

An Economic Study of Mid-Stream Operations in Hong Kong

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Introduction

Unlike using berths for cargo handling, which operate only on one side of a ship at a time, mid-stream operation (MSO) allows loading or discharging cargoes simultaneously on both sides of a ship. The mid-stream sites in Hong Kong serve both the loading and unloading of ocean and river cargoes from barges to trucks and vice versa. MSO supports about one-quarter of the total container throughput in Hong Kong. Why does MSO still play such a significant role when Hong Kong has maintained one of the most advanced container terminal systems in the world?

The underlying reason is that the handling fees for MSO are about 40% to 60% cheaper than that of the container terminals. Besides, MSO is more efficient and flexible than container terminal in handling odd size cargoes. Therefore, MSO can effectively help to channel some of the workload from the container terminals. During the early 1990's, there were about 2,000 privately-owned lighters service ship moored mid-stream; and about 10% of these lighters are "specially designed" to carry containers. This paper aims to study the future of MSO in Hong Kong under the government policy of allocating the Public Cargo Working Areas (PCWAs). This paper submits the two implications of that government policy in allocating PCWAs to MSO operators by open auction process: (a) it did not solve its financial deficits in PCWAs operation; (b) it has generated a negative impact to the survival of the MSO sector.

Past and Future of MSO in Hong Kong

Since the 1960s, MSO has played a significant role in Hong Kong's economic development. Long before the building of container terminals in Hong Kong, products were loaded and discharged from ocean-going vessels by MSO, and shipped to North America and Europe. Containers have been handled by MSO in Hong Kong since the early 1970s. During the early 1990s, MSO reached its pinnacle. Barges equipped with derricks of a carrying capacity of 48 TEUs could handle a 3,500 TEUs container vessel within a day.

Many researchers agree that MSO is seldomly found in the rest of the world. MSO survives here because there is a wide gap in fee difference between MSO and container terminal operations in Hong Kong. In addition, short sea liner operators prefer lower cargo handling costs instead of short turnaround time. Under MSO, ocean going vessels do not need to berth at a terminal for cargo loading and discharging. They simply drop their anchor in the harbor or moor to buoys and discharge their cargo with the help of single derrick cranes installed on board local dumb steel lighters (DSL). These kinds of derrick crane equipped lighters are unique to Hong Kong.

Although MSO offers a significant cost advantage to the shipping community, marine insurance underwriters see MSO as a risky practice as it involves cargoes being transferred by several vessels, namely, the cargo ship, the barges and the towing tugs, with all operations occur at sea. From the operational perspective, MSO is inefficient because the barges are generally not self-propelled (not even pushed but towed). Besides, manual labor is required to stay at the top of high stacks or in cramped spaces in cargo holds so as to guide the container into the twist locks at the four corners. The slewing mechanism relies on the combination of a wire drum, a counterweight and manually applied foot brake. Hence, such cargo handling practice can hardly comply with international safety standards.

Mooring of vessels exceeded the permitted berth width

One of the most common bad practices committed by MSO operators is the mooring of vessels which exceed the permitted berth width. In Hong Kong, regulations stipulate that the permitted berth width should be 40 metres or less. Some operators regularly moor multi-tiers of vessels exceeding the permitted berth width of 40 metres without prior approval from the Marine Department.



Finally, the “triad” culture of MSO is one of its negative aspects that could hinder its future development. The Hong Kong government adopts a more favorable policy to container terminals, while it imposes a stricter licensing requirement for MSO operators. The number of MSO operators has dropped significantly in recent years. Although there are 11 different sites solely for MSO’s, which occupy a total land area of 27.5 hectares and water frontage of 3,197 metres, there exists only three larger operators that have direct land bases remaining in regular operations, namely,

- Fat Kee Stevedores Ltd.
- Tai Wah Sea/Land Heavy Transportation Ltd.
- Transward Ltd.

The downward trend of MSO’s are reflected from the throughput figures. In the early 1990s, more than 30% of all containers were handled by MSOs. Nowadays, only about 10% of throughput comprise MSO operations.

MSO and Public Cargo Working Areas (PCWAs)

MSO needs the support of a water frontage land site for its operation. At an initial stage, most of MSO operators use public cargo working areas (PCWAs) provided by government under short term lease agreement. With the increasing MSO activities, the government released two pieces of land with a total site area of 6.9 hectares for MSO for a 50 years basis near Stonecutter Island.

Port Control Working Areas (“PCWAs”) were established by statutory authority in 1974 under the Port Control (Cargo Working Areas) Ordinance (Cap. 81). Subsequently, subsidiary legislation was passed to regulate the use of the seafront for handling cargo across the seawall. The first PCWA was established in Wan Chai in 1974 to accommodate pre-existing operators of cargo handling activities (eight PCWAs at various locations). The physical layout of PCWA’s were designed as follows: (a) the area designed for PCWA was paved and set aside for cargo working; (b) The waterfront site was fenced, with an area varying in width from 30-50 metres with an alongside water depth of not more than 5 metres; and (c) PCWA was targeted for direct transfer or short stay cargoes from small coasters and local barges/vessels. In short, the design of PCWA differed from that of a mid-stream depot.

Under Cap. 81 and its subsidiary legislation, berths were allocated to users by way of a daily berthing permit system on a first-come-first-served basis. In 1995, the Hong Kong government carried out an audit concerning the twenty years of first-come-first-served basis allocation and found that the arrangement was inefficient, which was supported by the following two examples:

- (a) monopolisation of berths by habitual users and unfair access to other operators; and
- (b) subletting of berths by non-legal means at the expense of government revenue.

Method of Allocating the PCWAs

In 1996, the Marine Department began to consult with the PCWA operators about the new open bidding arrangement. The PCWA operators voiced their concern that their small businesses would not be able to compete with major port operators if an open tender was adopted; as a result, the PCWA operators strongly opposed an open tender system. Finally, the Government agreed that in order not to cause any major disruption to the livelihood of the existing operators and their employees, the PCWA reform should be introduced in a gradual manner. In the first phase which began in 1998, the Marine Department allocated the berths through a restricted tendering exercise for a period of three years. The successful tenderers were granted the right to use the allocated berths by paying a monthly berthing fee (The fee was based on the tendered price and adjusted annually according to the movement of the Government Consumption Expenditure Deflator). The terms and conditions of using the berths were governed by Berth License Agreements between the Government and the operators.

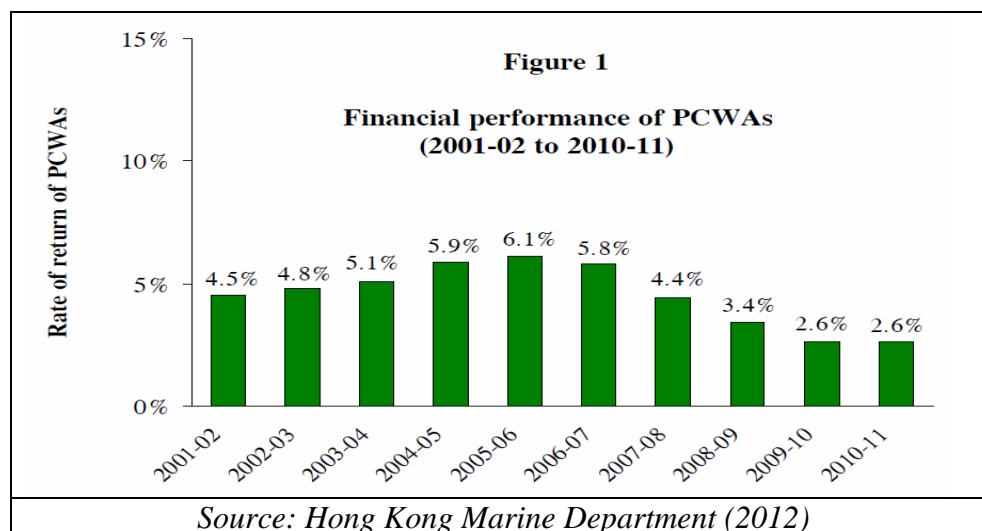
An audit was carried out again to review the first ten year’s operation of the open bidding allocation system. It was found that the operators used related companies in the re-tendering stage so as to acquire the berth at a lower bid price. The practice was as follows: In June 2011, an operator (Company A) successfully bid for a berth on Hong Kong Island at a monthly berthing fee of \$94,080. Less than two months later, Company A served a three-month advance notice to the Marine Department for terminating the Berth License Agreement. The Marine Department conducted the re-tendering exercise in October of the same year and another operator (Company B) successfully bid for the same berth (to be surrendered by Company A in November 2011) at a monthly berthing fee of \$46,200 (almost 50% less than the first bid price).

Based on a search of the business and company registration records, the audit found that Company A and Company B were related to the same sole proprietor. That sole proprietor was the director of Company B, and he held 50% of the shares of Company B. It is evident that Company A had successfully bid for its surrendered berth through a related company (Company B) at a lower bid price. It has long been noted that the cargo transfer operations of the PCWAs are conducted by a large network of relatively small and long established family firms.

Financial Performance of operating the PCWAs

In Hong Kong, it is a general practice for the government to review the fees and charges on an annual basis. However, it has been the practice of the Marine Department to carry out reviews of the PCWA fees at a 3-year interval in matching with the 3-year term of the Berth License Agreement. There existed a decreasing trend in the actual rate of return of PCWAs since 2005-06 as evidenced in Figure 1 when the financial performance was converted back to an annual basis.

Both the MSO and PCWA operators advocate two positions: (a) a restricted tender arrangement; and (b) a 5-year tenure of the agreement, so that they can invest and upgrade their equipment to enhance productivity. The Hong Kong government seems to stand firm on an open bidding arrangement, but seems to accommodate the idea of a longer agreement. The 2011-16 Berth License Agreements run for a term of five years, which is good news for the operators. But even with such a favorable policy, it is expected that three out of the existing eight PCWAs will be phased out progressively by 2020. From the government side, it may expect an even lower actual rate of return from PCWAs if things remain unchanged.



This paper looks further into the financial performance at the district level and finds that of the six PCWAs in operation in July 2012, both Western District and Chai Wan PCWAs had been operating at deficits for many years (see Table). Staff cost accounted for about 54% of PCWAs' total expenditure.

Table: PCWAs operating at deficit (2007 to 2011)

Year	Western District PCWA	Chai Wan PCWA	Total
2007 - 2008	3.08 million	4.37 million	7.45 million

2008 - 2009	2.93 million	4.28 million	7.21 million
2009 - 2010	3.32 million	4.79 million	8.11 million
2010 - 2011	4.41 million	3.97 million	8.38 million

The dissatisfactory financial performance in PCWAs caused the Hong Kong government to question the economic benefit on MSOs. This is one of the reasons why the Hong Kong government discourages non cargo-working uses at the sites closest to mid-stream sites.

Conclusion

With the adoption of an open tender system to allocate the PCWA berths in the last ten years, the following facts are evidenced:

- (a) it has pushed up the operating costs of both the MSO and PCWA operators and stronger players have displaced the weaker existing operators.
- (b) the livelihood of the work force engaged in MSO or PCWA will be seriously affected because many of these workers are low-educated and they could not find alternative works in other trades.