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Incentives in cruise terminal concession contracts

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ABSTRACT

Concession contracts are widely used to structure the relationship between public managing bodies of ports and entities that are granted the right to operate a terminal at a given port. This study initiates research on incentives in cruise port/terminal concession contracts by combining managerial insights with a more economic approach using game theory perspectives. It first outlines the conflict of interests between port authority and the contracting parties, demonstrating that, due to asymmetric information, a terminal operator might engage in activities that are undesirable from a port authority standpoint after the concession agreement is signed. Thus, incentives are needed to guarantee that the terminal operator does not only act on its own interest, but also take into account the managerial objectives of the port authority. A case-study of the Port of Galveston, Texas, is presented to provide an example of an existing incentive mechanism in place with provisions related to assignment and renewal of berth and terminal usage, fees, and the minimum passenger guarantees. Based on these managerial considerations, the case also points to key factors to be incorporated if cruise lines' behavior and moral hazard problems are modeled following a more economic approach based on game theory.

1. Introduction

Cruise tourism, a dynamic sector experiencing growth all over the world, contributes substantially to the development of hosting economies. A global record of more than 20 million passengers went on a cruise in 2012. In the United States alone the cruise industry generated more than $42 billion in total economic activity, involving over 356,000 jobs (Cruise Lines International Association (CLIA) (CLIA), 2013). In Europe, the cruise sector generated a direct and indirect employment of over 330,000 jobs, reflecting a 75% increase in a five year time span (Cruise Lines International Association (CLIA), 2014).

Consequently, the cruise industry has gained scholarly research interest. Scholars have focused on the geography of the world cruise market and the routing of cruise ships (Charlier & McCalla, 2006; Hersh & Ladany, 1989; Rodrigue & Notteboom, 2013), the industrial organization of cruises (Papatheodorou, 2006), the demand for cruise tourism (see e.g. Petrick & Li, 2006), the supply of cruises in specific regions (see e.g. Wilkinson, 2006 and Wood, 2000 on the Caribbean), the economic significance of cruise tourism and cruise ship calls (Dwyer & Forsyth, 1996, 1998) and cruise ship passenger spending patterns (Douglas & Douglas, 2004).

Yet, cruise ports have seldom been the unit of analysis. Such cases include Marti (1990), which discussed the cruise ship port selection process, while McCalla (1998) and Vaggelas and Pallis (2010) focused on the service offerings and locational qualities of cruise ports.

The related cruise port/terminal concession contracts negotiate initial investments on cruise port infrastructure and supporting logistics, and/or generate flexible financing and competitive port service charges. They also contribute to enhancing the efficient use of port land, while requiring private operators to take into account the economic, social, and environmental objectives of the public entities. The regulatory and pricing regime of concession agreements and the associated risk distribution reveal the priorities of public port authorities and cruise terminal operators.

This paper sheds light on the importance of the incentive mechanism in order to align the interests of the involved port authorities and terminal operators in contractual provisions in concession agreements on cruise terminal activities. Grounding on the missing scholarly analysis of the issue in cruise ports, the study first outlines the conflict of interests between port authority and the contracting parties and the need for incentives to guarantee that the terminal operator will not only act on its own interest, but also take into account the managerial objectives of the port authority and vice versa. Then, a particular case-study – that of Galveston, Texas – provides an example of an existing incentive mechanism containing managerial provisions related to assignment and renewal of berth and terminal use, fees, and the

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minimum passenger guarantees. The case study reveals key factors that need to be incorporated when a more economic approach based on game theory is used to model cruise lines' behavior and moral hazard problems. The case study concludes with the discussion of the critical elements in negotiating cruise concession contracts. Among others, these elements, that distinguish the cruise industry from other market segments, might prevent the costly renegotiation of contracts at a later stage or after the termination of the awarding process.

2. Port concessions and the incentive mechanism: a literature review

Concession agreements offer a way to structure the relations between public managing bodies of ports (i.e. port authorities), who typically own and manage port land, and the emerging private terminal operators (also in the cruise business), who are given the right to use the land for a specified period of time subject to the payment of concession fees. Concession contracts are the dominant modes of private business entry in port operations (Farrell, 2012). They govern the details of outsourcing functions such as terminal management, terminal operations, marketing, security, waterside maintenance, and land acquisition and disposal to the private sector due to various (i.e. labor force, fiscal, financial, efficiency or risk management) considerations. In the US, port authority practices generally involve the transfer of rights to provide port services, rather than moving asset ownership to a private port terminal operator (Talley, 2009).

A common practice regarding the concession awarding procedure does not exist. Farrell (2012) demonstrates that awarding procedures and leasing schemes differ between regions, within countries, and even within a given port. Notteboom, Verhoeven, and Fontanet (2012b) concluded that there is only a limited level of convergence among concessioning practices across European ports. Dual practices exist as calls for tenders are combined with direct talks with incumbents (i.e. Rotterdam; see: De Langen, Van Den Berg, & Willeumier, 2012). Others see corporatization and Stock Exchange listings as preconditions for increasing private sector investment (i.e. Greece; see: Psaraftis & Pallis, 2012). Joint ventures, in which public sector operators retain a share of at least 75% and port corporations operate as commercial entities, operate the fast-growing cargo and cruise ports in China.

On these grounds, Theys, Notteboom, Pallis, and De Langen (2010) detailed a research agenda of issues emerging at various stages of the awarding process. One of the issues listed is the examination of asset allocation and risk distribution between port authorities (PAs) and terminal operators (TOs). These issues emerge during any concession awarding process and are made explicit while drafting and enforcing the related clauses in a concession contract.

Despite fairly recent academic advances in the study of terminal concessions, the topics related to cruise terminal concession contracts remain understudied, as the growing literature of empirical studies on port concessions is unilaterally focused on cargo (mostly container) terminals (cf. Notteboom, Pallis, & Farrell, 2012; for a literature review: Pallis, Vitsounis, de Langen, & Notteboom, 2012). In essence, the emerging concessioning practices in the cruise sector have not yet been subject to an academic analysis. Moreover, relevant information of cruise port/terminal concessions is very limited. For example, most of the reported cruise cases in the US (Table 1) focus on the incremental functional features for building renovation, expanded office space, and other supplemental accessories.

Also in Europe, concessioning practices in cruise ports have not gained academic interest despite the presence of the most dynamic cruise market in the world, the Mediterranean and its adjoining seas. MedCruise (2013), which surveyed 66 cruise ports in the region, showed that the 197% growth of bed day-deployment in the last decade was backed by an increased presence of private cruise terminal management and operations. The private sector operates half of the surveyed 66 ports whereas 46% of the cruise ports operating under public management are in the process of identifying private actors (cruise lines or others) who are interested in operating them. The dominant mode of private involvement is the tendering and concessioning of the cruise terminals (Table 2).

The absence of in-depth studies on cruise terminal concession contracts also implies that the study of incentives in such concession contracts remains an unexplored territory. Even for container terminals, empirical studies on concessions typically remain limited to the procedures and leasing schemes of concession contracts. Even though it is acknowledged that incentives such as throughput guarantees are a powerful governance tool for PAs to secure reasonable land productivity, conditionally lower the entry barriers to newcomers, and provide necessary incentives to TOs to increase terminal utilization rates (i.e. Notteboom, 2006; Pallis, Notteboom, & De Langen, 2008), studies on performance incentives, operating incentives, and risk-sharing between PAs and TOs are very scarce.

Next to being a key managerial concern in concessioning procedures, the design of optimal incentive contracts can also be studied from an economic theory perspective. As early as Holmstrom (1979, 1982), Holmstrom and Milgrom (1987), Baron and Besanko (1984), and Dewatripont (1986), renegotiations of optimal contracts, incentives, and necessary auditing and regulations are discussed in the environment with moral hazard.

Laffont and Tirole (1993) extended the theory of incentives to the case of implicit incentives in a dynamic setting with agency conflicts. Given that the first-best outcome to deal with moral hazard was achievable depending on the timing of contracting, the risk-neutral or risk-averse agent, and the setting of complete information, Tirole (1999) noted that the proper allocation of rights ensured the binding of the incentive constraint. Laffont and Martimort (2002) discussed the setting with limited liability, meaning minimum effort required by the agent, in a discrete continuum of performances. Guasch, Laffont, and Straub (2008) reviewed the optimal form of awarding and rewarding

Table 1
Examples of cruise terminal concessions in the US.
Source: American Association of Port Authorities (AAPA); PAs' websites.

Port	Private party contractor/operators	Concession	Since
Galveston Port Authority	• Royal Caribbean International, Carnival Cruise Lines, and CH2MHILL • Design–Build Greenfield cruise terminal project • Innovative financial scheme • Fee waiver and revenue rebate in exchange for minimum passenger guarantees	10 years	2002
Massachusetts Port Authority	• Bronstein Center Cruise Ship Terminal, Boston • One new cruise terminal and one remodeled cruise terminal • Intermodal port facility in exchange for parking, office space, and landmark restaurant at cruise terminal site	Canceled	2008
Port Everglades	• Redevelop waterfront facility and infrastructure around Terminal 18 • Initial investment in exchange for a 10 year minimum passenger guarantee with Royal Caribbean International	10 years	2009
Canaveral Port Authority	• Design–build project for Cruise Terminal 6 to enhance embarkment and disembarkment function	n.a.	2011