

## Play or not to play—An analysis of the mechanism of the zero-commission Chinese outbound tours through a game theory approach

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### ABSTRACT

The purpose of this study is to demystify the mechanism of the so-called zero-commission tours that have become synonymous with the booming Chinese outbound tourism market in the past decade. Two models of game theory are applied to identify nine proposed key factors that constitute the “zero-tour” phenomenon. These involve interactions in both the temporal and spatial dimensions of all of the stakeholders concerned with such tours, from outbound tourists and outbound and inbound operators to local guides and governments both within and beyond the Chinese border. It is concluded that zero-commission tours, underpinned by the proposed factors and notwithstanding their current legal and practical viability, have a tremendous negative impact on all of the stakeholders. This study may serve as a reference for the drafting and implementation of both policy and business countermeasures to curb zero-commission tours, thus facilitating more positive contributions from Chinese outbound tourism to the development of world tourism.

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### 1. Introduction

A parasitic phenomenon that has existed within the booming Chinese outbound tourism sector ever since its major period of development in 1997 has been the so-called zero-commission tour, in which a group of Chinese outbound tourists is first attracted by the unbelievably cheap rack fares offered by an outbound tour operator and then cheated or even forced into paying for items that range from motorboat rides to platinum necklaces by the local tour operators at the outbound destination. The symbiosis between the zero-commission mode and Chinese outbound tourism first began in tours to Thailand in the late 1990s and then spread to Hong Kong and Macau, where it is flourishing at present, and there is every possibility that it will spread to newer markets such as Europe and Australia.

With growing recognition of the importance of the Chinese outbound market to the entire world—this market is estimated to exceed 100 million in visitor volume by 2020 (The United Nations World Tourism Organization (UNWTO), 2003)—the problem of the zero mode should be tackled before it leads to further detrimental consequences at the regional, continental, and even international levels. Thus, a clear understanding of the key factors that underpin the mechanism of this mode is essential.

The purpose of this study, which begins with a brief overview of the history of zero-commission tours within the general development of Chinese outbound tourism, is to analyze the distinct mechanism of these tours and identify the key factors inherent in this mechanism through the application of two game theory models.

Game theory, which accounts for the decision-making process of stakeholders who are well aware of mutuality, has been proved to be useful in accommodating issues that concern business pricing. The relevance of game theory to the pricing of the tourism products discussed here is further underlined by the key theoretical assumptions in game theory that can be comfortably embedded in a service product context.

### 2. The zero-commission tour

The zero-commission tour is a pricing scheme that is widely adopted by local tour operators at outbound destinations that receive Chinese group package tourists. Local operators, instead of making a normal offer to outbound tour operators in China, including the costs of accommodation, transportation, and food and beverages, along with a necessary profit margin, charge their Chinese business partners nothing up-front and then try their very best, often through local tour guides, to get the tourists to spend on miscellaneous shopping or entertainment items during the tour. The commissions from these items are then collected to recoup the prepaid costs and at the same time to make a profit. This approach has proved to be so successful a strategy in targeting the Chinese

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outbound market that in many cases the extreme “minus-commission” mode is quite prevalent. In this mode, the outbound operators charge the local operators a certain fee for every customer solicited. Thus, the key feature of zero-mode tours, in comparison with normal tours, lies in the direction of the cash flow among the parties concerned, as is illustrated in Fig. 1. The fares paid by the guests diverge both spatially and temporally, and there is no flow—or even a reverse flow—between the wholesaler (the local operator) and the retailer (the outbound operator). For tourists, the zero-commission tour is best identified by a dual impression of pull and push factors, namely the unbelievably cheap rack prices offered by outbound operators to pull potential guests into purchasing the tour on the one hand—in most cases, tourists are charged only the cost of the airfare and visa application fees—and, on the other hand, the endless persuasion from local guides during the tour that pushes guests into participating in additional paid activities, particularly shopping for a wide range of luxury items such as jewelry, watches, and cosmetic products.

The zero-commission mode has seen a concomitant pace of development with that of Chinese outbound tourism in general, in both temporal and spatial terms (Jia, He, & Cui, 2006; Xu, 2004). What is interesting to note is that the crack down on such tours by Chinese tourism authorities around 2000, although it led to a steep decrease in their incidence, also precipitated an even steeper drop in the total number of visitors to the outbound destinations (Yang & Zhou, 2005). Such causality between the zero mode and total visitation was further seen in the period following the Severe Acute Respiratory Syndrome (SARS) epidemic from mid-2003 until the present. Although this mode is still primarily concentrated in traditional outbound destinations for mainland Chinese tourists, such as Thailand, Singapore, Malaysia, Hong Kong and Macau, it is now rapidly penetrating into new destinations, such as Australia, Japan and Europe. The term “ripple effect,” which was used by Zhang and Heung (2001) to describe the general development pattern of Chinese outbound tourism, seems to apply perfectly to the geographic rampancy of zero-commission tours.

### 3. Game theory

Game theory is a branch of economic theory that is related to the study of decision-making: several stakeholders must make choices that potentially affect one another's interests, and the key issue is the equilibrium status at the point at which none of the stakeholders can make any unilateral decision to become better-off (Myerson, 1991). The key concept in game theory is the interactivity of the decision-making processes among all of the stakeholders. The strategies adopted by one stakeholder have not only been influenced by, but also influence, those made by the others. This interactivity goes one step further than traditional microeconomic thought in which the decision-making process of an individual who is seeking utility maximization is determined only by given and

static factors such as price and personal income (Rasmusen, 2001). By emphasizing the interdependency of the decision-making processes among all of the parties concerned, game theory adds an extra factor, that of the choices made by others, to the list of determinants that influence the decision-making process of each individual. In this sense, game theory is primarily focused on decision-making under mutual external economic conditions (Nasar, 1998).

In general, the five key components of the various models derived from game theory include the Player, the Action, the Sequence, Information, and Utility (Gibbons, 1992). The player is the stakeholder who makes the decision in the game, and here a player may be interpreted as an individual or a group of individuals making a decision (Turocy & von Stengel, 2002). The action refers to the combination of the temporal and spatial arrangements of the strategies adopted by the player. The sequence indicates the order and repetition of the strategies initiated by the players when multiple players are involved in the game. Information relates to the messages available to each player that may influence the final equilibrium of the game. This factor is regarded as crucial, with the extent of the access to and the accuracy of the information obtained having a very big say in determining who the dominant players of the game are (Binmore, 1991). The final component, utility, has a similar meaning to its counterpart in traditional microeconomics: the payoff or profit that reflects the desirability of a particular outcome to a player. It is worth noting that in game theory the expected utility to a player is usually weighted with the respective probabilities of the strategies that may be adopted (Fudenberg & Tirole, 1991).

Three basic assumptions underlie the key components mentioned above, upon which some of the categorizations of the game can be made and its applications in the real world elicited. First, an important assumption is that all of the players in the game are rational, which means that each player pursues the well-defined exogenous objectives that are most preferable to him or her, based on his or her knowledge and/or expectations of the behavior of the other players (Dixit & Nalebuff, 1991). It is on this assumption that a game can be divided into two branches, namely, a cooperative game, in which the sets of possible actions of individual players are jointly made with others, and a non-cooperative game, in which individual players make decisions separately based on their own interests. It should be further noted that cooperation can and often does arise in non-cooperative models in situations in which the players find that being in a coalition is in their own best interests (Turocy & von Stengel, 2002). Second, in terms of the sequence, the game can be further classified into a static game, in which the players take simultaneous actions, or a dynamic or repetitive game, in which the actions are taken in sequenced orders. A strategic or normal form is introduced to study a static game, whereas an extensive form, or a game tree, is applied in dynamic game research. Finally, turning to the information component, a game can be categorized into a perfect information game, in which any player at the point of making a decision possesses complete knowledge of the moves of the other participants, and an imperfect game, in which the players are not well informed of one another's actions.

With its strategic perspective, realistic analytical system, and powerful mathematical supporting models and tools, game theory has been widely applied in many microeconomic fields, particularly in pricing issues between competitors and in customer-manufacturer interactions covering a wide range of products—from disposable bottles to home appliances and communication gadgets. The mainstream recognition of game theory in modern microeconomics is best testified by the conferment of the Nobel Prize in Economic Sciences to scholars in this area in 1994, 1996, and 2005. With its unique strength in formulating, structuring, analyzing, and, finally, understanding scenarios at the strategic level, game

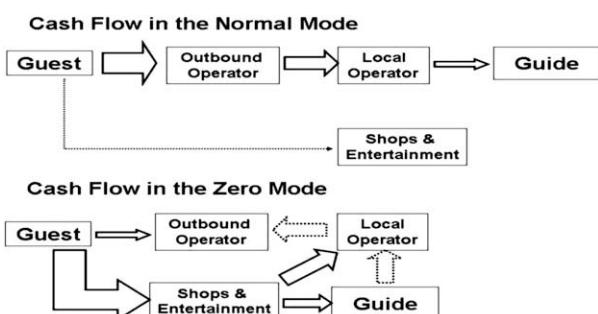


Fig. 1. The directions of cash flow in the normal and zero modes. source: Jia (2004).

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