struggle between carriers, terminal operators and logistics operators, has however fundamentally changed this. Large global firms have only limited ties with the port which reduces their efforts to attract cargo in the hinterland of the port. They furthermore lack affinity with neighbouring cities and local communities (De Langen and Chouly 2004; Slack 2007).

Cultural differences may moreover cause frictions between global terminal operators and local actors (Slack 2007). The societal dimension is marked by conflicting interests with societal stakeholders. De Langen (2007) identifies a number of typical conflict situations that may exist in relation to port development, including environmental protection, urban development, labour conditions, resident interests and overall economic development.

The community manager function is essentially a coordinating function meant to solve collective action problems in and outside the port area, such as hinterland bottlenecks, training and education, ICT, marketing and promotion as well as innovation and internationalisation (economic dimension) (De Langen and Chouly 2004; Van der Horst and De Langen 2007). It also aims to shape accommodation between conflicting interests in order to defend the “license to operate” of the port (societal dimension) (De Langen 2007; De Langen and Van der Lugt 2007). The economic and societal dimension can meet, for instance in case of port authorities inciting private operators to engage in sustainable behaviour (Comtois and Slack 2007), thus linking up with the landlord and regulator functions. Another example is where the port authority acts as lobbyist on behalf of the port community. Comtois and Slack (2003) even claim that political representation has become more important than marketing and promotion since there are only a few actors left which control the bulk of the market. They recommend that the lobbying function should be carried out at all levels, from local to international. Chlomoudis et al. (2003) confirm the community manager role as the systemic co-ordinator that advances and maintains good relationships between all those involved in the achievement of a plurality of targets, thus creating a port culture of trust.

Although other bodies, such as private sector associations, may also fulfil the community manager function, it is the port authority which in many cases is best placed to assume this role (De Langen 2007).

5.2. Extending port authority functions beyond the local jurisdiction

The four basic functions identified have so far mainly been analysed from the local geographical and functional level of the port itself, which constitutes the actual “jurisdiction” of the port authority. Comtois and Slack (2003) identified two levels beyond this local level: the regional level, where the port authority acts as agent and coordinator in logistical development, creating regional port networks and integrating environmental plans in coastal zones, and the global level, where the port authority commercialises its expertise in logistics services and environmental management worldwide. Focusing on strategies related to the landlord function, Van der Lugt and De Langen (2007) distinguish between non-own port related activities and own port related activities. The latter category divides into operational and supporting activities whereby the former can be limited to the port boundaries or extend into the hinterland. Notteboom and Winkelmans (2001a) qualify the development of strategic relationships with other transport nodes, including overseas ports, neighbouring ports and/or inland ports, as probably the most important role for port authorities in the new millennium. Estache and Trujillo (2009) even predict that individual port authorities may in future merge into regional transport agencies.

It is indeed the regional-hinterland level which has attracted most interest from scholars. Motivations for extending into the hinterland relate to the fact that ports are competing as parts of complete transport and logistics chains. Port authorities have an interest in the hinterland level both from the overall perspective of port performance and port authority revenue (Van der Lugt and De Langen 2007). Also sustainability arguments apply, such as the avoiding of congestion and better use of existing port capacities. Port authorities can develop an entrepreneurial role in this respect by making direct investments in the hinterland or play a facilitating role through the development of strategic partnerships with inland ports, dry ports and co-operation or “co-opetition” with other, neighbouring, seaports (Comtois and Slack 2003; Estache and Trujillo 2009; Notteboom and Winkelmanns 2001a; Notteboom and Rodrigue 2005; Song 2003).

5.3. Renaissance matrix and typology

From the previous sections one can conclude that a port authority has four basic functions which can be exercised at a local, regional and/or global level. These functions and levels can be brought together in a renaissance matrix as illustrated in table 4.

Table 4 – Port authority renaissance matrix

	Local	Regional	Global
Landlord			
Regulator			
Operator			
Community manager			

Several combinations are possible within this matrix but revisiting the above-mentioned existential options identified by Heaver et al. (2000) one can derive a hypothetical typology which consists of three basic types: the “conservator”, the “facilitator” and the “entrepreneur”. A conservator port authority concentrates on being a good housekeeper and essentially sticks to a passive and mechanistic implementation of the three traditional port authority functions at local level. Because of this low-profile attitude conservator port authorities may run the highest risk of being marginalised and even becoming extinct in the future. A “facilitator” port authority profiles itself as a mediator and matchmaker between economic and societal interests, hence the well-developed community manager function. Facilitator port authorities also look beyond the port perimeter and try to engage in strategic regional partnerships. It is the type of port authority which so far seems to find most support in literature for the fine balance it represents. The “entrepreneur” port authority would be the fullest renaissance port authority by combining the main features of the facilitator with a more outspoken commercial attitude as investor, service provider and consultant on all three geographical levels. Because of this ambitious profile, it is also the one which runs the highest risk of encountering problems caused by conflicts between the various functional levels.

The basic features of each hypothetical type are illustrated in table 5.

Table 5 – Hypothetical typology of port authorities

TYPE	Conservator	Facilitator	Entrepreneur
FUNCTION			
Landlord	<p>Passive real estate “manager”:</p> <ul style="list-style-type: none"> - continuity and maintenance - development mainly left to others (government / private sector) - financial revenue from real estate on “tariff” basis 	<p>Active real estate “broker”:</p> <ul style="list-style-type: none"> - continuity, maintenance and improvement - development broker and co-investor - includes urban and environmental real estate brokerage - financial revenue from real estate on commercial basis <p>Mediator in commercial B2B relations between service providers and port customers</p> <p>Strategic partnerships with inland ports, dry ports and other seaports</p>	<p>Active real estate “developer”:</p> <ul style="list-style-type: none"> - continuity, maintenance and improvement - direct investor - includes urban and environmental real estate development - financial revenue from real estate on commercial basis - financial revenue from non-core activities <p>Direct commercial B2B negotiations with port customers – active pursuit of market niches</p> <p>Direct investments in inland ports, dry ports and other seaports</p>
Regulator	<p>Passive application and enforcement of rules and regulations mainly set by other agencies</p> <p>Financial revenue from regulator role on “tariff” basis</p>	<p>Active application and enforcement of rules and regulations through co-operation with local, regional and national regulatory agencies + setting of own rules and regulations</p> <p>Provide assistance to port community to comply with rules and regulations</p> <p>Financial revenue from regulator role on “tariff” basis with differential charging options for sustainability reasons</p>	<p>Idem facilitator</p> <p>Idem facilitator + selling expertise and tools outside the port (on a regional and global scale)</p> <p>Financial revenue from regulator role on commercial basis</p>

Operator	Mechanistic application of concession policy (license-issuing window)	Dynamic use of concession policy, in combination with real estate broker role “Leader in dissatisfaction” as regards performance of private port services providers Provide services of general economic interest and specialised commercial services.	Dynamic use of concession policy, in combination with real estate development role Shareholder in private port service providers Provide services of general economic interest as well as commercial services. Provide services in other ports
Community manager	Not actively developed	Economic dimension: - solve hinterland bottlenecks - provide training and education - provide ICT services - promotion - lobbying Societal dimension: - accommodate conflicting interests - lobbying - promote positive externalities	Idem facilitator type but economic dimension with more direct commercial involvement
GEO-DIMENSION	Local	Local + Regional	Local + Regional + Global

----- *DEGREE OF PORT AUTHORITY RENAISSANCE* ----- ?

6. GOVERNANCE FACTORS INFLUENCING PORT AUTHORITY RENAISSANCE

The previous section has demonstrated that a “renaissance port authority”, i.e. a port authority which takes on a multitude of facilitating and entrepreneurial responsibilities, reaching beyond the port perimeter, may exist in theory. The main question is now whether this renaissance port authority can also be found in reality. To complete the conceptual framework developed so far for empirical validation, this final section will

explore a number of governance-related factors which are believed to influence the extent to which a port authority will be a mere conservator or will be able to take on facilitating and entrepreneurial responsibilities.

It should be recognised that governance factors play an important role in the performance of ports but these are certainly not the only, and perhaps not even the most important, elements. Baltazar and Brooks (2001; 2007) suggest that the performance of a port depends on the “fit” between the governance model, the environment in which the port operates and the port’s strategy and objectives. Measuring to what extent these various elements contribute to the fit and therefore the performance of the port as a whole however seems a difficult exercise.

Be that as it may, there is no doubt that governance factors at the corporate level determine to a large extent the performance of the port authority itself. Port authorities may even have more to fear from (governance) policy than from environmental factors such as the strategies of shipping lines (Heaver 1995). Four essential governance factors can be identified; two formal and two informal ones. The two formal factors consist of the legal and statutory framework on the one hand and the financial capability on the other. The informal factors relate to the balance of power with government, which is in fact an environmental factor, and the management culture that reigns within the port authority. It should be noted that these four factors are strongly interrelated. The power balance with government will influence the legal and statutory framework and the financial capability of the port authority and determine the room its management has to pursue and stimulate a pro-active culture. Therefore the power balance is discussed first.

6.1. Balance of power with government

Whereas port authorities may have valid bottom-up reasons to move up in the renaissance matrix, this is often not the objective desired by the entities that usually own and control them, i.e. government agencies, at whichever level these exercise their influence. Although the distinction between the above-mentioned Hanseatic, Latin and Anglo-Saxon traditions is gradually fading due to several influences and even if processes of corporatisation and commercialisation have increased the autonomy of port authorities, public ownership and influence in continental European port authorities remains dominant (Verhoeven 2006).

Although public ownership of port authorities does not have to be a constraint for efficient behaviour (Goss 1990; Notteboom and Winkelmanns 2001b), it may generally be an inhibiting factor to pursue entrepreneurial strategies given the potential conflict with the regulatory function (Heaver *et al.* 2000; Slack 1993). The level of the public ownership (i.e. national versus municipal) could furthermore have an influence on the quality of conflict accommodation through stakeholder management (De Langen 2007) and the satisfaction of the needs of the port (Delwaide 2007). The inter-relation with government would also influence the extent to which hinterland-oriented strategies beyond the port perimeter can be developed (Notteboom and Rodrigue 2007).

The balance of power between government and port authorities translates itself in conflicting objectives (Suykens and Van de Voorde 1998). It can be assessed through

formal governance indicators such as the composition of the board of directors of port authorities, nomination procedures for top management, strategic mission statements etc. but more in-depth insights can be obtained by analysing port reform processes where the different – mostly unstated – objectives between government and port authorities will rise to the surface. Ng and Pallis (2007) point in this respect at the political culture of a country, e.g. an interventionist state political culture versus a business-oriented culture, as an underestimated environmental factor that could affect governance reform processes in particular with regard to the power-sharing between governments of different levels. In countries where a strong central government role has been exercised over ports, port reform programmes have in any case been more substantial (e.g. France, Italy and UK) than in countries with a tradition of local port management (Heaver 1995). Another good test-case lies in the analysis of major port development projects where all potential conflicts with both societal and economic stakeholders can be observed.

It must in any case be recognised that political influence in publicly owned port authorities is difficult to avoid, even if these port authorities have been corporatised (Grosdidier de Matons 1997; Notteboom and Winkelmanns 2001b). Complete absence of political control may even be counterproductive, leading to monopolistic behaviour, preferential treatment of port users, white elephants, wasteful overcapacity etc. (De Matons 1997; De Monie 2004; Heaver 1995; Slack 1993).

6.2. Legal and statutory framework

The legal and statutory framework is an important enabling factor which largely results from the power balance with government. It will address important questions such as the commercial, managerial and financial autonomy of ports, which enables port authorities to move up in the renaissance matrix. The legal framework will further determine the capacity of the port authority to set local rules with regard to environment, safety and security and to provide or control technical-nautical services, provide or control the harbour masters' office and to run a police force. With regard to the landlord role, it will determine whether the port authority owns the land or at least has the ability to acquire, manage and exploit it (Comtois and Slack 2003). It also determines the degree in which port authorities can engage in partnerships with other seaports, inland ports or dry ports.

Experience in several countries has demonstrated that, as a result of incomplete and politically negotiated reform programmes, the legal framework is often a source of considerable confusion and ineffectiveness (Everett 2002; Van Hooydonk 2002). An appropriate legal framework that guarantees an efficiency-oriented approach and avoids politicisation is one of the main challenges for port policy makers (Notteboom and Winkelmanns 2001b).

For ports in Europe, the supra-national level of the European Union needs to be taken into account. This level stands above national and local power struggles between government and port authorities and has the potential of having a more independent, al be it indirect, influence on the legislative framework governing port authorities. EU law and EU policy regarding ports have for instance implicitly favoured landlord-type governance systems. Whereas initiatives such as the original 2001 proposal of the port services' Directive (European Commission 2001), advocated a rather strict landlord role, the Commission's

recent ports policy communication (European Commission 2007) explicitly supports (financially) autonomous port authorities which take responsibility for the strategic development of their ports, stimulate dialogue between all possible stakeholders and pro-actively intervene in market processes to safeguard the general interest of the port (Verhoeven 2009). The Commission would thus join scholars in favouring the facilitator type of port authority.

6.3. Financial capability

If port authorities are to take on a facilitating and, even more so, an entrepreneurial role, for instance as real estate developers, active regulators and investors in regional networks, then financial power comes as a key element. The best possible hinterland connections do indeed require more than simple facilitation; they require huge investments that simple landlord ports can not always provide because they lack the necessary financial means (Delwaide 2007). Closely linked to the statutory framework and, in particular, the degree of autonomy involved, this factor may in practice make the principal difference between a mere conservator position and the realisation of higher ambitions.

Many port authorities in Europe are still depending on government funding for quite an important part of their investments which curbs their autonomy to varying extents. Port authorities would obviously like the best of both worlds, with continued government spending in ports and a high degree of financial autonomy. This may however in the end not be a sustainable position any longer. The traditional distinction made in this respect between general port infrastructure on the one hand which benefits all users and is therefore to be financed by government and commercial infrastructure on the other hand which needs to be financed by the port authority itself, may come under pressure from EU State aid rules (Verhoeven 2009). Also, a commercial and incentive-based pricing policy regarding harbour dues may be contrary to principles of non-discrimination and be bound by stricter rules on, for instance, cross-subsidisation. It must also be recognised that reform programmes aimed at improving the financial performance of ports do not always reach their objective (Pallis and Syriopoulos 2007).

6.4. Management culture

A final factor is the management culture that reigns at the micro-level of the port authority itself and which would enable the intelligent use of port governance tools within a given structural framework. Notteboom and Winkelmanns (2001b) suggest that for management culture to be a success factor for port organisations – in terms of efficiency criteria – the adoption of a market-oriented management system is required, based on clear goals, managerial skills and accountability. A shift would be needed from a political to a technocratic management style. The adopted management culture and managerial heterogeneity are the determining factors for inefficiency in many public port organisations. The authors therefore recommend carrying through the necessary changes in management, even within the existing (formal) structures. The competitive position of a port would not so much be determined by the exploitation system (e.g. landlord or service port) but by the commercial attitude, mentality and entrepreneurial culture

(Notteboom and Winkelmanns 2001a). Comtois and Slack (2003) highlight the need for port management to develop leadership at local and regional level, extending competencies beyond the pure maritime dimension and include competencies and know-how in real estate management, urban management and environmental management. Boschken (1989) applied Miles and Snow's typology of organisations on port managers of the Pacific-Rim ports in the United States to analyse their response to significant environmental change, qualifying them as prospectors, analysers, reactors and defenders. Boschken suggested that port managers should either adopt the "enthusiastic prospector" or "anxious analyser" culture to succeed in an increasingly turbulent environment. This analysis was confirmed by Ircha (1997) for Canadian ports. In particular, the way in which changes within the port authority itself (as a result of reform programmes) are managed are worth investigating further.

7. CONCLUSIONS AND RESEARCH AGENDA

The literature reviewed in this paper has demonstrated a renaissance or renewed academic interest in the role of port authorities, a role which has come under severe and multiple pressures from stakeholders following dramatic socio-economic changes in the port landscape. Scholars have developed recommendations for port authorities revisiting traditional landlord, regulator and operator functions and devising a community manager function and a dimension beyond the local port perimeter. These have been brought together in this paper in a conceptual renaissance matrix on the basis of which a hypothetical typology has been devised. Four governance-related factors have been singled out that may make the difference between a mere conservator role for port authorities and facilitator and entrepreneurial roles which score higher in the renaissance matrix. The power balance with government stands out as a principal factor which influences the legal and statutory framework, the financial capability and the room for a pro-active management culture at the corporate level of the port authority. Special mention has to be made of the supra-national level of the European Union which has the potential of setting a more independent legal and policy framework for port authorities, a potential which up to now has not really seen its full implementation yet.

This paper sets out a conceptual framework for an empirical research agenda. This will be carried through in two steps, first with a broad-ranging investigation into the application of the governance matrix on the main seaports of the European Union and second through a more in-depth case analysis of the influence of the four identified governance factors.

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NOTES

¹ The author has written this article in his own name as part of his Ph.D. research conducted at the University of Antwerp (Faculty of Applied Economics, Department of Transport and Regional Economics). The views expressed in this paper are therefore not necessarily those of ESPO.

² The author is conscious of the role that transshipment ports as well as small and medium-sized gateway ports play in the European port system and the effect they have on the larger multi-purpose gateway ports. The latter however represent the full spectrum of operational, spatial and societal port governance issues and problems that exist and are therefore most suited for in-depth analysis.

³ Concessions are defined broadly here, i.e. any terminal awarding agreement concluded with a public port authority, regardless of whether the agreement is subject to public or private law.