

**IURPD- Working Paper #1**  
**Institute of Urban and Regional Planning and Development**  
**American University of Sharjah**  
**Sharjah, UAE.**

# **Empire along a Creek: Territorial Competition and Dubai Ports**

**Wouter Jacobs**

**-DRAFT-**

**Wouter Jacobs:**

Department of Human Geography and Spatial Planning, Nijmegen School of Management, Radboud University Nijmegen, Thomas van Aquinostraat 3, P.O. Box 9108, 6500 HK Nijmegen, The Netherlands. Tel. 0031(0) 24 3616206, e-mail: [w.jacobs@fm.ru.nl](mailto:w.jacobs@fm.ru.nl)

**Acknowledgements:**

The author would like to thank Amer Moustafa and Rula Sadik of the Institute of Urban and Regional Planning and Development at the American University of Sharjah for facilitating my work and Henrik Stevens of the Rotterdam Maritime Group for the insight information.

# **Empire along a Creek: Territorial Competition and Dubai Ports**

## **Abstract**

*Dubai, a city-state founded along a ten-mile long creek, has received much popular and academic attention over the past few years. This is not surprising, given the enormous growth Dubai has witnessed and the development of some extraordinary projects. This study will contribute to the contemporary knowledge about Dubai, by paying particular attention to the development and governance of its ports. In order to do so, the institutional structure of provision approach will be applied. This case on Dubai Ports provides insights on how entrepreneurial vision in collaboration with strong political leadership, tax incentives and pure luck ensured Dubai Ports' leading competitive position in the Gulf-region during the 1990s. The fact that Dubai and its ports are run by local political elites capable of maintaining control over the Emirate's economy and society, has surely contributed to the ease and speed of implementing the growth agenda. Through the creation of the state-owned Ports Customs & Free Zones Corporation in 2001, Dubai is rapidly expanding its maritime empire across the globe, and provides as such an interesting case of governance of seaports at the beginning of the twenty-first century.*

**Keywords: Dubai, competition, structure of provision, ports**

## 1. Introduction

Ports and harbors have historically played key-roles in the space economy. They have always been the starting point for the exploration of new worlds, centers of international trade and commerce and a safe-haven for ships and peoples. Already in the fifteenth century, the Hanseatic League connected different cities commercially and politically with each other along a transnational network of trade flows. At the beginning of the twenty-first century, ports are still the nodal points in vast logistical chains, but now in a global integrating economy. Technological and political-economic developments such as the introduction of the container in the late 1960s and Information Technology in the 1980s, the emergence of the European Union, the growth of Southeast Asian markets and the liberalization of international trade under the General Agreements on Tariffs and Trade (GATT), all had their impact on the economic performance and development of individual ports and interdependent regional hinterlands in the latter part of the twentieth century.

These developments also have their impact on the behavior and strategies of individual agents operating in the maritime – port sector (World Bank, 2001). On the one hand we see during the 1990s a process of scale-enlargement of vessels to post-Panamax<sup>1</sup> standards and market consolidation of shipping carriers through mergers and alliances, providing them with strong bargaining powers vis-à-vis port authorities and other port service providers. On the other hand we see the rise of private global terminal operators with enough financial resources to determine the fortune of individual ports through investments in the port's infra and superstructure and who have the power to withstand the demands of the terminal users and state authorities. Finally, the role of the state and port authorities has changed during the last decade of the twentieth century, in which a more flexible and entrepreneurial stance (Harvey, 1989) is believed to be the strategic response to this changing and more competitive environment in which they are operating.

The governance of seaports in a dynamic environment is thus the particular focus of this study given the often conflicting interests of public and private actors operating on all spatial scales. Ports furthermore play an important role in the worldwide distribution of goods, as national portals to international markets and local suppliers of jobs. Particularly, this paper wants to address the question of institutional change in the port-maritime sector in response to more structural changes as mentioned above (see Hall, 2003). The author, like Hall, does not believe that an analytical distinction in a convergence-divergence dichotomy will be very fruitful to understand the institutional dynamic taking place in different ports across the globe. Instead, the concept of institutional transformation will be more suitable. Institutional transformation is understood here as a path and place dependent process of institutional reflection and modification by certain opportunistic key-agents (cf. Buitelaar *et al.*, 2004) operating within the maritime-port sector. The outcome of the transformation process will not necessarily lead to some efficient optimum, since factors such as power politics,

---

<sup>1</sup> Post-Panamax refers to the size of vessels that are unable to pass through the Panama-Canal.

favoritism, history and geography will have their impact (Sheppard, 2000; Leitner & Sheppard, 1999).

The author hypothesizes that because of increased competition between seaports, certain agents deliberately will try to optimize the institutional structure in which they operate in order to strengthen the competitiveness of the seaport. The degree to which this is possible depends on its turn on certain factors such as the availability of resources, entrepreneurial spirit and ruthlessness. Four specific institutional and interrelated variables will be discerned here (Terhorst & Van Der Ven, 1997): decisional rules, fiscal rules, pattern of property rights and jurisdictional boundaries. These together form the *institutional structure of port provision* regulating the consumption and production of certain goods such as land, energy, infrastructure and services within the port-area at specific moments in time and place. It is hypothesized that territorial competition, as an entrepreneurial and geo-strategic form of governance, will lead to attempts to optimize the institutional structure of port provision.

The article will start with an understanding of the dynamics that have been taking place in the maritime-port sector since the 1990s. It will identify the key-agents, their interests, stakes and strategies in the light of increased competition. Next a theoretical stance will be taken up by introducing the concept of the institutional structure of port provision. This will allow us to specify which institutions are transformed and which not, why they are transformed and by whom. The case study of Dubai Ports provides the empirical material. Dubai Ports have witnessed tremendous growth over the last ten years and have become the main trading hub of the Middle East and the Indian sub-continent. The section will discuss the factors, which have determined Dubai's success such as a historical developed spirit of entrepreneurialism, strong political leadership, fiscal incentives and geopolitical contingencies. The case also takes into account how the port of Dubai is successfully expanding its maritime empire across the globe in spite of the emergence of regional competitors. This locally based strategy in turn co-shapes the conditions of the competitive landscape of the global economy.

## **2. Institutional Change of Seaports in the Era of Globalization**

Institutional analysis in economic geography is mainly concerned with the interaction between structure and agency and between the institutional environment and institutional arrangements in the space economy (Martin, 2000). The *institutional environment* refers to all kinds of formal rules (e.g. legal codes and constitutions) and informal conventions (e.g. habits, taboos) at work in shaping the economy. *Institutional arrangements* refer to particular organizational forms (firms, states, public private partnerships, foundations) that are consequently shaped by the institutional structure which in its turn enables or constrains these organizations in their social behaviour and economic performance. But these organizations not only reproduce these institutions, they also modify them in the course of time, either deliberately or unintentionally.

How and when institutions exactly change is beyond the scope of this paper. Here we assume that certain opportunistic key-agents will try to modify institutions at specific moments in time and space (Buitelaar, et al 2004). Institutional change is thus place and path dependent. The outcome of this process of institutional transformation will not be some sort of efficient optimum, nor will it lead to a regional convergence of institutional structures (Hall, 2003). Instead, all kinds of contingent factors such as geography, politics and entrepreneurial spirit will have their impact, and as such will account for unequal regional economical development outcomes.

Until recently not much has been written about the institutional position of seaports. In the late 1990s more work was done (see Kreukels & Wever 1998; Stevens 1997; Van Klink 1995; Loyen *et al* 2003; De Langen 2003; Hall 2003), which started to position different seaports in an institutional context. What is clear is that a wide range of institutional arrangements exists corresponding with the different environments in which seaports are situated. The most commonly used analytical distinction of institutional arrangements that is made in literature is between public service ports, landlord ports, tool ports and private service ports. In short, this distinction takes into account the division of responsibilities of public and private agents (PMR, 2000, Stevens, 1997). In England and New Zealand for instance, private service ports have been in operation since the 1980s, whereas in continental Europe the landlord port model is more common. In Hong Kong, the world's largest seaport in terms of throughput, port operations are since its early beginning completely reliant on private investments.

This distinction is theoretical, and in practice a wide range of gradations can be found worldwide. The differences can be attributed to all kinds of factors such as historical roots (e.g. colonialism), socio-cultural elements (e.g. position of labour unions) and political ideologies (e.g. corporatism or laissez-faire). The distinction is also very static, isolating ports from their wider institutional environment and from the factors of change. The institutional arrangements of seaports can be subjected to change to correspond with new developments, interests and challenges. It is on the issue of institutional change regarding seaports on which surprisingly little has been written by scholars (but see Hall, 2003). Moreover, seaports are nowadays faced with formidable challenges associated with globalization, which alters the competitive landscape in which they are operating (World Bank, 2001). This in turn provides incentives to change the way ports are managed and developed.

After the major improvements in productivity and scale enlargements in shipping and stevedore activities over the last decades, mainly attributed to the introduction of the container in the 1960s<sup>2</sup>, ports are now perceived as the remaining controllable component in improving the efficiency of ocean transport logistics. This in turn has activated a drive to improve port efficiency, lower cargo handling costs and improve integration of services. Since efficiency improvements in seaports are highly capital

---

<sup>2</sup> Container shipping started in April 1956 when the tanker *Ideal X* owned by SeaLand made its initial voyage between New York and Houston, carrying 58 trailers on deck.

intensive, the need to free ports from bureaucratic control of public entities and encourage private sector operation of a wide range of port-related activities is also addressed in various places and degrees. For example, in England ports were privatized altogether in the mid-1980s, whereas the Rotterdam Municipal Port Manager transformed into a limited liability company only in 2004. In Singapore, PSA split off as a private terminal operator from the Singapore port authority MSA in 1997. At the same time shipping carriers started to invest in port infrastructure through the development of dedicated terminals and as such are becoming more place-dependent (The Logistics Institute, 2002).

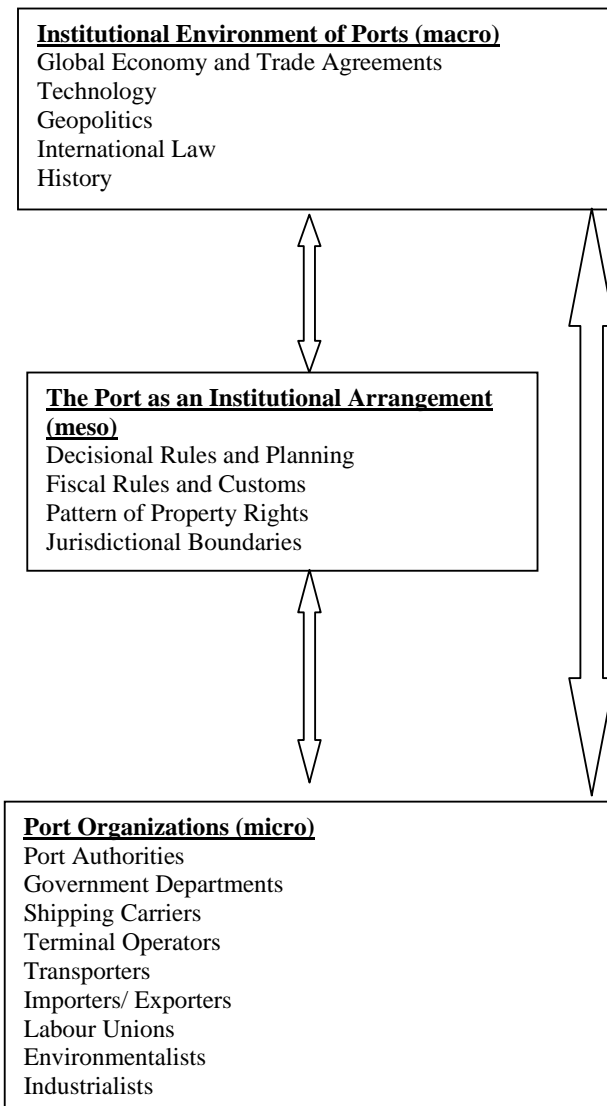
Yet, the institutional modifications to these general trends and structural developments will not necessarily lead to more efficient outcomes. Some ports will win, others will lose. Furthermore, these structural developments will not lead to some sort of homogenization of port management. Instead, different degrees of institutional transformations can be expected in different places, dependent on all kinds of local-national contingencies. In order to study the institutional position and transformation of ports more systematically, we will first introduce the analytical model by making use of the structure of provision approach.

### **3. Structure of Port Provision and Territorial Competition**

In order to make a systematic and comparative analysis of the governance of seaports and how it relates to institutional change, it is fruitful to distinguish a set of institutional structures that define the way ports are managed and developed. Here, I want to make use of structure of provision (SoP) approach. The SoP- approach has been first applied by Michael Ball (1983) when investigating the political economy of owner occupation in the British housing market. According to Ball (1998), *a structure of provision refers to the contemporary network of social relationships, institutions, associated with the provision of particular types of buildings at specific points in time and space*. The relationships are embodied in the organizations associated with that type of building provision, and they may take a market or a non-market form. Provision encompasses the whole range of development, construction, ownership and use of land and buildings. The network of social relationships involved in a particular form of building provision is the 'structure' of that provision. There is consequently no dichotomy between agency and structure.

Though the structure of provision has been first applied to the housing sector it is definitely not limited to this particular sector (Gore & Nicholson, 1991; Ball, 1998). It can be applied to all sorts of types of buildings such as offices, industrial estates, ports, infrastructure and even parking lots. Each type of SoP is furthermore associated with a time-space specific institutional context, i.e. different places have distinct structures of provision at specific points in time. This study will apply the SoP-approach to ports (see figure 1) which allows us to compare the institutional dynamics of different ports in different countries. In order to do so, we will borrow ideas from Keogh & D'Arcy's (1999) institutional hierarchy of property markets and from Terhorst & Van de Ven's (1997) basic structure of the state.

We can then identify three levels on which institutions and organizations interact, which together structure the way ports are being managed, operated and developed. On the macro-level (the institutional environment), individual ports operate within an institutional field which is international in scope and defines the conditions of global maritime trade. Here, we can think about multi-lateral (like GATT) and bi-lateral trade agreements between nation-states or about legal conventions such as the Kyoto-Protocol. Geopolitical conditions such as threat of armed conflict or international terrorism also determine the fate of individual ports, as well its own historical development path. Finally, the introduction and application of new technologies such as the container or IT also influences the future of international maritime trade and fortune of individual ports.



*Figure 1: Institutional Structure of Port Provision.*

On the meso-level, the port itself can be considered as an institutional arrangement. It includes all the rules and regulations set up by the state that determine the way individual ports are being managed and port operations are being carried out. Four interrelated variables are being discerned here (see box 1) that make up the basic structure of the state (Terhorst & Van De Ven, 1997): decisional rules, fiscal rules, pattern of property rights and jurisdictional boundaries. These set of institutions govern the access to goods (i.e. the rights in property, their use, disposal and consumption), the way political decisions are made and the way contributions to the collectivity are levied (Ostrom, 1990). Applied to ports, decisional rules determine who decides on investments in the port's infra and superstructure, on land use planning, on the level of the taxes etc. In terms of property rights, we can look who owns the port's land, infra and superstructure and who employs the labour. Fiscal rules determine the level and the specifics of taxes such as property tax, quay dues and harbour dues as well the fixation of the customs tariff. Jurisdictional boundaries finally define the geographical area in which state agencies can exercise authority over the port's development, collection of taxes and implementation of policy.

On the micro-level we will find the different organizations that operate in the port or can exercise influence on the port or have stakes in the port's performance. Here we can think about port authorities, terminal operators or shipping carriers. They can form alliances or coalitions to strengthen their bargaining powers. For example, shipping carriers increasingly want to operate their own dedicated terminals and can threaten port authorities or other service operators to not call the port if such concessions are not made. Structures of provision are therefore not static; they are subject to continual change arising from factors like market pressures, technological innovations, tastes, policies and other strategies of the organizations involved. Keogh & D'Arcy (1999; p.2407) describe the relationship between institutions and organizations at each level, and between levels, as "interactive, defined in relation to one another and capable of change in response to action and experience". It is exactly this dynamics which is our particular interest, especially in the light of increased competition which individual ports are now faced with.

### **Box 1: The Basic Structure of the State**

**1. *decisional rules*:** that is the way in which and by whom political decisions are made. It depends on a certain ideology fixed in a constitution or it develops through common law. It furthermore depends on the degree of suffrage and political representation. It can vary in theory from direct democracy to totalitarian despotism.

**2. *fiscal rules*:** that is the way taxes are levied by agencies of the state in order to finance its own bureaucracy as well as to redistribute wealth among society and to produce public goods. It can be levied according to different ways (property, corporate income, value added) and can vary from highly centralized (like in the Netherlands) to federalized (like in the US).

**3. *pattern of property rights*:** that is the way the legal control over and access to economic resources is distributed among the members of society. Property can be held in private (creating rival and exclusive goods), by the state (creating public and non-exclusive goods) or in common (creating exclusive public goods). The pattern of property rights as such reflects a political division of power within society.

**4. *jurisdictional boundaries*:** that is the geographical scope of state agency authority, law enforcement and public policy implementation. It can vary from relatively consolidated, e.g. on issues such as national security to highly fragmented, e.g. on issues of land use or welfare service provision.

### ***Territorial Competition and Institutional Change***

According to Kreukels & Wever (1998), seaports compete at two spatial levels: the global and the regional. First, at the global level there is room for relatively few seaports that function as the main gateway to the continents or macro-regions. These could be for example Rotterdam and Antwerp (European Union), New York/New Jersey (US East Coast), Los Angeles (US West Coast), Singapore and Hong Kong (Southeast Asia). Such ports are not competing with each other on a global scale since they are all dependent on cargo destined for different hinterlands. Of course, all these port would love to be the main gateway for their macro-region, but the fact is that such concentration of cargo flows is economically risky for shipping companies that consequently prefer the strategy of multi-porting. So, competition between seaports is much more appropriate on the regional scale. It is on this level, we can make a distinction in competition between the major seaports for attracting transcontinental cargo flows and competition between minor ports for attracting short sea cargo flows. Seaports also compete with each other for different products such as oil, agri-bulk and coal, non-bulk goods transported by containers, and for attracting port-related industries and shipping companies. So, seaports compete with each other for market shares in cargo flows and attracting new businesses. The way in which they compete is by providing infrastructure, business sites, tax incentives and competitive services.

Port authorities and locally dependent businesses, in conjunction with favourable policies and financial support from the state, can aim to secure dynamic (or strong) competitive advantages like political, economic and social innovations intended to enhance productivity and other conditions of structural competitiveness. They can also try to gain some static (or weak) comparative advantage in the form of modifications in the institutional structures aimed at capturing mobile investment as well as image-building measures with the same purpose (Jessop, 1997, p31). *Territorial competition* has been defined as “a process through which groups acting on behalf of a regional or sub-regional economy seek to promote it as a location for economic activity either implicitly or explicitly in competition with other areas” (Cheshire & Gordon, 1996; p.385; Cheshire & Gordon, 1993; Budd, 1998).

The way in which territorial competition takes place can thus be understood as an *entrepreneurial and geo-strategic form of territorial governance*, aimed (in the particular case of seaports) at attracting as many flows of cargo and port-related activities and industries into their jurisdictions as is possible. Territorial governance is part of the socio-economic framework that ports and cities can draw upon, as it defines the competitive advantages that allow firms to outperform their competitors in the global economy. As such, this study rejects the claim made by neo-classical economists that competition in space will lead to equilibrium, but rather understands competition as an evolutionary process in which factors such as luck, path dependent histories, geography, political favoritism, culture, ruthlessness and entrepreneurialism make the difference (Sheppard, 2000). In other words, the study assumes that firms, places or ports are not competing on a level playing field but instead are operating in highly dynamic environment with unequal growth and development potentials defined over space and time.

Thus, territorial competition as a form of governance might lead to institutional transformation of the structure of port provision in order to strengthen the competitiveness of the seaport in question. Yet, the degree of change and the success of change are place and path dependent. Next, the case of Dubai will provide us the empirical case of how a small desert town has managed to become the region’s major transport hub over the last two decades and how it is expanding its maritime empire across the globe in spite of increasing competition. The research is done by means of interviews with representatives of agencies and strategic document analysis. Important to mention is that the governance structure of Dubai is very informal and rather closed to the public, which provided barriers for conducting the research. Most of the interviewees also liked to be anonymous. Besides, very little has been written about Dubai in the past which makes little to draw upon (but see Broeze, 1999; Elsheshtawy, 2004; Amer Moustafa, 2004) but on the other hand provides an interesting gap to fill.

#### 4. The Institutional and Competitive Position of Dubai Ports

Dubai is a fast growing city-state of 1.2 million inhabitants, located at the Arabian Gulf<sup>3</sup>. It is one of the seven United Arab Emirates<sup>4</sup>, a federation founded in 1971 when the British finally abandoned this imperial outpost. Though the discovery of oil in 1968 definitely contributed to Dubai's initial economic and urban growth, its contribution to the local GDP is currently less than 10% and still declining. Instead, Dubai has invested heavily to become the region's main commercial centre and transportation hub. The growth and development of Dubai Ports is a clear example of this successful strategy. In order to understand Dubai Ports' strong competitive position and extraordinary growth over the last twenty years, we will analyse its institutional structure of provision in terms of decisional rules, fiscal rules, pattern of property rights and jurisdictional boundaries. Looking at historical factors as well as more geopolitical and contingent developments also provides additional explanations.



Dubai Ports consist out three ports: Port Saeed, Port Rashid and Jebel Ali Port. The first one is located inside the city along the Creek and which is primarily devoted to the handling of bulk cargo brought in by dhows, traditional vessels used for inter-regional trade and of which the cargo is bound for the souqs (markets) located along the Creek. Port Rashid is located in Dubai City at the entrance of the Creek and has container handling facilities, a cruise ship terminal and a dry dock facility. The third and biggest port is at Jebel Ali some twenty-five kilometres south of Dubai City.

The management of the two biggest ports has been merged in 1991 to form the Dubai Ports Authority (DPA). Before the merger both ports were managed by separate entities and with expertise from the private sector. SeaLand Corp. managed Jebel Ali Port,

<sup>3</sup> In the Arab world, the Persian Gulf is named Arabian Gulf. This is a politically sensitive issue within the Middle East.

<sup>4</sup> The Federation of the United Arab Emirates consists of the capital Abu Dhabi, Dubai, Sharjah, Ras al Khaimah, Ajman, Umm al Quwain and Fujairah.

whereas Port Rashid made use of Gray MacKenzie till the formation of DPA. Dubai Ports can be best understood as a *public service port*, since all the land, infra-and superstructure are in hands of DPA. As the state-agency in charge of Dubai Ports, DPA decides on the harbour dues and the cargo handling costs at the terminals and furthermore employs all the labour in the port.

	2000	2001	2002	2003	2004
<b>Dubai Ports</b>	3,058,868	3,501,820	4,194,265	5,151,956	6,428,883
<b>Growth rate per annum</b>	-	14%	20%	23%	25%
<b>Market share</b>	61%	67%	69%	72%	72%
<b>Khor Fakkan (Sharjah)</b>	1,014,122	1,089,866	1,266,131	1,449,451	1,819,431
<b>Growth rate p.a.</b>	-	7%	16%	14%	26%
<b>Market share</b>	20%	21%	21%	20%	20%
<b>Port Zayed (Abu Dhabi)</b>	340,000	176,695	235,575	233,789	239,000
<b>Growth rate p.a.</b>	-	-48%	33%	-1%	2%
<b>Market share</b>	7%	3%	4%	3%	3%
<b>Fujairah</b>	540,775	379,968	286,336	202,156	229,129
<b>Growth rate p.a.</b>	-	-30%	-25%	-29%	13%
<b>Market share</b>	11%	7%	5%	3%	3%
<b>Port Khalid (Sharjah)</b>	102,018	110,310	125,515	151,636	184,189
<b>Growth rate p.a.</b>	-	8%	14%	21%	21%
<b>Market share</b>	2%	2%	2%	2%	2%
<b>Total Market</b>	5,055,783	5,258,659	6,107,822	7,188,988	8,900,632
<b>Total Market Growth</b>	-	4%	16%	18%	24%

Table 1: Local Ports Throughput in TEUs and Market Dynamics (Source: provided by DPA, 2005)

During the 1990s, Dubai Ports witnessed tremendous growth. Port Rashid and Jebel Ali Port together has handled over six million TEU<sup>5</sup>s in 2004 (compared with one million TEUs in 1991) and Dubai now ranks 11<sup>th</sup> of the world (UNCTAD, 2003), which is bigger than the Port of New York/New Jersey. With a market share of over 70%, Dubai Ports are the United Arab Emirates main transportation hub (see table 1). What are the factors behind Dubai Ports' success?

### ***The City of Merchants: Historically Developed Spirit of Entrepreneurialism***

The city-state of Dubai has been dubbed the 'city of merchants' and not without reason. It is this historically developed openness for private enterprise and initiative that has generated an entrepreneurial spirit and secured Dubai's competitive advantage over its regional rivals during the twentieth century. Dubai has been a regional trading post since its early beginnings attracting merchants from across the Arabian Gulf, mainly from Persia and the Indian Subcontinent. The town of Dubai was only founded in the early 1800s, when a subsection of the Bani Yas tribe of Abu Dhabi led by Sheikh Maktoum (whose family rule Dubai today) split off and located themselves at Khor Dubai (Dubai Creek). But unlike Abu Dhabi, of which territorial interests were at the oases in the desert-interior, Dubai focussed on fishing and maritime trade, mainly in pearls (Heard-Bey, 1996). Political decisions at that time were made by the Sheikh but

<sup>5</sup> TEU stands for Twenty-foot Equivalent Unit, the standard size for containers.

in close relationship with the local business community organized in the *Majlis*, a sort of predecessor of the Chambers of Commerce.

Three examples from the twentieth century will illustrate Dubai's entrepreneurial spirit, which influenced the city-state's path of urban and economic development. Firstly, the decision by Sheikh Saeed to create a tax-free port in 1906 definitely contributed to Dubai's initial growth. This provision lured many merchants and pearl traders from neighbouring areas into Dubai, especially traders from Lingah who were hit at that time by tax impositions issued by the Sjah of Persia. Although this gave an initial boost to the town's economy, the measurement lost its effect with the end of pearl fishing in the early 1930s when the cultured pearl from Japan conquered the world market. These were times of economic decline in which Dubai managed to survive through illegal arms trade.

The second example comes from just after the Second World War. Though concessions for the search of oil had already been given in the 1930s, no commercially interesting quantities were found at that time. Dubai still relied on its maritime trade concentrated along the Creek. Yet, the entrance of the Creek was silting up, endangering Dubai's maritime trade. It was Sheikh Rashid bin Saeed Al Maktoum who ordered the dredging of the Creek in 1952 in combination of the redevelopment of the harbour-area. This plan (see figure 2) was executed by Halcrow, a British consultant, and was financed by loans from Kuwait. These investments in infrastructure secured Dubai maritime trade and improved its regional competitive position, since it now could receive more and larger vessels than its regional rivals such as Sharjah or Bahrain.

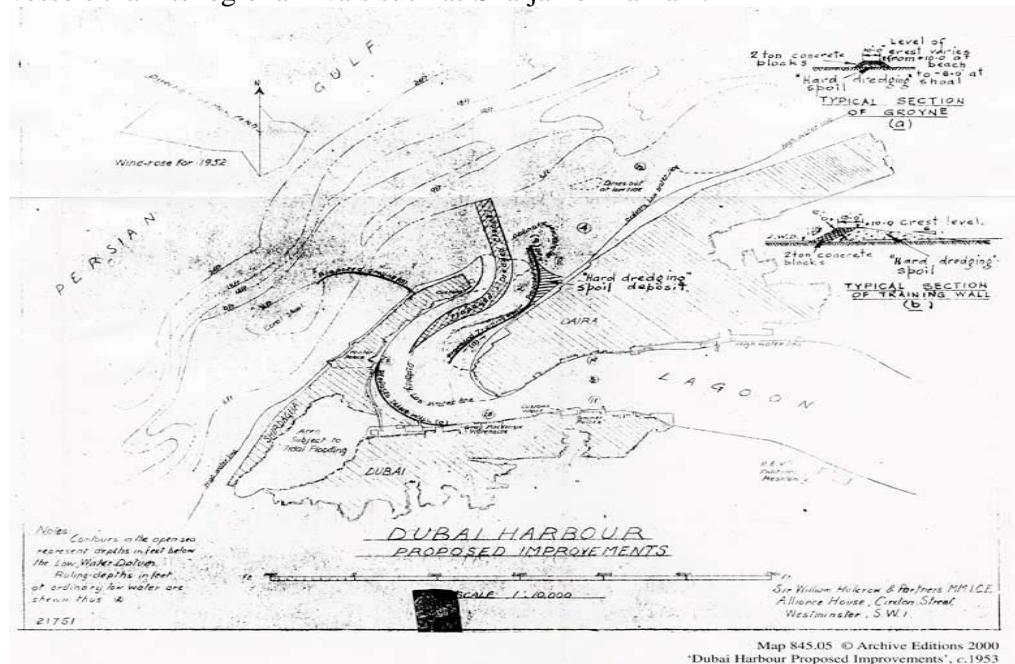


Figure 2: Dubai Harbour Proposed Improvement Plan 1953. (source: [www.sheikhmohammed.com](http://www.sheikhmohammed.com))

The third illustration is the development of Dubai modern port facilities at Port Rashid and Jebel Ali. The construction of Port Rashid located in Dubai City started in the 1960s and was accomplished in 1972. The port was unique in the region, since it was one of the first ports capable of handling containers. Not long after completion, Sheikh Rashid bin Saeed Al Maktoum launched another port development project at Jebel Ali, which remains today the world's largest man-made basin. The first phase of the project was finished in 1979 and the project was completed in 1983. Together with the creation of the Jebel Ali Free Zone in 1985, Dubai had put in place the most modern infra and superstructure in the region capable of handling the post-Panamax generation of ocean carriers. In doing so, Dubai was capable to pick the first fruits of the continuous growth of trade and consumption in the region as it anticipated successfully containerization.



Figure 2: Jebel Ali Port (source: [www.dpa.ae](http://www.dpa.ae))

### ***Sheiks and Rulers: Strong Political Leadership and State Controlled Enterprise***

One of Dubai's major institutional advantages is its strong and committed political leadership, who runs the Emirate like a corporation. Currently, the Crown Prince of Dubai and Minister of Defence of the UAE, His Highness Sheikh Mohammed bin Rashid Al Maktoum is the leader who makes all the important decisions. He is surrounded by a small group of local elites (the Director-Generals) who are in charge of Dubai's governmental departments and the state-controlled enterprises. For example, Mohammed Al Abbar is both the Director-General of the Department of Economic Development and the CEO of Emaar, one of Dubai's major property developers responsible for the Burj Al Dubai, the highest skyscraper of the world currently under construction. Sheikh Ahmed bin Saeed Al Maktoum is both the Director-General of Department of Civil Aviation and President of the national airliner Emirates Group.

The man in charge of Dubai Ports is *Sultan Ahmed bin Sulayem*. He is the Director-General of the Ports Customs & Free Zone Corporation (PCFC), the umbrella company that includes DPA and Jebel Ali Free Zone Authority (JAFZA). The influence of Sultan

Ahmed Bin Sulayem on Dubai's growth politics is considerable, given the fact that he is also the chairman of Nakheel Properties, the state-owned property developer responsible for the extraordinary residential projects such as "The Palms", "The World" and "Dubai Waterfront". Most of the trucks and material needed for the construction of these projects need to come from abroad and as such increases the cargo throughput of the ports (Khaleej Times, 18-9-2002, online). He is also member of Sheikh Mohammed's inner circle, the Executive Council and a member of the Board of the Dubai Chambers of Commerce. Under its leadership Dubai Ports strengthened its competitive position as the Gulf's main maritime hub.

This type of governance in which members of local based families are in charge of the state's department as well as the leading companies resembles a sort of tribal politics in which the Al Maktoum Family is the most powerful. It ensures swift decision-making regarding development projects since there is virtually no opposition. Regarding the development of the ports, the authorities will not encounter any problems with environmental pressure groups, nor by affected citizens. Labour unions are also not tolerated and there is almost unlimited supply of cheap labour from India. The rulers of Dubai can therefore implement its economic growth agenda with relative ease. As such, Dubai can be best understood as an autocratic development state (Painter, 2000), identified in places such as Singapore and Taiwan.

#### ***Free Zones and Ownership: Tax Incentives and Property Rights for Businesses***

The establishment of the Jebel Ali Free Zone near the port's container terminal in 1985 is clearly an example of Dubai's growth strategy. In 1991 over 300 companies (DPA, 1991) were located in the Free Zone. It currently hosts 3,880 businesses originating from over 100 countries. The advantages of being located in the Free Zone are simple: no taxes and full foreign ownership. Outside the Free Zone only 49% ownership is allowed, with 51% of the shares are to be owned by a local. There are furthermore no corporate taxes, a concession that is renewable after 50 years, no personal income taxes, 100% repatriation of capital and profits. There is no imposition of duties on imported or exported goods within the Free Zone, whereas outside the free zone custom duties are fixed at 5% within the entire Gulf Cooperation Council's customs union<sup>6</sup>. Land, offices and industrial units within the Free Zone are only available lease, with no freehold ownership allowed. The leasehold terms are valid for various periods, depending on the type of land use. The absence of freehold ownership apparently does not have any effect on the attraction of businesses. The Jebel Ali Free Zone Authority (JAFZA) manages the Free Zone.

The Free Zone and the Port clearly have a symbiotic relationship. The Free Zone's location near the port has ensured Dubai's port focus on trans-shipment and the proximity of the Port has attracted numerous businesses into the Free Zone. Almost two-thirds of Dubai's trade volume is re-exported, with exporters and manufacturers

---

<sup>6</sup> The Gulf Cooperation Council consists of Kuwait, Bahrain, Qatar, Saudi Arabia, United Arab Emirates and Oman. They have formed a customs union in 2003 with custom duties fixed on 5% and with single entry point arrangement for imported goods within the Union.

benefiting from the tax-incentives in the Free Zone. As pointed out by one senior Arab industry commentator: “Clearly, the success of Jebel Ali as a port is based less on Dubai’s domestic growth than on its ability to handle transshipment bound for India, Iraq, Iran and the wider region” (Gulf Business, p.46, February 2003). The planned development of nearby Jebel Ali International Airport, will provide opportunities for sea-air modal shifts and strengthen the port-industrial cluster even more. The symbiotic relationship is further expressed with the fact that both JAFZA and DPA are part of the Ports Customs & Free Zone Corporation since 2001.

### ***The Gulf Wars: Regional Conflict and Local Opportunity***

Dubai Ports’ growth is remarkable also given the fact that Dubai is located within one of the world’s most turbulent regions. The region has suffered heavily from armed conflict, first during the entire Iraq-Iran war (1981-1989) in which the Tanker War especially affected maritime trade, and later on during the two Gulf Wars (1991, 2003). During the Tanker War (1984-1988), both Iraqi and Iranian forces attacked oil tankers and neutral merchant vessels in the Gulf. This hit maritime trade hard with a 25% reduction and made Lloyd’s from London decide to raise the insurance rates for vessels bound for the Gulf. It took American intervention to solve the crises. The first Gulf War put the Kuwaiti ports temporarily out of operation, but generated extra cargo bound for the Allied forces in Saudi Arabia and Bahrain. During the Second Gulf War, Dubai refused to allow American battleships to enter territorial waters, but Jebel Ali Port does function as the major hub for all sorts of cargo bound for the reconstruction of Iraq, as well as for supplies for the Allied forces.

It is not exactly known to what degree Dubai Ports have gained from these regional conflicts, but they surely have. According to sources within DPA, Dubai Ports was able to keep their customers in 2003 in spite of the high insurance rates, because DPA took upon full responsibility for all vessels bound for Dubai. By taking this financial risky commitment, DPA ensured its growth even in times of armed conflict. DPA is also anticipating a future stable Iraq with increasing consumer-demands, with investments in Iraqi ports on the cards (Khaleej Times, 21-3-2004, online). During the Gulf Wars, Iraqi businessmen also secured their capital interest by moving to Dubai.

Besides providing businesses and trade with political stability and economic security in a dangerous region, Dubai has also been just lucky (see Amer Moustafa, 2004). Imagine what would have happened if oil-rich neighbours such as Abu Dhabi or Saudi Arabia had been as entrepreneurial and farsighted as Dubai in providing the infrastructure and the business climate for attracting international capital and trade. Dubai would surely then have encountered much more competition during the last twenty years. But it is only since recently that regional competitors are following Dubai’s growth strategy in the hope for the same successes. Another piece of luck is the region’s richness in oil. To put it even more bluntly: what if no oil would have been found in Dubai or in the region?

### *New Entrants in the Region: Is Dubai Losing its Competitive Edge?*

The success of Dubai's ports within the region over the last decades has indeed been remarkable. By anticipating quickly trends and developments, like containerization, Dubai Ports secured their position as the main trade and transportation hub in the Middle East, in spite of its less favourable geographical location. On the other hand, rival ports were slow to adapt to new circumstances or suffered from regional conflicts and political instability.



Yet, in the late 1990s new rivals successfully entered the regional market, challenging Dubai's competitive position. These ports are Khor Fakkan in the neighbouring emirate of Sharjah, the Port of Salalah in Oman and the Port of Aden in Yemen. Huge investments have been made in these ports' infra and superstructure by both the national governments and by private terminal operators and carriers. The Port of Salalah for instance has upgraded its facilities to post-Panamax standards through investments made by the Omani national government and APM Terminals of the AP Moller- Maersk Group (Maersk-Sealand), a powerful player in maritime trade. It handled its first

containership in 1997 and already handled more than 2 million TEU in 2003 (see table 2). It is furthermore developing a free enterprise zone around the port. Khor Fakkan has a common user terminal operated by GulfTainer Ltd. and handled as well around 2 million TEU in 2004. The port of Khor Fakkan is furthermore expanding with another terminal and is expected to handle over 3 million TEU within the near future. Through the construction of a second container terminal in Aden by the Yemen government and PSA, capable of handling post-Panamax vessels, the port-city is trying to revive its historically strong position in maritime trade after years of isolation and civil war. The Aden Container Terminal handled its first containers in 1999 and the port has a rather disappointing container throughput of 318,000 TEUs in 2004. The port has suffered from the terrorist attack on the French oil-tanker 'Limburg' just off the Yemen-coast in October 2002. This might be also one of the reasons for PSA to have sold back their 60% shares to the national government. Ironically, its Dubai Port In

	2000	2001	2002	2003	2004
<b>Dubai Ports</b>	3,058,868	3,501,820	4,194,265	5,151,956	6,428,883
Growth rate per annum	-	14%	20%	23%	25%
Market share	31%	33%	35%	35%	36%
<b>Khor Fakkan</b>	1,014,122	1,089,866	1,266,131	1,449,451	1,819,431
Growth rate per annum	-	7%	16%	14%	26%
Market share	10%	10%	11%	10%	10%
<b>Port Zayed</b>	340,000	176,695	235,575	233,789	239,000
Growth rate per annum	-	-48%	33%	-1%	2%
Market share	3%	2%	2%	2%	1%
<b>Fujairah</b>	540,775	379,968	286,336	202,156	229,129
Growth rate per annum	-	-30%	-25%	-29%	13%
Market share	5%	4%	2%	1%	1%
<b>Port Khalid</b>	102,018	110,310	125,515	151,636	184,189
Growth rate per annum	-	8%	14%	21%	21%
Market share	1%	1%	1%	1%	1%
<b>Salalah</b>	1,032,692	1,187,753	1,211,634	2,001,259	2,228,546
Growth rate per annum	-	15%	2%	65%	11%
Market share	10%	11%	10%	14%	12%
<b>Port Qaboos (Muscat)</b>	128,857	143,933	203,864	264,826	286,810
Growth rate per annum	-	12%	42%	30%	8%
Market share	1%	1%	2%	2%	2%
<b>Bandar Abbas (Iran)</b>	415,382	548,000	731,000	965,011	1,142,659
Growth rate per annum	-	32%	33%	32%	18%
Market share	4%	5%	6%	7%	6%
<b>Dammam Port (KSA)</b>	454,640	489,544	563,149	634,976	743,457
Growth rate per annum	-	8%	15%	13%	17%
Market share	5%	5%	5%	4%	4%
<b>Jeddah Port (KSA)</b>	1,043,617	1,180,427	1,366,902	1,763,865	2,425,930
Growth rate	-	13%	16%	29%	38%
Market share	11%	11%	11%	12%	14%
<b>Mina Sulman (Bahrain)</b>	132,100	140,144	155,037	175,688	193,731
Growth rate per annum	-	6%	11%	13%	10%
Market share	1%	1%	1%	1%	1%
<b>Colombo Port</b>	1,732,855	1,726,605	1,764,717	1,959,336	2,220,573
Growth rate per annum	-	0%	2%	11%	13%
Market share	18%	16%	15%	13%	12%
<b>Total Market</b>	9,863,826	10,534,921	11,949,088	14,778,262	17,948,607
<b>Total Market Growth Per annum</b>	-	7%	13%	24%	21%

Table 2: Regional Ports Throughput in TEUs and Market Dynamics (Source: provided by DPA, 2005)

These ports have furthermore a geo-strategic advantage over Dubai, since they all are located at the east coast of the Arabian Peninsula. Vessels on the Europe- Far East trade link will save precious time by not having to enter the Arabian Gulf. It takes a vessel for instance 24 hours to reach Dubai from Khor Fakkan and back again. With highways linking all the major centres in the region, hinterland transport by truck becomes an attractive alternative for cargo bound to Dubai and further. The big ocean carriers also do not have to pay high insurance costs attached to entrance in the dangerous Arabian Gulf through the narrow Straits of Hormuz. Another project that might affect the competitive position of the port of Dubai is the Saudi land bridge between the port of Damman in the Arabian Gulf and Jeddah Islamic Port in the Red Sea. This proposed direct freight-only rail link will allow for the fast and efficient transport of cargo across the Peninsula.

Indeed, Dubai has lost cargo and businesses to these new rivals (World Bank, 2001, p. 6). Especially, Salalah with its Maersk-Sealand's dedicated terminal, have positioned themselves as a formidable competitor:"[d]uring 1999 the DPA confirmed that 25-30% of its Maersk-Sealand transshipment business has been lost to Salalah." (Drewry, 2000, p.18). On the other hand, representatives of the Dubai Ports Authority are confident about the future and Dubai Ports still have a regional market share<sup>7</sup> of 36 %, and with the ongoing general growth of trade within the region it is unlikely that Dubai Ports will lose its leading position in the near future. Besides, since the mid 1990s Dubai has aggressively been acquiring terminal lease concessions across the region. By doing so, Dubai is truly becoming a regional hub in a global network.

### ***The Rise of an Empire: The Ports, Customs & Free Zone Corporation.***

The 1990s were a period when Dubai firmly established itself as the region's major transport hub, with continuously growing ports and a free zone. At the end of the 1990s though, Dubai Ports started to expand abroad with the ambition to become a recognized global ports manager. In order do so, DPA set up an international division in 1998, named Dubai Ports International (DPI), and rapidly started to expand abroad. Already in 1997, DPA won a 20-year concession to manage the South Container Terminal at Jeddah Islamic Port in Saudi Arabia in partnership with local company Siyanco. One year later, DPI won a 20-year concession to manage a new container terminal at the Port of Beirut in Lebanon, only to pull back after a few years because of claimed miscalculated start-up costs and traffic volumes (UNCTAD, 2003, p80). Nevertheless, DPI together with its sister company Jebel Ali Free Zone International continued to expand and strengthen its international position. Together they took over the management of the Port of Djibouti, its international airport and the concession to develop and manage a free zone in the Horn of Africa. In fact, at the end of December, DPI also acquired the lease concession of Aden's former PSA terminal, effectively eliminating the (potential) threat of Yemen's port city to Dubai's regional hub status.

---

<sup>7</sup> Note that the determination of regional market shares is dependent on which ports are included. Table 2 does not include for instance Port Suez, Aden, Bandar Khoumeini, Kuwait and Doha.

To streamline its operations and increase efficiency DPA, JAFZA and Dubai Customs were merged to form the *Ports, Customs & Free Zone Corporation* (PCFC) in 2001. A subsidiary of PCFC is Dubai International that in its turn comprises DPI and JAFZI. The portfolio of PCFC includes furthermore the management of the ports of Visakhapatnam and Cochin in India. With winning the management contract for the Port of Constanzia in Rumania in 2004, Dubai Ports has managed to enter the European market. JAFZI manages furthermore the free zone of Tangiers in Marocco and of Port Klang in Malaysia.

Yet, PCFC's big step on the world stage happened with the US \$1.15 billion acquisition of the Florida-based CSX World Terminals in December 2004 by outbidding established global terminal operators Hutchison Port Holdings (based in Hong Kong) and PSA (based in Singapore). With the acquisition of CSXWT, Dubai Ports takes over the management of nine container terminals worldwide with a total handling capacity of 14.6 million TEUs, including the CT3 and CT8 terminals in the world's most expensive port Hong Kong. The acquisition provides PCFC the opportunity to capitalize on the world's fastest growing markets in China and Southeast Asia. As such, Dubai has developed from a local port authority to a global terminal operator.

<b>CSX World Terminal's global port business</b>			
<b>Country</b>	<b>Terminal</b>	<b>Shareholding (%)</b>	<b>Timing</b>
China	Tianjin	24.5	Operational
	Yantian	50.0	Operational
	Qingdao	26.9	2007
	Hong Kong CT3	56.7	Operational
	Hong Kong CT8	68.6	2005
Korea	PNC Pusan	25.0	2006
Germany	Germersheim	100.0	Operational
Australia	Adelaide	5.5	Operational
Venezuela	Puerto Cabello	50.0	Operational
Dominican Republic	Caucedo	35.0	Operational

*Table 3: CSX World Terminal's portfolio. Source: Gulf Business, February 2005*

In combination with DPA's home terminal in Dubai, PCFC will be capable of handling over 20 million TEUs in 2005 and will become the world's sixth largest port operator. Yet, the focus on foreign markets and other regions does not imply that PCFC will lose its roots in the Middle East and Dubai in particular. In January 2005 DPI signed a Memorandum of Understanding with the Abu Dhabi Seaport Authority and the Port of Fujairah to take over the management of their ports. These two small ports will be nothing compared with the Jebel Ali Port of the future. Plans have been made to expand Jebel Ali Port with three more container terminals through land reclamation, increasing its handling capacity to over 20 million TEUs by the 2020 (PCFC, 2003).

Through Nakheel Properties, PCFC is also involved in some of Dubai's most extraordinary development projects. Besides the development of the "Palms" and the exclusive "World", Nakheel is developing the gigantic "Dubai Waterfront" next to Jebel Ali Port. Other development projects in PCFC's portfolio are Dubai Maritime City and Dubai Metals & Commodities Centre. Dubai Maritime City will be located next to Port Rashid and is aimed to be a cluster for all kinds of maritime activities and marine services such as ship-repair, vessel classification and design, legal and logistical advice. In such a way, the port and the city remain closely related, contrary to more general trends in the world. In fact, whereas elsewhere in the world ports are being developed away from urban development, in Dubai exactly the opposite is happening.

### **Conclusion:**

We started the paper by introducing the hypothesis that under increased competition between ports, certain key-agents deliberately try to optimize the institutional structure of port provision in which they operate. Four interrelated variables have been discerned which regulate and arrange the port-in-question: decisional rules, fiscal rules, pattern of property rights and jurisdictional boundaries. The institutional structure of port provision as modelled here was then applied to Dubai Ports in order to explore and analyse its extraordinary growth over the last decade within a dynamic environment.

We have seen how Dubai's economic success has historically been linked to its trade functions located around the Creek. By creating a tax-free port in 1906, Dubai successfully lured merchants and trade away from its main competitor at that time, the port of Lingha in Persia. By dredging the Creek in the 1950s, Dubai was once again one step further than its regional competitors. With the creation of Port Rashid in the 1970s and Jebel Ali Port in 1983, Dubai expanded its port-complex enormously and rapidly anticipated containerization. The establishment of the Jebel Ali Free Zone in 1985 ensured the location of numerous international companies and industries into Dubai. Dubai Ports also came unharmed out of the Gulf-Wars and even capitalised on the armed conflicts by providing a safe haven for both commercial vessels and the supplies of the Allied forces.

Looking at the *decisional rules*, we can clearly identify strong political leadership. The Sheikh and his associates have firm control over the state apparatus as well as state controlled businesses. Dubai Ports are no exception with Sultan Ahmed bin Sulayem as the main figure. In terms of *property rights*, all the land, infra and superstructure in the ports and the Free Zone are in the hands of either DPA or JAFZA. Foreign businesses are allowed complete ownership of their businesses within the free zone, but are not allowed own land. *Fiscal rules* have clearly stimulated the growth of port-industrial complex. Basically there are no taxes in the Free Zone. Since DPA is both port authority and terminal operator it can vary with different dues. It can for instance lower harbour dues through its income from the terminal operations. As regards customs, the GCC-countries now form one union with the tariff set at 5%. For Dubai this used to be 4%, but since goods arriving in the Free Zone bound for transshipment outside the GCC are exempted from customs, this will not have major impact on Dubai's maritime trade.

Most considerable change in the structure of port provision is the consolidation of *jurisdictional boundaries* through the merger into the Ports Customs & Free Zones Corporation. PCFC is the port authority, international free zone developer and manager, global terminal operator, local customs department and local property developer at the same time. PCFC also remains in the hands of the government with no ambitions yet to privatise parts of its units. In combination with no public resistance, no environmental pressure groups and no labour unions, Dubai Ports could implement its growth agenda with relative ease. In fact, as an international terminal operator based in Dubai, PCFC is increasingly competing not only with rival ports in the region but with private global terminal operators such as Hutchison Port Holdings and PSA. Whereas regional rivals such as Khor Fakkan and Salalah are operated and upgraded by private companies such as GulfTainer and APM Terminals, DPA remains control over all the port operations and facilities. As such it provides an unique example of a state-owned enterprise operating in global maritime trade.

#### **Literature:**

- Amer Moustafa, A. (2004), *Make No Little Plans: Dubai's Transformation Into a Global City*, revised paper submitted at the Sharjah Urban Planning Symposium, April 4-6, Sharjah.
- Ball, M. (1983). *Housing Policy and Economic Power: The Political Economy of Owner Occupation*, London, Methuen.
- Ball, M. (1998). Institutions in British Property Research: A Review, *Urban Studies*, 35 , 1501-1517.
- Broeze, F.J.A. (1999), Dubai: from creek to global port city, In: Fisher, L.R. & A. Jarvis (eds.), *Harbours and Havens: essays in port history in honour of Gordon Jackson*, St. John's.
- Budd, L. (1998). Territorial Competition and Globalisation: Scylla and Charybdis of European Cities, *Urban Studies*, 35, 663-685.
- Buitelaar, E., Jacobs, W. & A. Lagendijk (2004), *Institutional Change and Spatial Governance*, paper presented at the Mind the GaP conference 12-13 June , Radboud University Nijmegen, Nijmegen.
- Cheshire, P.C. & Gordon, I.R. (1993), European Integration: Territorial Competition in Theory and Practice, *CeSAER Discussion papers, 1993-02*, Reading: University of Reading Press.
- Cheshire, P.C. & Gordon, I.R. (1996), Territorial competition and the logic of collective (in) action, *International Journal Of Urban and Regional Research*, 20, 383-399.
- Drewry Shipping Consultants (2000), *Middle East Container Ports and Shipping*, London.
- Elscheshtawy, Y. (2004), *Planning Middle Eastern Cities. An Urban Kaleidoscope in a Globalizing World*, London: Routledge.
- Gore, T. & Nicholson, D. (1991), Models of the land-development process: a critical review, *Environment and Planning A*, 23, 705-730
- Gout, M.W., R.C.G. Haffner & J. van Sinderen (1997), *Mainports in the 21st Century*, Groningen: Wolters-Noordhoff,.
- Hall, P.V. (2003), Regional Institutional Convergence? Reflections from the Baltimore Waterfront, *Economic Geography*, 79, 4, pp.347-363.

- Harvey, D. (1989). From Managerialism to Entrepreneurialism: The transformation of Urban Governance in Late Capitalism, *Geografiska Annaler*, 71B, 3-17.
- Heard-Bey, F. (1999), *From Trucial States to United Arab Emirates*. New Edition, Longmann, London & New York.
- Jessop, B. (1997), The Entrepreneurial City. Re-imaging localities, redesigning economic governance, or restructuring capital?, In: N. Jewson, & S. MacGregor (Eds.), *Transforming Cities: Contested Governance and New Spatial Divisions* (pp. 28-41), London: Routledge
- Keogh, G. & D'Arcy, E. (1999). Property Market Efficiency: an Institutional Economics Perspective, *Urban Studies*, 36 (13), 2401-2414
- Klink, A. van (1995), *Towards the Borderless Mainport Rotterdam: an Analysis of Functional, Spatial and Administrative Dynamics in Port Systems*, Amsterdam: Thesis Publishers
- Kreukels, A.M.J. & E. Wever (1998), *North Sea Ports in Transition: Changing Tides*, Assen: Van Gorcum.
- Langen, P.W. de (2003), *The Performance of Seaport Clusters; a Framework to Analyze Cluster Performance and an Application to the Seaport Clusters in Durban, Rotterdam and the Lower Mississippi*, Rotterdam: ERIM
- Leitner, H. & Sheppard, E. (1999), Transcending Interurban Competition: Conceptual Issues and Policy Alternatives in the European Union, In: A.E.G. Jonas & D. Wilson, (Eds.), *The Urban Growth Machine. Critical Perspectives Two Decades Later* (pp.227-243), Albany: State University of New York Press.
- Loyen, R., E. Buyst & G. Devos (2003), *Struggling for Leadership: Antwerp-Rotterdam Port Competition between 1870-2000*, New York: Physica-Verlag.
- Martin, R. (2000), Institutional Approaches in Economic Geography, In: E. Sheppard, & T.J. Barnes (Eds.), *A Companion to Economic Geography* (pp. 77-94), Oxford: Blackwell
- Ostrom, E. (1990). *Governing the Commons. The Evolution of Institutions for Collective Action*, Cambridge, Cambridge University Press.
- Painter, J. (2000), State and Governance, In: Sheppard, E. & T. J Barnes (eds.), *A Companion to Economic Geography*, Blackwell, Oxford.
- Ports, Customs and Free Zone Corporation (PCFZ) (2003), *Cargo & Trade*, issue 5, 3, March 2003, Dubai.
- Sheppard, E. (2000), Competition in Space and between Places, In: Sheppard, E. & T. J Barnes (eds.), *A Companion to Economic Geography*, Blackwell, Oxford.
- Stevens, H. (1997), *De Institutionele Positie van Zeehavens. Een Internationale Vergelijking*. Delft: Eburon
- Terhorst, P.J.F. & van de Ven, J.C.L. (1997), *Fragmented Brussels and consolidated Amsterdam. A comparative study of the spatial organization of property rights*, Amsterdam: Netherlands Geographical Studies.
- The Logistics Institute (2002), *Competition between the Ports of Singapore and Malaysia*, Technical Report, Georgia Tech & National University of Singapore.
- United Nations Conference on Trade and Development (UNCTAD) (2003), *Review of Maritime Transport 2003*, United Nations Publications, New York and Geneva.
- World Bank (2001), *World Bank Port Reform Tool Kit. Module 2: The Evolution of Ports in a Competitive World*, Available: <http://www.worldbank.org/transport/ports>.

#### **Websites:**

[www.sheikhmohammed.com](http://www.sheikhmohammed.com), [www.dpa.ae](http://www.dpa.ae), [www.khaleejtimes.com](http://www.khaleejtimes.com)