MODELING QUALITY DETERIORATION IN PACKAGE TOURS: AN APPLICATION TO CHINA'S "ZERO-FARE" GROUP TOURS

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CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

Yong Chen

PREFACE*

It's been almost four years since I decided to apply for a doctorate in tourism and hospitality. I was twenty-six at the time, single, waiting for my graduation as a master in tourism, and generally impatient with life. A vacancy in The Hong Kong Polytechnic University's School of Hotel and Tourism Management had opened up, and several teachers suggested that I apply, thinking that my study as a graduate in tourism management, and work from my days as a teaching assistant in tourism department, would make me a viable applicant. After discussing it with my family, I entered the race and proceeded to do what every first-time applicant does: I asked advice from anyone who would be helpful. I gathered information in the library and on the Internet, prepared IELTS and drafted my research proposal. If two guys were talking about overseas study in the classroom, I would never hesitate to buddy up with them to share their experience. And everyone I met, I'd get some version of the same two questions.

"Why do you choose Hong Kong?"

And then: "You seem like a nice enough guy. Why do you want to go into something negligible and trivial like tourism?"

I was familiar with the questions, a variant on the questions asked of me years earlier, when I'd first studied what was then called *Tourism Management* as a college freshman at Wuhan Polytechnic University, and a master at Fudan University. For the first question, what they meant to was the United States or Europe rather than Hong Kong, which has

too often and for so long been seen among some mainland Chinese as a cultural desert without room for rigorously scientific research. Some one hundred years ago, our counterpart generations living in between the late nineteenth century and early twentieth had set their journey to the West, the United States, Europe, and Japan, to seek the truth which they believed in could save the then devastating country out of poverty, weakness and autocracy. One hundred years later, we are seeing an overwhelming number of young Chinese joined by high school graduates follow the steps of our grand-grandfathers' generations to the other coast of the Pacific. History seems to replicate itself today yet in quite a different way. We no longer shoulder the grave and great responsibility as the previous generations did, to fulfill the dream of founding a politically open and economically strong nation, in part because China has been claimed the second largest economy to the United States and has undergone an unprecedented growth rate over the past three decades. We shoulder the responsibility of our own and our families—millions of individually humble dreams bestowed by our times.

According to them, of course, the dreams could never have come true in Hong Kong and in the field of tourism. It signaled a cynicism not simply with tourism but with the stereotype judgment on scholarly research conducted in some underdeveloped fields, a cynicism that—at least among the well-established disciplines I sought to represent—had been nourished by the plausible judgment not on what you have done but on where you stand. In response, I would usually smile and nod and say that I understood the skepticism, but that there was—and always had been—another tradition to tourism studies, a tradition that stretched from the days of the inception of *Annals of Tourism*

Research to the theoretical beauty of Jafar Jafari's multidisciplinary tourism education and research framework, a tradition based on the simple belief that tourism as a social phenomenon needs to be conceptualized, and that its economic significance deserves rigorously scientific research not only from industry but also from academia, and that if enough students believe in the value of that conceptualization and act on it, then we might not achieve revolutionary breakthroughs in terms of advancing the fundamental theories that underpin tourism studies such as those in economics, but we can get something meaningful done in it. It was a pretty convincing speech, I thought. And although I'm not sure that the people who heard me deliver it were similarly impressed, enough of them appreciated my earnestness and youthful swagger that I made it during my research and in writing up this thesis as it now presents to the readers.

[*] This preface is a copycat of part of the prologue of Barack Obama's autobiography *The Audacity of Hope: Thoughts on Reclaiming the American Dream*. I made this attempt and crafted it in such an unusual way, because as I read this book for the first time I realized what Obama thought on politics was pretty much similar to my then scepticism on the study of tourism as a discipline.

ABSTRACT

The business of package tours has seen a wide range of inferior quality. The most prominent one would be the so-called "zero-fare" group tours, a terminology originated in China's outbound tourism market to portray a complex of inferior quality. Drawing upon the Lemons problem and reputation theories which regard asymmetric information as the fundamental cause of inferior quality, this study has developed a set of eight agency models that conceptualize inferior quality in package tours as either adverse selection in the source market, moral hazard at the destination, or a blend of both. At the base level of these agency models is a causal relationship between adverse selection and moral hazard, which provides a theoretical account for "zero-fare" group tours as a complex of inferior quality. These agency models were tested at the levels of products, individual tourists, and the market as a whole with applications to China's outbound tourism. The data were collected via two surveys which were administered to tour escorts and individual tourists at the product and individual tourist levels respectively from December 2010 to June 2011 and, at the market-level, from a secondary dataset that covers the development of China's outbound tourism market over the period of 1993 to 2010. The results have shown that asymmetric information measured by production technology and effort, respectively, resulted in tourists' choice of tour packages with rigid production technologies in the source market and tour operators' supply of low-quality travel services at the destination, indicating the occurrence of adverse selection and moral hazard. Of particular importance is that adverse selection was found to be generated by moral hazard, suggesting a life cycle of inferior quality in package tours.

Keywords: quality deterioration, information asymmetry, agency problems, package tours, “zero-fare” group tours, China

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Neither this thesis nor my whole study in The Hong Kong Polytechnic University's School of Hotel and Tourism Management would have been possible without the extraordinary support, encouragement, and guidance from a number of people. My heartfelt gratitude first goes to my chief supervisor, Dr. Barry Mak, who for the past three years has provided me with abundant opportunities to think freely and critically, which allowed me to explore what I have not yet to know as well as to question what I think I have known. At each stage of my study, he guided me throughout my study from commenting on my research proposal, confirmation report, and the manuscript of the thesis to assisting me in data collection. I would also like to express my gratitude to my co-supervisor, Professor Haiyan Song, who introduced me to the School of Hotel and Tourism Management. It was Professor Song who suggested me the topic of China's "zero-fare" group tours which I realized was a viable filed that deserves attention. I thank my former supervisor at Fudan University, Professor Yingzhi Guo, who opened up my views to scientific research in tourism and has encouraged me all the way even after I graduated from Fudan some four years ago.

I would like to thank my supervisory committee and confirmation panel members, Professor Bob McKercher, Professor Haiyan Song, Dr. Hanqin Zhang, Dr. Mimi Li, and Dr. Barry Mak, whose valuable suggestions got my study back on track and arrived at what this thesis looks today. I would like to thank my board of examination members, Professor Larry Dwyer from the University of New South Wales and Professor Donggen

Wang from Hong Kong Baptist University, for their time and valuable comments on my thesis. I thank Dr. Zhang for chairing my oral defense of the thesis. I am grateful to Professor McKercher, as I really enjoyed his thoughts and the way he delivered his lectures. I am also grateful to Dr. Li, who offered me a part-time research association job which reduced my financial burden in my extended study period and broadened my views of tourism studies by handling a couple of research projects. Moreover, I would like to thank Dr. Gang Li at the University of Surry for his guidance in analytical techniques during his visit in the School of Hotel and Tourism Management, and thank my two fellow classmates, Mr. Jason Chen and Miss Vera Lin, for their guidance in this regard, too. I am grateful to Miss Karen Xie, my then fellow classmate and one of my best friends, for her comments and suggestions on my thesis.

Of course, this study could not entirely be accomplished without those who assisted me in data collection. They are Dr. Zhou Li and Miss Hui Dou at Jinan University's Shenzhen Tourism College, Mr. Quanlin Zhou in the Shenzhen Tourism Association, and many others in a couple of international travel agencies based in Shenzhen. I would like to thank my colleague, Mr. Hanqun Song, who helped me scrutinize my questionnaires and think over the feasibility of data collection. Finally, my almost four years' study would no doubt be boring without a number of friends who really enriched my life and continue to shape my world today. I am always a lucky guy having seen my old pals' graduation and fresh classmates' enrollment, strengthening the old friendships as well as establishing new ones. My special thanks go to my fellow classmates and colleagues who have made a world of difference to me over the past four years:

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LIST OF ABBREVIATIONS

ABTA	Association of British Travel Agents
ADF	asymptotic distribution-free estimation
ADS	Approved Destination Status
AMAC	America's Most Admired Companies
AVE	average variance extracted
CBR	customer-based corporate reputation
CFA	confirmatory factor analysis
CFI	comparative fit index
CNTA	China National Tourism Administration
CNY	Chinese yuan
EF	effort
EFA	exploratory factor analysis
GFI	goodness-of-fit index
HKTB	Hong Kong Tourism Board
ITO	inbound tour operator
ITOR	inbound tour operator's reputation
IVS	Individual Visit Scheme
KMO	Kaiser-Meyer-Olkin measure of sampling adequacy
ML	maximum likelihood estimation
MQS	minimum quality standard
NBS	National Bureau of Statistics of China

OTO	outbound tour operator
OTOR	outbound tour operator’s reputation
PS	price sensitivity
PT	production technology
QTS	Quality Tourism Services
RMSEA	root mean square error of approximation
SARS	severe acute respiratory syndrome
SEM	structural equation modeling
SMC	squared multiple correlation
SQ	service quality
TLI	Tucker-Lewis fit index
UNWTO	World Tourism Organization
USTOA	United States Tour Operators Associations
VFR	visiting-friends-and-relatives
VIF	variance inflation factor

LIST OF SYMBOLS

A	information of production technology
D	demand
e	information noise or relevant information
E	information of effort
f	flexible production technology
F	firm heterogeneity as tour operators; F-ratio, both used where appropriate
g	quality of a tour package
h	high-level effort
i	individual agents used as a broad term
I	informational content of a tour package
j	individual tour packages
k_1	individual OTOs
k_2	individual ITOs
l	low-level effort
L	individual heterogeneity as tourists
M	product heterogeneity as package tours
p	price of a tour package; statistical significance, both used where appropriate
P	production technology defined by price; probability function, both used where appropriate

q	quantity of a tour package or length of stay
Q	production technology defined by quantity
r	rigid production technology
R	reputation; multiple correlation coefficient, both used where appropriate
R^2	coefficient of determination
S	supply
t	time
u	individual travel service components
v	quantity of production technology
W	test statistic W
X	observable characteristics of agents
Y	observable characteristics of tour operators
Z	choice and the occurrence of accidents of insurance
df	degrees of freedom
χ^2	Chi-square test statistic
ε	error term
η	error term

1 INTRODUCTION

The business of package tours[1] has dominated in the international travel market since the aftermath of the Second World War and, today, is probably the largest travel business worldwide. This business has too often seen a wide range of inferior quality, including tour operators'[2] misrepresentation of product information, default on contracted services (Atherton, 1994; Elton, 1984; Grant, 1996; Reece, 2009; Sheldon, 1986) as well as misguiding consumptions and cheating tourists at the destination (Arlt, 2006; Dwyer, King, & Prideaux, 2007; Keating, 2009; Pan & Laws, 2003; Prideaux, King, Dwyer, & Hobson, 2006). Among the most prominent of these would be the so-called "zero-fare" group tours, a terminology originated in the Chinese context describing a relationship of sharing tour fares between outbound tour operators (OTOs) in China and inbound tour operators (ITOs) at the destination (Jia, 2004, 2005, 2006; Tan, 2007; Tse, 2003; Zhang, Heung, & Yan, 2009a; Zhang, Yan, & Li, 2009b). This terminology, according to its semantics, indicates that OTOs, in principle, transfer no tour fares—hence, a "zero-fare" relation—downward to ITOs which play a role in service delivery at the destination (Jia, 2004, 2005, 2006). The "zero-fare" relation is remarkably in contrast with the one in the normal business mode, in which OTOs and ITOs share tour fares on a pre-negotiated proportional basis (Jia, 2004, 2005, 2006). In other words, the relationship of sharing tour fares on both sides should always be positive, thereby providing sufficient revenues not only to OTOs but also to ITOs.

[1] The terms *package tour* and *tour package* are interchangeably used throughout the text. Yet a slight difference is that when using the former, we refer it to a travel or business mode and when using the latter, we refer it to a product.

[2] The term *tour operator* when used in the text in a broad fashion denotes both tour operators and travel agencies whereas in a narrow fashion denotes only OTO and/or ITO.

Substantial attention devoted to the problem of "zero-fare" group tours lies in the observation of a broad range of inferior quality that is believed to be associated with this problem. Indicators of this range of inferior quality include, but are not limited to, tour operators' price discrimination in the source market, changing travel itineraries at the destination without approval by tourists, arranging shopping to shops favored by tour operators rather than by tourists, misguiding and deceiving tourists to spend on what they do not really need and, in general, cutting service quality throughout the supply chain of package tours (Curtin & Busby, 1999; Jia, 2004, 2005, 2006; Pan & Laws, 2003; Prideaux et al., 2006; Tse, 2003; Zhang et al., 2009a, 2009b). While the terminology of "zero-fare" group tours is almost exclusively used in the Chinese context, problems of this kind have been widely reported in a number of Asian source markets, including Japan, South Korea, Taiwan, and Hong Kong (Dwyer et al., 2007; Kim & Sohn, 2002; Prideaux, 1998; Prideaux et al., 2006). The problem of "zero-fare" group tours in China is viewed as a somewhat replication of what has happened in those source markets that underwent a fundamental transition from the production of high-quality travel services at the destination to price competition in the source market (Arlt, 2006; Jia, 2004, 2005, 2006; Prideaux et al., 2006).

1.1 The Problem of "Zero-fare" Group Tours

Although the problem of "zero-fare" group tours has been a public concern in China's outbound tourism market since the late 1990s, scholarly research on this problem is surprisingly barren. Evidence has not shown many Chinese studies to explore this problem and, if any, largely to confine their scope in describing rather than explaining

this problem (Jia, 2004, 2005, 2006; Tan, 2007; Tse, 2003). The English literature refers to this problem either by translating the Chinese term *ling-tuan-fei* ("zero-fare" group tours) into its English equivalents like zero-fare travel package (Tse, 2003), zero-dollar tours and minus-dollar tours (Arlt, 2006), and zero-commission tours (Zhang et al., 2009a, 2009b), or by using some vague terms like dubious businesses, cheap group tours, and unethical businesses (Dwyer et al., 2007; Keating, 2009; King, Dwyer, & Prideaux, 2006; Prideaux et al., 2006). Below presents a review on the terminologies and frameworks of "zero-fare" group tours.

1.1.1 Terminologies

The term "zero-fare" group tours is dubbed by the Chinese media as *ling-tuan-fei* to denote a sort of low-quality services detected in the operation of package tours. This operation, characterized by "zero-fare" group tours, suggests that OTOs no longer transfer tour fares to ITOs as they otherwise should in the normal business mode, and consequently yielding a "zero-fare" relation between both (Jia, 2004, 2005, 2006). Yet the "zero-fare" relation is suggestive, as measuring the exact size of tour fares transferred from OTOs to ITOs is difficult. In practice, this term is thus broadly defined to include other two analogies, namely *fu-tuan-fei* ("minus-fare" group tours) and *ling-li-run* ("zero-profit" group tours), two business modes that can be accommodated by the typical "zero-fare" group tours (Jia, 2004, 2005, 2006). The term "minus-fare" group tours simply indicates that the relationship of sharing tour fares between OTOs and ITOs is negative; in other words, OTOs do not share tour fares with ITOs but receive "tour fares" from ITOs (Jia, 2004, 2005, 2006). The term "zero-profit" group tours suggests that, although

OTOs share tour fares with ITOs, the proportion of tour fares is insufficient to cover the costs induced on the ITOs' side for service delivery at the destination (Jia, 2004, 2005, 2006).

Given that the problem of "zero-fare" group tours is context-specific in Chinese, the English literature has not yet coined a term that can precisely capture what "zero-fare" group tours are referred to in Chinese. Two approaches are evident in the English literature to define this problem. One is a translation of *ling-tuan-fei* by Chinese researchers directly into English as, for example, zero-dollar tours and zero-commission Chinese outbound tours. This approach seems straightforward as the problem has been almost exclusively reported in China's outbound tourism market, in which group package tours are one of the striking characteristics (Arlt, 2006; Prideaux, 1998; Zhang et al., 2009a, 2009b). Despite the lack of an English term to denote "zero-fare" group tours, the English literature dubbed them in a general fashion as restrictive businesses, unethical businesses, dubious practices, as well as cheap group tours (Dwyer et al., 2007; Keating, 2009; King et al., 2006; Prideaux et al., 2006). All of these indicators of inferior quality documented were claimed to be closely related to tourists originated from Asian source markets primarily including China, Japan, South Korea, Taiwan, and Hong Kong (Dwyer et al., 2007; King et al., 2006; Prideaux, 1998; Prideaux et al., 2006).

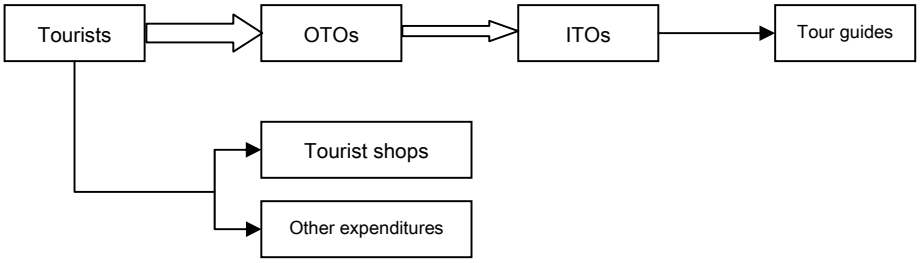
1.1.2 Frameworks

Apart from the terminologies that attempt to distinguish the problem of "zero-fare" group tours from other types of inferior quality, various frameworks have been developed to

portrayed this problem in great detail, which include Jia (2004, 2005, 2006), Prideaux et al. (2006), and Zhang et al. (2009a, 2009b). Drawing upon empirical evidence, the three frameworks aim to conceptualize this problem in a way that rigorously theoretical models can apply.

1.1.2.1 Jia (2004, 2005, 2006)

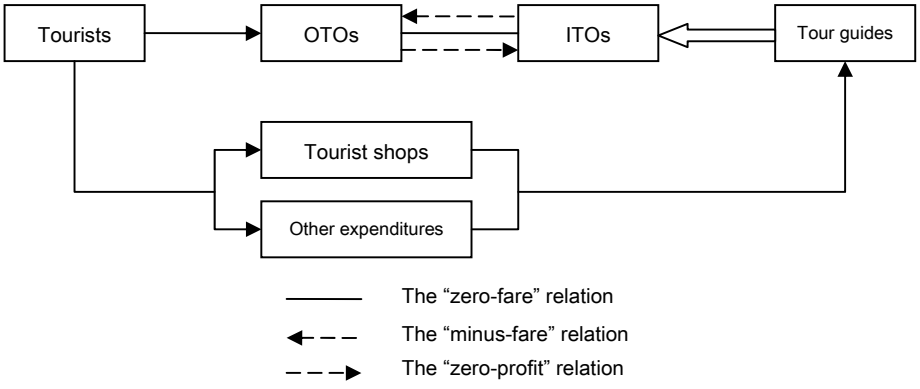
Jia's (2004, 2005, 2006) framework is regarded as one of the first attempts to portray "zero-fare" group tours in the Chinese context. In view of "zero-fare" group tours as a business mode adopted by tour operators, Jia (2004, 2005, 2006) developed his framework of "zero-fare" group tours by comparing the normal business mode and that of "zero-fare" group tours. A distinction is drawn by investigating how tour fares are allocated through the supply chain of a normal business mode and that of "zero-fare" group tours. In the normal business mode, tour fares charged in the source market are shared, in sequence, by OTOs which act in selling package tours, by ITOs which act in delivering travel services, and by local tour guides who supply guiding services (Figure 1.1). In short, each economic participant in the supply chain commands a proportion of tour fares as a principle of sharing tour fares for covering costs on each side in the production of package tours. Nevertheless, this principle is violated in the operation of "zero-fare" group tours: OTOs, which allocate tour fares, no longer pass on tour fares to ITOs, resulting in a "zero-fare" relation between both (Figure 1.2). The violation of this principle also defines the operations of "minus-fare" group tours and "zero-profit" group tours as previously mentioned (Figure 1.2).



Notes: The direction and weight of the arrows represent the flow and the magnitude of tour fares.

Figure 1.1. The normal business mode of package tours

Source: Jia (2004, 2005, 2006).



Notes: The direction and weight of the arrows represent the flow and the magnitude of tour fares.

Figure 1.2. The typical business mode of "zero-fare" group tours

Source: Jia (2004, 2005, 2006).

Jia's (2004, 2005, 2006) framework outlines a process by which tour fares are shared among different economic participants in the supply chain, primarily including OTOs and ITOs. The "zero-fare" relation, according to Jia (2004, 2005, 2006), is associated with the structure of tourist budget, which is composed of two parts—tour fares charged by OTOs in the source market and tourists' discretionary expenditures at the destination. Since

ITOs can be rewarded with commissions stemming from tourists' discretionary expenditures, they may rely less on tour fares transferred by OTOs. Tourists' discretionary expenditures have been cited, both in the media and in scholarly research, as the most important and apparent cause of the prevalence of "zero-fare" group tours (Jia, 2004, 2005, 2006; King et al., 2006; Prideaux et al., 2006). This conjecture is intuitive for being largely grounded on a variety of news reports and observations of the industry which, over the period of 2000 to 2005, had witnessed an overwhelming number of incidents relating to "zero-fare" group tours (Jia, 2004, 2005, 2006). In this sense, Jia's (2004, 2005, 2006) framework represents a perspective of how the industry views this problem.

1.1.2.2 Prideaux el al. (2006)

Prideaux et al. (2006) might be the first English study on cheap group tours, which is similar to "zero-fare" group tours in terms of the business mode. Particularly, the business mode is about sharing tour fares. As a matter of fact, both OTOs and ITOs possess two sources of profits, one stemming from tour fares and the other from tourists' discretionary expenditures. Prideaux et al. (2006) illustrated the sharing of tour fares not only between OTOs and ITOs but also among almost all economic participants in the supply chain of package tours (Figure 1.3). Similar to Jia's (2004, 2005, 2006) assertion, the principle of sharing tour fares is fundamentally changed in operating cheap group tours, for service providers including ITOs rely less upon tour fares while more on commissions as their second source of profits. The consequence is two-fold. On the one hand, the price charged in the source market could be sufficiently low and, on the other,

tourists may actually pay more for cheap group tours because their discretionary expenditures at the destination would be manipulated by ITOs to compensate for the loss derived from the low market price. Such a transition of profit structure may generate either a "zero-fare," "minus-fare," or "zero-profit" relation between OTOs and ITOs, none of which was acknowledged by this framework though.

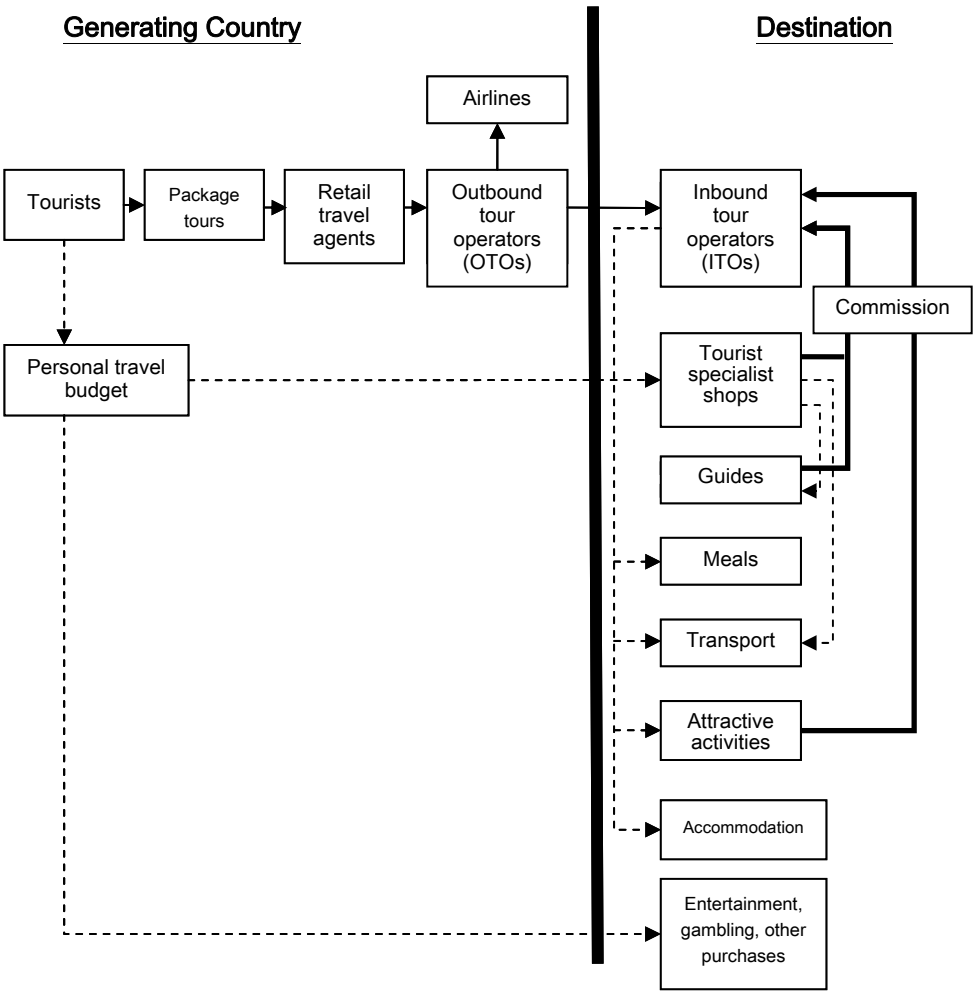


Figure 1.3. The operation of the Chinese inbound package tours in Australia

Source: Prideaux et al. (2006).

1.1.2.3 Zhang et al. (2009a, 2009b)

The term *ling-tuan-fei* was referred to as zero-commission tours in Zhang et al. (2009a, 2009b). The business mode of zero-commission tours was, to a large extent, viewed as a pricing scheme by which OTOs can expand their market share in the short run (Zhang et al., 2009a). Figure 1.4 shows a framework consisting of nine propositions, which are categorized into three groups attempting to portray "zero-fare" group tours in a comprehensive and inclusive manner. The first group incorporates Factors 3, 4, 6 and 8, illustrating the actions of tour operators in selling package tours and delivering travel services; the second one incorporates Factors 1, 2 and 9, addressing the administrative and regulatory issues of China's outbound tourism market; and the third one incorporating Factors 5 and 7 addresses individual tourists' behavior (Zhang et al., 2009b). On the basis of this framework, Zhang et al. (2009a, 2009b) concluded that tour operators might be better off if they slash prices of package tours before their competitors start to act, which results in "zero-fare" group tours as a pricing strategy.

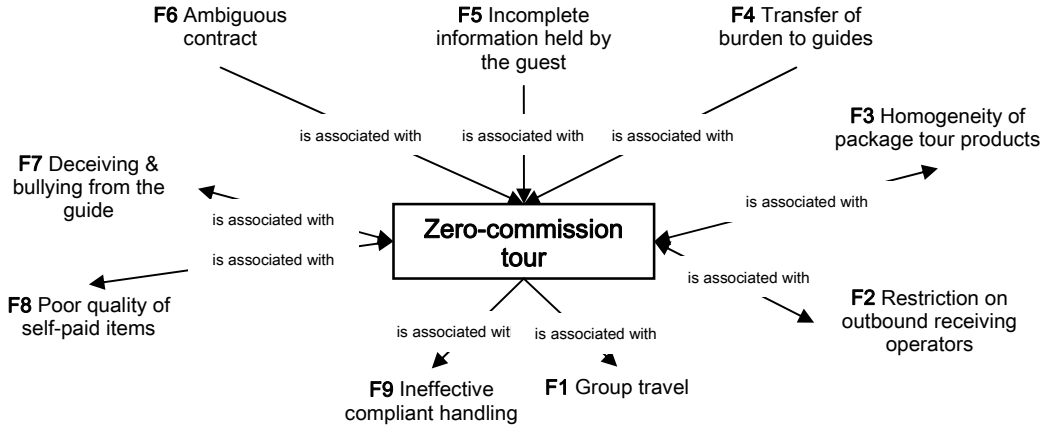


Figure 1.4. The factors constituting the problem of zero-commission tour

Source: Zhang et al. (2009b).

1.2 "Zero-fare" Group Tours as a Complex of Inferior Quality: An Analytic Framework

The primary defect of the previous three frameworks would be their failure to draw a line between the causes of "zero-fare" group tours and their factual matters, that is, a distinction between what this problem is and why it is. This failure is probably due to the dual objectives of these frameworks which, on the one hand, intended to portray this problem and on the other to explain it. Factual matters of "zero-fare" group tours, primarily including low price, low service quality, and the "zero-fare" relation, have been misinterpreted as the causes of "zero-fare" group tours (Jia, 2004, 2005, 2006; Prideaux et al., 2006; Zhang et al., 2009a, 2009b). Yet in an explanatory fashion, the question is what accounts for low price, low service quality, and the "zero-fare" relation. When it comes to explanatory research, a particular defect of these frameworks is their literal description of a process by which tour fares are shared while without any theories being underpinned. For this reason, these frameworks are neither theoretically analytical nor empirically testable. The present study therefore redefines "zero-fare" group tours as a complex of inferior quality in an analytical framework upon which explanatory research can share a factual ground towards explaining it (Figure 1.5).

1.2.1 The "Low-price" Puzzle

The problem of "zero-fare" group tours closely relates to the price of package tours or, when in relation to tour operators, tour fares. In most cases, the price of "zero-fare" group tours merely covers the cost of flight and accommodation but has been misrepresented as the market price for the whole tour package. The low-price puzzle is derived, for the

market price could be distorted by excluding the cost of some travel services that are speculated in the contract. In consequence, tourists are misinformed of the price of package tours, making their purchase decisions upon the distorted price, which is substantially lower than the actual price. Due to the low market price, it becomes difficult for both OTOs and ITOs to recoup their revenues solely from tourists' payment for package tours rather than from tourist expenditures at the destination. Tourist expenditures are in effect discretionary but, in the case of "zero-fare" group tours, can probably be manipulated by tour operators. This type of tourist expenditures is referred to as "hidden cost" of package tours (Prideaux et al., 2006). The market price, on the one hand, can be slashed in the source market to appeal to as many tourists as possible; and the hidden cost, on the other hand, would actually increase due to the widespread misconduct of forced shopping, misleading consumptions, and cheatings at the destination.

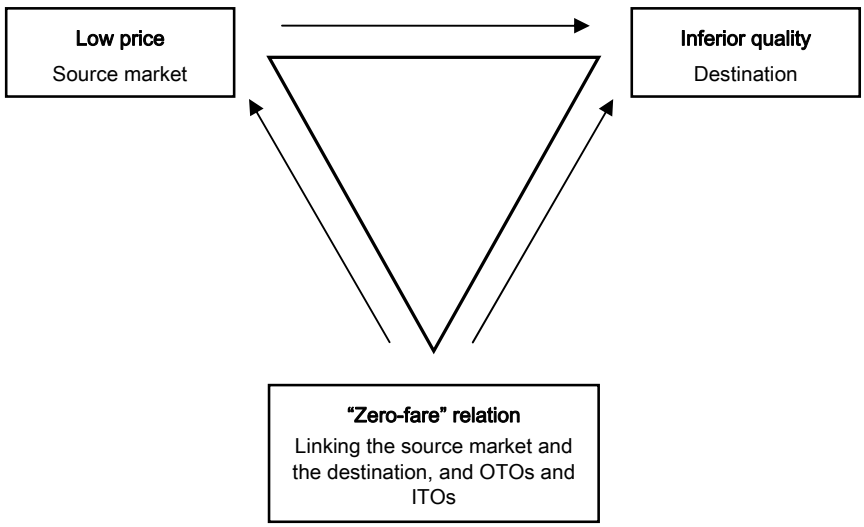


Figure 1.5. An analytic framework of "zero-fare" group tours

1.2.2 Inferior Quality

Inferior quality may represent the most important consequence of "zero-fare" group tours as a business mode. It has been frequently mentioned in the media that quality of package tours is underprovided by both OTOs and ITOs, especially in the sectors of shopping and discretionary consumption. Ultimately, the quality standard of the industry could to a large extent be deteriorated. Inferior quality, as the media revealed, is not a result of service failure but of tour operators' intention to extract profits through exploiting tourist expenditures at the destination. Indicators of inferior quality have been reported to include, but are not limited to (Kim & Sohn, 2002; King et al., 2006; Pan & Laws, 2003; Prideaux et al., 2006):

- Changing the travel itinerary without consultation or approval by tourists;
- Uncompetitive shopping arrangements whereby tourists' choices are limited to shops favored by tour operators, for example, those that pay tour operators commissions;
- False or misleading practices aimed at deceiving tourists at the destination; and
- Low service quality: package tours that do not feature the 'best' attractions at the destination or services delivered by tour operators are of low standard.

Indicators of "zero-fare" group tours as a complex of inferior quality may differ by situations. For example, since shopping has been the largest expenditure of Asian tourists, particularly of Chinese, Japanese, and South Korean, shopping-related misconduct such as misleading shopping, forced shopping, and deceptions on shopping have been most

frequently detected at the destination. In addition, price discrimination has been undertaken by OTOs on some tourists, such as the elderly and children, who have relatively low spending power and thereby are charged a higher price in the source market (Jia, 2005). Yet ITOs may bear risks when tourists refuse to undertake the activities that are not prearranged in the travel itinerary. In order to transfer the risks, ITOs may "sell" tourists to tour guides, similar to tourists being "traded" from OTOs to ITOs in the case of "minus-fare" group tours. This has led to the so-called "black market," an extreme case of "zero-fare" group tours documented in Southern China's Hainan province, where tourists are controlled by uncertificated tour operators and tour guides.

1.2.3 The "Zero-fare" Relation

The "zero-fare" relation delineates the relationship between OTOs and ITOs in sharing tour fares in a joint production of package tours. This relation is of critical importance in defining "zero-fare" group tours as well as in explaining how price would be lowered and quality would be underprovided. The profit structure of normal tour package businesses relies upon the total tour fares—the market price—charged in the source market, of which a proportion will be passed on to ITOs for covering the costs of travel services delivered at the destination. In the case of "zero-fare" group tours, OTOs actually possess the total amount of tour fares while ITOs solely rely on tourist expenditures for profit making-up. The terminology of "zero-fare" group tours is thus coined in the sense that no tour fares are passed on to ITOs. Yet the "zero-fare" relation does not precisely delineate the magnitude of the relationship of sharing tour fares between OTOs and ITOs but is rather suggestive to incorporate a "zero-profit" or "minus-fare" relation.

Underlying the analytic framework is the assumption that package tours are jointly operated by OTOs in the source market and ITOs at the destination. This assumption indicates the possibility that tour fares can be shared between OTOs and ITOs. However, there are some exceptions where ITOs operate the business of package tour directly from the source market to the destination (King & Choi, 1999). In China's outbound tourism market, sharing tour fares between OTOs and ITOs is exactly the business practice (Jia 2004, 2005, 2006; Prideaux et al., 2006; Zhang et al., 2009b). While some linkages are outlined among the three fundamental factual matters of "zero-fare" group tours, any causal conclusions that are simply drawn from this framework would be problematic. This is because this framework is descriptive rather than explanatory. It aims to profile "zero-fare" group tours as a complex of inferior quality, which is characterized by low price and the "zero-fare" relation. Low price is charged in the source market as a means of appealing to prospect tourists whereas the "zero-fare" relation delineates the sharing of tour fares between OTOs and ITOs in the joint production. At the base level of this framework is the "zero-fare" relation that may determine low price in the source market and inferior quality at the destination.

1.3 Preliminaries: Theories and the Context

Theoretical analysis of inferior quality in general and "zero-fare" group tours in particular has primarily fallen into two research paradigms. One is the paradigm of consumer behavior research, which regards inferior quality as service failure or consumer dissatisfaction (Baker & Crompton, 2000; Vogt & Fesenmaier, 1995). In this paradigm, quality, either being low or high, can be assumed identical to individual consumers whose

psychological characteristics account for the difference in quality (Zeithaml, Parasuraman, & Berry, 1990). It becomes evident that consumer behavior research and, in particular, the concept of service quality, is incapable of explaining the production of inferior quality on the supply side. The second one is simply a case-specific investigation on "zero-fare" group tours with theoretical scopes ranging from game theory to the structure-conduct-performance paradigm (King et al., 2006; Prideaux et al., 2006; Dwyer et al., 2007). As an alternative analysis, the present study regards "zero-fare" group torus as a complex of inferior quality which is manifested in the aforementioned analytic framework (Figure 1.5). Explanatory research grounded on this framework deals with two issues. One is what accounts for the occurrence of the three individual factual matters, namely what causes low price, inferior quality and, importantly, the "zero-fare" relation. The second one is what accounts for the interconnections among the three factual matters, or why the "zero-fare" relation can result in low price and inferior quality.

Although these two issues remained unanswered in previous research, some did indicate the theoretical clue by drawing attention to the matter of information asymmetry, stating that tourists' inability in distinguishing between "zero-fare" group tours and other types of package tours may lead to their purchase of "zero-fare" group tours (Jia, 2004, 2005, 2006). Yet a systematical research along this line is absent. On the supply side, agency theories may shed light on how asymmetric information affects the sharing of tour fares between OTOs and ITOs which, in turn, could result in low price and inferior quality. Specifically for both theoretical implications and practical significance, a prominent example that can be cited in parallel with the problem of "zero-fare" group tours is the

Lemons problem, a type of inferior quality modeled by Akerlof (1970) in the market for used automobiles. The Lemons problem has been applied to various markets in which asymmetric information may lead to production of inferior quality (Ely & Välimäki, 2003; Johnson & Waldman, 2003; Shapiro, 1983). Given that the problem of "zero-fare" group tours is described by the present study as a complex of inferior quality in package tours, it is true, at least in theory, that "zero-fare" group tours are lemons in tourism.

The research paradigm set out in the present study builds upon the Lemons problem and the associated proposition in information economics that inferior quality at its most basic level is the consequence of information asymmetry. In the most fundamental sense, information asymmetry associated with package tours can be attributed to the fragmented nature of the tourism industry, which involves a variety of service sectors interconnected somewhat loosely with each other. Of particular importance is that tourism inherently involves the displacement of tourists and, hence, a separation of tourism businesses into the source market and the destination when it comes to the operation of package tours. The business of package tours operated separately by OTOs and ITOs seems to have impeded information transmission within the tourism system and, consequently, obtaining information is difficult and costly for tourists. Economic theories conclude that the market size of high quality is likely to shrink as the distance between two traders expands to the extent where communication is sufficiently difficult (Dixit, 2003). In terms of the operation of package tours, this conclusion implies that inferior quality of package tours could probably occur when OTOs and ITOs are separated in different geographical locations, especially when the source market is far from the destination.

As a bundle of travel services, package tours are characterized by intangibility, heterogeneity, and the inseparability of production and consumption, each of which may cause ambiguity and uncertainty to tourists in discerning quality (Keane, 1996, 1997; Nicolau & Sellers, 2010; Schwartz, 2006). From a tourist's standpoint, intangibility suggests that inspecting quality by searching for information of a variety of product brands is far from certain for package tours (Nelson, 1970). Heterogeneity may reveal that inspecting quality of package tours turns out to be costly, for tourists have to accumulate information on a wide range of service components packaged before arriving at an overall judgment (Caserta & Russo, 2002). The inseparability of production and consumption implies that the involvement of tourists in shaping travel experience may also increase quality uncertainty, even though quality supplied remains unchanged on the tour operators' side. In addition, package tours are of low purchase frequency, which makes it difficult for tourists to improve their information either by repurchasing a tour package or by revisiting a destination (Caserta & Russo, 2002; Crase & Jackson, 2000; Darby & Karni, 1973). Therefore, alleviating information asymmetry through tourists' learning experience, suggested by Nelson (1970) in the case of search quality, is less applicable to package tours than to other regularly-used commodities.

Tourism research on information asymmetry has explored issues such as the effect of asymmetric information on tour operators' pricing strategies, customers' booking decisions, and revenue management (Chen & Schwartz, 2006; Crase & Jackson, 2000; Schwartz, 2006). Having acknowledged the widespread phenomenon of asymmetric information in the tourism and hospitality industry, this line of research has also

investigated a variety of mechanisms suggested by economists to reduce information asymmetry, including building up reputation for the destination to sustain service quality (Caserta & Russo, 2002; Keane, 1996, 1997), authorizing quality certifications for hotels to encourage high quality production (Nicolau & Sellers, 2010), and highlighting the pivotal role of tour operators in providing information to tourists by assessing the performance of service providers (Clerides, Nearchou, & Pashardes, 2008). In relation to agency theories, some studies cautioned that information asymmetry in the tourism market may have created the problems of adverse selection and moral hazard on the supply side of travel services (Caserta & Russo, 2002; Keane, 1996, 1997; Reece, 2009). Nevertheless, little research has yet to explicitly penetrate into the underlying mechanism by which these agency problems may occur. The present study proceeds in this very direction to model inferior quality and, particularly, the problem of "zero-fare" group tours as the consequence of information asymmetry in package tours.

1.4 Objectives

Given that information asymmetry is ubiquitous, applying theories of information asymmetry in package tours can contribute to uncovering the fundamentals of various forms of inferior quality and, as such, to modeling inferior quality as observed on the supply side. With the applicability of information asymmetry to package tours, the present study aims to address two issues for theory development: One is what constitutes asymmetric information in package tours and the other is why such asymmetric information can cause quality deterioration of package tours. This raises a question as to whether the variants of inferior quality—as reviewed individually in the literature and

documented as a complex of "zero-fare" group tours—can be generalized in theory and, specifically in package tours, what such inferior quality would be. As far as China's "zero-fare" group tours are concerned, the present study aims to test the models of inferior quality of package tours in China's outbound tourism market to validate the models not only of their theoretical robustness but also of their empirical significance. Three prominent objectives are specified as follows:

- To define asymmetric information in package tours that matters to the supply and demand of inferior quality;
- To model inferior quality of package tours by examining the effects of asymmetric information and reputation in package tours; and
- To test the models of inferior quality of package tours with an application to China's "zero-fare" group tours.

1.5 Outline of the Study

The remainder of this study is organized as follows. Chapter 2 reviews the literature on information asymmetry in terms of the Lemons problem, agency theories, and reputation theories. This line of research underpins the research paradigm of asymmetric information set out in this chapter and the development of the theoretical models that follow. Chapter 3 presents the theoretical models of inferior quality in package tours and addresses their applicability to "zero-fare" group tours in particular. Chapter 4 devises research methods for the operationalization of the theoretical models and data collection. Chapters 5, 6, and 7 are three applications of the theoretical models in China's outbound

tourism market. The first application (Chapter 5) aims to verify the fundamental proposition set in this chapter that asymmetric information is the cause of inferior quality of package tours. The second one (Chapter 6) examines the size of inferior quality by taking account of both asymmetric information and reputation, a market-based mechanism that can mitigate the effect of asymmetric information. The third one (Chapter 7) explores the dynamics of inferior quality of package tours as the market evolves over time. Chapter 8 concludes with policy implications and research limitations.

2 LITERATURE REVIEW

This chapter reviews two bulks of studies in information economics regarding, first, how information asymmetry can result in inferior quality and market failure, and, second, the effect of reputation in alleviating inferior quality. Central to these studies is Akerlof's (1970) Lemons problem, suggesting that information asymmetry causes quality deterioration through distorting economic agents' behavior. Depending on the assumption of whether quality is exogenously or endogenously determined, market failure can be represented by two agency problems, namely adverse selection and moral hazard. Market failure of this sort is not only theoretically plausible but also empirically significant. One of the prominent examples is insurance, in which both theoretical and empirical agency models are originated and have been applied to various markets characterized by information asymmetry. The second bulk reviews theories of reputation which is regarded by Klein and Leffler (1981) and Shapiro (1982, 1983) as a market-based mechanism in mitigating information asymmetry. Underlying the two strands of research is the fundamental assumption that information is imperfect and asymmetrically distributed in the market, because of which the market could deviate from its efficiency, leading to the supply of inferior quality.

2.1 The Lemons Problem

The development of information economics in the second half of the twentieth century has dramatically changed the way economists see economic phenomena (Stiglitz, 1989, 2002). One of the revolutionary changes is the introduction of the notion of quality

uncertainty, which is a result of imperfect information in the market (Akerlof, 1970; Darby & Karni, 1973; Spence, 1977). This means that quality cannot be inspected for certainty, and information of quality can therefore influence market outcome. Quality uncertainty arises either because firms (producers or sellers) have imperfect ability of controlling or measuring quality or because consumers cannot obtain quality information as precise as they can in the market with perfect information (Liebeskind & Rumelt, 1989; Spence, 1977; Taylor, 1995). Examples of quality uncertainty may include product failure which describes a stochastic nature of breakdowns of a product (Spence, 1977), lemons which illustrates a type of market failure due to the manipulation of superior information by firms (Akerlof, 1970), and dishonesty which extends inferior quality to a broad economic and social context (Akerlof, 1970; Darby & Karni, 1973; Dixit, 2003; Glazer & Hassin, 1983).

2.1.1 Product Failure

The concept of product failure was proposed by Spence (1977) to refer to the probabilistic occurrence of an adverse event, a breakdown, or an accident involving in a product. This concept indicates a probability that a product fails to performance, uncovering the stochastic nature of defects or breakdowns in quality especially for manufacturing products (Liebeskind & Rumelt, 1989; Smallwood & Conlisk, 1979; Spence, 1977; Taylor, 1995). Along research of this line, MacLeod (2007) distinguished between normal and innovative products based on the probability of failure in performance. Normal products have a substantially low probability of product failure relative to innovative products. The former therefore may be applicable to a large number

of consumer goods whereas the latter is evidenced by, for example, scientific research where success is relatively rare (MacLeod, 2007). Product failure arises because of either imperfect manufacturing technologies or chaotic incidents that cause a product to malfunction. In other words, product failure is a relatively objective measure of quality uncertainty, which is beyond the control of both firms and consumers. Nevertheless, Spence (1977) argued that product failure can be misperceived or misrepresented either by firms or by consumers because of information asymmetry. That is, quality highly rests on both firms' and consumers' ability of discerning and representing information of quality (Parker, 1995; Rogerson, 1983; Spence, 1977). On the demand side, product failure suggests that consumers are likely to purchase those products that may fail to match their needs because there is perhaps no indication of quality prior to purchase in a market with asymmetric information (Spence, 1977).

2.1.2 Lemons

Quality deterioration was proposed by Akerlof (1970) by referring to the lemons in the market for used automobiles. Instead of defining a status of low quality relative to high quality such as product failure, quality deterioration indicates a process by which average quality in the market is being degraded due to asymmetric information. This concept has been extended to denote a wide range of inferior quality, including frauds in credence product markets (Darby & Karni, 1973), quacks in professional services (Gehrig & Jost, 1995; Leland, 1979), cheating in the taxicab market (Glazer & Hassin, 1983), shirking in the labor markets (Foster & Rosenzweig, 1994; Stiglitz, 1989), absconding in the debt markets (Stiglitz, 1989), media bias in journalism (Gentzkow & Shapiro, 2006) as well as

a broad spectrum of unethical behavior (Dixit, 2003; Greif, 1993; Jacob & Levitt, 2003; Kaptein, 2008). Inferior quality of this sort addresses the negative aspect of quality uncertainty. Specifically, quality is deliberately manipulated by firms either in production or through transaction with consumers. The former case refers to the condition where quality is endogenously determined by firms which thereby can choose to produce low rather than high quality. This condition has been modeled in a number of studies to examine what determines firms' quality production (Allen, 1984; Klein & Leffler, 1981; Leland, 1979; Liebeskind & Rumelt, 1989; Rob & Fishman, 2005; Rogerson, 1988). The latter refers to the condition where quality is exogenously given in the market, in which firms choose to transact low rather than high quality (Akerlof, 1970; Ely & Välimäki, 2003; Gentzkow & Shapiro, 2006; Johnson & Waldman, 2003; Shapiro, 1983).

2.1.3 Dishonesty

While product failure suggests that quality can itself be uncertain (Liebeskind & Rumelt, 1989; MacLeod, 2007; Spence, 1977), it does not necessarily mean that economic agents can manipulate production or transaction of quality. This probably remains the conceptual difference between product failure and lemons. Quality deterioration exemplified by lemons indicates that economic agents can manipulate their superior information to distort market behavior in quality provision (Akerlof, 1970; Darby & Karni, 1973; Dixit, 2003; Glazer & Hassin, 1983; Greif, 1993; Jacob & Levitt, 2003; Liebeskind & Rumelt, 1989; Stiglitz, 1989). Indeed, it involves dishonesty, a broad spectrum of quality deterioration which underscores economic agents' intent in producing or transacting low quality (Akerlof, 1970). For this reason, quality deterioration can

accommodate lemons, frauds, quacks, cheating, and various dishonest acts. Another distinction between product failure and dishonesty lies in the cost that induced by dishonest behavior. The cost of dishonesty is attributed not only to the direct losses from dishonest acts but also to the ultimate consequence that honest businesses might be driven out from the market (Akerlof, 1970). According to Darby and Karni (1973), reducing product failure involves additional investments in resources to meet a certain level of competence whereas eliminating dishonesty requires no additional resources but simply a decision to stop dishonest behavior.

2.2 Information Asymmetry and Quality

One of the most important contributions of information economics is its acknowledgment of imperfect information in the market (Stiglitz, 1989, 2002). As far as quality is concerned, the assumption of imperfect information asserts that quality is uncertain and can therefore be manipulated through either production or transaction. Quality being deteriorated generally refers to either of the two situations, in which quality is either misrepresented or underprovided by firms with an informational advantage over consumers (Akerlof, 1970; Darby & Karni, 1973). In other words, firms intend to misrepresent information or underprovide quality to consumers for inducing purchases which otherwise would not succeed if consumers possess the same amount of information of relevance in discerning quality (Darby & Karni, 1973). Such an information asymmetry is the paramount cause of quality deterioration and market failure (Akerlof, 1970; Darby & Karni, 1973; Macleod & Malcomson, 1998; Shapiro, 1982, 1983).

2.2.1 Asymmetric Information: What and Why

Information asymmetry generally suggests that one party is better informed than its counterpart of characteristics of a product or a transaction, leading to information being asymmetrically distributed between two parties (Akerlof, 1970; Stiglitz, 1989, 2002). Information is indeed asymmetrically distributed among a variety of economic participants in the market. Yet at the center of the literature is to unfold the dimensions of information that matter to quality provision and can ultimately affect market outcome as a whole (Akerlof, 1970; Chiappori, Jullien, Salanié, & Salanié, 2006; Rothschild & Stiglitz, 1976). Underscored by the literature is information of quality, of which firms are better informed than consumers and therefore can take this advantage to transact low rather than high quality (Akerlof, 1970). Particularly in the context of insurance, asymmetric information can include both policyholders' risks and their preferences, which are privately known to policyholders themselves (Chiappori et al., 2006; Cutler, Finkelstein, & McGarry, 2008; Eisenhauer, 2004; Finkelstein & McGarry, 2006). These two dimensions of information have long been acknowledged to have profound yet distinct effects on insurance demand (Chiappori et al., 2006; Cohen & Siegelman, 2010; Eisenhauer, 2004; Hemenway, 1990). Asymmetric information of relevance suggests the dependence of one agent's payoff on the other's private information. As in insurance, an insurer's profits largely depend on its policyholders' risks (Chiappori et al., 2006).

2.2.2 Information as Quality

Despite the acknowledgment of various dimensions of asymmetric information in the market, of particular concern is information of quality (Nelson, 1970; Parker, 1995; Shapiro, 1982; Smallwood & Conlisk, 1979). This is because quality information is more

difficult and costly to obtain for consumers than other dimensions of information (Nelson, 1970). By demonstrating the way consumers obtain quality information, Nelson (1970) proposed an information-based quality classification that incorporates search- and experience-quality. The former suggests that consumers can judge quality by inspecting or searching for a variety of products prior to purchase (Nelson, 1970). The latter indicates that consumers can only judge quality through purchase or consumption of products, which may induce more costs than search-quality (Nelson, 1970). This classification has been elaborated to include credence-quality, indicating that quality of professional services, for instance, is difficult and sometimes impossible to be discerned even after consumption (Darby & Karni, 1973). It becomes evident that credence-quality involves the largest amount of asymmetric information to consumers, followed by experience- and search-quality. The information-based quality classification indicates that consumers are generally asymmetrically ill-informed of quality compared to firms.

2.2.3 The Lemons Principle

Since information asymmetry equips firms with a superior informational advantage in quality production and transaction, one of the consequences is that firms exploit this advantage for profit maximization (Akerlof, 1970; Darby & Karni, 1973). Under asymmetric information, as firms' behavior can be distorted in a way of supplying quality lower than it is expected in perfect information, the market may function ineffectively as in the case of quality deterioration. The literature on asymmetric information has suggested that quality deterioration is a widespread phenomenon in the market characterized by asymmetric information (Akerlof, 1970; Darby & Karni, 1973; Klein &

Leffler, 1981; Leland, 1979; Shapiro, 1982, 1983). Research on quality deterioration has illustrated the mechanism of asymmetric information, whereby quality can be deteriorated either in production or in transaction. Akerlof's (1970) Lemons principle uncovers this mechanism with regard to quality transaction in the United States' used automobile market as follows. As in the asymmetric information the buyer is incapable of distinguishing high quality (good cars) from low quality (bad cars, or lemons), both can be charged an identical price by the seller to reflect the average quality of all cars. Under this assumption, the seller is more likely to transact lemons because by doing so he can earn a price surplus compared to the real value of lemons. As a result, the market for good cars is locked in because the seller has no incentive to transact good cars. The average quality of the market is degraded with the good cars being gradually driven out.

The Lemons principle was restated by Leland (1979) in relation to quality production in the market for medical services. With the presence of asymmetric information in the market, patients have difficulty in discerning the qualified doctors, and all doctors therefore command the same fees for medical services, reflecting the average quality of medical services. One of the consequences is that highly qualified doctors may not be willing to remain in, or enter, the market as the price charged is inadequate to reflect the quality of their excellent services. Their withdrawal from the market further lowers the average quality of medical services. The price of medical services thus declines to reflect the lower average quality due to the withdrawal of highly qualified doctors, which in turn discourages other qualified doctors to stay in the market. The market as a whole may therefore gradually degenerate until only quacks exist for supplying medical services.

The Lemons principle illustrates the inefficiency of the market as a consequence of asymmetric information in two basic ways. One is that firms take advantage of asymmetric information to transact low rather than high quality (Akerlof, 1970); and the other is that asymmetric information discourages firms' supply of high quality (Leland, 1979). Underlying the Lemons principle is that asymmetric information can distort economic participants' behavior, leading to a type of market failure denoted by quality deterioration. This principle is of general applicability in almost all markets involving asymmetric information, including labor (Foster & Rosenzweig, 1994; Holmström, 1999; Malcomson, 1984), insurance (Cohen & Siegelman, 2010), credit/financial (Diamond, 1989; Karlan & Zinman, 2009), medical and professional services (Chou, 2002; Dranove, Kessler, McClellan, & Satterthwaite, 2003; Grabowski & Gruber, 2007; Hubbard, 1998, 2002; Parker, 1995), and online transactions (Dewan & Hsu, 2004; Edelman, 2009). The consequence of information asymmetry, as the Lemons principle illuminates, is that quality may not only be underprovided relative to social optimality but the market may also eventually shrink into non-existence (Akerlof, 1970; Leland, 1979). This type of market failure can also occur on the demand side, indicating that consumers whose demand for high quality cannot be met because no such a market exists in the long run.

2.3 Agency Problems

2.3.1 Adverse Selection versus Moral Hazard

The consequence of information asymmetry specifically suggests two agency problems—adverse selection and moral hazard—depending on whether quality is exogenously or endogenously determined (Arnott & Stiglitz, 1988; Arrow, 1963; Fama, 1980;

Holmström, 1979; Ross, 1973; Rothschild & Stiglitz, 1976). The notions of adverse selection and moral hazard were proposed by Arrow (1963) in the context of insurance and have been modeled notably by Rothschild and Stiglitz (1976), Holmström (1979), Arnott and Stiglitz (1988), and Mirrlees (1999) for developing agency theories that follow. Adverse selection arises as firms possess private information of quality, either being low or high, which leads to the supply of low quality (Akerlof, 1970; Rothschild & Stiglitz, 1976). This agency problem implies the assumption of quality being exogenously classified, for instance, into low and high quality to make adverse selection happen as a distorted transaction. Given that firms' behavior can determine production of either low or high quality, moral hazard arises in the sense that firms are inclined to modify their behavior that leads to the production of low quality (Arnott & Stiglitz, 1988; Mirrlees, 1999). In contrast to adverse selection which deals with information of quality, moral hazard addresses another dimension of asymmetric information—firms' actions and effort—which is endogenously determined by firms while unknown to consumers. The theoretical distinction between adverse selection and moral hazard is that the former relates to the problem of hidden information of quality and the latter to hidden actions in quality production (Holmström, 1979; Riley, 1985).

2.3.2 The Rothschild-Stiglitz Prediction

Underlying empirical investigations of agency problems is Rothschild and Stiglitz's (1976) prediction originated in insurance, suggesting a positive relationship between policyholders' risks and their demand for insurance (refer to hereafter the Rothschild-Stiglitz prediction). In insurance, policyholders are classified as high and low risk and,

from an insurer's standpoint, high-risk policyholders are analogous to low quality in the product market whereas low-risk policyholders to high quality. The Rothschild-Stiglitz prediction suggests that high-risk policyholders tend to choose full-coverage insurances while low-risk ones choose a partial coverage. Within multiperiod competitive and monopolistic markets for theory development, the presence of agency problems is indicated by a sort of relationships between policyholders' risks, their experience of the occurrence of accidents, and choices of various insurance contracts (Cooper & Hayes, 1987; D'Arcy & Doherty, 1990; Dionne & Doherty, 1994; Kunreuther & Pauly, 1985; Nilssen, 2000). For example, D'Arcy and Doherty (1990) identified adverse selection in automobile insurances, revealing that new policyholders were actually undercharged so as to uncover information of policyholders' risk types and loss experience. In contrast, Dionne and Doherty (1994), by extending Cooper and Hayes's (1987) study, found that a long-term commitment was implemented to induce low-risk policyholders for purchasing insurance for a long term, and thereby indirectly verifying the presence of adverse selection in an automobile insurance market.

The Rothschild-Stiglitz prediction is formalized as that, conditional on individual policyholders' observable characteristics, high-risk policyholders purchase more insurance when offered the same menu of insurance contracts (Rothschild & Stiglitz, 1976). Despites its origination in insurance, the Rothschild-Stiglitz prediction is applicable to a variety of contexts with information asymmetry and has been adopted to model both adverse selection and moral hazard (Chiappori, Durand, & Geoffard, 1998; Foster & Rosenzweig, 1994; Grabowski & Gruber, 2007; Grossman, 1992; Hubbard,

1998, 2002; Karlan & Zinman, 2009). Applying the Rothschild-Stiglitz prediction to other markets requires singling out the relationship between asymmetric information of concern and market outcome while holding the effects of other observable factors constant (Cummins & Tennyson, 1996; Doherty & Smetters, 2005; Foster & Rosenzweig, 1994; Hubbard, 1998, 2002). Evidence of agency problems has been identified in a variety of markets such as debts (Grossman, 1992), consumer credits (Karlan & Zinman, 2009), labors (Foster & Rosenzweig, 1994), automobile services (Hubbard, 1998, 2002), and medical care and Medicaid (Chiappori et al., 1998; Grabowski & Gruber, 2007).

However, the Rothschild-Stiglitz prediction, by itself, cannot suggest an empirical distinction between adverse selection and moral hazard (Chiappori et al., 1998; Chiappori & Salanié, 2000; Cohen & Siegelman, 2010; Finkelstein & McGarry, 2006; Finkelstein & Poterba, 2004; Karlan & Zinman, 2009; Saito, 2006). The possible ambiguity between adverse selection and moral hazard can be resolved by either a reinterpretation of theories or a longitudinal research design to capture the dynamics of agent behavior (Abbring, Heckman, Chiappori, & Pinquet, 2003; Chiappori & Salanié, 2000; Finkelstein & Poterba, 2004). In insurance what matters to adverse selection is that policyholders' *ax ante* risk type affects their contract choices whereas to moral hazard is that policyholders' contract choices affect the occurrence of their *ex post* risks. For instance, Cummins and Tennyson (1996) interpreted moral hazard in insurance by relating policyholders' attitudes towards fraudulent behavior to insurance claims, for such attitudes indicated their behavioral intention with *ex post* moral hazard. This interpretation is plausible because, for moral hazard, agent behavior is unobservable and hence cannot be empirically investigated. By

employing longitudinal research designs, a number of studies have verified moral hazard in the sense that policyholders' contract choices affect their behavior which actually leads to an increase of the occurrence of accidents (Abbring et al., 2003; Chiappori et al., 1998; Doherty & Smetters, 2005).

2.3.3 Insurance as a Context: Principles and Propositions

Insurance perhaps remains the most viable arena not only for originating agency theories but also for empirically investigating the presence of asymmetric information. The Rothschild-Stiglitz prediction and the analytics of moral hazard (refer to hereafter the Arnott-Stiglitz analytics) are two of seminal agency models which were indeed originated and developed in insurance. Empirical investigations of agency problems have tapped on almost all types of insurances, ranging from health insurance (Cardon & Hendel, 2001; Finkelstein & McGarry, 2006), life insurance (Cawley & Philipson, 1999; McCarthy & Mitchell, 2003), automobile insurance (Chiappori & Salanié, 1997, 2000; Cohen, 2005; Schlesinger & von der Schulenburg, 1993), Medicare and Medicaid (Fang, Keane, & Silverman, 2008; Grabowski & Gruber, 2007) to annuity (Finkelstein & Poterba, 2002, 2004) and many others (see Cohen & Siegelman, 2010). Although Chiappori and Salanié (2000) have acknowledged some defects of insurance data in testing asymmetric information, insurance is a promising context for three reasons. First, a typical insurance firm can have an extremely large number of insurance contracts, which provide rich data for empirical work. Second, insurance contracts are highly standardized to include almost all relevant information of interest to researchers. Third, verifying quality of policyholders, that is risks, is feasible as insurers precisely record such information.

Empirical studies have primarily suggested two dimensions of asymmetric information in insurance, one being the widely-acknowledged risks and the other represented by policyholders' preference to risks, meaning that policyholders are not exclusively risk neutral but risk averse (Chiappori et al., 2006; Eisenhauer, 2004; Finkelstein & McGarry, 2006). Risks can either exogenously determine policyholders' choices of insurance or be endogenously generated by their behavior after a particular insurance contract is chosen, two assumptions underlying the Rothschild-Stiglitz prediction and Arnott-Stiglitz analytics. Yet previous studies have also suggested no evidence of risks as asymmetric information in some insurances (Cardon & Hendel, 2001; Cawley & Philipson, 1999; Chiappori & Salanié, 2000; Puelz & Snow, 1994; Saito, 2006). One of the reasons would be that policyholders' preference to risks—the second dimension of asymmetric information—distorts their choices of insurance contracts (Cutler et al., 2008; Eisenhauer, 2004; Finkelstein & McGarry, 2006). Since policyholders are probably risk aversion, low-risk ones may purchase more insurances than their high-risk counterparts, leading to what is called advantageous selection (Eisenhauer, 2004; Hemenway, 1990). The Rothschild-Stiglitz prediction is thus violated as policyholders' preference to risks distorts the positive risk-coverage relationship.

In addition to the widely-applied Rothschild-Stiglitz prediction, insurance has originated plenty of propositions for interpreting and verifying asymmetric information. First, insurance is offered in the market with menus of contracts that are freely chosen by observationally identical policyholders which, according to Chiappori et al. (2006), suggests risks as asymmetric information. Second, within a menu, insurance contracts

with more comprehensive coverage are sold with a price premium, indicating that insurance is priced on risks with high-risk policyholders paying more (Chiappori & Salanié, 1997, 2000). Third, theoretically a set of separating equilibria exist in the market in the sense that policyholders are self-sorted by their risk levels in purchasing among a menu (Chiappori & Salanié, 1997). Fourth, contracts with more comprehensive coverage are chosen by policyholders based on their accident probability—either *ex ante* or *ex post*—rather than their observable characteristics such as social demographics (Chiappori & Salanié, 2000). Although these propositions are fairly context-specific in insurance, Chiappori and Salanié (1997, 2000) argued that the Rothschild-Stiglitz prediction is of robust generality and validity with application to other contexts. The Rothschild-Stiglitz prediction, in a broad context, reveals a positive relationship between the amount of asymmetric information of interest and selection of low quality for observationally identical agents (Chiappori & Salanié, 1997, 2000; Saito, 2006).

2.4 Economics of Reputation

While asymmetric information has been viewed as the fundamental force in determining quality deterioration and market failure, theories of reputation suggest that markets may not necessarily fail to function or collapse under asymmetric information (Klein & Leffler, 1981; Stiglitz, 1989). In other words, quality could be deteriorated to the extent that the market still functions though somewhat ineffectively (Stiglitz, 1989). Underlying the market is the second fundamental force denoted by reputation, a market-based mechanism that can assure quality through mitigating asymmetric information (Allen, 1984; Hörner, 2002; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983;

Stiglitz, 1989). The role of reputation in alleviating quality deterioration was modeled in early works as a repeat-purchase mechanism in the long run between two sides of market participants (Heal, 1976; Kreps & Wilson, 1982; Telser, 1980). This mechanism has been explicitly illustrated by Klein and Leffler (1981) and Stiglitz (1989), revealing that firms establish reputation for supplying high quality because payoffs from reputation overweighs temporary benefits from supplying low quality. This also means that firms may lose their reputation and future benefits if they supply low quality.

2.4.1 Reputation Mechanisms

As a market-based mechanism, reputation is grounded on the theoretical setting of a sort of repeat purchases. For instance, Heal (1976) responded to Akerlof (1970) by arguing that the Lemons principle will not be held if firms transact with consumers repeatedly in the long run. That is, a long-term transaction on the basis of reputation pays more than firms' provision of low quality in the short term. Telser (1980) proposed an similar idea of self-enforcing agreement, arguing that economic participants tend to enforce their agreements if they believe their current transaction can continue. A question arises as to how both sides of economic participants know for sure whether or not a transaction at issue is repetitive (Akerlof, 1976; Telser, 1980). According to Telser (1980), if both sides of firms and consumers can certainly identify the last transaction in a sequence of transactions under way, either of them has an equal opportunity to default on the agreement for the last transaction. Reputation thus collapses. Although the notion of reputation has long been proposed to resolve the Lemons problem, it was not until the 1980s that reputation as a mechanism in assuring quality was formally illustrated by a

variety of reputation models (Allen, 1984; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983). While the mechanism of reputation has been modeled in different ways by underscoring its roles in different theoretical settings, this mechanism consistently suggests two principal functions of reputation, namely its signaling and incentive effects.

2.4.1.1 Klein and Leffler (1981)

The implicit assumption in Klein and Leffler (1981) is that quality is endogenously determined by firms in production. That is, firms can decide to produce either low or high quality. The question is in what condition supplying high quality is profitable or superior for firms to supplying low quality. Klein and Leffler's (1981) study was to seek a market condition that prevents firms from producing low quality, in other words, preventing them from moral hazard. This condition turns out to be price premium and the associated reputation which has long been proposed as a repeat-purchase mechanism but has not yet been modeled prior to Klein and Leffler (1981). In this regard, Klein and Leffler (1981) provided a solution to the problem of moral hazard by arguing that market exchange itself can enforce contract performance, or assure high quality, without interventions from a third party such as regulations and legislations.

Price Premium as a Condition for Supplying High Quality

Klein and Leffler (1981) argued that a necessary and sufficient condition for high-quality provision is the existence of a price that is sufficiently above the market price of a

product. This condition implies that a price premium, which is a surplus of the price of high quality deducting the market price, will be derived for firms which produce high quality or honor their promises of supplying high quality. In Klein and Leffler's (1981) view, this price premium serves as an incentive that encourages firms to supply high quality in subsequent transactions. On the other hand, it would also be profitable for firms to supply low quality if products are charged with an identical price irrespective of their quality. Price premium suggests that firms can command a stream of extra profits if they assure production of high quality in a long term. On the demand side, price premium can be regarded as the "protection money" paid by consumers to induce high-quality provision from firms. Consumers can therefore reward those firms which devote to high-quality production with repeat purchases and the associated price premium whereas punish those which have engaged in low-quality production by ceasing transactions in subsequent periods.

Reputation as a Consequence of Price Premium

Price premium has been deemed as the necessary and sufficient condition for high-quality provision which, nevertheless, contradicts with the assumption of a perfectly competitive market in most reputation models such as Klein and Leffler (1981). This assumption essentially rules out the possibility of price premium, since theoretically there is a zero-profit consequence for every individual firm which operates in a perfectly competitive market. In Klein and Leffler's (1981) model, a non-price competition is a means of disseminating price premium to reconcile the consequence of zero-profit. On the one

hand, price premium derived from supply of high quality can be disseminated through firms' investment in firm-specific assets such as branding and advertising. On the other hand, firm-specific assets can be seen as some sort of investment in reputation. In other words, reputation dissolves price premium. In Klein and Leffler's (1981) model, reputation is more a repeat-purchase mechanism that an abstract notion discussed by early works. It is concrete and its information can be retrieved by consumers through observing firms' brand names and advertising activities. In this regard, reputation not only provides incentives to firms for high-quality production but also plays a role in disseminating information to consumers.

2.4.1.2 Shapiro (1982, 1983)

Building Reputation for Signaling Quality

The assumption in Shapiro (1982, 1983) is that quality is exogenously determined in the market, which fundamentally distinguishes Shapiro's (1982, 1983) model from Klein and Leffler's (1981) in illustrating reputation mechanisms. Shapiro (1982, 1983) modeled reputation as a solution to the problem of adverse selection. The essence of Shapiro's (1982, 1983) model is that building reputation is first and foremost a type of quality signaling activity of firms. By building reputation, firms which supply high quality can signal their identities to consumers and therefore distinguish themselves from those which supply low quality. According to Shapiro (1982, 1983), the signaling function of reputation is presented by a high-quality versus low-price relationship. At the initial stages of a transaction firms need to sell high quality at a low price and at the subsequent

stages with reputation established firms sell high quality at a high price, upon which price premium is derived. In doing so, high quality is more likely to be identified and chosen by consumers given its relatively low price; information of high quality and identities of firms which supply high quality can thus be easily disseminated among consumers. In Shapiro's (1982, 1983) model, the loss of charging a low price for high quality at the initial stage is precisely reputation investment, which differs from reputation building in Klein and Leffler's (1981) model. Shapiro's (1982, 1983) reputation model indicates that firms have to sacrifice their current profits by charging a low price for high quality as a means of building up their reputation.

Price Premium as a Consequence of Reputation

Despite the importance of price premium to reputation mechanisms, its roles are quite different in Klein and Leffler's (1981) and Shapiro's (1982, 1983) models. Price premium in Shapiro's (1982, 1983) model is the consequence, not the condition, of reputation. High quality can command high price in subsequent transactions only after firms which supply high quality are known to consumers or after reputation has been established for firms. Shapiro (1982, 1983) regarded price premium as an economic return to firms' initial investment in building reputation. The same question arises as to the contradiction between price premium and the zero-profit consequence assumed in a perfectly competitive market. Yet dissolving this contradiction is straightforward in Shapiro's (1982, 1983) model. The zero-profit consequence is actually plausible over the long run as price premium will exactly compensate with the low price charged at the

initial stage of a transaction (Shapiro, 1982, 1983). In other words, firms invest in reputation through charging a low price which, in turn, will be offset by price premium as a consequence of reputation. The primary distinction between Shapiro's (1982, 1983) model and Klein and Leffler's (1981) is that the former regards reputation as a signaling activity first and then as an incentive whereas the latter views it as an incentive first and then as a signaling activity.

2.4.1.3 Rogerson (1983) and Allen (1984)

At the base level of Klein and Leffler's (1981) and Shapiro's (1982, 1983) models are two assumptions which have been questioned as unrealistic by follow-up studies (Allen, 1984; Rogerson, 1983). One assumption is that quality, albeit unobservable, can be ascertained after consumers' purchase or consumption. The second one is that information of quality and identities of firms can be costlessly communicated among consumers. Under the two assumptions, consumers can decide to either continue or terminate a transaction in subsequent periods as long as they know what quality is supplied at present and, importantly, which firms supply high quality (Klein & Leffler, 1981; Shapiro, 1982, 1983). Thus, reputation can function by encouraging firms which supply high quality while punishing those which supply low quality. Yet Rogerson (1983) questioned the two assumptions by denying consumers' perfect ability of verifying quality and costlessly sharing information. Relaxing both assumptions implies that the effect of reputation would not be as perfect as in Klein and Leffler's (1981) and Shapiro's (1982, 1983) models. According to Rogerson (1983), the imperfect effect of reputation can be summarized as in two aspects. First, reputation can result in positive word-of-

mouth advertising for firms which supply high quality and help to increase firms' market share. Second, reputation implies a mandatory fixed cost for firms which supply high quality. In this regard, Rogerson (1983) argued that the way information diffuses among consumers is of critical importance in affecting market behavior, which is not taken into consideration by Klein and Leffler (1981) and Shapiro (1982, 1983).

Allen (1984) advanced Klein and Leffler's (1981) and Shapiro's (1982, 1983) models by relaxing the assumption of non-price competition and the high-quality versus low-price relationship respectively. Allen (1984) argued that, first, dissolving price premium through firm-specific investments as suggested by Klein and Leffler (1981) may not be feasible; and second, consumers are actually sophisticated enough to make their purchase decisions which are not grounded on the high-quality versus low-price relationship. This argument suggests that building up reputation by initially selling high quality at a low price may not succeed as the low price can be taken for granted by consumers to indicate low quality. Allen (1984) therefore concluded that, despite the assumption of a competitive market, multiple equilibria exist in which price not necessarily equals to marginal cost. This conclusion contrasts with those drawn from Klein and Leffler's (1981) and Shapiro's (1982, 1983) models, in which price equals to marginal cost over the long term. Apart from the non-price competition, Allen (1984) introduced warranties as a device of signaling quality and concluded that the presence of warranties could change consumers' incentives and affect market equilibrium as a consequence. Specifically, first, if warranties are presented, an equilibrium may exist where price is greater than marginal cost; firms would not cut price as price cutting may change consumers' incentives and

result in no repurchase. Second, if no warranties are presented, an equilibrium can also exist with price below marginal cost, and firms would not cut outputs as this may change consumers' incentives as well to result in no repurchase.

2.4.2 The Dynamics of Reputation

The validity of Klein and Leffler's (1981) and Shapiro's (1982, 1983) models largely depends on a perfect information condition. In the two reputation models, reputation can be built only if consumers can perfectly ascertain quality and costlessly communicate information among each other. The two reputation models have been extended by a assuming an imperfect information condition, in which quality and firms' behavior are not perfectly known to consumers (Diamond, 1989; Fudenberg & Levine, 1992). Information is imperfect because acquisition of information involves searching costs, information noises as well as consumer's discounting memory (Fudenberg & Levine, 1992; Huberman & Wu, 2004; Mailath & Samuelson, 2001). The assumption of imperfect information suggests that, as information fades from being perfect to imperfect, the effect of reputation may fluctuate as well, specifically, in two different ways. First, firms cannot establish reputation immediately by supplying high quality in the short term, for it takes time for consumers to know about high quality and firms' behavior. Second, reputation may depreciate in its effect over time as consumers' memory on firms' quality provision fades (Huberman & Wu, 2004; Rob & Fishman, 2005). Consequently, firms' behavior in building up reputation could be discouraged and, therefore, sustaining reputation requires continuous investments for refreshing consumers' memory and updating consumers' information (Ely & Välimäki, 2003; Rob & Fishman, 2005).

Reputation is endogenously dynamic, since reputable firms can also shirk on their effort in quality production (Huberman & Wu, 2004). While consumers' memory on high-quality production decays over time, consumers can update their information with the increase of their interactions with firms. In the market for automobile repairing services, Ely and Välimäki (2003) explicitly demonstrated that a reputable mechanic who intended to distinguish himself from a non-reputable could fail to establish his reputation because of his customer's incomplete information. In other words, the reputable mechanic who revealed his reputation by supplying high quality may probably be misperceived as the non-reputable, since the customer may fail to make a distinction of both. Because of informational frictions such as discounted memory, firms need continuous investments in production of high quality (Rob & Fishman, 2005). As information diffuses and fades in the market over time, the effect of reputation changes as well. Since reputation has its value, it can be traded, leading to the market for reputation (Tadelis, 1999, 2002, 2003). In contrast to the cost of dishonesty in Akerlof (1970), reputation's value suggests an increase of social welfare as the number of honest businesses increases.

2.4.3 The Market for Reputation

The dynamics of reputation indicate that reputation has its value and can be either appreciated or depreciated owing to the amount of information in the market. This leads to the research on reputation trading, examining how reputation can be transformed as a valuable asset and therefore be traded (Mailath & Samuelson, 2001; Marvel & Ye, 2008; Tadelis, 1999, 2002, 2003). Among others researchers, Tadelis (2002) asserted that reputation as an asset is ageless though firms, as the bearer of reputation, experience a life

cycle and will ultimately exit the market. In other words, reputation can be independent of firms' quality provision and even firms themselves. It can therefore be traded from one firm to another, constituting a market for reputation. In reputation trading, since the transfer of ownership of reputation is assumed unobservable to consumer, they cannot really know which firm actually has the reputation asset before and after the trade (Marvel & Ye, 2008; Tadelis, 1999, 2002, 2003). In light of this, Tadelis (1999, 2002, 2003) developed an adverse selection model for reputation trading, in which a non-reputable firm can purchase reputation, in the form of a brand name for example, from a reputable firm. With reputation trading, the non-reputable acquires its reputation not because it supplies high quality but because consumers automatically link it with reputation bought from the reputable firm (Tadelis, 2002, 2003). It is indispensible that the assumption of unobservable ownership transfer should be held to establish such a link.

The market for reputation has extended previous reputation models in several important ways. First, reputation as an asset advances the research on reputation as a mechanism in insuring quality, implying that firms' reputation can be an infinite incentive even when firms exit the market. Tadelis (2002) argued that reputation as an incentive is of equal importance to both new market entrants and incumbents, which challenges Telser's (1980) argument that neither firms nor consumers will commit to sustaining reputation once knowing the last transaction. Second, new market entrants are normally inclined to purchase reputation because they can reveal their reputation immediately without necessitating production of high quality over the long term. This is especially true in some cases where signaling quality for firms is imperfect. In this way, reputation's

signaling and incentive effects, which were separately modeled by Klein and Leffler (1981) and Shapiro (1982, 1983), have their common ground on reputation as an asset. Third, reputation can be either appreciated or depreciated in its value depending on firms' future behavior, which implies the problem of moral hazard in reputation trading. Having established reputation in this regard, it is still necessary for firms to supply high quality in subsequent periods for updating consumers' information of firms' behavior.

2.4.4 Online Transactions: An Application of Reputation

The mechanism of reputation has not been widely applied until the advent of online transactions which provide a promising context for testing the effect of reputation (Chen & Dhillon, 2003; Dellarocas, 2006; Houser & Wooders, 2006; Resnick, Zeckhauser, Swanson, & Lockwood, 2006). While the Internet has dramatically reduced transactional costs, online transactions actually augment asymmetric information to a relatively high level compared to conventional ones (Dewan & Hsu, 2004; Houser & Wooders, 2006). This is largely because online transactions involve both trading parties geographically separated without any physical interactions in between (Houser & Wooders, 2006). Inspecting quality from a number of indicators, including reputation, is difficult, as obtaining information of firms' reputation is not easy in online transactions. For mitigating asymmetric information, a sort of reputation systems have been launched in online transactions that collect information of firms' past transactions and make it accessible to future consumers (Dewan & Hsu, 2004; Houser & Wooders, 2006). One of the important reputation systems is the feedback forum, in which both parties can rate each other's performance to form a holistic evaluation of a product or service for future

customers' reference (Jøsang, Ismail, & Boyd, 2007). Feedback forums of this kind can be found in almost all online auction providers such as Amazon, Yahoo!, and eBay (Houser & Wooders, 2006; Melnik & Alm, 2002). Reputation systems are an application of reputation mechanisms that have long addressed in economic theories, suggesting that firms' quality production in the past indicates their quality production at present.

Reputation models have primarily suggested two consequences of reputation, production of high quality and price premium (Allen, 1984; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983). Apart from testing the effects of reputation in other contexts by focusing on the relationship between reputation and quality (Banerjee & Duflo, 2000; Jin & Leslie, 2009), online transactions have been devoted a disproportionally more attention to investigating the relationship between reputation and price premium (Dewan & Hsu, 2004; Houser & Wooders, 2006; Melnik & Alm, 2002; Resnick et al., 2006). It is virtually convenient and manageable in the context of online transactions to control quality of a product and thereby singling out the relationship between price and reputation (Dewan & Hsu, 2004; Melnik & Alm, 2002). Such a research design may best suit online transactions in which approximately identical products are sold by a large number of firms with different reputation (Dewan & Hsu, 2004; Melnik & Alm, 2002). It is concluded that reputation has a statistically significant effect on price (Dewan & Hsu, 2004; Houser & Wooders, 2006; Melnik & Alm, 2002; Resnick et al., 2006). Specifically, reputation was found to lower consumers' price sensitivity and hence increase their willingness to pay—a proxy of price premium presented on the demand side (Melnik & Alm, 2002; Resnick et al., 2006).

2.5 Concluding Remarks

The literature has suggested that asymmetric information is ubiquitous in a huge number of markets. Indeed, the advent of information economics as a whole in the 1960s is an outcome of questioning the conventional perfect information assumption—economic agents have complete information of relevance for their decision making (Hayek 1945; Stigler, 1961; Stiglitz, 1989, 2002). This assumption is neither reasonable nor realistic as information is in fact incomplete in the market, and so are economic models that build upon it (Hayek, 1945; Stigler, 1961; Stiglitz, 1989). Under perfect information, both firms and consumers can work out a single, certain, and optimum choice for themselves, which would rule out the possibility of quality uncertainty on both sides. Yet as the present study has emphasized, the significance of imperfect information lies in its theoretical foundation in explaining quality deterioration. Along this line of research, information asymmetry has been regarded as the paramount cause of quality deterioration and market failure (Akerlof, 1970; Allen, 1984; Chou, 2002; Darby & Karni, 1973; Leland 1979; Shapiro, 1982, 1983). Quality deterioration can accommodate product failure (Spence, 1977), lemons (Akerlof, 1970), and dishonesty (Akerlof, 1970; Dixit, 2003), empirical evidence of which can be found in almost every market, primarily including insurance and online transactions.

There are three reasons for why insurance is the most favorable field for originating and testing theories of asymmetric information. First, previous research has illustrated that policyholders' risks could be the best theoretical presentation of asymmetric information in insurance. Risks can result in adverse selection and moral hazard as suggested by the

Rothschild-Stiglitz prediction and Arnott-Stiglitz analytics. Second, insurance provides plenty of data for investigating the risk-coverage relationship (Chiappori & Salanié, 1997, 2000; Puelz & Snow, 1994). Of particular importance is that insurance is a set of standardized contracts, covering almost all relevant information including policyholders' observable characteristics (Chiappori & Salanié, 2000). Third, insurance in the United States and Europe is of significant policy implications, which requires examining the size of asymmetric information in the market before marking and initiating the corresponding policies (Cohen & Siegelman, 2010; Finkelstein & Poterba, 2002, 2004; Frank, Glazer, & McGuire, 2000). However, a central question, though not limited to insurance, is to identify asymmetric information of relevance that distorts economic agents' behavior and changes the way the market acts. In this regard, insurance suggests that asymmetric information is multidimensional, including not only policyholders' risks and but also their preference to risks (Chiappori et al., 2006; Cutler et al., 2008; Eisenhauer, 2004; Finkelstein & McGarry, 2006). Ignoring policyholders' preference could lead to the rejection of the Rothschild-Stiglitz prediction which is grounded on policyholders' risks as asymmetric information.

As a counteract mechanism for mitigating asymmetric information, reputation is conceptually consistent with asymmetric information as both are grounded on the assumption of imperfect information. Despite different roles that reputation plays in assuring quality across different reputation models, reputation mechanisms generally suggest two effects, signaling and incentives (Allen, 1984; Klein & Leffler, 1981; Mailath & Samuelson, 2001; Marvel & Ye, 2008; Rogerson, 1983; Shapiro, 1982, 1983;

Tadelis, 1999, 2002, 2003). The signaling effect was modeled by Shapiro (1982, 1983) who asserted that firms build reputation by a means of disseminating quality information to consumers. The mechanism of signaling focuses on eliminating information asymmetry on the consumer's side. On the other hand, reputation can return price premium to firms which devote to high-quality production, suggesting that reputation provides incentives to firms in the long term (Klein & Leffler, 1981). Despite the theoretical consistence in theories of reputation and asymmetric information, investigating the effects of reputation has largely been devoted to online transactions rather than to insurance. This is perhaps because the Internet-based reputation systems, such as the feedback forum, have provided an important arena for testing reputation effects, especially with regard to price premium (Melnik & Alm, 2002; Resnick et al., 2006). This context is quite distinct from insurance, in which risks as asymmetric information are of particular importance for insurance supply and demand.

With respect to methodological issues, theoretical models of both asymmetric information and reputation have largely followed an equilibrium analysis and game theoretical approaches. This is quite straightforward as these models tend to unfold the condition in which both firms and consumers can achieve a static status in the presence of asymmetric information. Examples include Klein and Leffler's (1981) model, which illustrates the condition of price premium for high-quality provision. Insofar as information influences both parties' behavior over time, game theories are favored in illustrating both parties' behavior with the change of information at different stages (Fudenberg & Levine, 1992; Kranton, 2003; Milgrom & Roberts, 1982; Telser, 1980).

One of the most important reasons by constructing game theoretical models is to unfold dynamics of asymmetric information and reputation. The management and marketing research has also seen an increasing number of applications of the structural equation modelling approach to agency problems and reputation (Brown & Peterson, 1994; Christen, Iyer, & Soberman, 2006; Mishra, Heide, & Cort, 1998; Pavlou, Liang, & Xue, 2007; Singh & Sirdeshmukh, 2000). These applications are possible because reputation can be interpreted on the demand side and at the individual level (Tadelis, 2003). For empirical investigations, the Rothschild-Stiglitz prediction is of general applicability and validity in various contexts and would, therefore, lay a foundation for modeling quality deterioration with package tours as a context in the present study.

3 MODELING QUALITY DETERIORATION IN PACKAGE TOURS

This chapter presents the theoretical models of inferior quality of package tours, which are grounded on two core propositions that delineate the market for package tours. First, the demand and supply of package tours is decomposed into two components in terms of the nature of travel services in the source market and at the destination: one is of information on the OTOs' side and the other is of travel services on the ITOs' side. Second, by referring to this two-component demand and supply, three prominent principal-agent relationships are outlined among tourists, OTOs, and ITOs, thereby defining three levels of asymmetric information. Drawing upon the Rothschild-Stiglitz prediction, inferior quality in package tours is explained by eight agency models. With the reputation mechanism, the magnitude of quality deterioration of package tours is determined by the size of the mediating effect of OTOs' and ITOs' reputation. This mediating effect is conceptualized by two sets of agency models dealing with OTOs' and ITOs' reputation respectively. At the base level of these agency models is a causal relationship between adverse selection and moral hazard, which provides a theoretical account for "zero-fare" group tours as a complex of inferior quality.

3.1 Describing the Market for Package Tours

3.1.1 Demand and Supply

The market for package tours is described to underline the prominent relationships among tourists, OTOs, and ITOs. The demand for package tours is delineated on the tourists' side whereas the supply is on both OTOs' and ITOs' side. This demand can be

decomposed further into two components in terms of the nature of travel services in the source market and at the destination: one is of information on the OTOs' side—the information-based demand and the other is of travel services on the ITOs' side—the service-based demand. The information-based demand can be justified as what transacts between tourists and OTOs is indeed a sort of contracts that stipulate travel service arrangements at the destination. The corresponding supply is exemplified by various travel brochures and itineraries offered by OTOs as well as contracts signed between tourists and OTOs prior to travel. The service-based demand and supply is depicted by referring to ITOs' role of delivering contracted services to tourists at the destination. Thus, the demand for and supply of package tours illustrates that tourists transact with OTOs in the source market with a set of product information and with ITOs at the destination with a variety of contracted services. This type of demand and supply is evident in markets for professional services such as medical care and automobile repairing services, where consumers rely largely upon information from firms prior to any subsequent services (Hubbard, 1998, 2002; Parker, 1995; Taylor, 1995).

3.1.2 The Joint Production

The separation of the business of package tours in the source market and at the destination necessitates a joint production between OTOs in selling tour packages and ITOs in arranging and delivering travel services. This joint production is defined by the relationship of sharing of economic incentives between both, and each party commands some proportion of economic incentives. In package tours, economic incentives are composed of tour fares and commissions, both derived from tourists' total budget (Jia,

2004, 2005, 2006; Prideaux et al., 2006). Tour fares are somewhat fixed in nature as they are the market price charged for a tour package in the source market. In the business context, OTOs and ITOs normally share tour fares on a pre-negotiated proportional basis, suggesting that both need to command a proportion of tour fares for covering their costs and reaping profits. Commissions are paid by a wide range of service providers at the destination to reward ITOs for their role in arranging and delivering travel services. Unlike tour fares, commissions are variable, depending largely on tourists' discretionary expenditures at the destination. That is, ITOs would be rewarded more if tourists spend more regardless of the market price of a tour package. Evidence has suggested that in addition to the tour fares shared with OTOs, ITOs rely on commissions as their second source of profits (Jia, 2004, 2005, 2006; Prideaux et al., 2006).

3.1.3 The Principal-agent Relationships

When it comes to agency theories, transactions among a range of economic participants in the market for package tours can be described as a set of principal-agent relationships, indicating that one party (the agent) acts for the other (the principal) for fulfilling a task assigned by the latter (Eisenhardt, 1989; Ross, 1973). The complex of package tours particularly fits well into the analytical framework of multilevel, or multiperiod, of agency relationships (D'Arcy & Doherty, 1990; Dionne & Doherty, 1994; Klein & Murphy, 1988; Mishra et al., 1998; Riley, 1985). At the base level are service providers at the destination which act as the agent of ITOs for the production of services; the second level is ITOs which act as the agent of OTOs for travel service arrangement and delivery; and the third level is OTOs which act as the agent of tourists for offering tour

packages in the source market. The third level is the typical agency relationship between consumers and firms (Akerlof, 1970; Harris & Raviv, 1978). In view of the pivotal role that tour operators play in operating package tours, we highlight a set of two-period and three-level agency relationships between tourists and OTOs, tourists and ITOs, and OTOs and ITOs. The first period denotes that in the source market OTOs act as agents which provide information to tourists; the second period defines the second level agency relationship, wherein ITOs act as agents which deliver the contracted services to tourists at the destination; the third level indicates the agency relationship between OTOs and ITOs in the joint production wherein ITOs act as agents of OTOs.

3.2 Defining Asymmetric Information

With the three levels of agency relationships in the market for package tours, three levels of asymmetric information are defined between tourists and OTOs, tourists and ITOs, and OTOs and ITOs, which are labeled the OTO-level asymmetric information, the ITO-level asymmetric information, and asymmetric information between OTOs and ITOs, respectively. The OTO- and ITO-level asymmetric information corresponds to the information-based demand and the service-based demand respectively. The OTO-level asymmetric information is illustrated below by a notion of production technology, which delineates tour operators' strategy of bundling a wide array of travel services for producing tour packages. The ITO-level asymmetric information is defined as ITOs' effort exerted in travel service delivery at the destination. Asymmetric information between OTOs and ITOs is analogous to the ITO-level asymmetric information.

3.2.1 The OTO-level Asymmetric Information

A typical tour package is composed of a number of characteristics, including its various service components such as transportation, accommodation, meals, and attractions, and its price and the length of stay. These characteristics can be accessed by tourists in the source market through, for instance, travel itineraries and brochures, which make a transaction between tourists and OTOs possible. This set of information is commonly stipulated in a contract signed between tourists and OTOs prior to the trip, creating what is called the information-based demand. In this sense, the tour package can be described as a set of information which is accessible to tourists:

$$I_D = \{transportation, accommodation, meals, attractions, p, q, e_D\},$$

where I_D denotes the informational content of the tour package on the demand side, which delineates all relevant information of the tour package disclosed by OTOs and accessible to tourists for decision making. This set of information consists of two parts. The first part is about the factors of production in the tour package, in other words, its various service components, including primarily *transportation*, *accommodation*, *meals*, and *attractions*. Attractions among others would best represent the principal component that differentiates this tour package from others. Thus, the first part of information may determine tourists' preference to a particular tour package. The second part is about transactional information, including the price of the tour package, p, and the length of stay, q, which suggests that given the length of stay q, the tour package is sold by OTOs at price p. The error term, e_D, captures information noise or other dimensions of information that are relevant to tourists' purchase decisions.

In contrast to the demand, supplying package tours requires tour operators, including ITOs, to bundle those service components in specified proportions with respect to price and length of stay. This suggests that OTOs are aware not only of *what* is bundled as denoted by I_D, but also of *how*. Information regarding *how* is meant to be production technology by the present study. By taking into account production technology, OTOs face a slightly different set of information:

$$I_S = \{transportation, accommodation, meals, attractions, p, q, A, e_S\},$$

where I_S denotes what the informational content of the tour package on the supply side, which delineates all relevant information of the tour package possessed by OTOs. Yet I_S is not necessarily known to tourists, since production technology, A, is probably privately known to OTOs. The error term, e_S, captures information noise or other dimensions of information that are relevant to OTOs' supply of quality. The notion of production technology uncovers the structure of package tours, specifically, with regard to how OTOs allocate individual service components with a proportion of price and length of stay for making up a tour package. In other words, a tour package can be decomposed into a number of individual service components, each of which commands some units of price and length of stay. Thus, production technology can be defined by

$$A: \quad p = P\left(s_u; \varepsilon_u^p\right), \text{ and}$$

$$q = Q\left(s_u; \varepsilon_u^q\right),$$

where P and Q denote production technology defined by price and length of stay respectively; u indexes individual service components, and s_u denotes service component u in the tour package; and ε_u^p and ε_u^q are error terms concerning price and length of stay.

The notion of production technology has its theoretical underpinnings in Lancaster's characteristics framework, hedonic pricing theories (Lancaster, 1966a, 1966b; Lucas, 1975; Rosen, 1974), and theories of commodity bundling (Adams & Yellen, 1976; Schmalensee, 1984). The price dimension of production technology, P, is essentially an application of hedonic pricing models, in which an implicit market exists for each service component in the tour package (Rosen, 1974); the dimension of length of stay, Q, is in parallel with hedonic pricing models, suggesting that each service component possesses a time slot, since tourism consumption is constrained not only by income but also by time. In this sense, length of stay can be interpreted as quantity of the tour package defined by time. Yet production technology is proposed in an illustrative manner to uncover OTOs' private information instead of calculating the price of each service component. An information gap between the demand and supply sides can therefore be illustrated as:

$$I_A = \overline{I_D} \bigcap I_S = \{A, e_A\},$$

where I_A denotes all relevant information that is privately known to OTOs, in which A thus indicates asymmetric information between tourist and OTOs. The error term, e_A, denotes information noise or other dimensions of information possessed by OTOs that are relevant to their supply of quality.

Since production technology delineates the allocation of each service component with respect to price (p) and quantity (q), it implies the degree to which OTOs can fix each service component with a proportion of price and quantity for producing a tour package. In other words, production technology can be quantified. The quantification can refer to the rigidity, or flexibility, of production technology. It becomes evident at the extreme of flexibility that tourists can maximize their utilities by adjusting their budget and time to each service component whenever they want. At the extreme of rigidity, OTOs can figure out two optimal production functions, namely P and Q, for maximizing profits. Production technology may thus be distributed between two extremes of flexibility and rigidity, indicating the change of the structure of the tour package without altering its service components. This structure classifies quality of the tour package for two reasons. First, as Lancaster (1996a) noted, in addition to changing the proportion of existing characteristics in terms of quantity, differentiating products requires changing the number of characteristics. Hence, changing production technology is insufficient to develop a new tour package. Second, all else being equal, changing production technology affects tourists' utility and OTOs' profit, which is closely associated with quality. For simplicity, quality classified by production technology in the source market can be written as:

$$g_r = \{transportation, accommodation, meals, attractions, p, q, A_r, e_r\}, \text{ and}$$

$$g_f = \{transportation, accommodation, meals, attractions, p, q, A_f, e_f\},$$

where g_r and g_f denote two classes of quality defined by a rigid production technology, A_r, and a flexible production technology, A_f, respectively; e_r and e_f are error terms. A variety

of service components and p and q are assumed constant across the two classes to indicate an identical tour package. Here, g_r indicates low quality as it represents less utility, whereas g_f, high quality. As this classification of quality occurs in the source market prior to tourists' actual trip, it is referred to as the *ex ante* quality of the tour package, suggesting that, in theory, quality can be differentiated in terms of information on the supply side. This classification of quality satisfies the assumption of adverse selection that quality should be exogenously given in the market.

3.2.2 The ITO-level Asymmetric Information

Defining the ITO-level asymmetric information is straightforward by referring to the notion of effort, which has long been suggested by agency theories to indicate asymmetric information particularly in an employer-employee agency relationship (Baker, 1992; Eisenhardt, 1989; Fama, 1980; Foster & Rosenzweig, 1994; Levinthal, 1988; Malcomson, 1984; Stiglitz, 1974). Since service provision is characterized by labors, effort represents a dimension of asymmetric information, suggesting, for example, that effort exerted by employees can be unobservable to employers (Baker, 1992; Eisenhardt, 1989; Malcomson, 1984; Stiglitz, 1974). In other words, employees are informational advantageous over employers in terms of effort and can thus take this advantage to shirk their work (Eisenhardt, 1989). Applications of this dimension of asymmetric information are evident in labor-intensive markets, in particular, for services (Basu, Lal, Srinivasan, & Staelin, 1985; Bergen, Dutta, & Walker, 1992; Lal & Srinivasan, 1993; Lal, Outland, & Staelin, 1994). Effort in such applications is regarded as the fundamental input that agents have in affecting quality provision (Foster & Rosenzweig, 1994; Lal et al., 1994).

With regard to the service-based demand at the destination, the ITO-level asymmetric information denotes that the amount of effort that ITOs exert in service delivery is unknown to tourists. As evidence has suggested, in addition to exerting less than the promised effort in service delivery, ITOs may, on the contrary, exert more effort at the expense of tourists' interests such as a range of misconduct that is in favor of ITOs rather than tourists (Jia, 2004, 2005, 2006; Kim & Sohn, 2002; Pan & Laws, 2003; Prideaux et al., 2006; Tse, 2003). Notwithstanding that tourists can observe ITOs' behavior throughout the trip, they may find it difficult to verify whether ITOs act as promised in the contract, especially when ITOs disguise their misconduct as if they were in the interests of tourists. This difficulty may cause information ambiguity to tourists and, in this sense, represents a dimension of asymmetric information on the ITOs' side. Given that effort is the fundamental input for service production, a classification of quality can be written as a function of ITOs' effort:

$$g_l = f\left(E_l, \varepsilon_l\right), \text{ and}$$

$$g_h = f\left(E_h, \varepsilon_h\right),$$

where g_l and g_h are two classes of quality determined by ITOs' effort; the low-level effort, E_l, produces a class of low quality g_l, whereas the high-level effort, E_h, produces a class of high quality, g_h; and ε_l and ε_h are error terms, capturing stochastic incidents that may affect quality. This classification of quality is referred to as *ex post* quality of the tour package to indicate the evaluation of services after tourist consumption is completed at the destination. It satisfies the assumption of moral hazard that quality should be

endogenously determined by firms' behavior or effort, with the low-level effort producing low quality and the high-level effort producing high quality.

3.2.3 Asymmetric Information between OTOs and ITOs

Defining asymmetric information between OTOs and ITOs resembles the conceptualization of the ITO-level asymmetric information—effort—between tourists and ITOs. In the joint production, OTOs are the principal which, like tourists, is ill-informed of ITOs' actions and effort in service delivery at the destination, including whether ITOs will default on a contract or whether ITOs will change a travel itinerary. Nevertheless, OTOs can mitigate such asymmetric information by monitoring ITOs' behavior and, importantly, verifying whether ITOs' behavior is acceptable or not against the contracts; this institutional arrangement probably helps reduce such visible misconduct as forced shopping, but contributes little to verifying the actual effort ITOs exercise. This is especially true where OTOs normally dispatch tour guides or escorts to accompany a group of package tourists to discipline ITOs' behavior. On the other hand, the fact that package tours are supplied in the joint production by both OTOs and ITOs suggests that ITOs are equally aware of production technology as OTOs are. This implies that, among the three economic participants, ITOs possess superior information of their own effort.

3.3 Modeling Asymmetric Information

Asymmetric information in package tours is modeled as a two-period agency problem on the supply side with respect to OTOs and ITOs. The OTO-level asymmetric information

is modeled as adverse selection, suggesting that OTOs are inclined to supply g_r rather than g_f if they choose to hide production technology; the ITO-level asymmetric information is modeled as moral hazard, suggesting that ITOs are more likely to supply g_l rather than g_h at the destination if they disguise their effort as to be of tourists' interests. Of particular importance is adverse selection being endogenously determined by moral hazard since ITOs possess a superior informational advantage over both OTOs and tourists. The relationship between adverse selection and moral hazard has a pronounced effect on the sharing of tour fares between OTOs and ITOs, which provides a theoretical justification for the "zero-fare" relation.

3.3.1 The Rothschild-Stiglitz Prediction: An Econometric Treatment

Despite its origination in insurance, the Rothschild-Stiglitz prediction is of generality in modeling asymmetric information as either adverse selection or moral hazard. Drawing up on the coverage-risk correlation, the principal prediction, no matter what context is being concerned, is to verify the positive relationship between asymmetric information and the market outcome conditional on observables that may exert influence on the market outcome. Empirical treatment of the Rothschild-Stiglitz prediction follows two approaches. One is a conventional analysis of economic behavior of agents who possess private information by incorporating a utility function (Cardon & Hendel, 2001; Chiappori et al., 2006; Eisenhauer, 2004; Frank et al., 2000). Since the coverage-risk prediction, among others, has been argued to be fairly valid and robust independent of policyholders' utility function and insurers' pricing, the second one is simply an econometric treatment of this fundamental prediction without the analysis of utility and

profit maximization (Chiappori & Salanié, 1997, 2000). Specifically, this prediction has been treated by Chiappori and Salanié (1997, 2000) as a pair of two models that are theoretically independent, one delineating policyholders' insurance choice:

$$Z_i^D = f_1(X_i) + \varepsilon_i,$$

and the other capturing the occurrence of accidents after an insurance policy is chosen:

$$Z_i^S = f_2(X_i) + \eta_i,$$

where X_i is a vector of observables that characterize agent i; Z_i^D is the choice of insurance by agent i and, for simplicity, equals one if a full coverage is chosen and zero otherwise; Z_i^S is the occurrence of accidents on the part of agent i, equals to one if an accident occurred and zero otherwise; ε_i and η_i are two stochastic shocks that can influence Z_i^D and Z_i^S respectively.

These two models predict that the presence of asymmetric information necessitates a positive correlation between ε_i and η_i. Conditional on observables X_i, insurance choice is determined by ε_i whereas the occurrence of accidents is determined by η_i. If agents have private information of the occurrence of accidents, in other words, their risks, they will probably choose a full coverage according to the Rothschild-Stiglitz prediction. This suggests that Z_i^D and Z_i^S are not independent, or that ε_i and η_i should be correlated

controlling for observables X_i. Further, ε_i is positively correlated with η_i as policyholders' choice of the full coverage is associated with higher probability of accident occurrence. Chiappori and Salanié (1997, 2000) then defined a test statistic W, which is distributed asymptotically as a $\chi^2(1)$, to calculate the correlation between ε_i and η_i under the null of conditional independence $cov(\varepsilon_i, \eta_i) = 0$.

3.3.2 Adverse Selection on the OTOs' Side

The classification of *ex ante* quality (g_r and g_f) based on production technology satisfies the assumption that quality needs to be exogenously endowed for adverse selection to happen. In package tours, adverse selection indicates that, *ceteris paribus*, OTOs should trade g_r rather than g_f. This is exactly Akerlof's (1970) Lemons problem, in which firms have incentives to trade low, rather than high, quality when the price for both is assumed identical to reflect the average quality. Rather than following the approach of the pair of two model developed by Chiappori and Salanié's (1997, 2000), we directly treat OTOs' choice of g_r or g_f as a single model, which is a function of production technology. This modification would best fit into the theoretical context set for package tours while without losing the generality of Chiappori and Salanié's (1997, 2000) approach in modeling asymmetric information. First, since the central role of production technology is to differentiate *ex ante* quality of package tours, production technology may best account for the transaction of package tours between tourists and OTOs in the source market. Second, the second model in Chiappori and Salanié's approach (1997, 2000) is essentially an operationalization of risks as the occurrence of accidents and therefore can be integrated into the first model to account for policyholders' insurance choice.

Building upon the Rothschild-Stiglitz prediction in controlling for the effects of other factors including the assumption of identical price, a necessary and sufficient condition for OTOs to supply g_r is determined by their keeping production technology unknown to tourists, that is, to intentionally create asymmetric information between themselves and tourists. In other words, if tourists can certainly distinguish between g_r and g_f based on production technology, supplying g_r could not succeed. Instead of modeling asymmetric information by the pair of two models as Chiappori and Salanié (1997, 2000) did, we specify a direct causality from asymmetric information to OTOs' supply:

$$S_{k_1}^{OTO} = f_1\left(A_{k_1}, Y_{k_1}^{OTO}, \varepsilon_{k_1}^{OTO}\right), \qquad (3.1)^1$$

where k_1 indexes individual OTOs; $S_{k_1}^{OTO}$ is a binary variable equal to one if g_r is supplied by OTO k_1 and zero otherwise; A_{k_1} indicates production technology of a tour package supplied by OTO k_1; $Y_{k_1}^{OTO}$ is a set of firm-specific attributes of OTO k_1, either observable or unobservable, that may influence OTO k_1's supply, and $\varepsilon_{k_1}^{OTO}$ is an error term for the supply of OTO k_1.

As asymmetric information between tourists and OTOs is defined as production technology, adverse selection may occur if OTOs hide information of production technology. This model predicts that, if OTOs are identical in all aspects described by

[1] For simplicity, equations developed by the present study and for the inference purposes only are numbered, and are referred to by the chapter number and equation number throughout the text. For example, (3.1) indicates the first equation in Chapter 3.

$Y_{k_1}^{OTO}$, OTOs which act in a way of hiding production technology tend to supply the class of quality g_r rather than g_f, due to a relatively large surplus associated with g_r with the assumption of identical price being held. This means that OTOs' supply is determined by the extent to which they disclose production technology to tourists. From a statistical point of view, instead of investigating the correlation between two residuals, ε_i and η_i, in the pair models, it is expected a statistically significant correlation between production technology and OTOs' supply of g_r to indicate adverse selection on the OTOs' side.

3.3.3 Moral Hazard on the ITOs' Side

Prior to modeling moral hazard, a crucial assumption needs to be articulated: ITOs are capable of delivering travel services but differ in the amount of effort they actually exert. This assumption distinguishes moral hazard from adverse selection on the ITOs' side, as *ex post* quality of package tours should be a function of ITOs' effort rather than their exogenous types, such as whether they are competent or not. According to Arnott and Stiglitz (1988), moral hazard occurs when firms are tempted to exert less than the promised effort, which results in the production of low quality. This is perhaps because, under information asymmetry, consumers are incapable of verifying the actual effort firms exert and, as a result, are supplied with low quality. For illustration, it is supposed that ITOs, given all are equally competent in service delivery, can choose to exert either a high-level effort (E_h) or a low-level (E_l), which results in high *ex post* quality (g_h) or low quality (g_l). Based on Chiappori and Salanié's (1997, 2000) approach, the supply of package tours in terms of service delivery on the ITOs' side is written as:

$$S_{k_2}^{ITO} = f_2\left(E_{k_2}, Y_{k_2}^{ITO}, \varepsilon_{k_2}^{ITO}\right), \tag{3.2}$$

where k_2 indexes individual ITOs; $S_{k_2}^{ITO}$ is a binary variable equal to one if g_l is supplied by ITO k_2 and zero otherwise; E_{k_2} indicates effort exerted in service arrangement and delivery for a tour package by ITO k_2; $Y_{k_2}^{ITO}$ is a set of firm-specific attributes of ITO k_2 that may also influence the supply of *ex post* quality; and $\varepsilon_{k_2}^{ITO}$ is an error term for the supply of ITO k_2.

This model is straightforward since effort has been modeled as a fundamental input in service production. If ITOs can hide their effort and disguise it as to be of tourists' interests, the supply of low quality is more likely to be observed at the destination. In light of this, if ITOs are identical in all aspects described by $Y_{k_2}^{ITO}$, ITOs which exert less effort in service delivery are associated with a higher probability of the supply of g_l. It is thus expected a correlation between effort and the occurrence of g_l to indicate moral hazard. While both models of adverse selection and moral hazard share an identical function suggested by the Rothschild-Stiglitz prediction and Chiappori and Salanié's (1997, 2000) approach, the distinction between the two in this context and elsewhere is not theoretically self-evident. It lies in the interpretation of these two models. Since g_r and g_f are assumed exogenously given in the market, the selection of g_r on the OTOs' side is caused by hiding production technology from being known by tourists—adverse selection. On the ITOs' side, the supply of g_l is endogenously determined by ITOs' effort, which indicates moral hazard as an *ex post* facto phenomenon.

3.3.4 Adverse Selection versus Moral Hazard: An Analysis of Causality

In addition to the two agency problems grounded on the OTO-level and ITO-level asymmetric information, the agency relationship between OTOs and ITOs suggests a correlation between adverse selection and moral hazard. One plausible conjunction is adverse selection being a precondition of moral hazard, since the agency relationship between tourists and OTOs occurs before that between tourists and ITOs. That is, g_r is supplied by OTOs under the classification of *ex ante* quality. Since supplying g_r at a relatively low price may not provide sufficient incentives in the form of tour fares, ITOs may rest more upon commissions. It becomes evident that ITOs may exert less effort than they otherwise should in service delivery and may even exploit tourist expenditures, for commissions from misconduct probably overweigh a share of tour fares associated with g_r. The consequence is illustrated as that both tour fares and commissions are gradually fixed and to be possessed by OTOs and ITOs respectively, a condition in which OTOs take all tour fares whereas ITOs take all commissions. Therefore, g_r involves a zero-fare relation in nature, suggesting that no tour fares are shared by ITOs which, instead, entirely rest upon commissions. In this regard, adverse selection of g_r suggests the zero-fare relation which, in turn, results in moral hazard in a static model:

$$S_{k_2k_1}^{ITO} = f_{12}\left(S_{k_1}^{OTO}, E_{k_2}, \varepsilon_{k_2k_1}\right), \tag{3.3}$$

where $S_{k_2k_1}^{ITO}$ is a binary variable equal to one if g_l is supplied by ITO k_2 under the joint production where g_r is supplied first by OTO k_1 and zero otherwise; $\varepsilon_{k_2k_1}$ is an error term

for the joint production of OTO k_1 and ITO k_2. This model predicts that adverse selection of g_r on the OTOs' side determines moral hazard of g_l on the ITOs' side in a static manner.

As implied by the static model of adverse selection causing moral hazard, to prevent moral hazard from happening requires supplying g_f in the source market, and thereby providing ITOs with substantial incentives to incur their proper behavior, for example, exerting a high-level effort. Nevertheless, ITOs are tempted to exert less than the promised effort as long as they have superior information of effort compared to both OTOs and tourists, no matter what *ex ante* quality is supplied by OTOs. Indeed, supplying g_f is insufficient to guarantee that ITOs will behave honestly despite more tour fares derived from g_f. This indicates that the occurrence of moral hazard can be independent of OTOs' supply yet not *vice verse*. The consequence is profound: in the subsequent transactions, moral hazard may distort OTOs' behavior in a way that OTOs restructure a tour package by introducing the quality class of g_r, and supply g_r rather than g_f. This is because, by supplying g_r, OTOs can exploit all tour fares immediately without concerning about ITOs' effort and the associated *ex post* quality. Hence, moral hazard at the destination reversely causes adverse selection in the source market with a time lag, yielding the zero-fare relation denoted by g_r. With the time lag included, the causal relationship between adverse selection and moral hazard can be modeled as:

$$S^{OTO}_{k_1k_2(t)} = f'_{12}\left(S^{ITO}_{k_2(t-1)}, A_{k_1(t)}, \varepsilon_{k_1k_2(t)}\right), \tag{3.4}$$

where $S^{OTO}_{k_1k_2(t)}$ is a binary variable equal to one if g_r is supplied by OTO k_1 in the present transaction t under the joint production where g_l is supplied by ITO k_2 in the previous transaction t-1 and zero otherwise; $S^{ITO}_{k_2(t-1)}$ denotes ITO k_2's supply at t-1; $A_{k_1(t)}$ is production technology at t; and $\varepsilon_{k_1k_2(t)}$ is an error term for the joint production at t.

Underlying this dynamic agency model is a critical assumption that there is no asymmetric information between OTOs and tourists in the very first transaction. This can be exemplified by the supply of a single class of quality g_f, the production technology of which, despite privately known to OTOs, has no influence on OTOs' supply. Production technology can take effect as long as moral hazard first occurs at the destination denoted by g_l, which distorts OTOs' behavior in supplying another class of quality g_r. Thus, this model predicts that OTOs' supply of g_r (or g_f) in the source market at present depends on whether g_l (or g_h) is supplied by ITOs at the destination in the previous transaction. The occurrence of adverse selection indicates that the zero-fare relation is fixed, whereby the joint production is redefined as that OTOs take all tour fares and ITOs take all commissions. Both OTOs and ITOs even expect the zero-fare relation to happen because supplying g_r with a sufficiently low price can dramatically expand market share in the source market which, in turn, provides as many opportunities as possible for ITOs to manipulate tourist expenditures at the destination. If the payoffs of supplying g_r for expanding market share overweigh those of supplying g_f for charging a high price, OTOs are inclined to supply g_r. This argument is supported by Kranton (2003) who has proved that firms' competition for market share can discourage them for high-quality provision.

3.4 Modeling Reputation Effects

3.4.1 The Mediating Effect of Reputation

The fundamental role that reputation plays is to reduce information asymmetries and to sustain quality as a result (Allen, 1984; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983). The mechanism of reputation is thus modeled as a mediating effect which can mitigate both adverse selection and moral hazard. This mediating effect consists of both the signaling effect on the OTOs' side and the incentive effect on the ITOs' side respectively. The signaling effect suggests that reputation discloses information—production technology—to tourists for reducing information asymmetry between tourists and OTOs. The incentive effect suggests that reputation encourages ITOs to behave honestly in supplying high quality. Since reputation and asymmetric information are conceptually consistent, it is plausible to examine how the interplay of reputation and asymmetric information in determining firms' supply of quality as a whole.

3.4.2 Reputation as a Signal for OTOs

Since production technology represents asymmetric information between tourists and OTOs and, importantly, differentiates quality between g_r and g_f, it is argued that the signaling mechanism of reputation in the context of package tours is to reveal production technology to tourists, indicating that I_D approximates to I_S. That is, tourists can know from OTOs that, for a given package tour constrained by price and time, the allocation of budget and time on a set of service components. If tourists are well aware of their preference to individual service components, they are able to choose the tour package that

matches their preference as closely as possible. Reputation reduces adverse selection by revealing production technology, suggesting that reputation actually reduces the possibility of product failure in the source market. In a short term, product failure may be of interests to OTOs but not to tourists otherwise OTOs may reveal production technology regardless of their reputation. The role of reputation on the OTOs' side suggests that reputation, by disclosing production technology to tourists, updates the information content of package tours on the demand side from I_D to $I_D^{'}$:

$$I_D^{'} = \left\{ transportation, accommodation, meals, attractions, p, q, A^{'}, e_D^{'} \right\},$$

where $I_D^{'}$ denotes the updated information accessible to tourists in the presence of OTOs' reputation; A' indicates information of production technology disclosed by OTOs' reputation; and $e_D^{'}$ captures information noise or other dimensions of information that are relevant to tourists' purchase decisions.

It is apparent that A' is theoretically identical to A, both indicating information of production technology yet at different levels. The difference is that A' cannot be equal, but only approximates, to A in terms of quantity since reputation is not perfect to disseminate all information to tourists. In other words, the OTO-level asymmetric information still exists despite mitigated by reputation. This represents that the mediating effect of reputation as suggested by theories is imperfect (Diamond, 1989; Ely & Välimäki, 2003; Fudenberg & Levine, 1992; Huberman & Wu, 2004; Rob & Fishman, 2005). As tourists can make a distinction between g_r and g_f based on A', it becomes

difficult for OTOs to supply g_r. Given the assumption of identical price for both g_r and g_f, tourists will not choose g_r as it involves less utility. There would be two alternatives for OTOs' supply under the condition of less asymmetric information. One is that OTOs only supply g_f and the other is that OTOs supply both g_r and g_f but charge different prices, with a relatively high price for g_f. The second choice has widely been acknowledged that reputation commands a price premium for supplying high quality (Klein & Leffler, 1981; Shapiro, 1982, 1983). This indicates that reputation drives the price of g_f to rise above the average market price, resulting in price premium proposed by Klein and Leffler (1981) and Shapiro (1982, 1983). Reputation thus functions in reducing adverse selection both on the supply and the demand side. Following MacKinnon, Fairchild, and Fritz's (2007) approach to modeling the mediating effect of a variable, the mediating effect of OTOs' reputation is modeled in a set of three regression equations with two additional functions specifically developed for reputation:

$$S_{k_1}^{OTO} = f_1\left(A_{k_1}, Y_{k_1}^{OTO}, \varepsilon_{k_1}^{OTO}\right), \tag{3.1}$$

$$S_{k_1}^{OTO} = f_1'\left(A_{k_1}, R_{k_1}^{OTO}, Y_{k_1}^{OTO}, \varepsilon_{k_1}^{OTO}\right), \tag{3.5}$$

$$R_{k_1}^{OTO} = f_1''\left(A_{k_1}, Y_{k_1}^{OTO}, \varepsilon_{k_1}^{OTO}\right), \tag{3.6}$$

where $R_{k_1}^{OTO}$ denotes OTO k_1's reputation. In addition to the prediction of adverse selection (3.1), two other predictions are included to model the mediating effect of reputation. One suggests that disclosing information of production technology has a positive effect on OTOs' reputation (3.6). That is, OTOs build up reputation through

disclosing production technology to tourists. This argument precisely represents the signaling effect of reputation addressed in a number of studies, suggesting that reputation takes effect through information (Allen, 1984; Klein & Leffler, 1981; List, 2006; Shapiro, 1982, 1983; Tadelis, 1999, 2002, 2003). The second one predicts the indirect effect of production technology on *ex ante* quality through the intervention of OTOs' reputation (3.5). The set of these three models illustrate the mechanism by which reputation can reduce adverse selection and, in this case, sustains quality in the source market.

3.4.3 Reputation as an Incentive for ITOs

One of the most important incentives that reputation provides is price premium, which encourages firms for high-quality provision (Klein & Leffler, 1981; Shapiro, 1982, 1983). When it comes to the operation of package tours, price premium could largely be acquired by OTOs which charge tour fares in the source market and allocate the tour fares in the supply chain. Since ITOs can obtain the short-term profits by making use of their informational advantage with respect to effort, they would be discouraged to build up reputation over the long term. Given the above two reasons, why ITOs need reputation to prevent from moral hazard? Despite that ITOs' behavior can be independent of OTOs as mentioned, the joint production suggests that ITOs require tourist flows originated in the source market while being transferred by OTOs. In this regard, OTOs may obtain market power in a way of controlling the source market and therefore select ITOs to establish a type of joint of production. If *ex post* quality supplied by ITOs is detected lower than OTOs contracted for, OTOs which have established their reputation may terminate the joint production with those ITOs which are suspect of exerting less effort in service

delivery. This means that OTOs can utilize their market power to discipline ITOs' behavior, suggesting that ITOs should build reputation to improve *ex post* quality because they otherwise will lose businesses from OTOs. It follows that ITOs' reputation directly improves *ex post* quality, which in turn increases repeat purchases on the OTOs' side and thereby increasing ITOs' businesses from OTOs.

This stream of businesses transferred by OTOs represents the incentive that ITOs' reputation commands. In this regard, an explanation would be that OTOs select ITOs for service delivery based on ITOs' reputation. Although tourists at the destination may not directly provide incentives to ITOs, ITOs can exert reasonable effort to improve *ex post* quality which in turn increases repeat businesses in the source market. In this sense, instead of hiding their behavior, ITOs demonstrate their abilities and competence in service delivery. Business practices of this kind may include, for example, that ITOs inform tourists immediately if any change is made for travel itineraries due to some unforeseeable incidents, and that ITOs may reveal their competence by recruiting high-qualified tour guides. Klein and Leffler (1981) and Riley (1985) argued that firms which supply high quality tend to inform consumers by investing in those activities that are costly for firms which supply low quality. This, on the one hand, reduces tourists' uncertainty at the destination and, on the other, increases tourists' expectation of service quality. While the rational for ITOs' reputation lies in the incentives on the OTOs' side, ITOs' reputation can be modeled as the mediating effect as far as the agency relationship between tourists and ITOs is concerned. With the signaling role of reputation, the effect of ITOs' reputation is modeled in another set of three regression equations:

$$S_{k_2}^{ITO} = f_2\left(E_{k_2}, Y_{k_2}^{ITO}, \varepsilon_{k_2}^{ITO}\right), \tag{3.2}$$

$$S_{k_2}^{ITO} = f_2'\left(E_{k_2}, R_{k_2}^{ITO}, Y_{k_2}^{ITO}, \varepsilon_{k_2}^{ITO}\right), \tag{3.7}$$

$$R_{k_2}^{ITO} = f_2''\left(E_{k_2}, Y_{k_2}^{ITO}, \varepsilon_{k_2}^{ITO}\right), \tag{3.8}$$

where $R_{k_2}^{ITO}$ denotes ITO k_2's reputation. Similar to the mediating effect of OTOs' reputation, these three models incorporate two predictions in addition to that of moral hazard. The first predicts a positive relationship between effort and ITOs' reputation, suggesting that ITOs can build up reputation by disclosing information regarding their behavior and effort to tourists (3.8). The second one addresses the indirect effect of effort on *ex post* quality through the intervention of ITOs' reputation (3.7). These three models suggest a mediating role that ITOs reputation plays at the destination in improving *ex post* quality. Since ITOs' reputation directly relates to *ex post* quality at the destination, ITOs which have their reputation established may not only disseminate information concerning their service delivery but also attempt to make service delivery visible, unambiguous, and less uncertain.

4 METHODOLOGY

This chapter devises the research methods adopted for three applications of the eight agency models (3.1–3.8), respectively presented in Chapters 5, 6, and 7. The first application (Chapter 5) validates the fundamental proposition that quality deterioration in package tours is caused by asymmetric information of production technology and effort. The second one (Chapter 6) tests the effects of how asymmetric information and reputation interact with each other in determining the magnitude of quality deterioration. The third one (Chapter 7) investigates the dynamics of quality deterioration of package tours, a proposition that moral hazard on the ITOs' side results in adverse selection on the OTOs' side. Since China is regarded as one of the most important source markets for package tours, this study on quality deterioration of package tours examines China's outbound tourism market with a focus on the China-Hong Kong market segment. This is because a number of incidents of inferior quality in package tours, especially in relation to Hong Kong and Thailand as the destinations, have been the headlines of the local media over the past decade (see Chen, Mak, & Guo, 2011). In this regard, China's outbound tourism market provides a promising field for such empirical investigations.

4.1 China's Outbound Tourism Market

4.1.1 An Overview of the Market

China's outbound tourism market has been greatly expanding since the late 1990s when outbound leisure travel was, for the first time officially, approved by the Chinese government to Hong Kong and Macau. Before that, this market had been dominated by

tourists for visiting-friends-and-relatives (VFR) and business purposes, in short, VFR and business tourists. Over the past decade, China's outbound tourism market has undergone an unprecedented growth as the destination countries/regions opened to Chinese citizens had rapidly increased to a total of 111 by 2010 (CNTA, 2009, 2010, 2011). The Chinese outbound departures increased from 5.3 million in 1997 to 57.4 million by 2010 with an average annual growth of 10% projected in the next ten years (CNTA, 2011; NBS, 1998; UNWTO, 2011a). It has been forecasted that China will become the fourth largest outbound tourism market by the year 2020, recording up to 100 million outbound departures (UNWTO, 2001). China has also shown by far the fastest growth with regard to tourist overseas expenditure since 2000 and by 2010 had overtaken the United Kingdom to be the third largest spender—behind Germany and the United States—with a total of US$ 54.9 billion on international tourism (UNWTO, 2011b). The fast development of China's outbound tourism market is believed to have been changing the patterns of the Asia-Pacific outbound tourism and that of the world (UNWTO, 2011a).

Underpinning the robust growth of this market is, in part, the Approved Destination Status (ADS) scheme launched in the late 1990s. The ADS scheme is a bilateral tourism agreement between the Chinese government and a destination country/region whereby Chinese nationals are permitted to undertake leisure travel in groups to that destination. By 2010 among China's 111 ADS destinations, Hong Kong is of crucial importance not only because it, along with Macau, was one of the first destinations to be granted the ADS status in 1997, but also because it has since 2001 accommodated a total number of 131.1 million Mainland Chinese tourists, the largest among its source markets, for

example in 2010, taking 63.0% of market share in terms of tourists arrivals and 64.4% in terms of spending (HKTB, 2011). Hong Kong has for the past decade been reported, along with Thailand, to have suffered a disproportionately large number of "zero-fare" group tours, incidents of which include misguided consumptions, forced shopping, and cheatings (Chen et al., 2011; Jia, 2004, 2005, 2006; Tan, 2007; Tse, 2003; Zhang et al., 2009a, 2009b). For instance, as of 2010, numerous inferior quality incidents associated with "zero-fare" group tours, including forced shopping, had been the headlines in the media, drawing a great deal of public attention about how to operate Chinese package tours and protect Chinese tourists from being exploited by tour operators.

4.1.2 Roles of OTOs and ITOs

As for many Asian source markets, one of the most striking characteristics of China's outbound tourism is that group package tours organized by licensed OTOs have been the dominant travel mode for Chinese citizens. This exclusive travel mode has established its legitimacy in the ADS scheme and has been approved and initiated within the scheme primarily by the China National Tourism Administration (CNTA). Despite the Individual Visit Scheme (IVS) as a deregulation launched in 2003 by allowing residents in some major cities in Mainland China to visit Hong Kong on an individual basis, group package tours have been the predominant travel mode especially for the newly opened ADS destinations. Such an institutional arrangement highlights the roles of both OTOs and ITOs in operating Chinese outbound package tours. In particular, China's OTOs can be further classified into two types. One is wholesale travel agents which are known as tour operators specializing in product development and coordination with ITOs in travel

service arrangement and delivery at the destination and, sometimes, selling tour packages through their outlet agencies. The second one is known as travel agencies, being sales representatives of wholesale travel agents without any coordination with ITOs. The number of licensed OTOs, including their affiliated travel agencies, only accounts for a small fraction of the total number of travel agencies. This number was 904 in 2010 among 22,784 international travel agencies which are authorized to handle inbound tourism, outbound tourism, or both (CNTA, 2011, UNWTO, 2011a).

Also under the ADS scheme, ITOs are normally approved by the authorities of the ADS destination countries/regions to operate China's group package tours based on contracts that stipulate responsibilities and obligations of both ITOs and OTOs. On the demand side, ITOs represent the service suppliers at the destination, specializing in coordinating with service providers and delivering contracted services to tourists. Since there is direct contact between tourists and ITOs at the destination, service quality may largely depend on the performance of ITOs and the tour guides affiliated to them. It is perhaps not surprising that, on the one hand, OTOs are blamed to have handled "zero-fare" group tours and, on the other, almost all inferior quality detected in package tours is taken for granted as a matter of ITOs' misconduct. For example in Australia's inbound market, a range of inferior quality such as restrictive businesses, unethical businesses, dubious practices, and cheap group tours is deemed closely related to ITOs' behavior (Dwyer et al., 2007; Keating, 2009; Prideaux et al., 2006). Hong Kong's evidence has also suggested that forced shopping and misguided consumptions by ITOs are the most obvious indicators of inferior quality of package tours (Jia, 2004, 2005, 2006; Tse, 2003).

4.1.3 Profiles of Tour Packages

In terms of the main attractions incorporated in a travel itinerary, there have been four types of tour packages sold in the China-Hong Kong market over the period of the present study from December 2010 to June 2011. They are termed, respectively, the *Sightseeing* tour, the *Ocean Park* tour, the *Disneyland* tour, and the *Ocean Park plus Disneyland* tour. A typical *Sightseeing* tour consists of two components, a guided tour and a free independent tour. Tourists who participate in the guided tour are accompanied by local tour guides and tour escorts to visit well-known attractions in Hong Kong, including, in sequence, Wong Tai Sin Temple, Hong Kong Convention & Exhibition Centre (including Golden Bauhinia Square), Victoria Peak (including Madame Tussauds Hong Kong), the Avenue of Stars, Victoria Harbor as well as several designated shopping spots by OTOs and ITOs. The free independent tour allows tourists to take a trip by themselves without being accompanied by tour guides or escorts. The *Sightseeing* tour is sold both as a single tour package and as an indispensible basic attraction incorporated into the other three tour packages. A typical *Ocean Park* tour package consists of the *Sightseeing* tour and an extra attraction, *Ocean Park*. A typical *Disneyland* tour package similarly incorporates the *Sightseeing* tour and an extra attraction, *Disneyland*. A typical *Ocean Park plus Disneyland* tour package incorporates the *Sightseeing* tour and two extra attractions, *Ocean Park* and *Disneyland*.

In addition to differentiating tour packages by types of attractions, OTOs commonly set three service standards for a particular tour package which, as OTOs indicate in a travel itinerary, are termed the *Standard*, *Quality*, and *Luxury* tours. The classification of

Standard, *Quality*, and *Luxury* tours is on the basis of quality differentiation, for factors of production, or service components packaged, are identical across the three service standards, indicating that they are in the same product category. Of significant implication is this classification which perhaps verifies the assumption that *ex ante* quality is exogenously determined in the China-Hong Kong market. According to the description of the OTO-level asymmetric information (I_D) in Chapter 3, tourists may not be able to distinguish among the *Standard*, *Quality*, and *Luxury* tours if they are unaware of the corresponding production technologies. The distinction lies in the extent to which tourists' allocation of time and budget is fixed on specific service components, that is, production technology. Travel itineraries indicate a relatively tight time constraint for each attraction in the *Standard* tour and no time constraint for the *Luxury* tour. It is apparent that length of stay increases as the number of attractions in a tour package increases. For example, a typical *Sightseeing* tour commands one day whereas an *Ocean Park plus Disneyland* tour commands at least two days and one night. Prices of package tours differ by their types and service standards.

4.2 Research Design

4.2.1 Units of Analysis

Applications of the eight agency models are concerned with three units of analysis, namely the product of package tours, individual tourists, and the market. For testing the agency models, three levels of analyses were performed to correspond with the three units of analysis, which are analyses at the product level, individual-tourist level, and the market level as a whole. The product level analysis applies where tour packages are

differentiated in terms of their *ex ante* quality in the source market. This analysis investigates the effects of asymmetric information and particularly adverse selection. The individual-tourist level analysis applies when individual tourists differ in their knowledge of production technology, effort, and OTOs' and ITOs' reputation. The market level analysis aims to investigate the dynamics of inferior quality in package tours as information can either diffuse or fade in the market over time. Three empirical studies (Chapters 5, 6, and 7) are therefore designed at the three levels. Following the assumption of exogenously classified quality of package tours in the source market, the first study aims at testing two agency problems, adverse selection and moral hazard. Since individual tourists differ in their information of reputation, the second study takes account of the effects of both asymmetric information and reputation at the individual-tourist level. The third one is a longitudinal study of the market for package tours, examining how diffusion of information influences supply of quality of package tours.

4.2.2 A Supplementary Tour Escort Survey

A tour escort survey was carried out as a supplement to a cross-sectional tourist survey which was devised for the individual-tourist level analysis and is introduced later. In contrast to tourists' choices at the individual level, a tour package is actually purchased by a group of tourists whose common characteristics explain a collective choice though they differ in their knowledge of production technology, effort, and reputation. The differences at the individual-tourist level may therefore count little for studying asymmetric information at the product level where a group of tourists choose an identical tour package. This means that if adverse selection and moral hazard occur in the market

for package tours, both could be accounted for by the choice of a group of, rather than individual, tourists. For instance, if low quality, g_r, is chosen by a group of tourists to indicate the presence of adverse selection, we may still detect these tourists' differences in terms of their knowledge of production technology at the individual-tourist level. Yet these differences contribute little to explaining tourists' collective choice of g_r. For this reason, the supplementary tour escort survey is devised to collect information regarding characteristics of individual tour packages, especially those characteristics such as service standards classified by OTOs which the cross-sectional tourist survey may fail to capture. In addition, as tour escorts are normally dispatched by OTOs to accompany tourists throughout the trip, they can gather such information more objectively and efficiently than being collected from individual tourists.

4.2.3 A Cross-sectional Tourist Survey

At the individual-tourist level, investigating the interplay of asymmetric information and reputation is of our major interest. We operationalized and transformed all key variables in the eight agency models into their psychometric equivalents, such as *ex ante* quality which was treated as a proxy of price sensitivity. The individual-tourist level analysis deals with the fact that tourists, even in an identical tour group, are perhaps heterogeneous in terms of their knowledge of production technology, effort, OTOs' and ITOs' reputation, and *ex ante* and *ex post* quality. For instance, on the one hand, a group of tourists in an identical tour package as a whole would be asymmetrically ill-informed compared to OTOs and ITOs and, on the other, are probably individually heterogonous in their knowledge of production technology and effort when compared with their peer

members within the group. This indicates that asymmetric information may also take effect at the individual-tourist level, justifying a cross-sectional tourist survey for data collection. We thus designed a cross-sectional survey collecting data at two stages. This two-stage research design requires tracking individual tourists' purchase and consumption patterns in groups and surveying them in the source market and then at the destination. At the first stage, data of production technology, OTOs' reputation, and *ex ante* quality were collected in the source market; at the second stage, data of effort, ITOs' reputation, and *ex post* quality were collected at the destination.

4.2.4 A Longitudinal Market-level Study

Testing the dynamic model of moral hazard that generates adverse selection requires a longitudinal dataset at the market level. The dataset of this kind was created based on the Hong Kong Tourism Board's (HKTB) Visitor Profile Reports over the period of 1993 to 2010. The visitor profile reports are based on the annual HKTB Visitors Survey which has been carried out by HKTB and the Immigration Department of Hong Kong since 1990 on inbound tourists from more than 20 source markets, including Mainland China since 1993. This longitudinal study is an extension of the supplementary tour escort survey and the cross-sectional tourist survey, both of which may fail to capture the dynamic nature of "zero-fare" group tours and detect the classification of *ex ante* quality as accurately as possible at the market level. Specifically, first, we expect to verify that no quality classification was presented in the first place when Hong Kong as a destination was newly opened up to Chinese tourists. This means that g_f is the exclusively supplied quality of package tours in the market and is charged with a relatively high price for

providing sufficient incentives in the form of tour fares to both OTOs and ITOs. Second, g_r is expected to be detected with a time lag as it takes time for ITOs to manipulate their informational advantage and cause moral hazard; it also takes time for OTOs to respond to ITOs' misconduct by introducing g_r to make adverse selection occur.

4.3 Instruments

A set of two instruments were devised, that is, a tour escort questionnaire and a tourist questionnaire to collect the primary data. The tour escort questionnaire was developed as a complement to the tourist questionnaire for collecting the product level information particularly regarding *ex ante* quality of package tours. It consists of five questions regarding the characteristics of a tour package plus a requirement of a hardcopy of the travel itinerary for this tour package (Appendix A). These five questions address the type of a tour package (the *Sightseeing*, *Ocean Park*, *Disneyland* tour or other types), length of stay, the size of the package group (how many tourists participated in this package tour), the service standard (the *Standard*, *Quality*, *Luxury*, or other tours), and the identities of ITOs which delivered travel services for the tour package. The reason for requiring a hardcopy of the travel itinerary is for cross-checking information provided by the tour escort against that in the travel itinerary. This is to make sure that information obtained from the tour escort questionnaire is accurate and reliable. In addition, tour escorts' personal information was required, including their contact and bank account for facilitating the payment for their assisting services and further contact if needed. The researchers' contact was also provided for any enquires form tour escorts in implementing the tour escort survey.

The tourist questionnaire is the principal instrument. It consists of five sections, namely tourists' previous travel-related characteristics, the present purchase experience in China, consumption in Hong Kong, social demographics, and a single question that requires tourists to provide information of their shopping expenditure (Appendix B). Information of tourists' travel-related characteristics were obtained via five questions about tourists' frequency of overseas travel, frequency of travel to Hong Kong, province of residence, the identities of China's OTOs from which they purchased their tour package, and the amount of tour fares. Of our primary concern is information about tourists' present purchase experience and consumption. These two sections detail the measurement of six constructs that underlie the eight agency models, namely production technology, effort, OTOs' and ITOs' reputation, *ex ante* and *ex post* quality. The social demographics were obtained by requiring tourists to provide information of their gender, age, marital status, education, occupation, and monthly income. Prior to administering both tour escort and tourist questionnaires for the main study, a pilot study was conducted for revising both questionnaires (Appendix C). The tour escort questionnaire was modified to supplement the details of the classification of the service standard (Appendix D). The tourist questionnaire was revised to increase the reliability and validity of the measurement (Appendix E). In addition, a set of survey guidelines were proposed and distributed to tour escorts for instructing them to properly handle both surveys (Appendix F).

4.4 Measurement

The measurement details the operationalization of the six constructs that underlie the eight agency models which are developed in Chapter 3 and applied in Chapters 5, 6, and

7. The operationalization of the six constructs follows three criteria, which are of importance for the validity of the measurement. First, the operationalization of a construct should be in accordance with the theory on which the construct is grounded. As Cronbach and Meehl (1955) and Loevinger (1957) argued, the validity of a construct measurement largely depends on what theories are being considered. Theories determine what a construct predicts and what is predicted (Netemeyer, Bearden, & Sharma, 2003) and, therefore, determine the validity of a model in which the construct is involved. In defining reputation for example, Fombrun (1996) and Wartick (2002) called for specifying the theoretical background of reputation prior to defining and measuring it. Second, for most individual-level research, since psychometrically latent variables are frequently used yet cannot be directly measured, the operationalization of these variables requires to uncover their perceptual nature at the stage of model construction. This is to make a model manageable and testable with a survey approach to gathering data. Third, for proposing working hypotheses, the operationalization of constructs should be context-specific without losing their generalities in their theories.

4.4.1 Operationalization

4.4.1.1 Consumer Knowledge and Asymmetric Information

The concept of asymmetric information describes an informational status where, for example, consumers know less whilst firms know more particularly about quality. It is difficult to quantify the magnitude of such asymmetric information as to what exactly consumers know compared to firms. While the orthodox economic literature has not yet suggested a measure of asymmetric information, *per se*, this concept was measured

indirectly by evaluating its consequence, such as the occurrence of accidents in insurance (Cardon & Hendel, 2001; Chiappori & Salanié, 1997, 2000). At the individual level, the concept of asymmetric information parallels to consumer knowledge in terms of its psychometric nature. Actually, consumer knowledge has long been proposed to study consumer behavior under asymmetric information (Nelson, 1970; Oxenfeldt, 1950). In particular, Nelson (1970) underscored the importance of consumer knowledge in consumers' purchase decisions which may otherwise be implausible if consumers lack some sort of information of a product such as quality. The inclusion of asymmetric information into the scope of consumer knowledge is also supported by Shapiro (1983) and Tadelis (2003), who concluded that asymmetric information decreases with the increase of consumer knowledge. In other words, the amount of consumer knowledge can be a proxy to the magnitude of information asymmetry which consumers owe to firms.

Yet consumer knowledge does not take into account the transactional relationship between consumers and firms but is about how consumers search for information (Cordell, 1997; Guo & Meng, 2008; Rao & Sieben, 1992). In the present study, since the OTO- and ITO-level asymmetric information is defined as production technology and effort respectively, these two levels of asymmetric information are operationalized as tourists' knowledge of production technology and effort. This operationalization indicates that, for production technology, if tourists are well aware of the allocation of budget and time on individual service components of a tour package, they will probably possess less asymmetric information in the source market; for effort, if tourists are well aware of whether or not ITOs have exerted reasonable effort, they will probably possess less

asymmetric information at the destination. However, a distinction needs to be articulated between what tourists believe they know—consumer knowledge—and what they actually know—asymmetric information. The latter is of course more precise to delineate asymmetric information. Instead of measuring the magnitude of asymmetric information, we aim at operationalizing asymmetric information in an approximate manner that is consistent with the asymmetric information theories, hence, facilitating data collection.

4.4.1.2 OTOs' and ITOs' Reputation

Reputation has long been viewed as a market mechanism at the market level (Allen, 1984; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983). At the individual level, its psychometric nature is self-evident, since consumers' awareness of firms' reputation is the precondition that reputation signals quality (Klein & Leffler, 1981; Shapiro, 1982, 1983). A number of studies argued that consumers' knowledge of reputation is virtually imperfect as information acquisition involves costs and, also, information itself may decay over time (Diamond, 1989; Ely & Välimäki, 2003; Fudenberg & Levine, 1992; Huberman & Wu, 2004). This line of research underlies a theoretical foundation for defining reputation from consumers' perception. Specifically, Tadelis (2003) suggested linking the value of firms' reputation to consumers' perception based on firms' performance. Attention has thus been shifted from investigating reputation effects at the firm level by adopting a game-theoretical approach for example to consumers' decision at the individual level. Reputation is operationalized, in general, as consumers' trust on firms, or trustworthiness (Dellarocas, 2006; Ganesan & Hess, 1997; Hjorth-Andersen, 1991; Liebeskind & Rumelt, 1989; Pavlou et al., 2007; Singh & Sirdeshmukh, 2000).

In terms of its psychometric nature, reputation consists of four domains, namely credibility and reliability (Banerjee & Duflo, 2000; Gentzkow & Shapiro, 2006; Sobel, 1985), capability and competence (Chen & Dhillon, 2003; Stiglitz, 1989), benevolence (Chen & Dhillon, 2003), and, in general, trustworthiness (Dellarocas, 2006; Doney & Cannon, 1997; Kreps, 1990; MacLeod, 2007). As far as the present study is concerned, the information-based demand of package tours indicates that OTOs' reputation should emphasize the information-related domains such as credibility and reliability. On the other hand, the service-based demand indicates that ITOs' reputation should focus on the domains of service production like capability, competence, and benevolence. For these reasons, we distinguish between OTOs' and ITOs' reputation by highlighting the most appropriate domain for each side. OTOs' reputation is operationalized as tourists' belief on the extent to which information disclosed by OTOs is reliable, credible, and trustworthy. ITOs' reputation is operationalized as tourists' belief on the extent to which ITOs are capable of, and competent and benevolent in, service delivery.

4.4.1.3 Proxies of Ex Ante and Ex Post Quality

We proposed a classification of *ex ante* and *ex post* quality determined by production technology and effort respectively. With respect to *ex ante* quality at the individual-tourist level, tourists' tend to choose a tour package with a low price if they are unable to distinguish between two classes of *ex ante* quality g_r and g_f under asymmetric information[1]. That is, tourists are price sensitive as asymmetric information increases uncertainty in their purchase decisions. Choosing g_r indicates relatively high price sensitivity for tourists compared to choosing g_f. The operationalization of *ex ante* quality

[1] Evidence for this argument can be referenced to Section 5.1.1 Individual-level Choice Models.

as price sensitivity has its theoretical underpinning in various reputation models. For example, Klein and Leffler (1981) and Shapiro (1982, 1983) argued that the supply of high quality, say g_f, necessitates a price premium in the market, indicating that high quality should be priced high with a price premium as a return to firms' supply of high quality. In particular, Eisenhauer (2004) operationalized willingness to pay—a psychometric equivalent of price sensitivity—as a dependent variable for modeling adverse selection in insurance.

The class of *ex post* quality is analogues to firms' performance suggested in the literature of asymmetric information (Klein & Leffler, 1980; MacLeod, 2007). As far as the contracted-based performance is concerned, the criteria of whether and to what extent firms' breach of contract have been used to evaluate quality. This measurement is theoretically plausible yet empirically difficult to manage when it comes to measuring service quality. In addition to the contract-based performance, several constructs including service quality, satisfaction, and behavioral intention have been used to indicate quality in relation to information asymmetry (Smallwood & Conlisk, 1979). The agency model of moral hazard (3.2) suggests that *ex post* quality directly relates to ITOs' performance. As a measure of performance on the consumer's side rather than on the supplier's side (Backer & Crompton, 2000), satisfaction may not be appropriate. Since ITOs do not directly transact with tourists but through OTOs, behavioral intention is closely related to OTOs' behavior rather than ITOs' and is perhaps a poor indicator of *ex post* quality. Thus, *ex post* quality is operationalized as tourists' perception of ITOs' performance in service delivery, which justifies service quality as an appropriate measure.

4.4.2 Measurement

The measurement of the constructs draws items from a vast range of literature by centering on the criteria of operationalization outlined above. In addition to the literature, we crafted items for production technology on its own right as it was proposed by the present study and has not yet been measured elsewhere. The selection of exact items for each construct follows either of the two approaches. First, items were selected and modified by decomposing a tour package into a set of its individual service components, each of which was selected and measured in relation to the definition of that construct. This approach applies to the measurement of production technology and service quality, attempting to capture different facets of a tour package in breadth. It has been applied in the tourism literature especially related to package tours (Tsaur & Wang, 2009; Wang, Hsieh, & Huan, 2000; Wang, Hsieh, Chou, & Lin, 2007). Second, items were selected by underlining the essence of a construct itself while referring to the context of the construct in a particular study. This approach applies to the measurement of OTOs' and ITOs' reputation, price sensitivity, and effort. It has been widely applied in contexts where uncovering the dimension of a construct is superior to identifying various facets of the construct.

4.4.2.1 Consumer Knowledge of Production Technology and Effort

Tourists' knowledge of production technology was measured on price and time dimensions for a tour package. Since a tour package can commonly be decomposed into six service components, namely transportation, accommodation, meals, sightseeing, recreation, and shopping, tourists' knowledge of production technology was measured on

price dimension with the total of six service components and on time dimension with the last three service components. This is because length of stay matters to tourists only when tourists are at the destination, suggesting how long tourists spend on destination-specific activities, which may include sightseeing, recreation, and shopping. Unlike time dimension of production technology, price can apply to almost all service components including not only the means of travel, such as transportation, accommodation, and meals, but also the aims of travel, such as destination-specific activities. We therefore drafted nine items for measuring tourists' knowledge of production technology, with six items on price dimension and three on time dimension. As effort was operationalized as tourists' knowledge of ITOs' effort in service delivery, we proposed four items for measuring ITOs' effort, which are tourists' judgment of the amount of effort that ITOs exert, whether ITOs' behavior is proper or not, whether their behavior is acceptable, and whether their behavior is consistent with guidelines set in a travel itinerary.

4.4.2.2 Perception of OTOs' and ITOs' Reputation

The perceptual nature of reputation uncovered in the literature opens up the opportunity to employ a survey approach to gathering data. Such an operationalization makes the measurement of reputation more manageable than it is in economics, because it increases the possibility of obtaining data from all types of firms and contexts. In light of this, a number of reputation measurements have been developed, including the Fortune America's Most Admired Companies (AMAC) (Fombrun, 1998), the reputation quotient (Fombrun, Gardberg, & Sever, 2000), the customer-based corporate reputation (CBR) scale (Walsh & Beatty, 2007; Walsh, Beatty, & Shiu, 2009), and the trust-based

reputation scale (Newell & Goldsmith, 2001). Considering the multi-disciplinary nature of the construct of reputation, it seems impossible to measure reputation without setting a theoretical foundation for this construct (Wartick, 2002). Among other scales we adopted the trust-based reputation scale to measure both OTOs' and ITOs' reputation. Underlying this scale is the proposition that firm behavior can be predicted based on consumers' perception on firms' honesty, reliability, and benevolence (Berens & van Riel, 2004), which fits well with reputation operationalized for both OTOs and ITOs in the present study. The trust-based reputation scale consists of two dimensions, expertise and trustworthiness, which are measured by eight items. Five items were extracted to measure OTOs' reputation in terms of reliability, credibility, and trustworthiness and six items to measure ITOs' reputation in terms of capability, competence, and trustworthiness.

4.4.2.3 Price Sensitivity and Service Quality

Ex ante quality was operationalized as price sensitivity, suggesting how consumers react to price as well as to a change in price (Goldsmith & Newell, 1997). Price sensitivity is closely related to price consciousness, which is defined as the extent to which price is used as a negative criterion for consumers' decision making (Lichtenstein, Bloch, & Black, 1988; Monroe & Petroshius, 1981; Zeithaml, 1984). That is, consumers who rely more on price than on other characteristics of a product tend to view price in its negative role. Price consciousness has thereafter been used as a proxy to, and interchangeable with, price sensitivity (Petrick, 2004, 2005). Price sensitivity captures two dimensions of price consciousness and consumers' reliance on price. The present study followed a more precise definition by Petrick (2004) and operationalized price sensitivity on the basis of

price consciousness, indicating the effect of a change in price on customers' willingness to pay. While price sensitivity has occasionally been measured on a unidimensional basis with the weight attached to price in consumers' evaluation of a product's overall attractiveness (Erdem, Swait, & Louviere, 2002), we followed a widely-used multi-dimensional measurement of price sensitivity with five items (Goldsmith & Newell, 1997; Lichtenstein et al., 1988).

Ex post quality was operationalized as service quality which has been dominant in evaluating tourism services. Service quality has also been widely applied in package tours, with more attention devoted to measuring tour guide services (Geva & Goldman, 1991; Tsaur & Wang, 2009; Wang et al., 2000). However, tourists' evaluation of the performance of tour guides does not necessarily relate to service performance of tour operators (Geva & Goldman, 1991). We selected items from Wang et al. (2007) who identified twenty-nine items for measuring the performance of package tours. The twenty-nine items are loaded on six service components, namely hotel, transportation, shopping, optional tours, tour leader, and local tour guide sectors. We modified this scale by selecting the items on which we believe ITOs can manipulate and exert effort to improve service quality. In other words, those items which may be related to OTOs and service providers were excluded. In light of this, service quality was measured only in relation to ITOs' performance. In addition, an item of local tour guides' performance was retained in the scale since the fulfillment of services is accomplished by tour guides who are commonly affiliated to OTOs. Finally, seven items were selected for measuring service quality on six service components and on tour guiding services.

4.4.3 Reliability and Validity

The six constructs were measured by a total of 37 items structured on a 7-point Likert scale, ranging from 1 to 7 to indicate respondents' level of agreement from strongly disagree to strongly agree. This measurement along with the tour escort and tourist questionnaires was pretested with 192 respondents in in October 2010 to check its reliability and validity (Appendix F). Since the measurement was not much reliable and valid, the revisions were made as follows. First, five items were deleted because their factor loadings were below the cutoff value of .50. Among the five items, there were one item used for measuring production technology, one for OTOs' reputation, and one for ITOs' reputation. Although production technology is a new construct, it was found to be highly stable and reliable when the three items were deleted. Second, although the scale of price sensitivity was literally adapted from the literature, its reliability was relatively low. All five items of price sensitivity were retained but rephrased in a more concise manner to avoid ambiguity. Third, the scales of effort and ITOs' reputation were modified to focus on ITOs, because the original statements could have caused ambiguity when respondents were asked to rate their agreements on both ITOs and tour guides. The final measurement was structured on a total of 32 items in the tourist questionnaire.

4.5 Sampling

The population consisted of Mainland Chinese tourists who took package tours in groups to Hong Kong. For simplifying data collection, China as a source market is restricted to the city of Shenzhen, the second largest city of Southern China's Guangdong province and, importantly, the only city bordering Hong Kong. This geographical proximity has

made Shenzhen a gateway to the majority of China's ADS destinations especially in Southeast Asia. The Shenzhen-Hong Kong market segment has in large part represented China's various source markets with Hong Kong being the destination in terms of not only types of package tours being sold but also profiles of tourists. Three types of package tours that we observed in the Shenzhen-Hong Kong market segment can be found in in other source markets in China and have been the typical tour packages to Hong Kong across China. Due to its geographical proximity to Hong Kong, Shenzhen has become a hub for tourists from other parts of China taking package tours to Hong Kong. It is believed that tourists surveyed in the Shenzhen-Hong Kong market segment are more representative in terms of their social demographics. For these reasons, the respondents were tourists who were aged 18 or above, purchased and took their package tours in person from Shenzhen to Hong Kong during the period of the present study.

In order to target the respondents, it is important to take account of what types and service standards of package tours are purchased by tourists and which OTOs sell these package tours. As for the product level, prior to surveying tourists it is necessary to make both the types and service standards as diverse as possible by including at least three types of tour packages and three service standards. As for the firm level, given that package tours are actually sold by different OTOs in Shenzhen, it is necessary to take account of the fact that different OTOs may have different preferences when selling a particular type or a particular service standard of package tours. This is virtually plausible as OTOs with established reputation, for instance, tend to sell a high-quality tour package, or the *Luxury* tour in the case of this empirical study. At the individual-tourist level,

tourists were selected by taking a multi-stage sampling method which is essentially a cluster sampling on multiple levels of units. The sampling procedure consists of three stages. First, we selected OTOs which planned to sell at least one type of tour package, and thereby identifying the identities of ITOs which were designated to deliver travel services. Second, we selected 80 tour packages based on both their types and service standards, from which tourists were ultimately selected and surveyed at the third stage. With respect to the tourist survey, a convenient sampling method was adopted to select 10 to 15 respondents in each group of tour packages.

4.6 Data Collection

Data collection consists of a pilot survey and a main survey. The pilot survey aims at checking the reliability and validity of the tourist questionnaire prior to administering the main survey. Both pilot and main surveys followed an identical sampling method outlined above. Data collection was assisted by tour escorts who accompanied tourists throughout the trip from Shenzhen to Hong Kong. In the business context OTOs normally assign at least one tour escort to each group of package tours, and tour escorts can thus approach and contact tourists as conveniently as possible and, as a result, may obtain a relatively high response rate. In addition to assisting in distributing and collecting the tourist questionnaires after the tourists had finished all their travel activities, the tour escorts were required to complete the tour escort questionnaire after collecting all tourist questionnaires for each group of tour packages. The pilot survey was completed in October 2010, with a total of 201 tourist questionnaires administered to nine groups of tour packages. After data screening, 192 questionnaires were found useful for data

analysis. After both the tourist and tour escort questionnaires had been modified based on the results of the pilot survey, the main survey was administered to 80 groups of tour packages from December 2010 to June 2011. A total of 1,200 tourist questionnaires were distributed and 765 collected and found useful for data analysis.

4.7 Data Analysis

Data analysis was carried out respectively at the product, individual-tourist, and market levels. The product level analysis (Chapter 5) aims at testing three agency models, that is, adverse selection (3.1), moral hazard (3.2), and the static model of the causal relationship between both (3.3). The data were drawn from both the tour escort survey and the tourist survey. A hierarchical multiple regression method was employed, as it allows variables being entered in a regression function in block so as to check whether a model is significantly improved when a block of variables of our interest are entered. The individual-tourist level analysis (Chapter 6) aims at testing a structural equation model which is an empirical model of seven agency models as a whole (3.1–3.3 and 3.5–3.8). It captures the interplay of asymmetric information and reputation. The data were drawn solely from the tourist survey on six constructs: OTOs' and ITOs' reputation, production technology, effort, and *ex ante* and *ex post* quality. The market level analysis (Chapter 7) tests the dynamic model of the causal relationship between adverse selection and moral hazard (3.4). We also employed a hierarchical multiple regression method for this analysis to single out the effects of the variables of our interest. The data were extracted from HKTB's Visitor Profile Reports over the period from 1993 to 2010. SPSS Statistics 18.0 and AMOS Graphics 18.0 were used to perform these analyses.

5 TESTING FOR ASYMMETRIC INFORMATION IN PACKAGE TOURS

This chapter presents evidence for the first of the three applications, aiming at testing adverse selection (3.1), moral hazard (3.2), and the static model (3.3) of the causal relationship between both. The other two applications can proceed if the principal proposition that asymmetric information of production technology and effort causes quality deterioration of package tours is valid at the product level. Empirical models that follow consist of three multiple regressions, which are specified by taking account of tourists' choices in the source market and their consumption at the destination. The first empirical model aims at verifying the presence of adverse selection by confirming a statistically significant relationship between production technology and *ex ante* quality. The second one is to verify a statistically significant relationship between effort and *ex post* quality to indicate moral hazard. These two empirical models are grounded on the Rothschild-Stiglitz prediction, in which asymmetric information that determines market outcome is of the major concern. To test the static model of the causal relationship, the relationship between *ex ante* and *ex post* quality is investigated, thereby suggesting to what extent tourists' choice of *ex ante* quality determines *ex post* quality.

5.1 Empirical Models

5.1.1 Individual-level Choice Models

On the assumption of identical price for g_r and g_f, adverse selection is modeled on the supply side, yet it may not necessarily occur on the demand side. In fact, g_r and g_f have an equal probability of being chosen by tourists under the circumstance in which

distinguishing between g_r and g_f by tourists is not as straightforward as by OTOs through discerning production technology. However, the assumption of identical price might not be applicable in package tours, for the dynamic model of adverse selection determined by moral hazard suggests that g_r could be charged relatively low because ITOs can utilize commissions as the second source of profits. Also, providing a flexible production technology is more likely at the expense of tour operators' interests by inducing more costs to them, and thus g_f is probably priced higher than g_r. A third violation of the identical price assumption stems from the observation that both low and high prices are charged for a seemingly identical tour package in the source market (Jia, 2004, 2005, 2006). For this reason, this assumption is relaxed while controlling the quantity of a package tour to reconcile the three context-specific issues mentioned above. With price differentiated for g_r and g_f, the classification of *ex ante* quality can be rewritten as:

$$g_r = \left\{transporta\ tion, accommodat\ ion, meals, attraction\ s, p_r, q, A_r, e_r^{'}\right\},$$

and

$$g_f = \left\{transporta\ tion, accommodat\ ion, meals, attraction\ s, p_f, q, A_f, e_f^{'}\right\},$$

where p_r denotes the price charged for g_r, and p_f for g_f; and $p_r < p_f$; $e_r^{'}$ and $e_f^{'}$ are error terms.

The informational content of a tour package on the demand side is thus updated as:

$$I_{D_v} = \left\{transporta\ \ tion, accommodat\ \ ion, meals, attraction\ \ s, p_v, q, e_{D_v}\right\}, (v = r, f),$$

where I_{D_v} denotes the updated set of information regarding g_r and g_f; p_v denotes the price for g_r and g_f; and e_{D_v} is an error term.

Tourists can now distinguish between g_r and g_f based on price. Adverse selection on the OTOs' side (3.1) can be translated into the choice of individual tourists:

$$D_i^{OTO} = f_1\left(A_i, X_i, \varepsilon_i^{OTO}\right), \tag{5.1}$$

and it is straightforward to rewrite moral hazard (3.2) at the individual level as:

$$D_i^{ITO} = f_2\left(E_i, X_i, \varepsilon_i^{ITO}\right), \tag{5.2}$$

and the static model (3.3) of the causal relationship between adverse selection and moral hazard at a cross-sectional level:

$$D_i^{ITO} = f_{12}\left(D_i^{OTO}, E_i, \varepsilon_i^{ITO}\right), \tag{5.3}$$

where i indexes individual tourists; D_i^{OTO} (D_i^{ITO}) is a binary variable equal to one if g_r (g_l) is chosen by tourist i and zero otherwise; A_i and E_i indicate tourist i's asymmetric information with respect to production technology and effort respectively; X_i is a set of individual-specific characteristics of tourist i that may account for his choice of *ex ante* quality in the source market and *ex post* quality at the destination; and ε_i^{OTO} and ε_i^{ITO} are

error terms on the tourist *i*'s side. Of central role is production technology in determining both OTOs' supply and tourists' choice of *ex ante* quality to make adverse selection happen. So is effort in determining *ex post* quality at the destination to make moral hazard happen. Three predictions are thus derived from these three models. First, A_i rather than X_i accounts for tourists' choice of g_r in the source market to indicate adverse selection (5.1); second, E_i rather than X_i accounts for *ex post* quality of g_l at the destination to indicate moral hazard (5.2). These two predictions are based on the assumption that individual tourists are identical in all aspects captured by X_i except for their asymmetric information with respect to production technology and effort. The third prediction (5.3) is that tourists' choice of g_r in the source market accounts for *ex post* quality of g_l at the destination.

5.1.2 Variables and Specifications

While the three agency models are operationalized at an individual level for empirical investigations, Chiappori and Salanié's (1997, 2000) econometric model for the Rothschild-Stiglitz prediction still applies in this regard. Its application deals with two issues of operationalization. One is to specify two sets of variables in a function of agency models, that is, a vector of observable variables X_i and a dependent variable. The specification of variables largely depends on insurance as a context in which insurers rely on a sort of observable characteristics to screen policyholders on their risks as well as on what types of insurance at stake. In particular, insurers record information of policyholders' social demographics and, in the automobile insurance for example, also record policyholders' characteristics of properties being insured and characteristics of

automobiles. In Chiappori and Salanié's (2000) study on automobile insurance for instance, a total of 55 variables were selected to measure X_i ranging from drivers' driving record, social demographics, region of residence, to their cars' performance and age. The dependent variable was commonly operationalized as a binary variable of whether a particular insurance contract is chosen.

A second issue of operationalization is to specify a function form for the theoretical agency models (Cohen & Siegelman, 2010). This specification depends on the types and measurement of dependent variables, leading to parameter and non-parameter testing of asymmetric information. Chiappori and Salanié (2000) operationalized parameter testing as a pair of probit models, since the dependable variable, either as insurance choice or as the occurrence of accidents, was commonly measured at an ordinal or nominal level. The function of probit models was normally treated as a linear multiple regression (Chiappori & Salanié, 1997, 2000; Puelz & Snow, 1994). The pair of econometric models for testing asymmetric information were thus translated into two independent probit functions, with two residues to denote asymmetric information (Chiappori & Salanié, 1997, 2000). Yet the parameter testing procedure is not always applicable. First, the function forms of linear property in the parameter testing procedure may derive some cross effects among the variables in X_i; second, the coverage-risk correlation is robust even without a specific form of function for the testing; and third, the variables in the functions may not be normally distributed as required in the parameter testing procedure. Taking account of these reasons, Chiappori and Salanié (1997, 2000) suggested a nonparameter testing procedure as an alternative to test the coverage-risk correlation on the χ^2 test.

As suggested by the Rothschild-Stiglitz prediction, variables of tourists' individual-specific characteristics X_i need to be controlled in order to single out the correlations of our primary concern between production technology and *ex ante* quality and between effort and *ex post* quality. For model specification, in addition to tourists' social demographics, individual-specific characteristics X_i incorporate two levels of heterogeneities at the product and firm levels, which are observables and thus need to be held constant. Tourist heterogeneity indicates that tourists are heterogeneous in terms of their social demographics which would affect their choices of *ex ante* quality and consumption of *ex post* quality. Product heterogeneity suggests that tour packages are heterogeneous in terms of what service components are packaged. Product heterogeneity influences tourists' choice and consumption because it can influence tourists' preference to a particular tour package and therefore distorts the effect of asymmetric information when different tour packages are investigated. Firm heterogeneity is that an identical tour package may be sold or served by a number of different OTOs or ITOs. Tourists have to choose an OTO to buy a tour package and an ITOs to deliver travel services, which in turn influences their choice of *ex ante* quality and consumption of *ex post* quality.

Identifying the three levels of heterogeneities is necessary as the individual-level choice models (5.1–5.3) were constructed based on a single-product-single-firm assumption. That is, a single tour package with two classes of quality is supplied by a single OTO and ITO respectively in the source market and at the destination and is chosen by different tourists. Yet this assumption may not apply from an empirical point of view, since not only are tourists observably heterogeneous but also package tours as products and both

OTOs and ITOs as firms are heterogeneous. Following Chiappori and Salanié's (1997, 2000) operationalization, the parameter testing procedure is adopted to specify adverse selection (5.1) in a linear multiple regression:

$$P\left(D_{ijk_1}\right) = \alpha_1 + \beta_1 A_{ijk_1} + \gamma_1 L_i + \delta_1 M_j + \theta_1 F_{k_1} + \varepsilon_{ijk_1}, \tag{5.4}$$

and specify moral hazard (5.2) also in a linear multiple regression:

$$D_{ijk_2} = \alpha_2 + \beta_2 E_{ijk_2} + \gamma_2 L_i + \delta_2 M_j + \theta_2 F_{k_2} + \varepsilon_{ijk_2}, \tag{5.5}$$

and specify the static model (5.3) of the causal relationship between adverse selection and moral hazard in a linear multiple regression:

$$D_{ijk_2k_1} = \alpha_2^{'} + \lambda D_{ijk_1} + \beta_2^{'} E_{ijk_2} + \theta_2^{'} F_{k_2} + \varepsilon_{ijk_2k_1}, \tag{5.6}$$

where i indexes individual tourists, j indexes tour packages, k_1 indexes OTOs, and k_2 indexes ITOs; D_{ijk_1} is operationalized as a binary variable equal to one if g_r is chosen and zero otherwise; D_{ijk_2} is operationalized as a continuous variable to measure *ex post* quality; $D_{ijk_2k_1}$ is also a continuous variable to measure *ex post* quality when g_r is chosen by tourists; A_{ijk_1} and E_{ijk_2} denote tourist i's asymmetric information of production technology and effort respectively; individual-specific characteristics X_i are specified as three levels of heterogeneities, namely tourist heterogeneity L_i, product heterogeneity M_j,

and firm heterogeneity with respect to OTOs (F_{k_1}) and ITOs (F_{k_2}); and ε_{ijk_1}, ε_{ijk_2} and $\varepsilon_{ijk_2k_1}$ are error terms. The first two regressions (5.4 and 5.5) suggest that, having controlled the effects of the three levels of heterogeneities, it is expected that parameters β_1 and β_2 are statistically significant to indicate the effect of asymmetric information of production technology and effort respectively. For the third regression (5.6), since D_{ijk_1} is an endogenous variable, its effect could be suppressed by its predictors if it is entered in the model at the final stage. It is therefore expected that parameter λ is statistically significant before other variables such as the predictors of D_{ijk_1} are entered in the model.

5.2 Measurement and Data

The data were extracted from both the tour escort survey and tourist survey. The dependent variable D_{ijk_1} was measured in the tour escort survey by the service standard supplied in the source market. While this survey actually collected information of three service standards, namely the *Standard*, *Quality*, and *Luxury* tour, for simplicity the *Standard* tour is distinguished from the other two. Thus, D_{ijk_1} was coded as one to indicate the *Standard* tour and zero to indicate the other two, which is consistent with the classification of g_r and g_f in the source market. The second dependent variable D_{ijk_2} was measured in the tourist survey by service quality. With the factor-based scores approach, the value of D_{ijk_2} was estimated by aggregating the values of seven items of service quality (Alwin, 1973; Dobie, McFarland, & Long, 1986; Grice & Harris, 1998; Marris, Langford, & O'Riordan, 1998). This approach estimates the value of a latent variable as that of an equally weighted combination of all its items (Alwin, 1973).

Independent variables incorporate the three levels of heterogeneities and two levels of asymmetric information. Tourist heterogeneity (L_i) was measured in the tourist survey by a set of social demographics, which are gender, age, marital status, education, occupation, and monthly income. These variables were coded as dummies, with one to indicate tourists' social demographics falling into a particular category and zero otherwise, which derived a total of 26 dummies. Since product heterogeneity (M_j) is to differentiate tour packages based on service components, attraction as a principal service component may best represent different tour packages. Product heterogeneity (M_j) was thus measured by the frequency of a particular attraction to indicate different types of tour packages in the tour escort survey[1]. OTOs' and ITOs' heterogeneity (F_{k_1} and F_{k_2}) were measured in the tourist survey based on OTOs' and ITOs' reputation and their identities recorded in the two surveys[2]. The procedure for calculating F_{k_1} and F_{k_2} followed the factor-based scores approach; a modification was that the values of OTOs' and ITOs' reputation were estimated based on their respective identities. That is, in addition to commutating the values of the two reputation constructs, the values were aggregated for each OTO and ITO in order to derive an overall rating of reputation for OTOs and ITOs. Two latent variables, production technology (A_{ijk_1}) and effort (E_{ijk_2}) were operationalized as tourists' knowledge of production technology and effort and measured with the factor-based scores approach. The measurement ultimately derived a total of 35 variables.

[1] The measurement of product heterogeneity (M_j) was composed of four continuous variables to indicate four types of attractions in terms of their frequencies recorded by tour escorts. This measure may have failed to distinguish different types of tour packages although the tour escort questionnaire was designed for such a purpose. Thus, the measurement of M_j here was treated as a proxy to product heterogeneity.

[2] Similar to the measurement of product heterogeneity (M_j), OTOs' and ITOs' heterogeneity (F_{k_1} and F_{k_2}) measured by their reputation were actually proxies to firm heterogeneity. Although OTOs and ITOs are heterogeneous in terms of their reputation, the measurement of reputation as a continuous variable at the individual-tourist level may not precisely distinguish one OTO/ITO from another in terms of reputation.

5.3 Procedure

Testing for asymmetric information requires controlling the effects of observables on the market outcome so as to single out those of asymmetric information. The econometric model of the Rothschild-Stiglitz prediction remains a theoretical approach to controlling for the effects of observables (Chiappori & Salanié, 1997, 2000). In this approach, asymmetric information is modeled as the consequence of two residues in a pair of two probit functions, describing policyholders' demand for insurance and the occurrence of accidents. Since observables are only entered in the two functions, the relationship between insurance demand and the occurrence of accidents can be attributed to the effect of two residues, which exactly denote asymmetric information of risks. Given that production technology and effort as two levels of asymmetric information have been explicitly unfolded in the present study, their effects can be directed tested by isolating the effects of the observables or other dimensions of asymmetric information. In this regard, a hierarchical regression method was adopted as an empirical approach to testing asymmetric information. This approach puts theoretically similar variables into a block at different stages of regression to check whether an empirical model is significantly improved at each stage. At the subsequent stage the first block of the variables can be held constant in order to check the significance of the model when the second block is entered, and of our major interest are the block of variables entered at the last stage.

In light of the model specifications for adverse selection (5.4) and moral hazard (5.5), tourist heterogeneity (L_i) was entered in the first block, followed by product heterogeneity (M_j) in the second, firm heterogeneity of ITOs and OTOs (F_{k_1} and F_{k_2}) in

the third for the models of adverse selection and moral hazard, and production technology (A_{ijk_1}) and effort (E_{ijk_2}) in the fourth also for the two agency models. Although the hierarchical regression procedure was followed in testing the static model (5.6) of the causal relationship, the difference is that tourists' choice (D_{ijk_1}) was entered in the first block so as to examine how much variance in $D_{ijk_2k_1}$ can be explained by D_{ijk_1} in the first place, followed by effort (E_{ijk_2}) in the second block, and firm heterogeneity of OTOs (F_{k_2}) in the third. This is because D_{ijk_1} is of our primarily interest and is virtually an endogenous variable, the effect of which could be suppressed by its predictors if it is entered in the function at the final stage. As of adverse selection (5.4), a significant portion of variation in D_{ijk_1} is expected to account for by A_{ijk_1} and A_{ijk_1}'s coefficient β_1 should be statistically negative. As of moral hazard (5.5), a significant portion of variation in D_{ijk_2} is expected to account for by E_{ijk_2} and E_{ijk_2}'s coefficient β_2 should be statistically positive. For the static model (5.6) of the cause relationship, a significant portion of variation in $D_{ijk_2k_1}$ is expected to account for by D_{ijk_1} and D_{ijk_1}'s coefficient λ should be statistically negative. SPSS Statistics 18.0 was used to perform these analyses.

5.4 Results

5.4.1 Descriptive Analysis

Descriptive statistics of the respondents are presented in Table 5.1. After excluding cases with missing values, the females made up more than one half of the respondents, nearly six percentage points more than the males. The age groups 26–35 and 36–45 represented the two largest proportions in the sample, with each constituting more than one-third of

the respondents. Over two-thirds of the respondents were married, and slightly one-quarter more were single. As for education, the respondents with university/college degrees accounted for nearly one half, followed by more than one-third with senior/technical/vocational education; and those with postgraduate and elementary education took only a small fraction each. As for occupation, nearly 40% of the respondents were staffs/clerks, far greater than the other eight occupations. Of a total of 765 respondents, approximately one-third earned CNY (Chinese yuan) 3,000–4,999 per month; nearly 20% each earned CNY 1,000–2,999 and CNY 5,000–6,999; and only around 5% each earned below CNY 1,000 and above CNY 9,000. In terms of types of tour packages, *Sightseeing* represented the most frequent attraction (91.1%), followed by *Ocean Park* (61.2%), *Disneyland* (54.9%), and other attractions (9.5%). The means estimated for F_{k_1} and F_{k_2} were 5.26 and 4.96, for A_{ijk_1} and E_{ijk_2} were 3.21 and 4.87, and for D_{ijk_2} was 4.90. As for service standard, the *Standard* tour made up as much as one half compared to one-third for the *Quality* tour and less than one-fifth for the *Luxury* tour.

Table 5.1. Descriptive statistics of the respondents (N = 765)

Variable	*N*	*%*	*Variable*	*N*	*%*
Social demographics (L_i) [a]			Retired	27	3.5
Gender			Other	116	15.2
Female	398	52.0	*Monthly income*		
Male	351	45.9	< 1,000	36	4.7
Age			1,000–2,999	151	19.7
18–25	124	16.2	3,000–4,999	234	30.6
26–35	247	32.3	5,000–6,999	143	18.7
36–45	236	30.8	7,000–8,999	86	11.2
46–55	65	8.5	9,000–10,999	23	3.0
56–65	56	7.3	≥ 11,000	27	3.5
≥ 66	20	2.6			
Marital status			Tour packages (M_j) [b]		
Single	202	26.4	Sightseeing	697	91.1
Married	496	64.8	Ocean Park	468	61.2
Other	31	4.1	Disneyland	420	54.9
Education			Other	73	9.5
Elementary or below	8	1.0			
Junior high school	66	8.6	OTOs (F_{k_1}) [c]	5.26	.37
Senior/technical/vocational	250	32.7	ITOs (F_{k_2}) [c]	4.96	.29
University/college	380	49.7			
Postgraduate	38	5.0	Production technology (A_{ijk_1}) [c]	3.21	1.33
Occupation			Effort (E_{ijk_2}) [c]	4.87	1.10
Manager/executive	86	11.2			
Staff/clerk	291	38.0	Service standard (D_{ijk_1}) [d]		
Civil servant	38	5.0	Standard	391	51.1
Professional	66	8.6	Quality	243	31.8
Worker	55	7.2	Luxury	131	17.1
Housewife	32	4.2			
Student	25	3.3	Service quality (D_{ijk_2}) [c]	4.90	.91

Notes: [a] Cases with missing values for each variable are excluded.
[b] The accumulated counts are obtained for each category.
[c] Estimates of the means of the latent variables and the corresponding standard deviations.
[d] The accumulated frequencies are obtained for each category.

5.4.2 Testing for Adverse Selection

The hierarchical regression method derived four empirical models indicated by four blocks of variables entered as predictors (Table 5.2). Except for the third model with

OTOs' heterogeneity F_{k_1} entered in the function, the other three models were statistically significant. The model of adverse selection was significantly improved by entering social demographics first (*-2LL* = 978.894, $p < .001$), suggesting that social demographics affected tourists' choice of the *Standard* tour in the source market. As the single block of independent variables, social demographics correctly classified 61.7% of the cases of the *Standard* tour. Product heterogeneity was also found to significantly improve the model of adverse selection (*-2LL* = 585.453, $p < .001$), classifying 83.3% of the cases of the *Standard* tour. As expected in the model of adverse selection, production technology was found to significantly improve the predictive ability of the empirical models (*-2LL* = 495.874, $p < .001$) after the first three blocks of variables were held constant. It correctly classified 85.5 % of the cases from the previous 83.4%, being the highest. Among the four empirical models, we failed to detect significant improvement of the model of adverse selection with OTOs' heterogeneity F_{k_1} as a predictor entered, indicating that tourists' choice of the *Standard* tour was probably not affected by OTOs in the source market. Hosmer and Lemeshow test suggested no significant difference between the observed data and the values predicted from these four models, indicating that the empirical models predicted the data fairly well.

Table 5.2. Model fits for the regressions of adverse selection ($N = 765$)

Models: Independent	*-2LL*	*Hosmer-Lemeshow test*	*Cox & Snell* R^2	*Nagelkerke* R^2	*% correct*
Constant	1060.137				51.1
Social demographic (L_i)	978.894***	10.149	.101	.134	61.7
Product heterogeneity (M_j)	585.453***	1.858	.462	.617	83.3
OTOs' heterogeneity (F_{k_1})	585.439	12.343	.462	.617	83.4
Production technology (A_{ijk_1})	495.874***	12.914	.522	.696	85.5

Notes: -2LL refers to as the log-likelihood multiplied by -2.
*** $p < 001$.

Except for OTOs' heterogeneity, the results show that social demographics, product heterogeneity, and production technology were significant predictors of tourists' choice of the *Standard* tour in the source market as presented in the final model (Table 5.3). In terms of social demographics, tourists' marital status and monthly income were found significantly affected their choice of the *Standard* tour. Specifically, married tourists were less likely to choose the *Standard* tour ($e^{\beta} = .403$, $p < .05$), indicating that they suffered adverse selection less in the source market than their counterparts. Among other tourists whose monthly income fell in the range of CNY 5,000–6,999, the likelihood of their choice of the *Standard* tour increased ($e^{\beta} = 2.654$, $p < .05$), indicating that these tourists were more likely to encounter adverse selection in the source market. In terms of product heterogeneity, tour packages incorporate attractions other than *Sightseeing* in the travel itinerary were found significantly contributed to the likelihood of tourists' choice of the *Standard* tour. This finding suggests that adverse selection was less likely to happen when tourists chose *Ocean Park* ($e^{\beta} = .175$, $p < .001$), *Disneyland* ($e^{\beta} = .039$, $p < .001$), or attractions other than *Sightseeing* as one component in their travel itinerary ($e^{\beta} = .157$, $p < .001$). Importantly, we found that as tourists' knowledge of production technology increased, the likelihood that they chose the *Standard* tour decreased ($e^{\beta} = .386$, $p < .001$), hence, supporting the prediction of adverse selection under asymmetric information.

Table 5.3. Parameters for the regression of adverse selection (N = 765)

Independent	β	*S.E.*	*Wald's* χ^2	p	e^{β}
Constant	5.782**	1.919	9.074	.003	324.294
Social demographics (L_i)					
Gender					
Female	.088	.245	.129	.719	1.092
Age					
18–25	.077	.759	.010	.919	1.080
26–35	-.209	.648	.104	.747	.812
36–45	.133	.634	.044	.834	1.142
46–55	.987	.674	2.149	.143	2.684
56–65	.706	.682	1.071	.301	2.027
Marital status					
Single	-1.039	.557	3.476	.062	.354
Married	-.908*	.441	4.239	.039	.403
Education					
Elementary or below	.589	1.244	.225	.636	1.803
Junior high school	-.313	.640	.239	.625	.732
Senior/technical/vocational	.253	.498	.258	.612	1.287
University/college	-.071	.457	.024	.876	.931
Occupation					
Manager/executive	.083	.461	.032	.858	1.086
Staff/clerk	.174	.363	.230	.632	1.190
Civil servant	.651	.631	1.065	.302	1.918
Professional	-.022	.491	.002	.964	.978
Worker	.960	.602	2.539	.111	2.611
Housewife	.863	.718	1.443	.230	2.370
Student	-.408	.924	.195	.659	.665
Retired	-.094	.691	.019	.891	.910
Monthly income					
< 1,000	-1.002	.830	1.460	.227	.367
1,000–2,999	.276	.487	.321	.571	1.318
3,000–4,999	.349	.447	.611	.435	1.418
5,000–6,999	.976*	.469	4.332	.037	2.654
7,000–8,999	.365	.518	.495	.482	1.440
9,000–10,999	1.169	.784	2.220	.136	3.219
Tour packages (M_j)					
Sightseeing	-.063	.467	.018	.893	.939
Ocean Park	-1.741***	.266	42.678	.000	.175
Disneyland	-3.254***	.273	141.871	.000	.039
Other	-1.850***	.516	12.863	.000	.157
OTOs' heterogeneity (F_{k_l})	.101	.319	.100	.752	1.106
Production technology (A_{ijk_l})	-.953***	.116	67.372	.000	.386
R^2	.532				
Durbin-Watson	1.623				

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

5.4.3 Testing for Moral Hazard

The procedure of hierarchical regression generated four empirical models represented by social demographics (L_i) as the single block of independent variables for the first model, the inclusion of product heterogeneity (M_j) for the second, of ITOs' heterogeneity (F_{k_2}) for the third, and of effort (E_{ijk_2}) for the fourth (Table 5.4). Although a total of four blocks of variables were found significantly accounted for the variation in service quality, the *F*-ratios indicated that the fourth model with the inclusion of effort ($F = 11.314$, $p < .001$) remained the best in accounting for the variation in service quality, as this model was significantly improved at the fourth stage, followed by the third with the inclusion of ITOs' heterogeneity ($F = 5.136$, $p < .001$), the second with product heterogeneity ($F = 3.154$, $p < .001$), and the first with social demographics ($F = 1.763$, $p < .05$) as the single block of independent variables. Having controlled the effects of social demographics which accounted for 5.8% of the variation in service quality, product heterogeneity explained 11.4% of the variation in service quality; with the effects of both social demographics and product heterogeneity held constant, ITOs' heterogeneity contributed significantly to the change of service quality, explained 17.8% of the variation; and having controlled the effects of the previous three blocks of variables, effort explained the largest amount of the variation in service quality by 33.1%. These results therefore support the first prediction that ITOs' effort accounts for a considerable amount of variation in service quality after the effects of other variables are held constant.

Table 5.4. Model fits for the regressions of moral hazard (N = 765)

Models: Independent	R	R^2	*Adjust* R^2	ΔR^2	F
Social demographics (L_i)	.242	.058	.025	.058	1.763*
Product heterogeneity (M_j)	.338	.114	.078	.056	3.154***
ITOs' heterogeneity (F_{k_2})	.422	.178	.144	.064	5.136***
Effort (E_{ijk_2})	.575	.331	.302	.152	11.314***

Notes: * $p < .05$, *** $p < .001$.

Of all variables of social demographics in the fourth model, tourists' age and occupation were found statistically significant in affecting service quality (Table 5.5). Tourists in the age group of 26–35 rated service quality as low (β = -.198, p < .05), which was statistically significant among all other age groups. Tourists who were professionals were found to rate service quality as high (β = .087, p < .05) and, in contrast, tourists who were students were found to rate service quality as low (β = -.079, p < .05). With respect to product heterogeneity, service quality was detected to improve by the incorporation of *Disneyland* while degenerated by the incorporation of other attractions. Specifically, package tours that incorporate *Disneyland* (β = .146, p < .001) were served with relatively high service quality whereas package tours that incorporate attractions other than *Sightseeing*, *Ocean Park*, and *Disneyland* (β = -.112, p < .01) were served with relatively low service quality. ITOs' heterogeneity had a significantly positive effect on service quality (β = .169, p < .001), indicating that service quality varied across different ITOs. With the effects of the three levels of heterogeneities held constant, the second prediction of a positive relationship between effort and service quality was verified (β = .423, p < .001), being the largest in its magnitude among others, indicating that moral hazard at the destination was accounted for by effort as asymmetric information.

Table 5.5. Parameters for the regression of moral hazard (N = 765)

Independent	*Coefficient*			*Collinearity statistics*	
	β	*B*	*S.E.*	*Tolerance*	*VIF*
Constant		.530	.843		
Social demographics (L_i)					
Gender					
Female	.015	.058	.027	.881	1.135
Age					
18–25	-.089	.182	-.218	.165	6.045
26–35	-.198*	.158	-.382	.136	7.349
36–45	-.136	.156	-.266	.143	6.985
46–55	-.084	.171	-.271	.328	3.048
56–65	-.044	.169	-.154	.383	2.608
Marital status					
Single	-.053	.132	-.108	.221	4.521
Married	-.053	.106	-.100	.290	3.447
Education					
Elementary or below	-.021	-.186	.301	.797	1.254
Junior high school	.013	.042	.150	.418	2.390
Senior/technical/vocational	.096	.185	.120	.237	4.223
University/college	.023	.042	.112	.239	4.189
Occupation					
Manager/executive	.033	.095	.115	.568	1.762
Staff/clerk	.020	.036	.086	.433	2.309
Civil servant	.063	.264	.149	.716	1.397
Professional	.087*	.279	.119	.667	1.500
Worker	.017	.060	.130	.663	1.509
Housewife	-.005	-.024	.162	.714	1.400
Student	-.079*	-.400	.203	.572	1.747
Retired	-.030	-.148	.179	.685	1.460
Monthly income					
< 1,000	.073	.311	.176	.536	1.864
1,000–2,999	-.035	-.078	.113	.368	2.715
3,000–4,999	-.029	-.058	.106	.311	3.216
5,000–6,999	-.017	-.040	.111	.398	2.515
7,000–8,999	.001	.003	.123	.495	2.022
9,000–10,999	-.005	-.025	.186	.738	1.355
Tour packages (M_j)					
Sightseeing	-.062	-.196	.103	.866	1.154
Ocean Park	.041	.077	.065	.737	1.356
Disneyland	.146***	.265	.061	.811	1.232
Other	-.112**	-.345	.099	.874	1.144
ITOs' heterogeneity (F_{k_2})	.169***	.531	.110	.742	1.348
Effort (E_{ijk_2})	.423***	.348	.027	.852	1.173
R^2	.331				
Durbin-Watson	1.624				

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

5.4.4 Adverse Selection Causing Moral Hazard: A Cross-sectional Analysis

The procedure of hierarchical regression generated three empirical models, represented by tourists' choice in the source market (D_{ijk_1}) as the first block of independent variables, the inclusion of effort (E_{ijk_2}) as the second block, and the inclusion of ITOs' heterogeneity (F_{k_2}) as the third block in the function (Table 5.6). Of all three empirical models which were statistically significant predicted, the second model (F = 140.309, p < .001) was actually superior to the first one (F = 26.947, p < .001) as the static model of the causal relationship was significantly improved at the second rather than the first stage. This indicates that adverse selection in the source market contributed less, though statistically significant, to service quality than tourists' knowledge of ITOs' effort. In other words, moral hazard at the destination would to some extent be independent of adverse selection in the source market. Specifically, ITOs' heterogeneity accounted for the largest of 28.5% of the variation in service quality, followed by ITOs' effort which accounted for 26.9% of the variation in service quality, and by tourists' choice of the *Standard* tour in the source market which explained 3.4% of the variation in service quality. This result is indeed consistent with the previous finding that tourists' knowledge of effort explained the largest amount of variation in service quality.

Table 5.6. Model fits for the regressions of the causal relationship (N = 765)

Models: Independent	R	R^2	*Adjust* R^2	ΔR^2	F
D_{ijk_1}	.185	.034	.033	.034	26.947***
Effort (E_{ijk_2})	.519	.269	.267	.235	140.309***
ITOs' heterogeneity (F_{k_2})	.534	.285	.282	.016	100.986***

Notes: *** p < .001.

The coefficients of all independent variables for the final empirical model are presented to examine each variable's contribution to service quality (Table 5.7). The results show that all coefficients were statistically significant, among which ITOs' heterogeneity (β = .137, p < .001) and tourists' knowledge of ITOs' effort (β = .447, p < .001) had positive effects on service quality. This suggests that service quality was supplied differently across different ITOs and, further, service quality improved as the amount of ITOs' effort in service delivery increased. In other words, effort is the fundamental input in service production on the ITOs' side. Of particular significance is that tourists' choice in the source market negatively affected service quality (β = -.162, p < .001). This finding supports the static model of the causal relationship between adverse selection and moral hazard, suggesting that tourists who choose the *Standard* tour in the source market are more likely to be supplied with low service quality at the destination. As far as ITOs' superior informational advantage is concerned, it can be concluded that moral hazard is substantially generated on the ITOs' side by ITOs' heterogeneity and effort. With all variables entered the static model of the causal relationship, tourists' choice of the *Standard* tour only contributed an incremental of 3.3% of the variation in service quality.

Table 5.7. Parameters for the regression of the causal relationship (N = 765)

Independent	*Coefficient*			*Collinearity statistics*	
	β	*B*	*S.E.*	*Tolerance*	*VIF*
Constant		1.124	.512		
D_{ijk_1}	-.162***	-.292	.059	.892	1.120
Effort (E_{ijk_2})	.447***	.368	.026	.914	1.094
ITOs' heterogeneity (F_{k_2})	.137***	.430	.106	.832	1.202
R^2	.285				
Durbin-Watson	1.508				

Notes: *** p < .001.

5.5 Discussion and Conclusion

The proposition that asymmetric information is the principal cause of quality deterioration of package tours has been verified by the two agency models. Among other predictors on the OTOs' side, tourists' knowledge of production technology was largely explained their choice of the *Standard* tour in the source market. This means that tourists who possess less information of production technology are more likely to purchase the *Standard* tour, resulting in adverse selection. On the ITOs' side, tourists' knowledge of effort contributed a considerable amount of the variation in service quality. The positive relationship between tourists' knowledge of effort and service quality suggests that service quality improves as asymmetric information of effort decreases. In other words, asymmetric information of effort accounts for low service quality, hence verifying moral hazard on the ITOs' side. Particularly, service quality was largely explained by ITOs' effort. This is consistent with agency theories, suggesting that effort is the fundamental input in service production (Baker, 1992; Fama, 1980; Foster & Rosenzweig, 1994; Malcomson, 1984; Stiglitz, 1974). With respect to the static model of the causal relationship between adverse selection and moral hazard, adverse selection in the source market does determine moral hazard at the destination. However, we should be cautioned when drawing such an inference between these two agency models, for the effect of adverse selection on moral hazard, albeit statistically significant, is negligible.

While the empirical models have indicated that the three levels of heterogeneities were, in part, statistically significant, not all variables that measure these heterogeneities explained tourists' choice of the *Standard* tour in the source market and service quality at

the destination. With respect to tourists' social demographics, variables of marital status and monthly income accounted for tourists' choice of *ex ante* quality, that is, adverse selection of the *Standard* tour in the source market. The results have shown that married tourists were less likely to choose the *Standard* tour while tourists who earned in the range of CNY 5,000–6,999 were more likely to choose the *Standard* tour. It might be not surprising as observed in the business that married tourists tend to spend more and therefore choose the *Quality* and *Luxury* tour more than the *Standard* tour (Jia, 2004, 2005, 2006). The positive relationship between the particular range of monthly income and tourists' choice can be attributed to the fact that tourists whose income in the range of CNY 5,000–6,999 can largely afford the *Standard* tour but may not afford the *Quality* and *Luxury* tour. For moral hazard, tourists in the age group of 26–35 and students rated service quality lower than their counterparts; this is probably because these tourists have relatively high expectations which are difficult to be met when the *Standard* tour is chosen in the source market. The occupation of professional was positively related to service quality, which is perhaps because these tourists know more about ITOs' effort and therefore are severed with high service quality.

The results have shown that product heterogeneity not only accounts for adverse selection but also explains the variation in service quality. Adverse selection was found less likely to happen when tourists chose *Ocean Park*, *Disneyland*, or attractions other than *Sightseeing* as one component in their travel itinerary. Given that *Sightseeing* remains the basic component of tour packages, the involvement of additional attractions may increase the complexity of production technology, thereby increasing asymmetric information on

the tourists' side. As such, adverse selection, if any, could occur more in those tour packages with complicated production technology, because it becomes difficult for tourists to tell the difference between two types of production technology. The significant effect of product heterogeneity on service quality indicates that package tours incorporating *Disneyland* are probably associated with less moral hazard while package tours incorporating attractions other than *Sightseeing*, *Ocean Park* and *Disneyland* may be associated with more moral hazard. Since *Sightseeing*, *Ocean Park* and *Disneyland* are the most frequently packaged attractions, it seems not surprising that package tours which incorporate other attractions may involve more asymmetric information and, hence, are associated with more moral hazard. This is simply because, according to MacLeod's (2007) classification, these package tours are innovative products to tourists.

Firm heterogeneity is of particular importance in testing agency problems. Empirical evidence however has not yet indicated the effect of OTOs' heterogeneity on tourists' choice of the *Standard* tour; this probably suggests that different OTOs may unanimously supply the *Standard* tour in the source market. In contrast, evidence has suggested that, in addition to effort, ITOs' heterogeneity largely explained service quality not only in the model of moral hazard but also in the static model of the causal relationship between adverse selection and moral hazard. This result simply indicates that different ITOs indeed supply different levels of quality. As a matter of fact, it has long been a theoretical paradigm that agency problems are studied by modeling firm behavior under asymmetric information (Allen, 1984; Ely & Välimäki, 2003; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983; Tadelis, 1999). This is basically a supply-side approach to

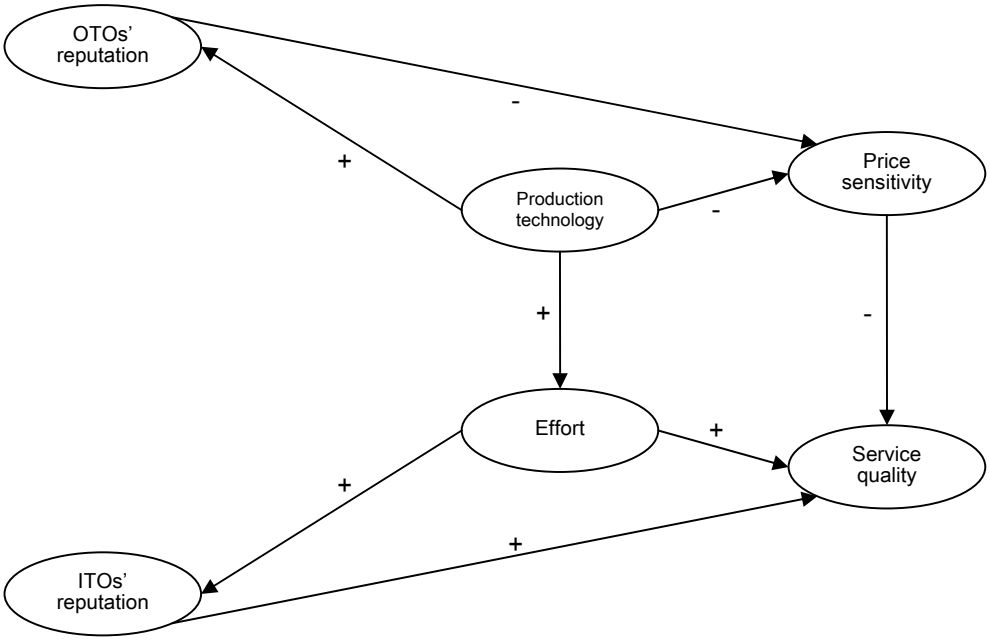
explaining why some firms supply low quality while others do not. The agency models developed in the present study have exactly followed this approach, and the results have, in part, supported the conjecture that the production of quality is endogenously determined by firms or, in the present study, ITOs. Since firm heterogeneity was operationalized based on OTOs' and ITOs' reputation, it is concluded that reputation virtually explains such a difference in supplying quality. It is suggested by the literature that the magnitude of quality deterioration is not only determined by asymmetric information but also by reputation as a counterattack mechanism.

6 QUALITY DETERIORATION IN PACKAGE TOURS: THE INTERPLAY OF ASYMMETRIC INFORMATION AND REPUTATION

This chapter presents evidence for the reputation effects and thus examines the magnitude of quality deterioration of package tours mediated by reputation on the OTOs' and ITOs' sides. Although reputation as a mediator in affecting quality deterioration has been justified in the literature, unknown is whether its mediating effects are empirically important in the market for package tours. For an empirical investigation in this chapter, two difficulties remain in terms of its methodology. First, with the mechanism of reputation modeled on the OTOs' and ITOs' sides, it is difficult to handle a set of multiple regressions simultaneously in a single regression function, in which one variable can be both exogenous and endogenous. One of such variables is *ex ante* quality which, in the static model of the causal relationship, determines *ex post* quality on the one hand and is, on the other, determined by production technology in the model of adverse selection. Second, while six constructs have been defined in modeling asymmetric information and reputation, they are defined on the supply side requiring the firm-level data which are difficult to obtain. For resolving the two difficulties, a structural equation modeling (SEM) approach is adopted, which allows the researcher to transform the variables of interest into their psychometric equivalents and collect data at the individual-tourist level.

6.1 Toward a Structural Equation Modeling Approach

6.1.1 Model Specification



Notes: + and – indicate the sign of the causal relationships.

Figure 6.1. A model of the interplay of asymmetric information and reputation

A total of eight agency models are developed in Chapter 3 to theorize the mechanism of quality deterioration in package tours, namely four agency models (3.1–3.4) that explain quality deterioration in package tours and the other four agency models that deal with reputation (3.5–3.8). For constructing an SEM model (Figure 1.6), three agency models (3.1–3.3) that explain quality deterioration of package tours at the cross-sectional level are specified along with the four models that account for the mediating effects of reputation (3.5–3.8). The dynamic model (3.4) of the causal relationship between adverse selection and moral hazard is left to Chapter 7 for a longitudinal study with the market-level data. Thus, the SEM model of the interplay of asymmetric information and reputation is constructed on the seven agency models. Although other exogenous variables should be controlled in model development in general, with an SEM approach

we can simply draw inferences from the principal relationships among the six constructs, namely production technology, OTOs' reputation, price sensitivity, effort, ITOs' reputation, and service quality. These relationships are grounded on and predicted by the seven agency models (3.1–3.3 and 3.5–3.8), all of which can be treated at the cross-sectional level.

6.1.2 Hypotheses

With the seven agency models being the theoretical foundation, the models of adverse selection (3.1) and moral hazard (3.2) are operationalized as two hypotheses by singling out the effects of production technology and effort on price sensitivity and service quality respectively while, at the same time, discarding the effects of the observables such as tourists' individual-specific characteristics (X_i), product heterogeneity (M_j), and firm heterogeneity (F_{k_1} and F_{k_2}). The two hypotheses are thus presented as:

> *Hypothesis 1 (H_1): Tourists' knowledge of production technology negatively affects their price sensitivity.*

> *Hypothesis 2 (H_2): Tourists' knowledge of ITOs' effort positively affects service quality.*

In this way the prominent relationships between asymmetric information and the market outcome are hypothesized at the individual-tourist level, which is consistent with the Rothschild-Stiglitz prediction. Chapter 5 has confirmed that several relevant exogenous

variables, including tourists' social demographics and product heterogeneity, were statistically insignificant or significant yet negligible. With respect to the static model of the causal relationship between adverse selection and moral hazard (3.3), the relationship between price sensitivity and service quality is hypothesized as:

Hypothesis 3 (H_3): Tourists' price sensitivity negatively affects service quality.

As reputation is modeled as a mediator to mitigate the effect of production technology and effort, the effect of OTOs' reputation is specified as two hypotheses (3.5 and 3.6):

Hypothesis 4 (H_4): Tourists' knowledge of production technology positively affects OTOs' reputation.

Hypothesis 5 (H_5): OTOs' reputation negatively affects tourists' price sensitivity.

For the effect of ITOs' reputation, two hypotheses are presented (3.7 and 3.8):

Hypothesis 6 (H_6): Tourists' knowledge of ITOs' effort positively affects ITOs' reputation.

Hypothesis 7 (H_7): ITOs' reputation positively affects service quality.

Considering the cornerstone role of production technology in the model of adverse selection, production technology is treated as a single independent construct for specifying the SEM model and its effect is captured by the hypothesis:

Hypothesis 8 (H_8): Tourists' knowledge of production technology positively affects their knowledge of ITOs' effort.

6.2 Measurement and Data

The data were extracted from the cross-sectional tourist survey on the six constructs measured by 32 items. A total of 765 questionnaires were checked useful for the analyses that follow. The data were screened and, if necessary, transformed to meet the assumptions that are required by the SEM approach. The procedure of data screening is as follows. First, there was only one case detected with missing value on one item measuring ITOs' reputation. Second, a total of 39 outliers were detected which were almost exclusively loaded on four items used to measure OTOs' reputation. According to Field's (2009) suggestions of treating outliers, one method was adopted to replace the values of the outliers with the next highest score plus one in the dataset. After data screening, the data were checked univariately normally distributed on 32 items. In addition, the values of five items measuring price sensitivity were reversed, for price sensitivity is largely stated in its negative role in the literature. This manipulation could be more appropriate in uncovering the essence of price sensitivity. SPSS Statistics 18.0 and AMOS Graphics 18.0 were used to perform the analyses below.

6.3 Procedure

A total of 765 samples were randomly split into two halves with approximate 50% cases each for conducting an exploratory factor analysis (EFA) and a confirmatory factor analysis (CFA). The EFA was performed on the first half of 380 samples to explore the factor structure of the items in the data, followed by the CFA to validate the hypothesized factor structure on the second half of 385 samples. According to the ration of 10–15 observations per item as a rule of thumb (Field, 2009), the first half of 380 samples were believed sufficiently large to derive a stable factor structure in the data. Prior to the EFA, all items were found to be roughly normally distributed in the data and hence satisfied the assumption of normality. One item measuring service quality for meals was deleted, because it had a communality of .461 below the cutoff value of .50 suggested by Field (2009). Thus, the instrument used for the model estimation was a 31-item scale. In order to examine whether the EFA was appropriate on the data, the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were checked. A principal component analysis of correlation matrix was used to extract factors based on Kaiser's (1960) criterion. SPSS Statistics 18.0 was used to perform the EFA.

For testing the CFA and SEM, three assumptions were checked in order to appropriately estimate the CFA (Byrne 2010; Schreiber, Nora, Stage, Barlow, & King, 2006). First, with respect to sample size, since Byrne (2010) recommended a guideline of 10 observations for each free parameter estimated, the second half of 385 samples might be insufficient given that the SEM model had 77 and 70 freely estimated parameters for the measurement (Appendix G) and structural models (Appendix I) respectively. However,

since both models were largely parsimonious, the 385 samples could be appropriate to derive a stable estimation solution. Second, the assumption of multivariate normal distribution in the data was somewhat violated, indicating that the maximum likelihood (ML) estimation may not be appropriate for the data. Although asymptotic distribution-free (ADF) estimation has been suggested as an alternative (Byrne, 2010), the ML estimation was adopted since the ADF method requires an extremely large sample size, larger than what this study had, to generate reliable estimates. Third, the items based on the 7-point Likert scale were treated as continuous variables. With the valid measurement model, the 385 samples were used to estimate the SEM model. AMOS Graphics 18.0 with the ML method was used to perform both the CFA and the SEM.

6.4 Results

6.4.1 Measurement Model

6.4.1.1 Exploratory Factor Analysis of the Measurement

A principal component analysis of correlation matrix was used to locate and extract the underlying factors of the items in the data. Two statistics, namely the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's test of sphericity, were used to check whether the EFA was appropriate for the data. The KMO statistic was .890 greater than the suggested acceptable value .50 (Kaiser, 1974), which verified the sampling adequacy for the analysis. All KMO values for individual items were above .77, greater than the acceptable cutoff of .50 (Field, 2009). Bartlett's test of sphericity was χ^2 (465) = 12463.321 ($p < .001$), indicating a statistically significant difference between the

R-matrix and the identity matrix in the data. Following Kaiser's (1960) criterion in extracting and retaining factors, the factors with an eigenvalue greater than one were retained, indicating that a substantial amount of variation is explained by the very factors. Hence, the retained factors can be both statistically important and theoretically meaningful. Although principal component analysis with varimax has been commonly used to rotate the factors for a EFA, the correlations among the six constructs in this study suggests that oblique rotation of direct oblimin was more appropriate to discriminate between the factors. This is because the SEM model in this study suggests that the underlying factors should be correlated on the ground that their interactions may determine the size of quality deterioration of package tours.

Table 6.1 shows the measurement with a six-factor structure, explaining 80.440% of the variance in total. This structure was theoretically meaningful, as it described the six constructs in the SEM model. The first factor is effort consisting of five items with factor loadings ranging from .784 to .941, explaining 36.697% of the variance. The second one, production technology, incorporates six items with all factor loadings above .80, explaining 15.361% of the variance. The third one, price sensitivity, incorporates five items with factor loadings ranging from .738 to .924, accounting for 10.004% of the variance. The fourth one, OTOs' reputation, incorporates four items with all factor loadings above .80, explaining 7.851% of the variance. The fifth one, service quality, incorporates six items with the absolute values of the factor loadings ranging from .643 to .928, explaining 6.299% of the variance. The sixth one, ITOs' reputation, incorporates six items with all factor loadings above .80, explaining 4.227% of the variance.

Table 6.1. Results of the exploratory factor analysis of the measurement (N = 380)

Factor	*Factor loading*	*Eigen-value*	*Commun-ality*	*Variance explained (%)*	*Cronbach's α*
F1: Effort		11.376		36.697	.948
Behavior is acceptable	.941		.892		
Behavior is appropriate	.911		.849		
Responsibility	.907		.824		
Consistency	.891		.809		
Effort	.784		.809		
F2: Production technology		4.762		15.361	.958
Hedonic price of recreation	.919		.855		
Hedonic price of sightseeing	.917		.843		
Hedonic price of accommodation	.916		.835		
Hedonic price of shopping	.909		.845		
Hedonic price of meals	.904		.821		
Hedonic price of transportation	.867		.778		
F3: Price sensitivity		3.101		10.004	.913
Price consciousness	.924		.840		
Price seeking	.894		.793		
Price expectation	.849		.701		
Price reliance	.846		.792		
Price oriented	.738		.649		
F4: OTOs' reputation		2.434		7.851	.939
Credibility	.940		.896		
Truthfulness	.931		.855		
Belief	.910		.853		
Trustworthiness	.816		.781		
F5: Service quality		1.953		6.299	.933
Recreation	-.928		.857		
Shopping	-.895		.750		
Sightseeing	-.883		.820		
Accommodation	-.832		.733		
Transportation	-.737		.763		
Tour guiding	-.643		.688		
F6: ITOs' reputation		1.310		4.227	.935
Competitiveness	.919		.816		
Expertise	.885		.852		
Capability	.868		.816		
Experience	.835		.778		
Customer interests	.829		.743		

Notes: Kaiser-Meyer-Olkin measure of sampling adequacy is .890, Bartlett's test of sphericity is 12463.321, df = 465, p < .001.
Extraction method: Principal component analysis.
Rotation method: Oblique rotation of direct oblimin.

Cronbach's α was calculated for each of the six factors to check the reliability of the instrument (Table 6.1). Cronbach's α of effort (F1), production technology (F2), price sensitivity (F3), OTOs' reputation (F4), service quality (F5), and ITOs' reputation (F6) were .948, .958, .913, .939, .933, and .935, respectively, all above the suggested cutoff value of .70 (Nunnally, 1978), indicating a satisfactory reliability of the instrument. For each factor, the *Correlated Item-Total Correlation* for the corresponding items was above .70, which was greater than the cutoff value of .30, indicating a fairly good internal consistency of the measurement. The statistic of *Alpha if Item deleted* was all below the corresponding Cronbach's α for each factor, indicating that the overall reliability of the factors cannot be improved by deleting any items and, hence, the high reliability was achieved. The component correlation matrix in Table 6.2 shows that the six factors were correlated, justifying the use of oblique rotation in extracting the factors. The correlations were indicted to some extent between effort (F1) and OTOs' reputation (F4), service quality (F5), and ITOs' reputation (F6), and between OTOs' reputation (F4) and service quality (F5), and between service quality (F5) and ITOs' reputation (F6).

Table 6.2. Component correlation matrix of the measurement (N = 380)

Construct	*F1*	*F2*	*F3*	*F4*	*F5*	*F6*
F1: EF	1.000					
F2: PT	.073	1.000				
F3: PS	-.216	-.116	1.000			
F4: OTOR	.410	.118	-.276	1.000		
F5: SQ	-.480	-.146	.261	-.447	1.000	
F6: ITOR	.605	.152	-.287	.324	-.532	1.000

Notes: EF = Effort, PT = Production technology, PS = Price sensitivity, OTOR = OTOs' reputation, SQ = Service quality, and ITOR = ITOs' reputation.

6.4.1.2 Confirmatory Factor Analysis of the Measurement

Following the factor structure uncovered by the EFA, the measurement model was specified to be composed of the six correlated factors measured by 31 items (Appendix G). According to Byrne's (2010) guidelines for the specification of a measurement model, the measurement model was assumed as follows. First, the six factors were assumed correlated with each other; second, each item-pair measure had a nonzero loading on the factor that it was designed to measure while no cross-loadings on other factors; and third, the measurement errors associated with each item were assumed uncorrelated. The CFA was then conducted on the second half of 385 samples to test the hypothesized six-factor structure with 31 items. As suggested by Byrne (1994, 2010), the assessment of a model fit should be based on multiple criteria not only for statistical but also for theoretical considerations for a particular study. The goodness-of-fit indices used for the assessment of the model fit in this study include the χ^2 Likelihood Ratio Test statistic, χ^2/df, the Goodness-of-Fit Index (GFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA).

Table 6.3 shows the inferior goodness-of-fit between the original measurement model and the data, with relatively low values for the model fit indices (χ^2 (419) = 1499.722, $p < .001$, $\chi^2/df = 3.579$, GFI = .776, CFI = .914, TLI = .904, RMSEA = .082). According to information suggested by the modification indices, the original measurement model was respecified by allowing the correlations between the measurement errors in five steps to arrive at the accepted measurement model (Table 6.3). The results show that the measurement model was substantially improved with a decrement of χ^2 from the original 1499.722 to 1161.453 in the final model, and achieved a modest fit assessed by the

goodness-of-fit indices (χ^2 (414) = 1161.453, p < .001; GFI = .829, CFI = .940, TLI = .933, and RMSEA = .069) (Appendix H). Although the GFI of .829 was relatively low in the final measurement model, the respecification of the measurement model was ceased at the stage for two reasons. First, form a statistical point of view, there was no further information suggested by the modification indices to conduct any post hoc respecifications for increasing the model fit. Second, for a theoretical consideration, this measurement model was accepted given that it might be the first attempt of its kind to test agency theories with the SEM approach.

Table 6.3. Goodness-of-fit indices for the measurement specifications (N = 385)

Model specification	χ^2*(df)*	χ^2*/df*	*GFI*	*CFI*	*TLI*	*RMSEA*
Original[a]	1499.722 (419)	3.579	.776	.914	.904	.082
Specification 1[b]	1370.992 (418)	3.280	.791	.924	.915	.077
Specification 2[c]	1321.538 (417)	3.169	.802	.928	.919	.075
Specification 3[d]	1262.502 (416)	3.035	.812	.932	.924	.073
Specification 4[e]	1209.862 (415)	2.915	.822	.937	.929	.071
Final[f]	1161.453 (414)	2.805	.829	.940	.933	.069

Notes: [a] The original measurement model assumes all measurement errors uncorrelated.
[b] Specification 1 allows a correlation between errors e11 and e12.
[c] Specification 2 allows a correlation between errors e19 and e20.
[d] Specification 3 allows a correlation between errors e9 and e10.
[e] Specification 4 allows a correlation between errors e26 and e27.
[f] The final measurement model allows a correlation between errors e21 and e22.

The convergent validity of the measurement model was then checked by examining three widely-used criteria, namely the cutoff values of factor loadings for all items, average variance extracted (AVE) for each factor, and reliability of each factor. Table 6.4 shows that all AVEs were greater than the cutoff value of .50 (Fornell & Larcker, 1981), indicating an adequate convergent validity. These criteria suggest that the convergent validity of the measurement model can be acceptable as a whole. In terms of discriminant

validity, the AVE for each factor was greater than its inter-construct correlation. This result indicates that the six factors were conceptually distinct and thus were of discriminant validity. As suggested by the SEM model, the correlations among the six constructs were taken into consideration for estimating the measurement model. These correlations were found to be statistically significant and theoretically plausible, indicating a nomological validity of the measurement model. Table 6.5 shows that all standardized loading estimates (βs) were statistically significant and greater than .70, suggesting that the measurement model was relatively satisfactory despite its relatively low GFI mentioned above.

Table 6.4. Validity of the measurement model (N = 385)

Construct	*F1*	*F2*	*F3*	*F4*	*F5*	*F6*
F1: EF	1.000					
F2: PT	.257 (.066)	1.000				
F3: PS	-.287 (.082)	-.104 (.011)	1.000			
F4: OTOR	.347 (.120)	.136 (.018)	-.136 (.018)	1.000		
F5: SQ	.457 (.209)	.300 (.090)	-.241 (.058)	.517 (.267)	1.000	
F6: ITOR	.605 (.366)	.337 (.114)	-.300 (.090)	.313 (.098)	.602 (.362)	1.000
AVE	.783	.790	.689	.818	.673	.797
Model fit indices						
χ^2 (414)	1161.453	$p < .001$				
χ^2/df	2.805					
GFI	.829					
CFI	.940					
TLI	.933					
RMSEA	.069					

Notes: EF = Effort, PT = Production technology, PS = Price sensitivity, OTOR = OTOs' reputation, SQ = Service quality, and ITOR = ITOs' reputation.
Numbers in parenthesis denote the corresponding squared correlations.

Table 6.5. Parameter estimates of the measurement model (N = 385)

Factor	*β*	*B*	*S.E.*	*SMC*
F1: Effort				
Responsibility	.896***	1.000		.802
Consistency	.916***	1.068	.038	.840
Behavior is acceptable	.905***	1.033	.038	.819
Behavior is appropriate	.891***	1.059	.041	.793
Effort	.812***	.976	.046	.659
F2: Production technology				
Hedonic price of shopping	.875***	1.000		.765
Hedonic price of recreation	.910***	1.009	.028	.827
Hedonic price of sightseeing	.921***	1.061	.039	.849
Hedonic price of meals	.866***	1.028	.044	.751
Hedonic price of accommodation	.896***	1.008	.040	.803
Hedonic price of transportation	.864***	.906	.038	.746
F3: Price sensitivity				
Price expectation	.792***	1.000		.628
Price reliance	.911***	1.206	.058	.829
Price oriented	.914***	1.147	.057	.836
Price seeking	.795***	.944	.055	.633
Price consciousness	.720***	.812	.054	.519
F4: OTOs' reputation				
Trustworthiness	.868***	1.000		.753
Belief	.896***	1.073	.043	.803
Credibility	.933***	1.072	.040	.870
Truthfulness	.920***	1.041	.040	.847
F5: Service quality				
Shopping	.828***	1.000		.686
Recreation	.904***	1.050	.046	.818
Sightseeing	.852***	1.010	.050	.726
Accommodation	.763***	.977	.057	.583
Transportation	.784***	.898	.051	.615
Tour guiding	.783***	.917	.052	.613
F6: ITOs' reputation				
Customer interests	.818***	1.000		.669
Capability	.882***	1.035	.038	.778
Competitiveness	.930***	1.131	.048	.865
Expertise	.932***	1.127	.048	.869
Experience	.896***	1.086	.049	.803

Notes: SMC refers to as the squared multiple correlation for a measurement variable.
*** $p < .001$.

6.4.2 Structural Model

The full SEM model was specified by integrating the eight structural relationships hypothesized in Figure 6.1 with the final measurement model (Appendix I). For model assessment, the six goodness-of-fit indices which had been used for the measurement model were adopted for assessing the structural model as well. Table 6.6 shows that the SME model was generally satisfactory in terms of the model fit indices (χ^2 (421) = 1321.164, $p < .001$, $\chi^2/df = 3.138$, GFI = .814, CFI = .928, TLI = .921, RMSEA = .075). Yet the GFI of .814 for the structural model was still below the cutoff value, resulting in a slight model misspecification. However, the present study did not proceed to any post hoc respecifications, since this model was largely statistically significant and theoretically meaningful (Appendix J). Of particular interest in the SEM model are the structural relationships among the six constructs. There are two objectives for investigating such relationships. One is to test adverse selection and moral hazard at the individual-tourist level regardless of the types and service standards of tour packages. The other is to investigate whether OTOs' and ITOs' reputation can mitigate the effects of adverse selection and moral hazard and, if so, how much in its size.

6.4.2.1 Path Analysis of the Agency Models

The results show that six out of the eight hypotheses were supported, indicating that the SEM model as a whole was of empirical significance (Table 6.6). However, the hypothesis of adverse selection was rejected as the relationship between tourists' knowledge of production technology and price sensitivity was statistically insignificant. Tourists' knowledge of production technology was found to have a significantly positive effect on OTOs' reputation (H_4: $\beta = .140$, $p < .01$), indicating that tourists' knowledge of

production technology augmented the effect of OTOs' reputation. As predicted in the SEM model, OTOs' reputation was found to have a negative effect on tourists' price sensitivity (H_5: β = -.125, p < .05). This result indicates that OTOs' reputation reduced tourists' price sensitivity probably by disseminating information in the source market. The SMC value of price sensitivity shows that 2.7% of the variance associated with price sensitivity was accounted for by OTOs' reputation, indicating a relatively weak effect of reputation in the source market. The set of the three hypotheses above were the SEM presentation of tourists' choice under asymmetric information, demonstrating that tourists' knowledge of reputation plays an important role in tourists' decision making with respect to their price sensitivity. It can be concluded that tourists tend to be less price sensitive as information diffuses in the form of OTOs' reputation in the source market.

Table 6.6. Path estimates of the structural model (N = 385)

Path	*Standardized regression coefficient* (β)			*Critical ratio*	*SMC*
	Direct	Indirect	Total		
H_1: PT → PS	-.091	-.018	-.109	-1.669	
H_2: EF → SQ	.139**	.308	.447	2.360	.366 (SQ)
H_3: PS → SQ	-.063			-1.324	
H_4: PT → OTOR	.140**			2.619	.020 (OTOR)
H_5: OTOR → PS	-.125*			-2.288	.027 (PS)
H_6: EF → ITOR	.608***			11.967	.369 (ITOR)
H_7: ITOR → SQ	.506***			7.991	
H_8: PT → EF	.270***			5.106	.073 (EF)
Model fit indices					
χ^2 (421)	1321.164	p < .001			
χ^2/df	3.138				
GFI	.814				
CFI	.928				
TLI	.921				
RMSEA	.075				

Notes: EF = Effort, PT = Production technology, PS = Price sensitivity, OTOR = OTOs' reputation, SQ = Service quality, and ITOR = ITOs' reputation.
SMC refers to as the squared multiple correlation for a dependent variable.
* p < .05, ** p < .01, *** p < .001.

The hypothesis of moral hazard was supported as tourists' knowledge of ITOs' effort had a significantly positive effect on service quality (H_2: β = .139, p < .01). This result suggests that service quality increased as tourists knew more about ITOs' effort. In other words, if tourists are unable to verify ITOs' effort, service quality will probably be underprovided by ITOs. Tourists' knowledge of effort was also found to be positively related to ITOs' reputation (H_6: β = .608, p < .001), indicating that tourists' knowledge of effort greatly augmented the effect of ITOs' reputation. The prediction of effort on ITOs' reputation is in parallel with that of production technology on OTOs' reputation, revealing a close relationship between asymmetric information and reputation. ITOs' reputation was found positively related to service quality (H_7: β = .506, p < .001), indicating that ITOs' reputation improved service quality. The SMC value for service quality indicates that 36.6% of the variance associated with service quality was explained by tourists' knowledge of effort and ITOs' reputation, suggesting the striking effects of information at the destination. The three hypotheses delineate tourists' consumption at the destination, where ITOs' effort is the fundamental factor in affecting service quality both directly and through the intervention of ITOs' reputation.

In addition to the two sets of the three hypotheses that were treated separately to explain tourists' transaction with OTOs and ITOs, this study investigated the static model of causal relationship between adverse selection and moral hazard. This static model was rejected as the relationship between price sensitivity and service quality was statistically insignificant in hypothesis H_3. Given that the hypothesis of moral hazard was supported, this result simply indicates that at least at the individual-tourist level moral hazard was

independent of adverse selection. In other words, moral hazard could occur at the destination regardless of tourists' purchase in the source market. It is not surprising since in the dynamic model of the causal relationship, adverse selection is actually generated by moral hazard due to ITOs' superior information. In this regard, inferior quality in package tours can be fundamentally explained by moral hazard rather than by adverse selection. In contrast, tourists' knowledge of production technology was significantly positively related to their knowledge of effort (H_8: $\beta = .270$, $p < .001$), indicating that if tourists were ill-informed of production technology in the source market, they would know less about ITOs' effort. This finding may, in general, represent individual tourists' ability of obtaining information in the market for package tours as a whole.

6.4.2.2 Mediation Analysis of Reputation

The results have verified the effects of reputation on both OTOs' and ITOs' sides in affecting price sensitivity and service quality respectively. Despite that the direct effect of tourists' knowledge of production technology on price sensitivity was statistically insignificant, the results show that its indirect effect on price sensitivity through OTOs' reputation was statistically significant ($\beta = -.018$, $p < .05$), representing the mediating effect of OTOs' reputation. The inclusion of OTOs' reputation resulted in an increment of $\beta = -.018$ in an absolute value to the total effect of production technology on price sensitivity. In this sense, OTOs' reputation alleviated adverse selection as it mitigated, though slightly, tourists' price sensitivity. With the presence of OTOs' reputation, tourists could be less price sensitive when they transacted with those OTOs which had their reputation established than those had not. This result provides evidence for the signaling

effect of reputation in a number of theoretical models (Allen, 1984; Klein & Leffler, 1981; Rogerson, 1983; Shapiro, 1982, 1983). The slight yet significant mediating effect can be attributed to the failure of testing the direct effect of production technology on price sensitivity. Reputation and information, as List (2006) has demonstrated, are complements and hence are theoretically consistent. That is, reputation cannot work if consumers cannot distinguish between different firms based on their reputation.

In addition to its direct effect on service quality, tourists' knowledge of effort was found to have a statistically significant effect on service quality through ITOs' reputation (β = .308, p < .001), representing the mediating effect of ITOs' reputation. This mediating effect contributed to an increment of β = .308 to the total effect, which increased from β = .139 when there was no ITOs' reputation to β = .447 when ITOs' reputation was presented. ITOs' reputation thus played a more important role in reducing moral hazard than tourists' knowledge of effort did. As far as moral hazard on the ITOs' side is concerned, it can be concluded that moral hazard as an issue of tourists' consumption is largely determined on the supply side rather than on the demand side. This suggests that tourists who were served by ITOs with reputation were more likely to be supplied with high service quality at the destination. It may not be surprising as the strongest positive relationship was found between tourists' knowledge of effort and ITOs' reputation (H_6: β = .608, p < .001). The mediating effect of ITOs' reputation in alleviating moral hazard can be interpreted as that if tourists know more about ITOs' effort, they tend to perceive ITOs as reputable tour operators, which in turn contributes to the supply of high service quality on the ITOs' side.

6.5 Discussion and Conclusion

The SEM model at the individual-tourist level has partially verified the interplay of asymmetric information and reputation. Adverse selection was not found to occur in the source market and the static model of the causal relationship was rejected. The results indicate that the research design at the individual-tourist level may have failed to test some agency models. For package tours, adverse selection actually occurs on a group of tourists who purchase an identical tour package rather than on individual tourists. Thus, the model of adverse selection at the individual-tourist level may distort the relationship between tourists' knowledge of production technology and price sensitivity. In contrast, moral hazard was successfully tested, as the positive relationship between tourists' knowledge of effort and service quality was supported. Compared to production technology, tourists' knowledge of effort significantly contributed to improving service quality on the ITOs' side. That is, moral hazard decreases as tourists' knowledge of effort improves. The verification of moral hazard indicates that the group effect matters less at the destination than in the source market. In other words, individual tourists who are homogenous in terms of choosing an identical tour package can be differentially treated by ITOs, which makes moral hazard occur at the individual-tourist level.

The rejection of the static model of the causal relationship becomes evident since the model of adverse selection was first rejected. With moral hazard verified on the ITOs' side, it is conclude that moral hazard is independent of adverse selection. On the contrary, adverse selection is actually endogenously determined by moral hazard—the dynamic model of the causal relationship. The independence of moral hazard on adverse selection

can be interpreted in two different ways. First, moral hazard could occur at the product level regardless of the types and service standards of tour packages. The rationale for this interpretation lies in the joint production of package tours, in which OTOs and ITOs are linked with respect to the sharing of tour fares, in other words, incentives. Economic theories have suggested that incentives can distort economic agents' behavior and result in moral hazard (Arnott & Stiglitz, 1988; Mirrlees, 1999). Second, moral hazard may occur at the individual-tourist level even if tourists are in an identical group of tour packages. This is probably because tourists are individually homogeneous with respect to their knowledge of ITOs' effort; those who are less aware of effort could be supplied with low service quality and, therefore, indicating moral hazard at the individual-tourist level.

The interplay of asymmetric information and reputation has been supported by two mediation analyses of OTOs' and ITOs' reputation. The results indicate that the relationship between tourists' knowledge of production technology and price sensitivity was mediated by OTOs' reputation. In other words, OTOs' reputation leads to a slight decrease of adverse selection, as it makes the relationship between production technology and price sensitivity statistically significant. This means that in addition to relying upon production technology, tourists can infer quality from OTOs' reputation and thus are less price sensitive when transacting with reputable OTOs. With regard to moral hazard denoted by the positive relationship between tourists' knowledge of effort and service quality, ITOs' reputation as mediator contributed to a considerable amount of increase to service quality. Since effort has been regarded as the fundamental input in service quality upon which reputation can be built, there might be conceptual consistence between effort

and ITOs' reputation. This consistence was detected in this study, as tourists' knowledge of effort and ITOs' reputation were most highly correlated. These two mediating effects confirm the signaling effect of reputation modeled by Klein and Leffler (1981) and Shapiro (1982, 1983) for example.

The SEM model has tested the effects of the interplay of asymmetric information and reputation in determining quality deterioration of package tours. This conclusion is consistent with those studies in insurance in which risks—the dimension of asymmetric information specific to insurance—have to a large extent explained insurance demand (Chiappori et al., 1998; Chiappori & Salanié, 2000; Cohen & Siegelman, 2010). A prominent example of this kind is the Rothschild-Stiglitz prediction, which has been applied to almost every market with asymmetric information (Chiappori et al., 1998; Chiappori & Salanié, 2000; Finkelstein & McGarry, 2006; Finkelstein & Poterba, 2004; Karlan & Zinman, 2009). On the other hand, reputation in the present study mediated the effect of asymmetric information on price sensitivity and service quality. Previous research has suggested that reputable firms command price premium for their products (Dewan & Hsu, 2004; Houser & Wooders, 2006), price premium in the present study can be interpreted as that tourists are actually willing to pay for high price when transacting with reputable OTOs and become less price sensitive. It is thus concluded by referring to Stiglitz's (1989) statement that, despite the prevalence of quality deterioration, the market that can deviate from collapse is largely because of reputation.

7 QUALITY BEING DETERIORATED: THE LIFE CYCLE OF INFERIOR QUALITY IN PACKAGE TOURS

In the previous two cross-sectional studies (Chapters 5 and 6), evidence is inadequate to support the static model of adverse selection causing moral hazard. Particularly in the SEM model (Chapter 6), we failed to detect adverse selection on the OTOs' side. The static model of the causal relationship (3.3) is actually strictly grounded on the assumption that *ex ante* quality is exogenously classified. Yet this assumption may not be held when a destination is newly opened to a source market (Jia, 2006). It has long been observed in China's outbound tourism market that tour packages to a new destination are priced unanimously high and, as the destination matures, the price gradually declines with both low and high prices coexisting (Jia, 2006; Prideaux et al., 2006). Price dispersion of this kind seems to be hardly explained by, for instance, macro economic slowdowns either in the source market or at the destination, which may affect prices of all commodities. The dynamic model of the causal relationship (3.4) may explain the price dispersion. That is, moral hazard results in the classification of *ex ante* quality, g_r and g_f, which in turn leads to the price dispersion of p_r and p_f. In other words, such price dispersion is a consequence of a class of low quality g_r supplied in the source market.

7.1 Revisiting the Dynamic Model

7.1.1 The Dynamics of Inferior Quality: A Market-level Model

While the classification of *ex ante* quality can be exogenously given in the source market, how it is endogenously generated by moral hazard is of major concern. To construct a

market-level dynamic model accounting for this causal relationship, specific firms and specific tour packages incorporated in the original dynamic model of the causal relationship (3.4) are ignored. Instead, we examine the relationships of asymmetric information, *ex ante* and *ex post* quality at the market level with a time lag. The dynamic model of adverse selection being determined by moral hazard (3.4) is rewritten at the market level as:

$$S_t^{OTO} = f_{12}''\left(S_{t-1}^{ITO}, A_t, \varepsilon_t\right), \tag{7.1}$$

where t indexes the time lag under investigation; S_t^{OTO} denotes the supply of *ex ante* quality in the source market at time t, equal to one if g_r is supplied and zero otherwise; S_{t-1}^{ITO} denotes the supply of *ex post* quality at the destination at time *t-1*, equal to one if g_l is supplied and zero otherwise; A_t denotes asymmetric information of production technology at time t, representing the nature of the source market characterized by asymmetric information; and ε_t is an error term at time t. This function predicts that other things being equal the supply of *ex ante* quality in the source market at time t is determined by the supply of *ex post* quality at time *t-1*. For an investigation of this model, a statistically significant relationship is expected between S_{t-1}^{ITO} and S_t^{OTO}, suggesting that the supply of S_{t-1}^{ITO} in inferior quality leads to the supply of both g_r and g_f in the source market as both the market and destination evolve over time.

7.1.2 The Life Cycle of Inferior Quality: A Proposition

This dynamic model accounts for the causal relationship between adverse selection and moral hazard at the market level, suggesting how and when adverse selection is generated by moral hazard. It is superior to the static model in exploring the fundamentals of quality deterioration in package tours. It suggests a critical principle in explaining quality deterioration in information economics, that is, quality deterioration is more a dynamic process than a static status. This dynamic process is largely driven by diffusion of information from the supply side to the demand side. As the market evolves over time, information asymmetry can be either mitigated or augmented. Two lines of thought underline this proposition. One is that information can be diffused on the demand side either through consumers' learning of their previous purchases or firms' reputation in signaling information (Huberman & Wu, 2004; Klein & Leffler, 1981; Rob & Fishman, 2005; Shapiro, 1982, 1983; Teltis & Gaeth, 1990). It thus becomes evident that asymmetric information may gradually mitigate as the market matures to an extent that repeat purchases or reputable firms account for a considerable market share. The second one is about the notion of information friction, suggesting that accumulated information can fade away to be asymmetric due to consumers' discounting memory over time (Rob & Fishman, 2005).

Drawing up on the dynamic model, suppose no asymmetric information among tourists, OTOs, and ITOs when a new destination is opened up. At the early stage of the development of the destination, it takes time for both OTOs and ITOs to figure out their optimal production technology which largely depends on their understanding of tourists' preferences. Suppose at the very beginning only one class of quality, g_f, is introduced to

the market to reflect the average quality of package tours when both tourists and OTOs and ITOs have not yet known each other. The single class of quality g_f can be represented by the corresponding single price, p_f, indicating no price pool yet to exist in the market. Evidence has suggested in China's outbound tourism market that a tour package to a particular destination is priced sufficiently high when the destination is new to China as the source market. While supplying g_f can provide sufficient incentives in the form of tour fares to both OTOs and ITOs, it could not prevent ITOs from misconduct owing to their superior informational advantage of effort. In this sense, ITOs can take this advantage to exploit tourist expenditures at the destination without considering OTOs' behavior. This informational advantage comes to ITOs first, because they experience a time lag in the first place compared to both tourists and OTOs in transactions and, therefore, can determine what aspect to shirk on their effort after observing both tourists' and OTOs' actions.

As the dynamic model suggests, asymmetric information of production technology is generated in the source market because OTOs also experience a time lag in the subsequent transaction after observing ITOs' actions, for instance, of shirking on service delivery. The manipulation of production technology directly results in the classification of quality g_r and g_f, which in turn leads to a price pool with both low and high prices coexisting to indicate different *ex ante* quality in the source market. Nevertheless, as the market matures, the number of repeat purchases increases to the extent that information sharing among prospect tourists is conventional and costless. The diffusion of information among tourists, on the other hand, mitigates asymmetric information both in

the source market and at the destination. Although adverse selection can occur on the demand side when OTOs supply g_r, it may not happen when tourists are well informed of production technology through their purchase experience. Moral hazard can decrease too, as tourists gradually discern ITOs' effort in service delivery because of their improved information. A life cycle of inferior quality is thus proposed to account for such a change in quality production of package tours over time. This life cycle suggests that the single class of quality g_f is first supplied in the source market and transits to the coexistence of g_r and g_f and, ultimately, to another single yet high-level quality g'_f denoted by price premium. This life cycle evolves as information diffuses or fades in the market through approximately symmetric to asymmetric and to sufficiently symmetric.

7.1.3 Variables and Specification

Apart from two predictors specified in the dynamic model, two sorts of new variables are incorporated for model specification. One is product heterogeneity in the source market. As examined, *ex ante* quality of tour packages can vary by their types, and the effect of product heterogeneity is true for the market-level analysis and thus needs to be controlled constant. The other is a sort of dummy variables to capture economic, social, and regulatory events that may have affected the market to some extent in the period under investigation. Following Chiappori and Salanié's (1997, 2000) parameter procedure of testing asymmetric information, the market-level dynamic model (7.1) is operationalized in a linear multiple regression:

$$S_t^{OTO} = \alpha + \lambda S_{t-1}^{ITO} + \beta A_t + \delta M_t + dummies + \varepsilon_t, \tag{7.2}$$

where M_t denotes the types of tour packages in the source market, and *dummies* denotes the occurrence of the economic, social, and regulatory events.

The inclusion of dummies to measure economic, social, and regulatory events is theoretically plausible. For example, in modeling and forecasting tourism demand from Mainland China to Hong Kong, a number of events were operationalized as dummies to denote the 1974 oil crisis, the 1997 Asia financial crisis, the handover of Hong Kong to China in 1997, the 2003 eruption of severe acute respiratory syndrome (SARS), and IVS enforced by the Chinese government in 2003 (Song & Witt, 2003; Song, Wong, & Chon, 2003; Wu, 2010). This is especially true to take account of the effects of these events in the preset study, as China's outbound tourism market has been highly regulated and influenced by these events. To regulate the business of "zero-fare" group tours, CNTA has since 2003 launched a sort of legislations to regulate tour operators and travel agencies in China. Seven dummies are specified in the model to denote the handover of Hong Kong to China in 1997, the 1997 Asia financial crisis, and the deregulation of outbound pleasure travel since 1997, the eruption of SARS in Hong Kong and the enforcement of IVS both in 2003, the financial crisis in 2008, and the regulation in 2009 by CNTA on curbing the business of "zero-fare" group tours.

7.2 Measurement and Data

7.2.1 Data

The data were extracted from HKTB's Visitor Profile Reports over the period 1993–2010. The reports are based on the annual HKTB's Visitors Survey carried out by HKTB and

the Immigration Department of Hong Kong since 1990 on inbound tourists from more than 20 major source markets, including Mainland China since 1993. The reports profile tourists by two means of segmentations. One is on the basis of individual source markets and the other is on tourists' purposes of visit. For the latter, tourists were segmented into vacation overnight visitors and business travelers and this segmentation has recently expanded to incorporate all overnight visitors, vacation overnight visitors, business overnight visitors, and all same-day-in-town visitors. Despite inconsistence in the reports, the statistics have shown a wide range of tourist profiles in great detail from tourists' social demographics, travel routes, travel activities, consumption patterns, expenditure, and evaluation of service quality to behavioral intention.

The reports were chosen as the dataset for three reasons. First, the reports have covered a two-decade period of tourist profiles on a source market basis, which makes a longitudinal study possible. Since Chinese citizens' package tours to Hong Kong was officially approved by the Chinese government in 1997, the period from 1993 to 2010 is sufficiently long to examine the dynamics of inferior quality of package tours in the China-Hong Kong market segment. Second, the reports are comprehensive and approximately consistent in profiling tourists from China for such a long period. It is therefore comparable to draw distinctions, if any, from one year to another; detecting the dynamics of the market over time is plausible. Third, although HKTB declared that information in the reports is for general reference only, several studies have adopted the reports as the secondary data and suggested the reliability of the data in the reports (Bao & McKercher, 2008; Song et al., 2003; Wu, 2010). The present study focused on vacation

overnight visitors from Mainland China to Hong Kong. Since Chinese citizens' pleasure travel to Hong Kong was required in the form of package tours organized by travel agencies, vacation overnight visitors are more likely to overlap with package tourists as the target respondents.

7.2.2 Measurement

E*x ante* quality (S_t^{OTO}) was measured by the types of travel arrangement chosen by tourists indicated in the reports, specifically regarding whether or not an inclusive tour package is chosen in the source market. The reports classify travel arrangement into two or three types, which are inclusive tour packages, partial tour packages (flight plus hotel), and/or non-guided tours. Since *ex ante* quality is defined by production technology as of being flexible or rigid, the market share of inclusive tour packages can reflect the degree of rigidity of production technology, thereby indicating the market share of g_r. Therefore, the market share of inclusive tour packages is regarded as a proxy of *ex ante* quality. *Ex post* quality (S_{t-1}^{ITO}) was measured by tourist satisfaction on five service components: dining, hotel, sightseeing, entertainment, and shopping. In addition, it was measured by tourists' behavioral intention. As consumer satisfaction has been suggested as one of the measures of firm performance under asymmetric information (Smallwood & Conlisk, 1979), it is straightforward to adopt tourist satisfaction to measure *ex post* quality at the destination. In addition to behavioral intention, tourist satisfaction was directly evaluated on the five service components. Evidence has suggested that ITOs may shirk their effort not on all service components but some and moral hazard, therefore, could not be detected without measuring each individual service component.

Asymmetric information (A_t) was measured by two variables, travel frequency ($A_t^{'}$) and the market shares of individual versus group tourists ($A_t^{''}$). Since consumers' previous purchases can help to mitigate asymmetric information (Diamond, 1989; Ely & Välimäki, 2003; Rob & Fishman, 2005), tourists may accumulate more information of the destination and their preferences as their travel experience increases. As consumers can conventionally communicate with each other in groups, individual tourists may experience more asymmetric information than their counterparts in groups. Therefore, the market share of individual tourists versus that of group tourists can indicate the amount of asymmetric information in the market. Product heterogeneity (M_t) was measured by length of stay. Since tour packages can be differentiated by incorporating extra service components which, in turn, increase length of stay, product heterogeneity can be characterized by length of stay in terms of what and how many service components are packaged. The seven dummies were coded as one to indicate the occurrence of each event and zero otherwise. They were specified as the handover of Hong Kong to China in 1997 (*D97*), the 1997 Asia financial crisis (*D97(2)*), the 1997 deregulation of outbound pleasure travel (*D97(3)*), the eruption of SARS (*D03*), the enforcement of IVS (*D03(2)*), the 2008 financial crisis (*D08*), and the 2009 regulation by CNTA (*D09*).

7.3 Procedure

As the effect of *ex post* quality (S_{t-1}^{ITO}) in the previous transaction on *ex ante* quality (S_t^{OTO}) at present is of our primary concern, this effect is first examined prior to taking into consideration the effects of other variables. The reason is that *ex post* quality (S_{t-1}^{ITO})

is endogenous, which is determined by its predictors. As a result, the effect of S_{t-1}^{ITO} could be suppressed and, hence, statistically insignificant if its predictors are first entered the model. Similar to the hierarchical regression procedure for testing the static casual model in Chapter 5, *ex post* quality (S_{t-1}^{ITO}) is first entered in the first block to generate the first empirical model of our primary focus, followed by asymmetric information ($A_t^{'}$ and $A_t^{''}$) in the second block to generate the second one, product heterogeneity (M_t) in the third block to generate the third one, and finally the dummies in the fourth to generate the fourth one. It is expected that, first, a significant portion of the variation in S_t^{OTO} can be accounted for by S_{t-1}^{ITO} ; and second, S_{t-1}^{ITO} 's coefficient λ is statistically negative to indicate that low tourist satisfaction at the destination contributes to an increase of market share of inclusive tour packages denoted by g_r in the source market thereafter. It is thus concluded that moral hazard in the previous transaction generates adverse selection in the present transaction. SPSS Statistics 18.0 was used to perform these analyses.

7.4 Results

7.4.1 Adverse Selection Caused by Moral Hazard: A Longitudinal-level Analysis

For each of six categories of dependable variables under investigation, the hierarchical regression derived four empirical models (Tables 7.1–7.6). The inclusion of *ex post* quality (S_{t-1}^{ITO}) in the first model significantly accounted for the variance in S_t^{OTO} in all six categories, explaining 47.7% of the variance in S_t^{OTO} for dining ($F = 14.570$, $p < .01$), 36.3% for hotel ($F = 9.108$, $p < .01$), 53.6% for sightseeing ($F = 18.469$, $p < .01$), 51.2% for entertainment ($F = 16.814$, $p < .01$), 60.9% for shopping ($F = 24.937$, $p < .001$), and

58.2% for behavioral intention (F = 22.233, p < .001). After two variables of asymmetric information ($A_t^{'}$ and $A_t^{''}$) were included in the second model, the prediction of five models was significantly improved, explaining an additional variance of 30.4% in S_t^{OTO} for dining (F = 9.708, p < .01), 44.1% for hotel (F = 15.677, p < .001), 22.3% for sightseeing (F = 6.485, p < .05), 24.7% for entertainment (F = 7.192, p < .01), 16.6% for behavioral intention (F = 4.622, p < .05). Having controlled the effects of both S_{t-1}^{ITO} and asymmetric information, product heterogeneity (M_t) accounted for an additional variance in S_t^{OTO} in all six categories, with 9.2% for dining (F = 9.348, p < .01), 6.0% for hotel (F = 5.690, p < .05), 11.1% for sightseeing (F = 11.066, p < .01), 15.5% for entertainment (F = 23.644, p < .001), 12.7% for shopping (F = 12.126, p < .01), and 14.2% for behavioral intention (F = 16.668, p < .01).

Table 7.1. Model fits for the regressions of the causal relationship (Dining)

Models: Independent	R	R^2	*Adjust* R^2	ΔR^2	F
Constant					
Ex post quality (S_{t-1}^{ITO})	.690	.477	.444	.477	14.570**
Asymmetric information (A_t)	.884	.781	.734	.304	9.708**
Product heterogeneity (M_t)	.934	.872	.833	.092	9.348**
Dummies	.952	.907	.773	.034	.426

Notes: ** p < .01.

Table 7.2. Model fits for the regressions of the causal relationship (Hotel)

Models: Independent	R	R^2	*Adjust* R^2	ΔR^2	F
Constant					
Ex post quality (S_{t-1}^{ITO})	.602	.363	.323	.363	9.108**
Asymmetric information (A_t)	.896	.803	.761	.441	15.677***
Product heterogeneity (M_t)	.929	.863	.821	.060	5.690*
Dummies	.954	.909	.780	.046	.592

Notes: * p < .05, ** p < .01, *** p < .001.

Table 7.3. Model fits for the regressions of the causal relationship (Sightseeing)

Models: Independent	*R*	R^2	*Adjust* R^2	ΔR^2	*F*
Constant					
Ex post quality (S_{t-1}^{ITO})	.732	.536	.507	.536	18.469**
Asymmetric information (A_t)	.871	.759	.707	.223	6.485*
Product heterogeneity (M_t)	.933	.870	.830	.111	11.066**
Dummies	.952	.907	.774	.037	.467

Notes: * $p < .05$, ** $p < .01$.

Table 7.4. Model fits for the regressions of the causal relationship (Entertainment)

Models: Independent	*R*	R^2	*Adjust* R^2	ΔR^2	*F*
Constant					
Ex post quality (S_{t-1}^{ITO})	.716	.512	.482	.512	16.814**
Asymmetric information (A_t)	.871	.759	.708	.247	7.192**
Product heterogeneity (M_t)	.956	.915	.888	.155	23.644***
Dummies	.964	.930	.831	.016	.260

Notes: ** $p < .01$, *** $p < .001$.

Table 7.5. Model fits for the regressions of the causal relationship (Shopping)

Models: Independent	*R*	R^2	*Adjust* R^2	ΔR^2	*F*
Constant					
Ex post quality (S_{t-1}^{ITO})	.780	.609	.585	.609	24.937***
Asymmetric information (A_t)	.858	.736	.679	.127	3.362
Product heterogeneity (M_t)	.929	.863	.821	.127	12.126**
Dummies	.958	.918	.801	.055	.778

Notes: ** $p < .01$, *** $p < .001$.

Table 7.6. Model fits for the regressions of the causal relationship (Intention)

Models: Independent	*R*	R^2	*Adjust* R^2	ΔR^2	*F*
Constant					
Ex post quality (S_{t-1}^{ITO})	.763	.582	.555	.582	22.233***
Asymmetric information (A_t)	.865	.748	.694	.166	4.622*
Product heterogeneity (M_t)	.943	.890	.856	.142	16.668**
Dummies	.964	.929	.827	.039	.641

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7.7 presents the parameter coefficients for the six models at the final stage. In the five service components and behavioral intention, *ex post* quality (S_{t-1}^{ITO}) in the previous transaction was found to have a significantly negative effect on *ex ante* quality (S_t^{OTO}) at present. This result reveals that the market share of inclusive tour packages declines at present with an increase of tourists who were satisfied with travel services and who were intended to revisit the destination after the previous trip. By approximating inclusive tour packages to g_r with a rigid production technology, we conclude that a decrease of moral hazard—represented by the increase of satisfied tourists at the destination—results in a decrease of adverse selection—represented by the decrease of tourists who choose inclusive tour packages thereafter. In other words, moral hazard that occurs on all service components at the destination determines adverse selection of inclusive tour packages in the source market. Among the five service components, shopping (β = -1.306, p < .001) and entertainment (β = -.865, p < .01) were most heavily affected by tourist satisfaction in the previous transaction, indicating that the effect of moral hazard on adverse selection for the two service components is the largest among others. Given that shopping and entertainment are normally packaged as optional service components in business practice, not surprisingly ITOs have an opportunity to misguide consumption or shirk their effort on these two service components more than on others.

Table 7.7. Estimates of the effect of moral hazard on adverse selection (1993–2010)

Independent	*Dependent*					
	Dining	*Hotel*	*Sightseeing*	*Entertainment*	*Shopping*	*Intention*
Constant	(160.310)	(162.076)	(144.004)	(165.018)	(128.328)	(84.967)
S_{t-1}^{ITO}	-.089**	-.244**	-.124**	-.865**	-1.306***	-.493***
	(1.729)	(1.545)	(1.500)	(1.554)	(1.276)	(.395)
$A_t^{'}$	-.882**	-.816**	-.837*	-.613**	-.837*	-1.019*
	(.532)	(.486)	(.549)	(.429)	(.431)	(.401)
$A_t^{''}$	-.046	-.087	-.047	-.199	-.071	-.010
	(.757)	(.783)	(.733)	(.704)	(.688)	(.638)
M_t	-.309**	-.453*	-.322**	-.955***	-.995**	-.671**
	(9.136)	(8.103)	(7.654)	(7.512)	(9.988)	(6.612)
D97						
D97(2)	.007	-.009	.007	-.075	-.058	.029
	(12.069)	(12.089)	(12.007)	(10.912)	(11.994)	(10.545)
D97(3)	.211	.169	.199	-.080	-.259	-.140
	(23.591)	(22.529)	(22.969)	(20.379)	(26.120)	(21.119)
D03	.093	.099	.091	.066	.211	.095
	(9.702)	(9.196)	(9.237)	(8.016)	(11.494)	(8.060)
D03(2)	-.201	-.250	-.214	-.168	.732	.314
	(11.240)	(11.396)	(11.254)	(9.716)	(28.478)	(13.919)
D08	-.136	-.144	-.138	-.098	-.181	-.119
	(9.040)	(8.569)	(8.683)	(7.687)	(8.495)	(7.636)
D09	-.117	-.108	-.116	-.074	-.027	-.120
	(9.477)	(7.620)	(8.013)	(6.601)	(8.369)	(6.468)
R^2	.907	.909	.907	.930	.918	.929
Durbin-Watson	2.349	2.416	2.372	2.580	2.720	2.822

Notes: The figures in parenthesis under standardized betas are standard values.
The data for the year 2002 cover the period from July to December.
The data for the year 2003 cover quarters 1, 3 and 4.
* $p < .05$, ** $p < .01$, *** $p < .001$.

7.4.2 Indirect Effects of the Regulations

It is worth noting that all dummies were statistically insignificant in the models, though they were expected to take some effects in the source market (Tables 7.1–7.6). These dummies perhaps take effect on *ex post* quality (S_{t-1}^{ITO}) at the destination rather than on *ex ante* quality (S_t^{OTO}) in the source market. The seven dummies were thus regressed on six categories of dependent variables measured by both tourist satisfaction on the five service

components and behavioral intention. The results show that three dummies, which capture regulatory events, had statistically significant effects on *ex post* quality (S_{t-1}^{ITO}) while all regulation-irrelevant dummies were statistically insignificant (Table 7.8). The first dummy measuring the 1997 deregulation of China's outbound tourism (*D97(3)*) was positively related to tourist satisfaction. The second one measuring the enforcement of IVS (*D03(2)*) was positively related to tourist satisfaction and behavioral intention. These results confirm our proposition that a rigid production technology reduces tourists' utility, with g_r leading to low service quality g_l. The third one measuring CNTA's regulation on "zero-fare" group tours (*D09*) was positively associated with tourist satisfaction on dining, sightseeing, and shopping, indicating somewhat efficiency of this regulation.

Table 7.8. The effects of the tourism regulations on moral hazard (1993–2010)

Independent	*Dependent*					
	Dining	*Hotel*	*Sightseeing*	*Entertainment*	*Shopping*	*Intention*
Constant	(.884***)	(.902$^{***)}$	(.923***)	(.832***)	(1.210***)	(2.770***)
D97						
D97(2)	.143	.122	.113	.091	.078	.242
	(1.976)	(2.016)	(2.064)	(1.861)	(2.705)	(6.195)
D97(3)	.544***	.674***	.471***	.532***	.213**	.072
	(1.185)	(1.210)	(1.238)	(1.116)	(1.623)	(3.717)
D03	-.047	-.084	-.091	-.144	.033	-.048
	(1.976)	(2.016)	(2.064)	(1.861)	(2.705)	(6.195)
D03(2)	.443**	.343*	.497**	.509**	.812***	.885***
	(1.185)	(1.210)	(1.238)	(1.116)	(1.623)	(3.717)
D08	.102	.028	.089	.087	-.007	.068
	(1.976)	(2.016)	(2.064)	(1.861)	(2.705)	(6.195)
D09	.275**	.212	.268*	.169	.127*	.053
	(1.530)	(1.562)	(1.599)	(1.441)	(2.095)	(4.798)
F	37.834***	18.590***	20.880***	25.823***	104.365***	11.886***
R^2	.954	.910	.919	.934	.983	.866
Durbin-Watson	1.458	1.684	1.479	1.600	1.536	2.224

Notes: The figures in parenthesis under standardized betas are standard values.
The data for the year 2002 cover the period from July to December.
The data for the year 2003 cover quarters 1, 3 and 4.
* $p < .05$, ** $p < .01$, *** $p < .001$.

Of a particular concern are the statistically insignificant effects of the dummies used to capture economic, political, and epidemic events (Table 7.8). Although some of these dummies have been tested statistically significant in explaining tourism demand and tourist expenditure (Song et al., 2003; Wu, 2010), they might not account for tourists' choice and consumption under asymmetric information. In addition to reputation, economic theories have suggested regulation, such as the minimum quality standard (MQS), as an important mechanism in assuring quality (Ecchia & Lambertini, 1997; Garella & Petrakis, 2008; Leland, 1979). The results largely support regulation as an effective mechanism, as tourism-relevant regulations help to increase service quality denoted by the increase of tourist satisfaction on most service components and behavioral intention. These regulations, though enforced by the Chinese government in the source market, were found to take effect at the destination through affecting *ex post* quality (S_{t-1}^{ITO}) at the destination. Evidence is that we failed to test the effects of all dummies with the effects of other variables including *ex post* quality (S_{t-1}^{ITO}) controlled. This is probably because these effects are suppressed by *ex post* quality (S_{t-1}^{ITO}).

7.5 Discussion and Conclusion

The dynamic model of adverse selection determined by moral hazard has been tested valid across all five service components and behavioral intention. When it comes to the operationalization of variables in the present study, the dynamic model suggests that the market share of inclusive tour packages grows in the source market as the proportion of satisfied tourists declines at the destination. The decline of satisfied tourists can be an indicator of moral hazard in the sense that low service quality results in tourist

dissatisfaction. This assertion is consistent with Rogerson's (1983) study, in which asymmetric information led to an increase of dissatisfied consumers and, hence, indicating moral hazard. With regard to the quantification of production technology, inclusive tour packages are actually associated with a rigid production technology, which implies OTOs' strategy of maximizing their profits rather than tourists' utility. Thus, the increase of market share of inclusive tour packages, in other words, g_r, indicates the occurrence of adverse selection in the source market. Therefore, moral hazard at the destination causes adverse selection in the subsequent transactions in the source market. In addition, travel frequency was found to increase tourists' information, which results in a decrease of adverse selection in the source market. This finding reaffirms the theoretical prediction that asymmetric information is the fundamental cause of adverse selection.

The dynamic model has partially verified the proposition of the life cycle of inferior quality. The decrease of moral hazard at the destination implies an increase of g_f in the source market, represented by a gradual growth of free independent tours. With "zero-fare" group tours as a complex of inferior quality, Jia (2006) claimed that inferior quality of this sort may reoccur when the market share of high-quality tour packages is substantially large and, hence, demonstrating a life cycle in quality production. The present study has neither supported this claim nor detected the effect of information friction which can lead to further production of inferior quality. On the contrary, the six significantly positive relationships between *ex post* (S_{t-1}^{ITO}) and *ex ante* quality (S_t^{OTO}) have shown that the market share of inclusive tour packages steadily declines with the increase of tourists' knowledge. This decline can be attributed to the fact that production

technology is transformed from g_r to g_f, that is, the dominant market share is shifted from inclusive tour packages to free independent tours. It may also suggest the differentiation of tour packages, for product heterogeneity was found to have a statistically significant effect on tourist satisfaction and behavioral intention. With reference to information, the life cycle of inferior quality from g_r to g_f and to g'_f can therefore be interpreted: As information increases in the market, inclusive tour packages are probably substituted by tourists either for free independent tours or for completely new tour packages.

Testing for the effects of regulations in this market-level analysis is for both theoretical and empirical considerations. Economic theories have suggested regulation, such as license and MQS, as one of the important mechanisms in assuring quality under asymmetric information (Ecchia & Lambertini, 1997; Garella & Petrakis, 2008; Leland, 1979). On the other hand, in order to regulate "zero-fare" group tours in China, the past decade has witnessed a number of domestic policies set up and bilateral agreements signed between China and its ADS countries/regions, particularly including Thailand and Hong Kong. These regulations aim at disciplining tour operators' behavior and, as a result, expect to improve service standard at the destination. The inclusion of the dummies to denote the regulatory events in the dynamic model can therefore examine whether the regulations are effective and, if so, how. The present study has tested the efficiency of some of the regulations, including the 1997 deregulation of China's outbound tourism market, the enforcement of IVS in 2003, and the 2009 CNTA's regulation. Yet these regulations have been found to be effective at the destination rather than in the source market despite expected to function in the source market.

8 CONCLUSIONS

The present study has developed and largely validated a set of eight agency models for explaining quality deterioration in package tours. By regarding asymmetric information as the prominent cause of quality deterioration, these agency models are not only fundamental in explaining various forms of inferior quality but also account particularly for China's "zero-fare" group tours. This fundamental explanation is that inferior quality, no matter what forms it takes, can manifest itself as either adverse selection in the source market, moral hazard at the destination, or a blend of both. Evidence from the China-Hong Kong market segment has by and large validated these models at both cross-sectional and longitudinal levels. Although there is insufficient evidence to conclude that the problem of "zero-fare" group tours is a widespread phenomenon in the world tourism market, the fundamental explanation of quality deterioration suggests that "zero-fare" group tours of this sort could have occurred in the Western context as well. Polices for regulating the supply of quality in China's package tour industry are suggested in three aspects, namely that the scope of policy should focus on the destination than the source market, that the governments should encourage tour operators to build up reputation, and that the governments should play a role in providing information in the market.

8.1 The Generality of Inferior Quality

The theoretical basis of the present study is the classification of two types of transactions which may best delineate the market for package tours. One is the information-based transaction on the OTOs' side in the source market and the other, the service-based on the

ITOs' side at the destination. This kind of two-type transaction has been modeled in a number of markets especially in professional services, in which delivering services to a customer requires accumulating information of the customer as a prerequisite (Darby & Karni, 1973; Ely & Välimäki, 2003; Hubbard, 1998, 2002; Taylor, 1995). One of the examples is automobile repairing services, which can be decomposed into two stages, automobile checking and service delivery. Both can be served by one firm or separately by two firms. This situation gives rise to modelling multi-level agency problems, since asymmetric information can take effect in two or more transactions. Given package tours as a product complex with a wide range of service components, information asymmetry can be more severe in package tours than in other markets with individually simple products. As for the generic tourism product, a widespread recognition of its intangibility, heterogeneity, and inseparability of production and consumption indicates asymmetric information in the tourism market, with these features causing ambiguity and uncertainty to tourists in discerning quality (Keane, 1996, 1997; Nicolau & Sellers, 2010; Schwartz, 2006). In particular, some studies have cautioned that information asymmetry may have created problems of adverse selection and moral hazard in the tourism market (Caserta & Russo, 2002; Keane, 1996, 1997; Reece, 2009).

Drawing upon the Lemons principle, three levels of asymmetric information are defined among tourists, OTOs, and ITOs. The OTO-level asymmetric information is uncovered by the notion of production technology, which is closely associated with the information-based transaction. The role of production technology is to differentiate quality and, therefore, satisfy the assumption of adverse selection that quality needs to be exogenously

classified. In terms of its theoretical origins, production technology can be referenced to three schools of thought, namely Lancaster's characteristics theories (Lancaster, 1966a, 1966b), hedonic pricing theories (Lucas, 1975; Rosen, 1974), and theories of commodity bundling (Adams & Yellen, 1976; Schmalensee, 1984). These theories suggest that the configuration of individual characteristics in a product has profound effects on market behavior as a whole. Production technology is grounded on these theories on the one hand and, on the other, plays a role in structuring the product of tour packages in terms of information. We thus conclude that information represents one dimension of quality as illustrated by a rigid or a flexible production technology. As far as Smith's (1994) generic tourism product model is concerned, production technology matches what he means by freedom of choice as one indispensible element of the tourism product. The ITO-level asymmetric information is defined by effort as the fundamental input in service production. Of all economic participants involving in the supply of package tours, ITOs possess superior information of their effort, which illustrates asymmetric information between OTOs and ITO as the third level.

With the first two levels of asymmetric information, the mechanism of quality deterioration in package tours is modeled as adverse selection on the OTOs' side and moral hazard on the ITOs' side. These two agency problems can occur because tourists, as agents, are asymmetrically ill-informed of production technology in the source market and ITOs' effort at the destination. This two-period agency models not only account for, but can also predict, a broad class of inferior quality and dubious practices in package tours, such as misrepresenting information, forced shopping, misguiding consumptions,

and even several forms of cheating and deception. Inferior quality can be accommodated by two classes of quality, namely *ex ante* quality concerning information and *ex post* quality concerning travel services and, therefore, is accounted for by either of the two agency models or a blend of both. At the base level of the present study is the proposition that adverse selection is generated by moral hazard, which provides an explanation for the problem of "zero-fare" group tours. As a complex of inferior quality, "zero-fare" group tours can therefore be viewed as an extreme case of quality deterioration, manifesting itself as a compound of both adverse selection on the OTOs' side and moral hazard on the ITOs' side. In addition, quality deterioration can occur more frequently in package tours than in other markets, since the joint production characterized by sharing of tour fares may transform from g_f—a positive-fare relation—to g_r—a zero-fare relation, indicating that the operation mode of package tours is fundamentally changed because of asymmetric information.

8.2 "Zero-fare" Group Tours in China: Empirical Significance

Three applications (Chapters 5, 6, and 7) of the agency models in the China-Hong Kong market segment have confirmed the empirical significance of these models. The first application confirms the principal proposition that asymmetric information of production technology and effort results in quality deterioration represented by adverse selection and moral hazard respectively. At the individual level, a significantly negative relationship is verified between tourists' knowledge of production technology and their choice of the *Standard* tour, suggesting adverse selection of g_r in theory. Similarly, moral hazard denoted by the choice of g_l is supported by the significantly positive relationship between

tourists' knowledge of ITOs' effort and service quality. With the verification of asymmetric information, the second application investigates the magnitude of quality deterioration of package tours by modeling reputation as a counteract mechanism to mediate the effect of asymmetric information. It has been found that the effect of asymmetric information is significantly mitigated by both OTOs' and ITOs' reputation. The third application verifies the dynamic model of the causal relationship between adverse selection and moral hazard, illustrating that moral hazard in the previous transaction at the destination causes adverse selection in the subsequent transactions in the source market. This dynamic is largely driven by diffusion of information in the market as the market evolves over time, resulting in a life cycle of inferior quality in package tours.

In spite of the paucity of evidence available to indicate that "zero-fare" group tours are ubiquitous and may have happened in the Western context, the generality of this problem represented by two agency problems is of both theoretical and empirical plausibility. It suggests, at least in theory, that "zero-fare" group tours as a complex of inferior quality not only has been happening in China's outbound tourism market and Asian source markets but also would have happened in the United States and Europe from the 1960s to 1980s. The almost two-decade development of tourism in these two regions had seen a tremendous growth in the market share of package tour businesses within and beyond the region (Guitart, 1982; Pearce, 1987a, 1987b; Sheldon, 1986). This then highly-developed package tour industry had been associated with a number of indications of inferior quality, which may suggest that the presence of "zero-fare" group tours in the Western context is

true. These indications include a number of scholarly studies on inferior quality such as Sheldon (1986) on the misrepresentation of information of tour packages and, in the industry, the foundation of professional travel associations as a means of overcoming quality problems and protecting tourists, such as the Association of British Travel Agents (ABTA) and the United States Tour Operators Associations (USTOA). These associations have unveiled various guidelines to discipline tour operators' behavior and defined the term of tour packages in a legal manner to reduce potential information ambiguity (Atherton, 1994; Elton, 1984; Grant, 1996).

The almost two-decade development of package tours in the United States and Europe may parallel the deregulation era of outbound tourism in most Asian source markets since the 1980s, including China in the late 1990s. In particular, the evidence of inferior quality in Asian source markets might be a replication of what has happened in developed economies in terms of not only production of quality, *per se*, but also regulations of service standard for service providers. On the one hand, inferior quality of package tours is perhaps the major problem that the industry is facing now, a prominent case of which is the problem of "zero-fare" group tours that has been undermining China's outbound tourism particularly to Hong Kong and Thailand. On the other hand, a number of institutionalized mechanisms have been set up to protect inbound tourists' interests by setting quality standards, such as Hong Kong's Quality Tourism Services (QTS) scheme. As the largest source market to Asian destinations, China has signed a range of bilateral agreements with its ADS countries/regions, notably Thailand and Hong Kong, which have accommodated "zero-fare" group tours from China more than elsewhere. These

agreements aim at disciplining the behavior of tour operators, travel agencies, and service providers and, as a result, improving service standards at the destination. Within the country, China has in recent years regulated its OTOs and travel agencies via CNTA by enforcing a number of legislations, such as CNTA's regulation on "zero-fare" group tours in 2009. These practices can also be found in other source markets or destinations, suggesting that inferior quality of package tours is of a major concern for both source markets and destinations (Keating, 2009; King et al., 2006; Prideaux et al., 2006).

Since the problem of "zero-fare" group tours has largely been encountered by Asian tourists, a prevailing argument in this regard is that this problem is culturally determined (Jia, 2006; Tse, 2003; Zhang et al., 2009a, 2009b). This argument is probably misleading because little evidence has yet suggested that culture really matters in explaining the fundamentals of quality deterioration in package tours. What culture matters is to explain tourist behavior on the basis of production technology, for example, shopping would be a cultural and social preference of Asian tourists rather than their Western counterparts. When Akerlof (1970) developed his adverse selection model of lemons in the market for used automobiles in the United States, no one claimed that the Lemons problem was United States-specific or culture-related quality deterioration, and it never was. On the contrary, Akerlof (1970) extended the Lemons problem to capture various forms of inferior quality in other markets, including those in developing economies such as India's wheat trade and credit markets. He cited a statement saying "business in underdeveloped countries is difficult" (Akerlof, 1970, p. 488). This statement may be mistaken as a piece of evidence for cultural determinism in explaining quality deterioration. According to

Akerlof (1970), the prevalence of quality deterioration has nothing to do with culture but with entrepreneurship which, as a social and human resource, is scarce in underdeveloped economies. Given the generality of lemons that exist in almost all types of transactions, so is the problem of "zero-fare" group tours to the tourism industry no matter which source market is involved.

8.3 Policy Implications

The past decade has seen an increasing number of tourism policies, regulations, and legislations in China as well as bilateral agreements signed between China and its major ADS destination countries/regions, particularly including Hong Kong and Thailand. These policies have been initiated, in large part, to regulate the business of "zero-fare" group tours and to protect tourists as a result. For example, in 2003 CNTA issued the *Regulations on the Chinese Outbound Tourism Market*, pledging to eradicate a broad range of misconduct by travel agencies, including forced shopping, misguided consumptions at the destination, and "zero-fare" group tours as a whole. In 2009 CNTA enforced the *Implementation of the Regulation on Travel Agencies*, which has been deemed as a concrete legislation in regulating "zero-fare" group tours. In 2007 CNTA collaborated with HKTB for licensing both OTOs and ITOs and devoted effort to revealing information of relevance to the public. What has driven these regulations is a stereotypical and misleading argument that inferior quality is originated in the source market rather than at the destination. Evidence has been cited to show, for instance, that Hong Kong, as a destination, detected zero-fare" group tours disproportionately more from Mainland China than from other source markets (Chen et al., 2011). Such evidence

also applies to the China-Thailand and the China-Australia markets, leading to cultural determinism in explaining quality deterioration of package tours. The present study questions this argument and suggests policies that follow.

Of particular significance is the proposition that ITOs possess superior information of their effort. This proposition indicates that moral hazard is first originated at the destination and adverse selection in the source market is generated from moral hazard at the destination in the long run. In light of this, the existing regulations on "zero-fare" group tours are probably misleading, since they have been devoted to regulating "zero-fare" group tours by focusing on the source market. On the contrary, the present study implies that regulating ITOs at the destination should be the priority given that ITOs can manipulate their superior informational advantage which leads to deterioration of quality in the first place. Similar to the proposition based on agency theories, supplying g_f in the source market is actually insufficient to provide incentives to ITOs in the presence of the ITO-level asymmetric information. It also becomes evident that regulating OTOs alone is insufficient to improve service quality, simply because moral hazard rather than adverse selection is the fundamental cause of quality deterioration in package tours. Evidence has suggested that a set of policies and regulations that have focused on China to curb "zero-fare" group tours were not as effective as they were expected to be (Jia, 2004, 5006, 2006). Given the separation of legislations into the source market and the destination, there is a need for a transition of policy scope from the source market to the destination as well as collaboration in regulations between both source market and destination, which may provide the best way forward to deal with quality deterioration of package tours.

In addition to asymmetric information as the fundamental force in determining quality deterioration, the mediating effects of reputation have been verified. In fact, List's (2006) argument that information and reputation are complementary to each other has indicated one of the two roles of reputation—to signal quality under asymmetric information. Consistent with the theories in which reputation is regarded as a market-based mechanism in assuring quality, we have, over the past decade, witnessed that not only the industry but also the authorities both in China and at the destination are working towards combating inferior quality and "zero-fare" group tours through reputation building activities. For example, some OTOs in China are promoting product innovations by developing and marketing what are called the *Quality* and *Luxury* tour packages, a type of tour packages that are highly priced and for which tour operators commit to providing high-quality travel services throughout the trip. As one of the most notable destinations suffering from the business of "zero-fare" group tours, Hong Kong has since 1999 launched its QTS scheme. This scheme aims at encouraging service excellence among various service providers—including ITOs—at the destination, thereby helping tourists to identify reputable service providers. This type of reputation building activities driven by the government should be followed and strengthened in the future.

Given the fundamental role of asymmetric information, the ultimate solution to quality deterioration of package tours is to improve information in the market. The dynamic model has supported this argument by demonstrating that the life cycle of inferior quality is largely driven by the increase of tourists' knowledge. Moral hazard decreases as tourists access more information at the destination which, in turn, leads to a decrease of

adverse selection in the source market. As such, policies should be focused on disseminating information of both the destination and the source market to tourists and, hence, reducing asymmetric information on the demand side. There are two studies particularly consistent with this policy scope. One is about food quality, in which Jin and Leslie (2003) found that food hygiene was improved after the restaurants were required to publicly display the hygiene grade cards on their windows to increase consumers' information. The second is the online auctions in Melnik and Alm's (2002) study, in which the buyers exclusively relied on the comments about the sellers left by other buyers to judge quality. Since the business of package tours is separated into the source market and the destination, it may involve more asymmetric information than other businesses. The government should thus provide information to the market in order to reduce tourists' information search costs. In addition to tourists' learning from their experience, the governments are recommended to play their part in educating tourists through publishing product information, for example, in the form of the QTS.

8.4 Limitations and Future Research

The notion of production technology remains the heart of the whole study in structuring the product of tour packages in terms of its informational content. This notion represents, on the demand side, an analogy of Lancaster's (1966a, 1966b) consumption technology, which implies that the structure of a commodity truly matters to consumer behavior. This is because the commodity can be decomposed into a variety of characteristics upon which utility is derived (Lancaster, 1966a, 1966b). Following this line of research, Nelson (1970) and Darby and Karni (1973) extended this notion to the scope of information economics

and classified quality on the basis of how consumers retrieve information of quality for different products, deriving what are called search-, experience-, and credence-quality. On the other hand, this classification indicates that firms can hide information of quality from being accessed by consumers, leading to information asymmetry between firms and consumers. With regard to package tours, the assumption of exogenously classified quality in the source market is highly grounded on this assertion. To examine the plausibility of this assumption, we collected data through the tour escort survey by arguing that tour escorts are aware of such a quality classification because they can access production technology. This is true, though a more promising direction in such an empirical investigation is to analyze travel itineraries, for they would accurately incorporate critical information of how tour operators produce tour packages, in short, of production technology. However, collecting travel itineraries from a sufficient number of tour operators would be extremely time-consuming and, particularly for a longitudinal study, collecting those published within the past ten years would be impossible.

While it seems comprehensive to define three levels of asymmetric information to portray the transactions among tourists, OTOs, and ITOs, it is perhaps unrealistic to assume that tourists are most disadvantageous among others with respect to a lack of information of production technology and effort. It is true that tourists possess their private information which may have caused agency problems to tour operators. This dimension of asymmetric information can be denoted by tourists' preferences which, we did not yet address, is an alternative way for modeling asymmetric information on tourists' preferences. In insurance for example, in addition to adverse selection on the basis of

policyholders' risks, there is the so-called advantageous selection determined by policyholders' preferences to risks, in other words, risk aversion (Cutler et al., 2008; Eisenhauer, 2004; Finkelstein & McGarry, 2006). Because of their risk aversion, low-risk policyholders actually purchase more insurance than their high-risk counterparts, and hence the Rothschild-Stiglitz prediction of the positive risk-coverage relationship is violated (Eisenhauer, 2004; Hemenway, 1990). Advantageous selection is cited as one of the important reasons for the failure of testing asymmetric information in some insurance markets (Cardon & Hendel, 2001; Cawley & Philipson, 1999; Chiappori & Salanié, 2000). As observed in the business context of package tours, the elderly and the teenager, for example, are commonly charged more by OTOs when being offered an identical tour package with other group members, for age can somehow indicate these tourists' preference for not spending much at the destination.

Regarding the problem of "zero-fare" group tours in particular, the "zero-fare" relation is a key to explaining quality deterioration in package tours. This relation has been modeled as the class of *ex ante* quality g_r in the dynamic model of adverse selection being generated by moral hazard. It seems convincing that supplying g_r, which is based on a relatively low price p_r, may not provide sufficient incentives to OTOs and could in theory yield a zero-fare relation. Nevertheless, this conclusion is more of a speculation without a robust theoretical justification or empirical evidence regarding how to precisely quantify this relation. The question still remains as to why tour fares need to be allocated between OTOs and ITOs and how to quantify the relationship of sharing tour fares so as to figure out the conditions of the "zero-fare" relation. In this sense, agency theories especially

those dealing with incentives may still shed light on the analysis of the "zero-fare" relation (Baker, 1992; Basu et al., 1985; Bergen et al., 1992; Lal & Srinivasan, 1993). In particular, research on salesforce compensation plans has suggested a decomposition of incentives into both salary and commissions because it is difficult for firms to monitor salespersons' effort (Alchian & Demsetz, 1972; Basu et al., 1985; Dearden & Lilien, 1990). For theory development under this line of research, the "zero-fare" relation may suggest an equilibrium condition that tour fares trade off with commissions under asymmetric information to sustain the joint production of package tours. Constructing such an equilibrium model based on sharing of tour fares and commissions may remain a promising direction for future research not only in tourism studies but also in business administration and economics.

APPENDIXES

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

中国出境旅游者消费调研

（试调研）

---------- 旅游线路信息 ----------

以下信息由负责分发和回收问卷的领队在问卷收集全部结束后填写。

1. 该旅游线路（团）为（可多选） [Z1]

   ☐ 市区观光 ☐ 海洋公园 ☐ 迪士尼乐园 ☐ 其他

2. 该旅游线路（团）是香港几日游：_____ 日。 [Z2]

3. 该旅游线路（团）的人数是：_____ 人。 [Z3]

4. 该旅游线路（团）的服务标准为 （只可选择其中一项） [Z4]

   ☐ 纯玩团 ☐ 品质团 ☐ 购物团 ☐ 不确定

5. 该团是由香港哪一家旅行社负责地接的：_____（香港旅行社名称） [Z5]

6. 请附上本团的旅游线路行程单。

回收有效问卷数量：_____份
带团日期：_____
领队姓名：_____
联系电话：_____

---------- 调研全部结束，非常感谢您的合作！----------

相关咨询请洽

陈勇 先生
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香港理工大学 酒店及旅游业管理学院

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

MAINLAND CHINESE OUTBOUND PACKAGE TOURIST SURVEY

(Pilot)

---------- Particulars of Tour Package ----------

The following questions are completed by the tour escort who distributes and collects the tourist questionnaire after the trip.

1. What attractions do this tour package incorporate (You can choose more than one attractions): [Z1]

   ☐ Sightseeing ☐ Ocean Park ☐ Disneyland ☐ Other

2. The length of stay for this tour package (day/night): [Z2]
3. The number of tourists participated in this tour package: [Z3]
4. The service standard of this tour package (Please indicate one standard only): [Z4]

   ☐ Luxury tour ☐ Quality tour ☐ Standard tour ☐ Unknown

5. The inbound tour operator which has served this tour package (Pleas indicate the name of Hong Kong's inbound tour operator): [Z5]
6. Please enclose a hard copy of the travel itinerary for this tour package.

The number of the completed tourist questionnaires:

Date of this tour package:

Name of the tour escort:

Telephone/mobile phone:

< END >

---------- Thank you for your cooperation ----------

For enquiries, please contact

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酒店及旅遊業管理學院

中国出境旅游者消费调研

（试调研）

问卷编号：_____

调研简介

香港理工大学酒店及旅游业管理学院正在进行一项关于中国出境旅游者的消费调研。调研对象为参加“香港游”的中国组团旅游者。本研究可以为旅游企业、行业管理者以及政府部门在提高旅游服务质量和加强行业监管方面提供依据。

本调研要求旅游者在旅游行程全部结束之后完成问卷并交给领队，总共需时约 **5** 分钟。受访者所提供的信息仅用于学术研究且严格保密。

相关咨询请洽

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甄别问题

你是年满 **18** 岁的中国大陆公民吗**?**

☐ 是（请继续回答问卷）　　☐ 否（请停止并将问卷交还领队）

☞ 请翻页开始作答……

中国出境旅游者消费调研

---------- 第一部分（购买经历）----------

1. 旅游经历信息

以下问题是关于你以前的旅游经历和本次旅行的信息，请回答：

X11. 在过去的一年中你出境旅游（包含香港、澳门和台湾）的次数（不包含本次旅行）：_____次。

X12. 在过去的一年中你到香港旅游过几次（不包含本次旅行）：_____次。

X13. 你来自哪里 _____（省/自治区/直辖市）。

X14. 你是在哪一家旅行社购买的这条旅游线路：_____市_____（旅行社所在城市以及旅行社名称）。

X15. 你参加这个旅游团所支付的团费为：_____元（人民币）。

2. 旅游者购买旅游线路的经历

以下描述是关于你对所购买的旅游线路的认识及对销售旅游线路的旅行社的评价，请选择最能代表你看法的一个数字并打圈“○”，“1”代表“非常不确定/不同意”，“7”代表“非常确定/同意”。

	根据所购买的旅游线路、价格及逗留时间	非常不确定	不确定	基本不确定	中立	基本确定	确定	非常确定
Ai1	我知道行程单中交通在价格中占多少比例	1	2	3	4	5	6	7
Ai2	我知道行程单中住宿在价格中占多少比例	1	2	3	4	5	6	7
Ai3	我知道行程单中餐饮在价格中占多少比例	1	2	3	4	5	6	7
Ai4	我知道行程单中观光游览在价格中占多少比例	1	2	3	4	5	6	7
Ai5	我知道行程单中休闲娱乐在价格中占多少比例	1	2	3	4	5	6	7
Ai6	我知道行程单中指定购物在价格中占多少比例	1	2	3	4	5	6	7
Ai7	我知道行程单中安排多长时间进行观光游览	1	2	3	4	5	6	7
Ai8	我知道行程单中安排多长时间进行休闲娱乐	1	2	3	4	5	6	7
Ai9	我知道行程单中安排多长时间进行购物	1	2	3	4	5	6	7

	对销售旅游线路的旅行社的评价	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Ar1	这家旅行社关于这条旅游线路的信息是真实的	1	2	3	4	5	6	7
Ar2	这家旅行社关于这条旅游线路的说明是可信的	1	2	3	4	5	6	7
Ar3	这家旅行社关于旅游服务的承诺是可信的	1	2	3	4	5	6	7
Ar4	这家旅行社总是从旅游者利益出发	1	2	3	4	5	6	7
Ar5	总体而言，我信任这家旅行社	1	2	3	4	5	6	7

	与其他香港游线路相比	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Aq1	我购买这条旅游线路，因为除了价格之外，我看不出这条线路与其他“香港游”线路的差别	1	2	3	4	5	6	7
Aq2	我购买这条旅游线路，因为它相对便宜些	1	2	3	4	5	6	7
Aq3	如果这条旅游线路比我预计的贵，我就不会买了	1	2	3	4	5	6	7
Aq4	与这条旅游线路的其他方面比较，我更在意旅游线路的价格	1	2	3	4	5	6	7
Aq5	在选择旅游线路时，我很关注价格	1	2	3	4	5	6	7

---------- 第二部分 （消费经历）----------

3. 旅游者在香港的旅游消费经历

以下描述是关于你对香港旅行社/香港导游接待服务的认识和评价，请选择最能代表你看法的一个数字并打圈“○”，“1”代表“非常不确定/不同意”，“7”代表“非常确定/同意”。

	对香港旅行社/香港导游行为的认识	非常不确定	不确定	基本不确定	中立	基本确定	确定	非常确定
Bi1	香港旅行社/导游在提供服务的过程中已经尽力了	1	2	3	4	5	6	7
Bi2	香港旅行社/导游在提供服务时的行为是适当的	1	2	3	4	5	6	7
Bi3	香港旅行社/导游在提供服务时的行为是可接受的	1	2	3	4	5	6	7
Bi4	香港旅行社/导游的服务与行程单所规定的是一致的	1	2	3	4	5	6	7
Bi5	香港旅行社/导游在提供服务时已经尽到责任了	1	2	3	4	5	6	7

	对香港旅行社/导游的评价	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Br1	我认为这家香港旅行社/香港导游经验丰富	1	2	3	4	5	6	7
Br2	我认为这家香港旅行社/香港导游服务专业	1	2	3	4	5	6	7
Br3	我认为这家香港旅行社/香港导游有竞争力	1	2	3	4	5	6	7
Br4	我认为这家香港旅行社/香港导游素质良好	1	2	3	4	5	6	7
Br5	这家香港旅行社/香港导游总是从旅游者利益出发	1	2	3	4	5	6	7
Br6	总体而言，我信任这家香港旅行社/香港导游	1	2	3	4	5	6	7

你对香港旅行社/导游所提供服务质量的评价，请选择最能代表你看法的一个数字并打圈“○”，“1”代表“非常不满意”，“7”代表“非常满意”。

	对香港旅行社/导游的服务质量评价	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Bq1	这家香港旅行社提供了优良的导游服务	1	2	3	4	5	6	7
Bq2	这家香港旅行社提供了优良的交通服务	1	2	3	4	5	6	7
Bq3	这家香港旅行社提供了优良的住宿服务	1	2	3	4	5	6	7
Bq4	这家香港旅行社提供了优良的餐饮服务	1	2	3	4	5	6	7
Bq5	这家香港旅行社安排了优良的观光游览	1	2	3	4	5	6	7
Bq6	这家香港旅行社提供了优良的休闲娱乐	1	2	3	4	5	6	7
Bq7	这家香港旅行社提供了优良的购物安排	1	2	3	4	5	6	7

4. 人口统计特征 （请选择对你本人描述最准确的一项）

X21. 你的性别是

☐ 男 ☐ 女

X22. 你的年龄是

☐ 18–25 ☐ 26–35 ☐ 36–45
☐ 46–55 ☐ 56–65 ☐ 66 岁及以上

X23. 你的婚姻状况是

☐ 单身 ☐ 已婚 ☐ 其他

X24. 你的受教育程度

☐ 小学及以下 ☐ 初中 ☐ 高中/职高/技校
☐ 大学 ☐ 研究生

X25. 你的职业

☐ 公司管理者 ☐ 公司职员 ☐ 公务员
☐ 专业人员（例如，教师、医生、律师） ☐ 工人
☐ 农民 ☐ 家庭主妇 ☐ 学生
☐ 退休人员 ☐ 其他

X26. 你的月收入（人民币/元）

☐ 低于 1 000 ☐ 1 000–1 999 ☐ 2 000–2 999
☐ 3 000–3 999 ☐ 4 000–4 999 ☐ 5 000–5 999
☐ 6 000–6 999 ☐ 7 000–7 999 ☐ 8 000–8 999
☐ 9 000–9 999 ☐ 10 000 及以上

5. 你在本次旅游中购物的花费大约为_____人民币/元（未包含在团费内的购物消费）。

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

MAINLAND CHINESE OUTBOUND PACKAGE TOURIST SURVEY

(Pilot)

Reference No.: _____

INTRODUCTION

The Hong Kong Polytechnic University's School of Hotel and Tourism Management is currently conducting a survey on Mainland Chinese outbound package tourists' purchase and consumption experience. This survey collects information for a Ph.D. research project. Your information disclosed in this questionnaire will be treated with anonymity and confidentiality.

You are required to complete this questionnaire after you finish your entire trip in Hong Kong and return the completed questionnaire to your tour escort(s). It will take you around **5** minutes to complete the questionnaire. Thank you for your cooperation.

For enquiries, please contact

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School of Hotel and Tourism Management
The Hong Kong Polytechnic University

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Screening question

Are you Mainland Chinese above 18 years old?

☐ **Yes** (Please continue) ☐ **No** (Please cease and return the questionnaire to your escorts)

☞ **Please continue …**

---------- SECTION I Purchase Experience ----------

1. Travel-related Information

The following questions are about your travel experience prior to this trip and information of this trip, please fill the blanks based on your personal experience.

X11. How often have you travelled abroad within the past 12 months (prior to this trip, including Hong Kong, Macau, and Taiwan as the overseas destinations): _____

X12. How often have you travelled to Hong Kong within the past 12 months (excluding this trip): _____

X13. Where are you from (Please indicate your residence of province/autonomous region/municipality): _____

X14. Where did you buy this tour package (Please indicate the name of the travel agency and the name of the city where the travel agency is located): _____

_____

X15. How much did you pay for this tour package (Please indicate the price in *Renminbi*): _____

2. Purchase Experience

The following statements describe your awareness and understanding of the tour package you bought and your evaluation on the travel agency which sold this tour package. Please indicate your level of certainty or agreement with the statements by circling a number that denotes such a level.

	Knowledge of the tour package, its price, and length of stay: **I was aware of …**	Strongly uncertain	Uncertain	Somewhat uncertain	Neutral	Somewhat certain	certain	Strongly certain
Ai1	How much transportation made up in the total price	1	2	3	4	5	6	7
Ai2	How much accommodation made up in the total price	1	2	3	4	5	6	7
Ai3	How much meals made up in the total price	1	2	3	4	5	6	7
Ai4	How much sightseeing made up in the total price	1	2	3	4	5	6	7
Ai5	How much recreation made up in the total price	1	2	3	4	5	6	7
Ai6	How much arranged shopping made up in the total price	1	2	3	4	5	6	7
Ai7	How much time allocated to sightseeing	1	2	3	4	5	6	7
Ai8	How much time allocated to recreation	1	2	3	4	5	6	7
Ai9	How much time allocated to arranged shopping	1	2	3	4	5	6	7

	Evaluation on the travel agency which sold this tour package	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Ar1	Information of this tour package was credible	1	2	3	4	5	6	7
Ar2	Brief of this tour package was truthful	1	2	3	4	5	6	7
Ar3	Promises of services of the tour package could be fulfilled	1	2	3	4	5	6	7
Ar4	I thought this travel agency was in the interest of tourists	1	2	3	4	5	6	7
Ar5	Overall, I trusted this travel agency	1	2	3	4	5	6	7

	Comparing with other tour packages to Hong Kong	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Aq1	I was unable to tell the difference between this tour package and others except for the price	1	2	3	4	5	6	7
Aq2	I bought this tour package because it was relatively cheap	1	2	3	4	5	6	7
Aq3	I might not buy this tour package if it was priced higher than I expected	1	2	3	4	5	6	7
Aq4	I cared more about the price of this tour package than its other aspects	1	2	3	4	5	6	7
Aq5	I was concerned about price when buying tour packages	1	2	3	4	5	6	7

---------- SECTION II Consumption Experience ----------

3. Consumption Experience

The following statements describe your awareness or evaluation of the Hong Kong inbound tour operator and/or local tour guides who served you during the trip. Please indicate your level of certainty or agreement with the statements by circling a number that denotes such a level.

	Knowledge of the Hong Kong inbound tour operator and/or local tour guides' behavior	Strongly uncertain	Uncertain	Somewhat uncertain	Neutral	Somewhat certain	certain	Strongly certain
Bi1	They exerted reasonable effort in delivering services	1	2	3	4	5	6	7
Bi2	Their behavior in delivering services was appropriate	1	2	3	4	5	6	7
Bi3	Their behavior in delivering services was acceptable	1	2	3	4	5	6	7
Bi4	They delivered services as promised in the itinerary	1	2	3	4	5	6	7
Bi5	They took their responsibilities in delivering services	1	2	3	4	5	6	7
	Evaluation on the Hong Kong inbound tour operator and/or local tour guides	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Br1	They were experienced	1	2	3	4	5	6	7
Br2	They were professional	1	2	3	4	5	6	7
Br3	They were competitive	1	2	3	4	5	6	7
Br4	They were qualified	1	2	3	4	5	6	7
Br5	They were in the interest of tourists	1	2	3	4	5	6	7
Br6	Overall, I trusted them	1	2	3	4	5	6	7

The following statements describe your evaluation of services provided by the Hong Kong inbound tour operator and/or local tour guides. Please indicate your level of satisfaction with the statements by circling a number that denotes such a level.

	Evaluation on service provided by the Hong Kong inbound tour operator and/or local tour guides	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Bq1	Tour guiding service was of high quality	1	2	3	4	5	6	7
Bq2	Transportation service was of high quality	1	2	3	4	5	6	7
Bq3	Accommodation service was of high quality	1	2	3	4	5	6	7
Bq4	Meals were of high quality	1	2	3	4	5	6	7
Bq5	Sightseeing service was of high quality	1	2	3	4	5	6	7
Bq6	Recreation service was of high quality	1	2	3	4	5	6	7
Bq7	Arranged shopping service was of high quality	1	2	3	4	5	6	7

4. Social demographic information

Please indicate your social demographic information by circling an item in each category.

X21. Your gender

☐ Male ☐ Female

X22. Your age

☐ 18–25 ☐ 26–35 ☐ 36–45
☐ 46–55 ☐ 56–65 ☐ 66 or above

X23. Your marital status

☐ Single ☐ Married ☐ Other

X24. Your level of education

☐ Elementary school or below ☐ Junior high school ☐ Senior/ technical/ vocation school
☐ College/university ☐ Postgraduate

X25. Your occupation

☐ Manager/executive ☐ Staff/clerk ☐ Civil servant
☐ Professional (e.g., teacher, doctor, lawyer) ☐ Worker
☐ Farmer ☐ Housewife ☐ Student
☐ Retired ☐ Other

X26. Your MONTHLY income (in *Renminbi*)

☐ Below 1 000 ☐ 1 000–1 999 ☐ 2 000–2 999
☐ 3 000–3 999 ☐ 4 000–4 999 ☐ 5 000–5 999
☐ 6 000–6 999 ☐ 7 000–7 999 ☐ 8 000–8 999
☐ 9 000–9 999 ☐ 10 000 or above

5. How much have you spent on shopping (in *Renminbi*, excluding arranged shopping):

APPENDIX C

Reliability and Validity of the Measurement for Piltot Study

The population consisted of Mainland Chinese tourists who took group package tours to Hong Kong over the period of data collection. Specifically, we restricted the empirical setting to the Shenzhen-Hong Kong market; those Mainland Chinese tourists who departed from Shenzhen to Hong Kong were sampled. A convenient sampling method was employed to select respondents who were eighteen years old or above. Since in the business contexts OTOs normally dispatch at least one tour escort for each tour package to accompany tourists throughout the trip, tour escorts can conveniently approach to and contact tourists and, as a result, may obtain a relatively high response rate. The data were collected with assistance from the tour escorts who were responsible for distributing and collecting the questionnaires. This survey was administered by tour escorts and completed in October 2010. A total of 201 questionnaires were distributed and collected in nine tour packages, and each tour package was allocated approximate 15 to 40 questionnaires. A total of 192 were checked useful for data analysis.

Data analysis primarily consisted of a test for the measurement model and a test for the structural model. For testing the measurement model we carried out an exploratory factor analysis (EFA) on a total of eighteen items after data screening to assess whether the factor structure proposed in theory can be verified against the data. A principal component analysis with Varimax was used for extracting and rotating factors; instead of extracting factors with an eigenvalue greater than one we fixed the number of the extracted factors to six as being expected in theory, as the former criteria were unable to derived a six-factor structure. A confirmatory factor analysis (CFA) was then used to assess whether the proposed measurement model fitted the data. A couple of goodness-of-fit indices including χ^2, χ^2/df, the comparative fit index (CFI), the non-normed fit index (NNFI), and the root mean square error of approximation (RMSEA) were used for this assessment. The structural model was assessed by the aforementioned goodness-of-fit indices; and the strength and significance of path relations was examined for testing the hypotheses. SPSS Statistics 17.0 and AMOS Graphics 17.0 were used to conduct the above analyses.

An exploratory factor analysis (EFA) was conducted to check whether these six constructs—production technology (PT), WTAs' reputation (WTAR), price sensitivity (PS), effort (EF), ITOs' reputation (ITOR), and service performance (SP)—were distinct against the data. Both Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) of .879 and Bartlett's Test of Sphericity of 2080.187 ($p < .001$) suggested that the EFA was appropriate for the data (Table 1). Results of EFA approximately confirmed a six-factor structure in the theoretical model. The construct of production technology among others explained the largest of 16.63% variance with all factor loadings above .70; the constructs of WTAs' reputation, effort, service performance, ITOs' reputation, price

sensitivity were also detected as distinct with all factor loadings above .60, explaining, respectively, 12.80%, 12.62%, 11.42%, 10.17%, and 9.97% of the variance (Table 1). Reliability of the instrument was examined by calculating *Cronbach's α* for each construct to assess internal consistency. *Cronbach's α* of these constructs ranged from .71 to .89 which was above the suggested cutoff point of .70 (e.g., Nunnally, 1978), indicating a high level of internal consistency for each construct and thus an acceptable reliability (Table 1).

Table 1 Exploratory factor analysis of the instrument (N = 192)

Factor	*Factor Loading*	*Eigenvalue*	*Communality*	*Variance explained*	*Cronbach's α*
F1: Production technology		7.456		16.63	.87
Price for meal	.858		.782		
Price for sightseeing	.773		.698		
Price for recreation	.761		.650		
Price for shopping	.755		.708		
Price for accommodation	.726		.639		
F2: WTAs' reputation		2.462		12.80	.89
Credibility	.832		.867		
Reliability	.823		.814		
Trustworthiness	.704		.772		
F3: Effort		1.562		12.62	.71
Acceptable behavior	.826		.790		
Reasonable effort	.791		.786		
Consistent behavior	.701		.721		
F4: Service performance		1.332		11.42	.85
Shopping service	.798		.753		
Leisure activities	.775		.751		
Meals	.730		.693		
F5: ITOs' reputation		1.061		10.17	.83
Competitiveness	.808		.770		
Expertise	.687		.763		
Professionalism	.661		.758		
F6: Price sensitivity		.848		9.97	.80
Price seeking	.780		.718		
Price consciousness	.764		.648		
Price-orientation	.761		.640		

Notes: Kaiser-Meyer-Olkin Measure of Sampling Adequacy is of .879, Bartlett's Test of Sphericity is of 2080.187, df = 190, $p < .001$.

The measurement model was tested by carrying out a confirm factor analysis (CFA) to assess whether the proposed measurement model fitted the data. A couple of goodness-

of-fit indices including χ^2, χ^2/df, CFI, NNFI, and RMSEA were used for this assessment. Results of CFA showed that the measurement model was parsimonious and satisfactory given its acceptable goodness-of-fit indices (χ^2 = 243.113, df = 155, χ^2/df = 1.568, p < .001, CFI = .96, NNFI = .95, RMSEA = .06) (Table 2). Average variance extracted (AVE) was calculated to assess convergent and discriminant validity of the constructs. An AVE below the suggested .50 (e.g., Fornell and Larcker, 1981) was found for price sensitivity with .46, suggesting insufficient valid variance explained by its measurement and thus was little of validity; AVEs of other five constructs ranged from .57 to .74, indicating satisfactory convergent validity (Table 2). AVE for each construct was higher than the squared correlation coefficients for corresponding inter-constructs, which confirmed discriminant validity (Table 2).

Table 2 Inter-construct correlations, average variance extracted and model fit (N = 192)

Construct	*F1*	*F2*	*F3*	*F4*	*F5*	*F6*
F1: PT	1.00					
F2: WTAR	.43 (.18)	1.00				
F3: EF	.37 (.14)	.64 (.41)	1.00			
F4: SP	.36 (.13)	.58 (.34)	.61 (.37)	1.00		
F5: ITOR	.38 (.14)	.73 (.53)	.74 (.55)	.57 (.32)	1.00	
F6: PS	.43 (.18)	.41 (.17)	.31 (.10)	.35 (.12)	.25 (.06)	1.00
AVE	.57	.74	.66	.58	.63	.46
Model fit indices						
χ^2 =	243.113	df = 155	p < .001			
χ^2/df =	1.568					
CFI	.96					
NNFI	.95					
RMSEA	.06					

Notes: PT = Production technology, WTAR = WTAs' reputation, EF = Effort, SP = Service performance, ITOR = ITOs' reputation, and PS = Price sensitivity.

THE HONG KONG
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香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

中国出境旅游者消费调研
(旅游线路信息表)

以下信息由负责分发和回收问卷的领队在所带的旅游团的问卷收集全部结束后填写，请务必填写清楚并装于文件袋中。

1. 该旅游线路（团）为（可多选） [Z1]

☐ 市区观光 ☐ 海洋公园 ☐ 迪士尼乐园 ☐ 其他

2. 该旅游线路（团）是“香港游”几日游：_____。 [Z2]

3. 该旅游线路（团）的人数是：_____人。 [Z3]

4. 该旅游线路（团）的服务标准为 （只可选择其中一项） [Z4]

☐ 纯玩团 （纯玩团一般指没有购物要求，价格较高的旅游团）

☐ 品质团 （品质团介于纯玩团和购物团之间，购物相对自由）

☐ 购物团/半品质 （购物团指行程安排中有必进的购物点，价格低廉）

5. 该团是由香港哪一家旅行社负责地接的：_____（香港旅行社名称） [Z5]

6. 请附上本团的旅游线路行程单。

回收有效问卷数量：_____份
带团日期：_____
领队姓名：_____
联系电话：_____（手机，请用正楷书写清楚）
银行账号：_____
（银行名称及账号，用于支付报酬，请用正楷书写清楚）

---------- 调研全部结束，非常感谢您的合作！----------

相关咨询请联络

陈勇 先生
电话：(852) 3400 或 6704 电邮：chen.yong@
香港理工大学 酒店及旅游业管理学院

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學
SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

MAINLAND CHINESE OUTBOUND PACKAGE TOURIST SURVEY

(Particulars of Tour Package)

The following questions are completed by the tour escort who distributes and collects the tourist questionnaire after the trip. Please enclose this completed questionnaire in the envelope.

1. What attractions do this tour package incorporate (You can choose more than one attractions): [Z1]

   ☐ Sightseeing ☐ Ocean Park ☐ Disneyland ☐ Other

2. The length of stay for this tour package (day/night): [Z2]

3. The number of tourists participated in this tour package: [Z3]

4. The service standard of this tour package (Please indicate one standard only): [Z4]

   ☐ Luxury tour (*A package tour at the **Luxury** standard normally involves no arranged shopping* while priced high)

   ☐ Quality tour (*A package tour at the **Quality** standard normally lies between the luxury and the regular standards in terms of the arranged shopping*)

   ☐ Standard tour (*A package tour at the **Standard** standard normally involves compulsorily arranged shopping* while priced low)

5. The inbound tour operator which has served this tour package (Pleas indicate the name of Hong Kong's inbound tour operator): [Z5]

6. Please enclose the hard copy of the travel itinerary of this tour package.

The number of the completed tourist questionnaires:

Date of this tour package:

Name of the tour escort:

Telephone/mobile phone (Please write in **BLOCK** letters):

Bank account (Please write the name of the bank and the account number in **BLOCK** letters for reimbursement of the payment):

< END >

---------- Thank you for your cooperation. ----------

For enquiries, please contact

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中国出境旅游者消费调研
(旅游者问卷)

---------- 第一部分（旅游前的购买经历）--------

1. 旅游经历信息

以下问题是关于你以前的旅游经历和本次旅行的信息，请回答：

X11. 在过去的一年中你出境旅游（包含香港、澳门和台湾）的次数（不包含本次旅行）：_____ 次。

X12. 你来自哪里 _____（省/自治区/直辖市）。

X13. 你是在哪一家旅行社购买的这条旅游线路：_____市_____（旅行社所在城市以及旅行社名称）。

X14. 你参加这个旅游团所支付的团费大约为：_____元（人民币）。

2. 旅游者购买旅游线路的经历

以下描述是关于你对所购买的旅游线路的了解程度、对销售旅游线路的旅行社的评价以及对旅游线路价格的感受，请选择最能代表你看法的一个数字并打圈〇，1 代表“完全不知道或非常不同意”，7 代表“完全知道或非常同意”。

	对所购买的旅游线路的了解程度	完全不知道	不知道	基本不知道	中立	基本知道	知道	完全知道
Ai1	我知道行程单中交通在价格中占多少比例	1	2	3	4	5	6	7
Ai2	我知道行程单中住宿在价格中占多少比例	1	2	3	4	5	6	7
Ai3	我知道行程单中餐饮在价格中占多少比例	1	2	3	4	5	6	7
Ai4	我知道行程单中观光游览在价格中占多少比例	1	2	3	4	5	6	7
Ai5	我知道行程单中休闲娱乐在价格中占多少比例	1	2	3	4	5	6	7
Ai6	我知道行程单中指定购物在价格中占多少比例	1	2	3	4	5	6	7
	对销售旅游线路的旅行社的评价	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Ar1	这家旅行社提供了真实的旅游线路信息	1	2	3	4	5	6	7
Ar2	这家旅行社关于这条旅游线路的说明是可信的	1	2	3	4	5	6	7
Ar3	这家旅行社关于旅游服务的承诺是能够兑现的	1	2	3	4	5	6	7
Ar4	这家旅行社值得信赖	1	2	3	4	5	6	7
	与其他香港游线路相比	非常不同意	不同意	基本不同意	中立	基本同意	同意	非常同意
Aq1	在选择旅游线路时，我关注价格	1	2	3	4	5	6	7
Aq2	在选择旅游线路时，我更在意价格	1	2	3	4	5	6	7
Aq3	我购买这条旅游线路，因为它相对便宜些	1	2	3	4	5	6	7
Aq4	我购买这条旅游线路，因为它价格低	1	2	3	4	5	6	7
Aq5	如果这条旅游线路比我预计的贵，我就不会买了	1	2	3	4	5	6	7

---------- 第二部分 （在香港的消费经历）----------

3. 旅游者在香港的旅游消费经历

以下描述是关于你对香港旅行社的行为的了解程度和对香港旅行社的评价，请选择最能代表你看法的一个数字并打圈〇，1 代表“完全不知道或非常不同意”，7 代表“完全知道或非常同意”。

	对香港旅行社的行为的了解程度	完全不知道	不知道	基本不知道	中立	基本知道	知道	完全知道
Bi1	我知道香港旅行社在提供服务的过程中已经尽力了	1	2	3	4	5	6	7
Bi2	我知道香港旅行社在提供服务时候的行为是适当的	1	2	3	4	5	6	7
Bi3	我知道香港旅行社在提供服务时的行为是可接受的	1	2	3	4	5	6	7
Bi4	我知道香港旅行社的服务与行程单规定的是一致的	1	2	3	4	5	6	7
Bi5	我知道香港旅行社在提供服务时已经尽到责任了	1	2	3	4	5	6	7
	对香港旅行社的评价	**非常不同意**	**不同意**	**基本不同意**	**中立**	**基本同意**	**同意**	**非常同意**
Br1	这家香港旅行社经验丰富	1	2	3	4	5	6	7
Br2	这家香港旅行社服务专业	1	2	3	4	5	6	7
Br3	这家香港旅行社有竞争力	1	2	3	4	5	6	7
Br4	这家香港旅行社实力强大	1	2	3	4	5	6	7
Br5	这家香港旅行社提供服务时总是从旅游者利益出发	1	2	3	4	5	6	7

以下描述是你对旅游服务质量的评价，请选择最能代表你看法的一个数字并打圈〇，1 代表“质量非常差”，7 代表“质量非常好”。

	对旅游服务质量评价	质量非常差	质量差	质量比较差	中等	质量比较好	质量好	质量非常好
Bq1	这家香港旅行社提供的导游服务	1	2	3	4	5	6	7
Bq2	这家香港旅行社提供的交通服务	1	2	3	4	5	6	7
Bq3	这家香港旅行社提供的住宿服务	1	2	3	4	5	6	7
Bq4	这家香港旅行社提供的餐饮服务	1	2	3	4	5	6	7
Bq5	这家香港旅行社安排的观光游览	1	2	3	4	5	6	7
Bq6	这家香港旅行社安排的休闲娱乐	1	2	3	4	5	6	7
Bq7	这家香港旅行社安排的购物活动	1	2	3	4	5	6	7

4. 人口统计特征（请选择对你本人描述最准确的一项）

X21. 你的性别

☐ 男 ☐ 女

X22. 你的年龄

☐ 18–25 ☐ 26–35 ☐ 36–45
☐ 46–55 ☐ 56–65 ☐ 66 岁及以上

X23. 你的婚姻状况

☐ 单身 ☐ 已婚 ☐ 其他

X24. 你的受教育程度

☐ 小学及以下 ☐ 初中 ☐ 高中/职高/技校
☐ 大学 ☐ 研究生及以上

X25. 你的职业

☐ 公司管理者 ☐ 公司职员 ☐ 公务员
☐ 专业人员（例如，教师、医生、律师） ☐ 工人
☐ 家庭主妇 ☐ 学生 ☐ 退休人员
☐ 其他

X26. 你的月收入（人民币/元）

☐ 低于 1 000 ☐ 1 000–2 999 ☐ 3 000–4 999
☐ 5 000–6 999 ☐ 7 000–8 999 ☐ 9 000–10 999
☐ 11 000 及以上

5. 你在本次旅游中购物（未包含在团费内的购物消费）的花费大约为_____元（人民币）。

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MAINLAND CHINESE OUTBOUND PACKAGE TOURIST SURVEY
(Tourist Survey)

---------- SECTION I Purchase Experience Prior to this Trip ----------

1. Travel-related Information

The following questions are about your travel experience prior to this trip and information of this trip, please fill the blanks based on your personal experience.

X11. How often have you travelled abroad within the past 12 months (prior to this trip, including Hong Kong, Macau, and Taiwan as the overseas destinations): ☐

X12. Where are you from (Please indicate your residence of province/autonomous region/municipality): ☐

X13. Where did you buy this tour package (Please indicate the name of the travel agency and the name of the city where the travel agency is located): ☐ ☐

X14. How much did you pay for this tour package (Please indicate the price in *Renminbi*): ☐

2. Purchase Experience

The following statements describe your awareness of the tour package you bought, evaluation on the travel agency which sold this tour package, and perception of the price of the tour package. Please indicate your level of certainty or agreement with the corresponding statements by circling a number that denotes such a level.

	Knowledge of the tour package: **I was aware of …**	Strongly uncertain	Uncertain	Somewhat uncertain	Neutral	Somewhat certain	certain	Strongly certain
Ai1	How much transportation made up in the total price	1	2	3	4	5	6	7
Ai2	How much accommodation made up in the total price	1	2	3	4	5	6	7
Ai3	How much meals made up in the total price	1	2	3	4	5	6	7
Ai4	How much sightseeing made up in the total price	1	2	3	4	5	6	7
Ai5	How much recreation made up in the total price	1	2	3	4	5	6	7
Ai6	How much arranged shopping made up in the total price	1	2	3	4	5	6	7
	Evaluation on the travel agency which sold this tour package	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Ar1	Information of this tour package was credible	1	2	3	4	5	6	7
Ar2	Brief of this tour package was truthful	1	2	3	4	5	6	7
Ar3	Promises of services of the tour package could be fulfilled	1	2	3	4	5	6	7
Ar5	I trusted this travel agency	1	2	3	4	5	6	7
	Comparing with other tour packages to Hong Kong	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Aq1	I was concerned about price when buying tour packages	1	2	3	4	5	6	7
Aq2	I cared more about price when buying tour packages	1	2	3	4	5	6	7
Aq3	I bought this tour package because it was relatively cheap	1	2	3	4	5	6	7
Aq4	I bought this tour package because due to its low price	1	2	3	4	5	6	7
Aq5	I might not buy this tour package if it was priced higher than I expected	1	2	3	4	5	6	7

---------- SECTION II Consumption Experience in Hong Kong ----------

3. Consumption Experience

The following statements describe your awareness or evaluation of the Hong Kong inbound tour operator which served you during the trip in Hong Kong. Please indicate your level of certainty or agreement with the corresponding statements by circling a number that denotes such a level.

	Knowledge of the Hong Kong inbound tour operator	Strongly uncertain	Uncertain	Somewhat uncertain	Neutral	Somewhat certain	certain	Strongly certain
Bi1	It exerted reasonable effort in delivering services	1	2	3	4	5	6	7
Bi2	Its behavior in delivering services was appropriate	1	2	3	4	5	6	7
Bi3	Its behavior in delivering services was acceptable	1	2	3	4	5	6	7
Bi4	It delivered services as promised in the itinerary	1	2	3	4	5	6	7
Bi5	It took their responsibilities in delivering services	1	2	3	4	5	6	7
	Evaluation on the Hong Kong inbound tour operator	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Br1	It was experienced	1	2	3	4	5	6	7
Br2	It was professional	1	2	3	4	5	6	7
Br3	It was competitive	1	2	3	4	5	6	7
Br4	It was competent	1	2	3	4	5	6	7
Br5	It was in the interest of tourists	1	2	3	4	5	6	7

The following statements describe your evaluation of services provided by the Hong Kong inbound tour operator. Please indicate your level of agreement with the corresponding statements by circling a number that denotes such a level.

	Evaluation on service provided by the Hong Kong inbound tour operator	Extremely low	Low	Relatively low	Neutral	Relatively high	High	Extremely high
Bq1	Quality of tour guiding service	1	2	3	4	5	6	7
Bq2	Quality of transportation service	1	2	3	4	5	6	7
Bq3	Quality of accommodation service	1	2	3	4	5	6	7
Bq4	Quality of meals	1	2	3	4	5	6	7
Bq5	Quality of sightseeing service	1	2	3	4	5	6	7
Bq6	Quality of recreation service	1	2	3	4	5	6	7
Bq7	Quality of arranged shopping service	1	2	3	4	5	6	7

4. Social demographic information

Please indicate your social demographic information by circling an item in each category.

X21. Your gender

☐ Male ☐ Female

X22. Your age

☐ 18–25 ☐ 26–35 ☐ 36–45
☐ 46–55 ☐ 56–65 ☐ 66 or above

X23. Your marital status

☐ Single ☐ Married ☐ Other

X24. Your level of education

☐ Elementary school or below ☐ Junior high school ☐ Senior/ technical/ vocation school
☐ College/university ☐ Postgraduate

X25. Your occupation

☐ Manager/executive ☐ Staff/clerk ☐ Civil servant
☐ Professional (e.g., teacher, doctor, lawyer) ☐ Worker
☐ Housewife ☐ Student ☐ Retired
☐ Other

X26. Your MONTHLY income (in *Renminbi*)

☐ Below 1 000 ☐ 1 000–2 999 ☐ 3 000–4 999
☐ 5 000–6 999 ☐ 7 000–8 999 ☐ 9 000–10 999
☐ 11 000 or above

5. How much have you spent on shopping (in *Renminbi*, excluding arranged shopping):

The souvenir is for you to thank you. Please return the questionnaire and the pen to your escort.

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调 研 说 明

（领队保留 以供参考）

香港理工大学酒店及旅游业管理学院正在进行一项关于中国出境旅游者的消费调研。调研对象为参加“香港游”的中国组团旅游者。本调研由组团社的领队协助完成，主要职责是在旅游者的旅游行程全部结束之后分发和回收问卷。

为了更好地完成调研、提高问卷回收质量，以下事项供领队参考。

1. 本调研的受访者为参加两日或三日“香港游”的中国组团旅游者。
2. 符合条件且同意协助本次调研的领队在带团前到导游公司领取一个文件袋，内含 15 份问卷、1 份旅游线路信息表（由领队在调研结束后填写）、1 份调研说明（供领队参考）和 15 支笔（笔在旅游者完成调研后赠送给旅游者）。
3. 本调研要求领队在旅游者的旅游行程全部结束之后发放问卷并回收。
4. 当领队回收问卷时，可以快速检查一下旅游者是否遗漏某些问题，以便让旅游者补填以提高问卷回收质量。
5. 每个旅游团收集问卷数量大约为 15 份。
6. 问卷收集完成之后，请领队将以下资料装于信封内并交给楚经理:
    - 完成的问卷
    - 旅游线路信息表（由领队填写）
    - 本团的旅游行程单
    - 空白问卷
7. 报酬按照每份有效问卷 13 元人民币计算，在交还问卷时，根据完成的问卷数量，领取报酬（由楚经理代为发放）。

相关咨询请洽

陈勇 先生
电话： (852) 6704　　电邮： chen.yong@
香港理工大学 酒店及旅游业管理学院

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酒店及旅遊業管理學院

SURVEY GUIDANCE

(For tour escorts' reference)

The Hong Kong Polytechnic University's School of Hotel and Tourism Management is currently conducting a survey on Mainland Chinese outbound package tourists' purchase and consumption experience. This survey targets Mainland Chinese who take package tours organized by travel agencies in Mainland China to Hong Kong. This survey is assisted by tour escorts who are responsible for distributing and collecting the tourist questionnaires after the trip.

For facilitating data collection and increasing response rate, the guidelines below are for your reference:

1. Prospective respondents should be Mainland Chinese citizens who participate in a TWO-DAY/NIGHT or THREE-DAY/NIGHT package tour organized by travel agencies in Mainland China to Hong Kong.
2. Tour escorts who meet the requirements and agree in assisting this survey will be allocated with a set of documents enclosed in an envelope, including FIFTEEN tourist questionnaires, ONE tour escort questionnaire (completed by the tour escort after the trip), ONE survey guidance (for tour escorts' reference), and FIFTEEN pens (as souvenirs presented to tourists after the tourist questionnaire is completed).
3. This survey requires that tour escorts distribute and collect the tourist questionnaires after the entire trip is finished.
4. When collecting the tourist questionnaires, please check thoroughly each questionnaire to ensure that the tourist has completed the whole questionnaire, and if not, ask for further completion.
5. The number of the tourists questionnaires collected should be around FIFTEEN.
6. After collecting all the tourist questionnaires for each tour package, please enclose the following documents and deliver the envelope to Miss Chu Yuanyuan:
    - The completed tourist questionnaires
    - The completed tour escort questionnaire
    - A hardcopy of the travel itinerary for this tour package
    - Uncompleted tourist questionnaires
7. The payment is reimbursed on a completed tourist questionnaire basis with one completed tourist questionnaire paid with THIRTEEN yuan (in Renminbi). When delivering the envelope, the tour escort is paid by Miss Chu Yuanyuan based on the number of tourist questionnaires s/he collected.

For enquiries, please contact

Mr. **Yong Chen**
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Tel.: + 852 6704
E-mail: chen.yong@

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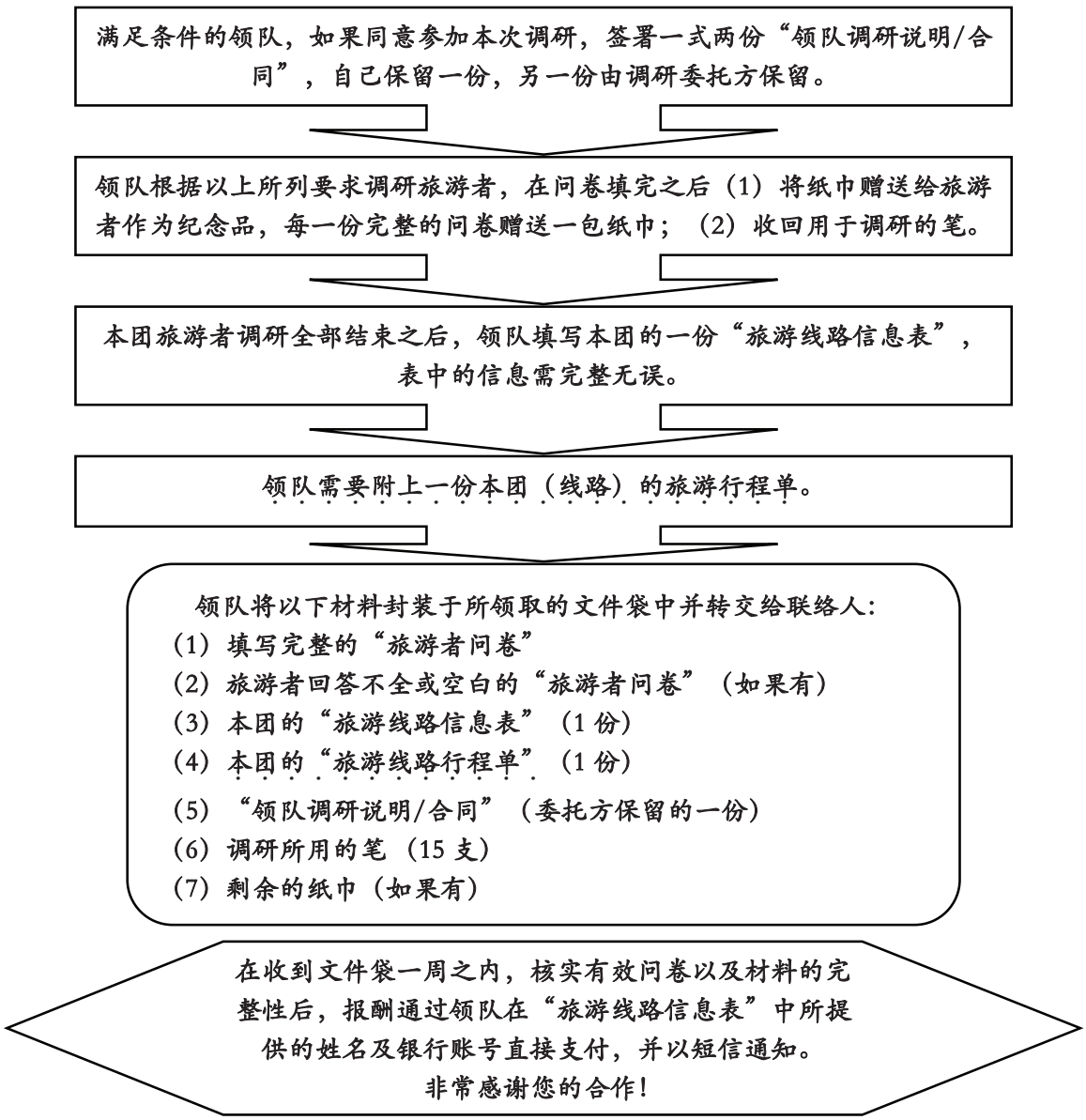
中国出境旅游者消费调研
（领队调研说明/合同）

香港理工大学酒店及旅游业管理学院正在进行一项关于中国出境旅游者的消费调研，调研对象为参加“香港游”的中国组团旅游者。本调研由随团的“香港游”的领队负责实施，调研问卷由领队分发给旅游者并回收，调研要求和报酬如下:

1. 本调研仅限于“香港游”，“港澳游”不在此列。“香港游”的旅游线路有
   - 市区观光
   - 海洋公园
   - 迪士尼乐园
   - 海洋公园+迪士尼乐园
   - 市区观光+海洋公园
   - 市区观光+迪士尼乐园
   - 市区观光+海洋公园+迪士尼乐园
2. 调研问卷按以上所含的旅游线路（团）为单位发放，每个旅游团（无论该旅游团人数有多少，但是应该大于 10 人）发放和收集的问卷数量为 10－15 份，上限不可以超过 15 份。
3. 不可以将一个大旅游团人为拆分为若干小团进行问卷收集。
4. 问卷发放对象为成年旅游者（年满 18 岁），不要将问卷发放给儿童；同时避免将问卷全部发放给男性或者女性旅游者，需要保证大致均衡的性别比例。
5. 领队需在旅游者的香港的游程全部结束之后发放问卷并回收；当领队回收问卷时，可以快速检查一下旅游者是否遗漏某些问题，以便让旅游者补填以提高问卷回收质量。
6. 大面积未填写完整的问卷或非由该旅游者亲自填写的问卷视为无效问卷。
7. 每一个旅游团调研所需的材料装于一个文件袋中，包含:
   - 一式两份“领队调研说明/合同”（领队在合同背面签字并保留一份，另一份装入文件袋中由调研委托方保留）
   - 15 份“旅游者问卷”（调研结束后收回，装入文件袋中）
   - 15 支笔（用于填写问卷，调研结束后收回，装入文件袋中）
   - 15 包纸巾（调研结束后赠送给旅游者，每份填完的问卷送一包，剩余的装入文件袋中）
   - 1 份“旅游线路信息表”（领队完成后装入文件袋中）
8. 同意参与本次调研并符合条件的领队可以领取上述的文件袋，一个文件袋代表一个旅游团。例如，某领队目前有三个团符合要求，那么可以领取三个文件袋，依次类推。
9. 调研时间为 2010 年 12 月 29 日至 2011 年　　月　　日。
10. 报酬按照旅游团（线路）的数量的进行发放，每个团需要收集 10－15 份有效问卷，每团报酬预计为 120 元人民币。
11. 报酬通过“旅游线路信息表”上领队所提供的姓名、联系方式和银行账号进行转账，转账后会通过短信告知领队。

12. 操作程序



13. 调研过程中如出现问题或有疑问，领队可通过以下途径联系：

陈勇：电话：(852) 6704　　电邮：chen.yong@　　或

李舟：电话：(0755) 2690　　电邮：lizhou@

14. 本说明/合同一式两份，自调研方（领队）签署之日起生效，至 2011 年　　月　　日终止。

调研方：

_____（领队姓名）

_____（所属公司或旅行社）

_____年_____月_____日

委托方：

陈勇

香港理工大学酒店及旅游业管理学院

_____年_____月_____日

THE HONG KONG
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SCHOOL OF HOTEL AND TOURISM MANAGEMENT
酒店及旅遊業管理學院

MAINLAND CHINESE OUTBOUND PACKAGE TOURIST SURVEY
(Survey Guidance/Contract)

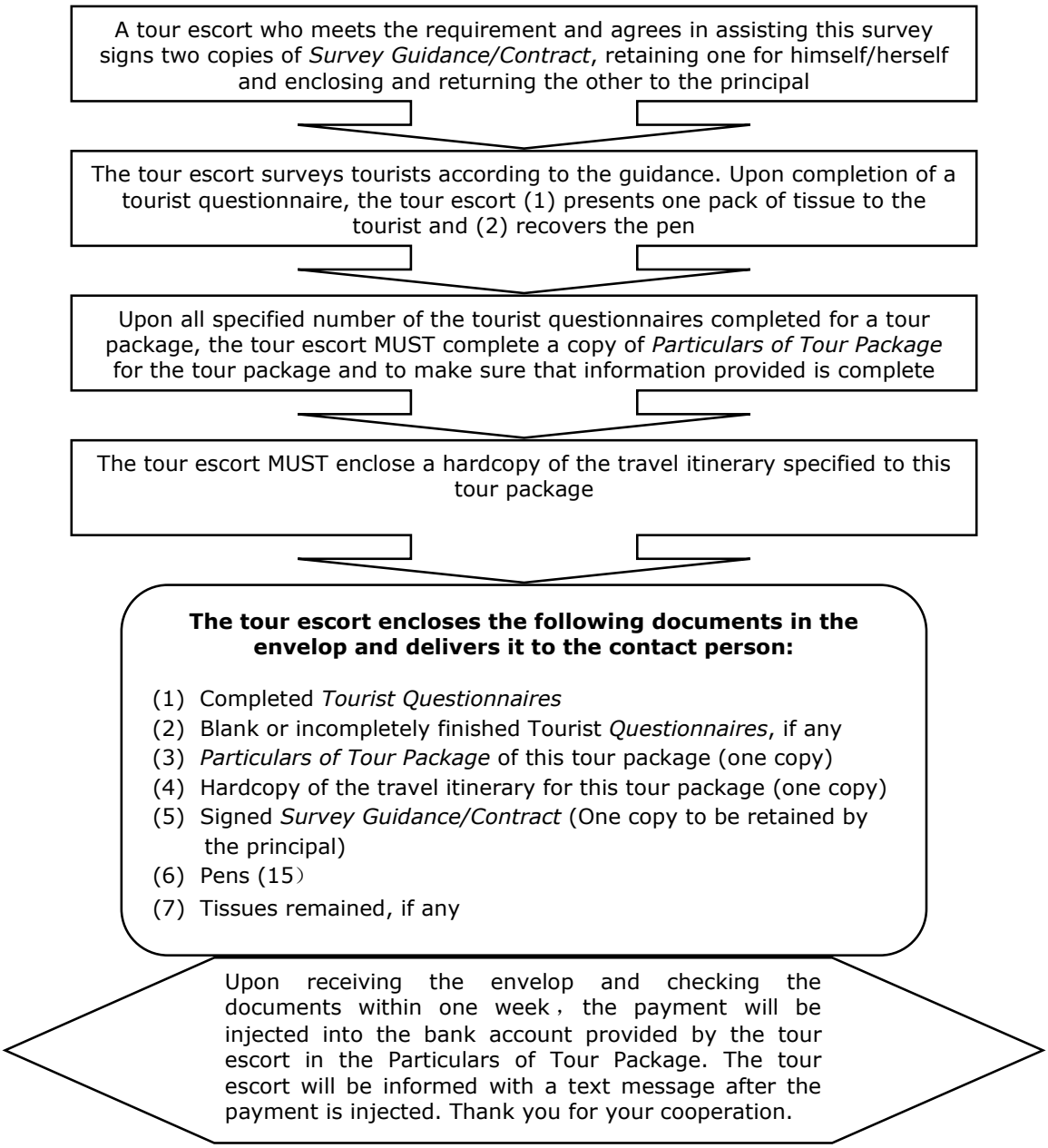
The Hong Kong Polytechnic University's School of Hotel and Tourism Management is currently conducting a survey on Mainland Chinese outbound package tourists' purchase and consumption experience. This survey targets Mainland Chinese who take package tours organized by travel agencies in Mainland China to Hong Kong. This survey is assisted by tour escorts who are responsible for distributing and collecting the tourist questionnaires after the trip. Particulars of the requirement and the payment are as follows:

1. This survey targets package tours to Hong Kong only and excludes those package tours to both Hong Kong and Macau. Attractions incorporated in the Hong Kong package tours include:

   - Sightseeing
   - Ocean Park
   - Disneyland
   - Ocean Park plus Disneyland
   - Sightseeing plus Ocean Park
   - Sightseeing plus Disneyland
   - Sightseeing plus Ocean Park plus Disneyland

2. The tourist questionnaires MUST be distributed to tourists who take any of the tour packages listed above. The number of the tourist questionnaires collected within each group of tour packages (regardless of the number of tourists in the group, but should be larger than 10) should be between 10 and 15, and should NOT exceed 15.
3. No separating a large group of tour packages into several small groups for collecting the tourist questionnaires.
4. The tourist questionnaires should be distributed to tourists aged 18 or above, and should NOT be distributed to children, for example. To insure a roughly equivalent gender ration in the tourists, please do NOT distribute the tourist questionnaires exclusively to males or females.
5. The tourist questionnaires MUST be distributed and collected after the entire trip is finished in Hong Kong. When collecting the tourist questionnaires, please check thoroughly each questionnaire to ensure that the tourist has completed the whole questionnaire, and if not, ask for further completion.
6. A collected tourist questionnaire is deemed as invalid if either a large chunk of questions remain unanswered or the questionnaire is speculated to be completed by someone other than the tourist in the tour package.
7. The documents used for the survey for each group of tour packages are enclosed in an envelope, incorporating:
   - TWO copies of this *Survey Guidance/Contract* (the tour escort should sign the two copies of Survey Guidance/Contract for his/her agreement on the articles stipulated, retaining one copy for himself/herself and returning the other to the principal)
   - FIFTEEN copies of the *Tourist Questionnaires* (enclosed after the survey)
   - FIFTEEN pens (distributed each to the tourist for completing the tourist questionnaire and recover and enclose the pens after the survey)
   - FFITEEN tiny packs of tissue (present each to the tourist after the tourist questionnaire is finished and enclose the remaining, if any)
   - ONE copy of *Particulars of Tour Package* (enclosed after being completed by the tour escort)
8. Tour escorts who meet the requirements and agree in assisting this survey will be allocated with a set of the documents enclosed in an envelope stated above. One envelope can be ONLY used for one group of tour packages. For example, if a tour escort has three groups of tour packages that meet the requirements, s/he can be allocated with three envelopes, and so forth.
9. The tourist questionnaires should be collected from 29 December 2010 to _____
10. The payment is reimbursed on a TOUR PACKAGE basis. The payment is expected to be 120 yuan (in Renminbi) for one group of tour packages only if the number of the tourist questionnaires collected and checked useful is between 10 and 15.
11. The payment will be injected into the bank account provided by the tour escort in the questionnaire of Particulars of Tour Package. The tour escort will be informed with a text message after the payment is injected.

12. Procedure



13. For any enquires and guidance needed in the implementing the survey, the tour escort can contact:

Mr. **Yong Chen**
Tel.: + 852 6704
E-mail: chen.yong@

Miss **Zhou Li**
Tel.: + 755 2690
Email: lizhou@

14. This *Survey Guidance/Contract* is in duplicate. It is in effect upon the date the tour escort signs and expires on _____ 2011.

Survey service provider:

_____
(Name of the tour escort)
(Travel agency affiliated)

_____
(Date: dd/mm/yyyy)

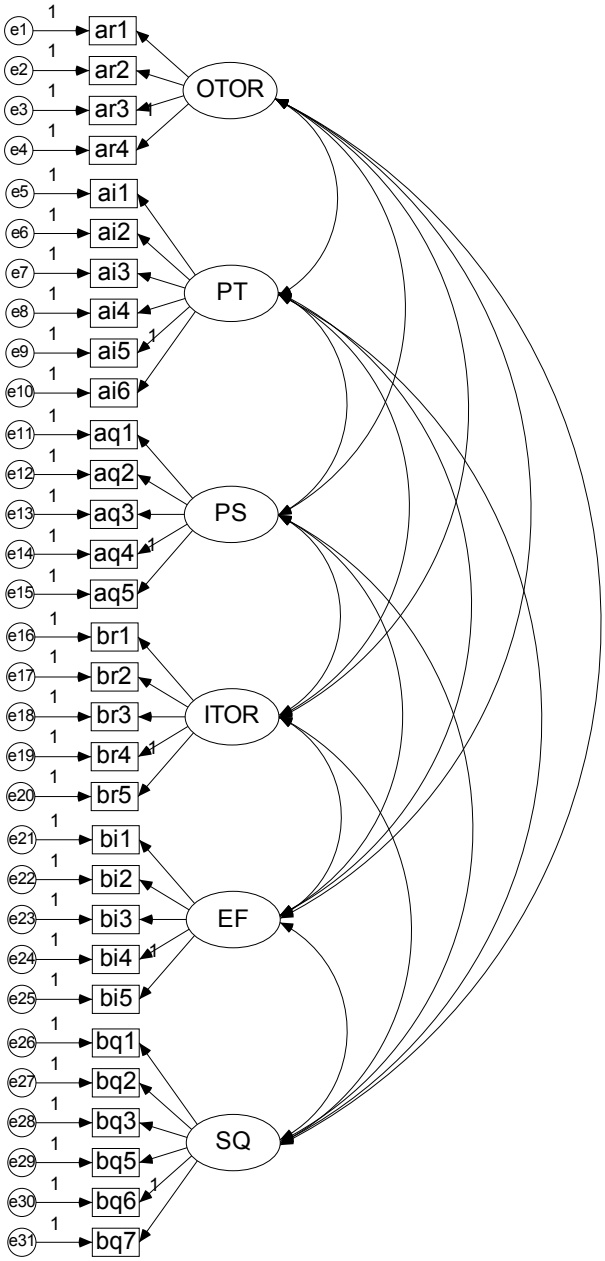
Principal:

Yong Chen
School of Hotel and Tourism Management
The Hong Kong Polytechnic University

_____
(Date: dd/mm/yyyy)

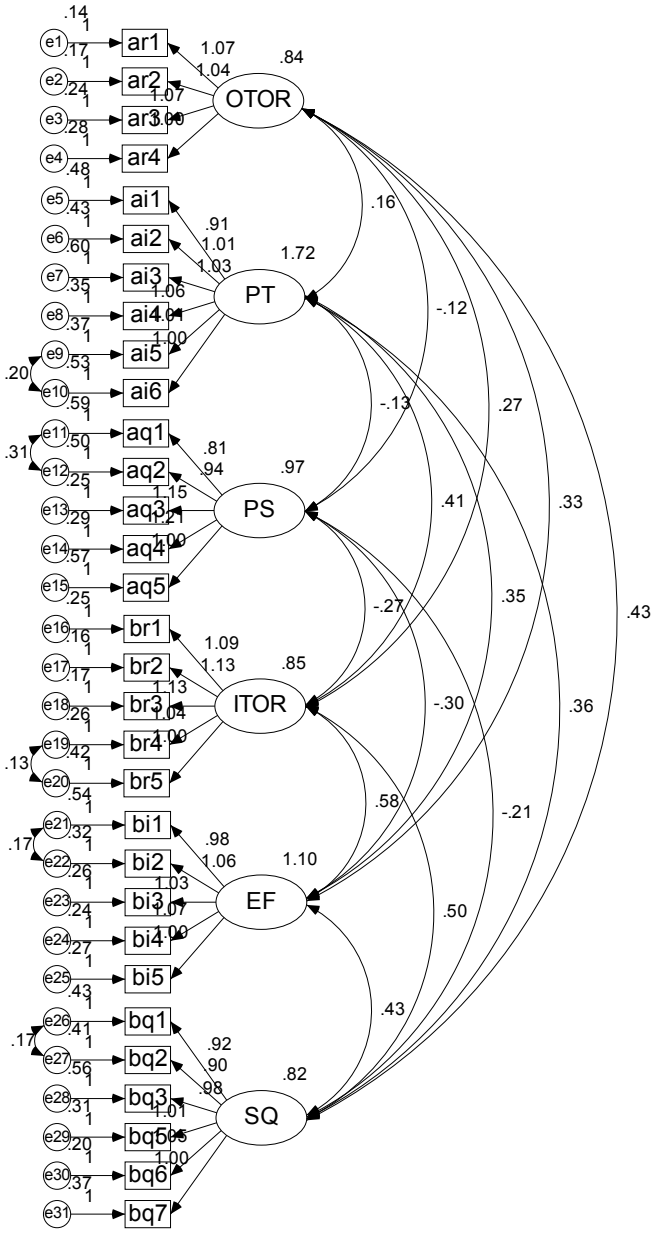
APPENDIX G

The Hypothesized Measument Model



APPENDIX H

The Estimated Measument Model

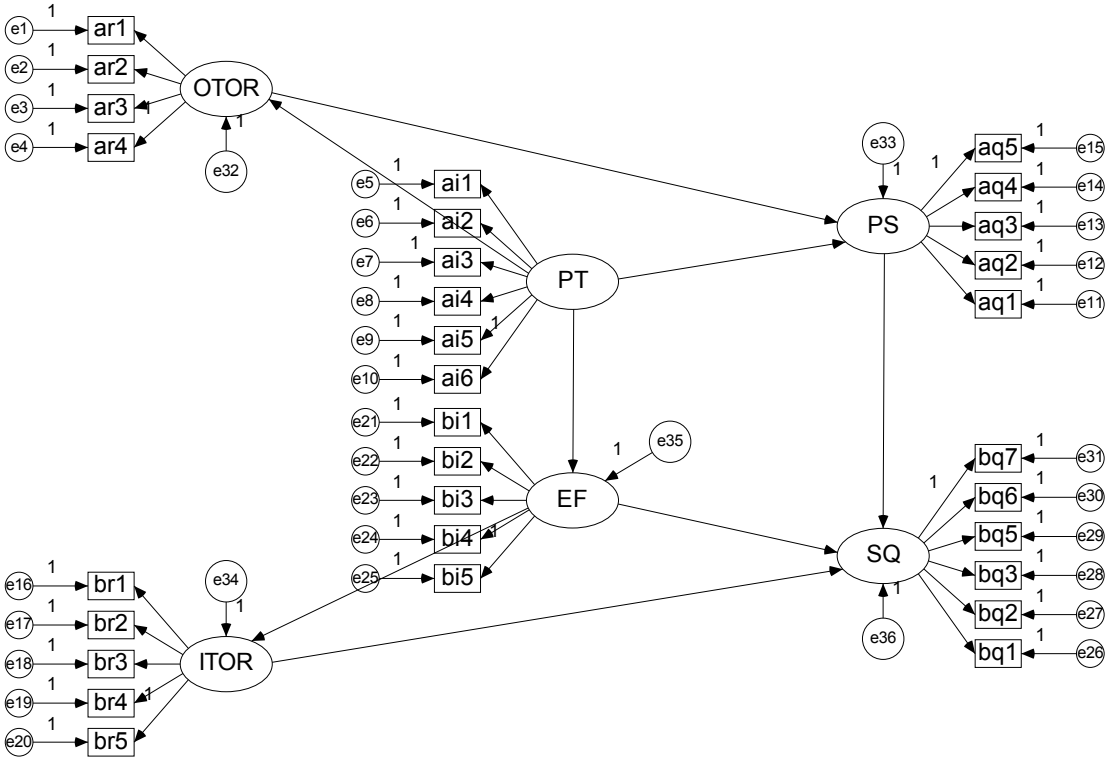


Goodness-of-fit:

χ^2 (414) = 1161.453, p < .001; GFI = .829, CFI = .940, TLI = .933, and RMSEA = .069

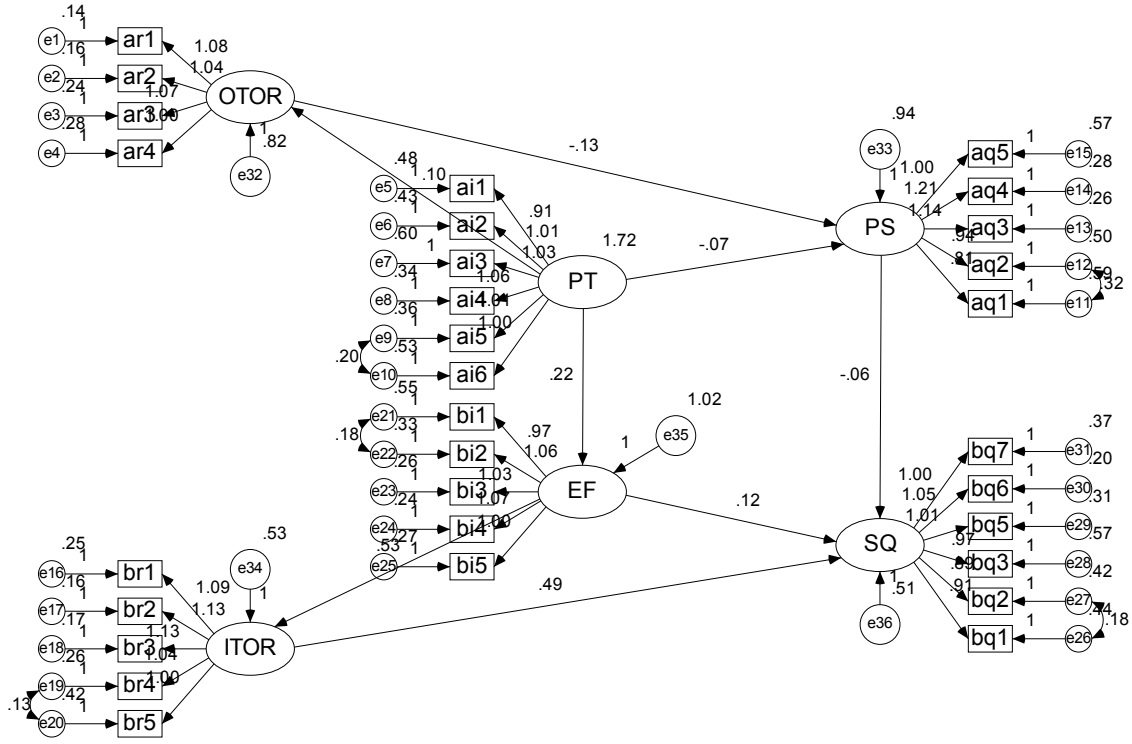
APPENDIX I

The Hypothesized Structural Model



APPENDIX J

The Estiamted Structural Model



Goodness-of-fit:

χ^2 (421) = 1321.164, p < .001; GFI = .814, CFI = .928, TLI = .921, and RMSEA = .075

REFERENCES

Abbring, J. H., Heckman, J. J., Chiappori, P.-A., & Pinquet, J. (2003). Adverse selection and moral hazard in insurance: Can dynamic data help to distinguish? *Journal of the European Economic Association*, *1*(2–3), 512–521.

Adams, W. J., & Yellen, J. L. (1976). Commodity bundling and the burden of monopoly. *Quarterly Journal of Economics*, *90*(3), 475–498.

Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, *84*(3), 488–500.

Alchian, A. A., & Demsetz, H. (1972). Production, information costs, and economic organization. *American Economic Review*, *62*(5), 777–795.

Allen, F. (1984). Reputation and product quality. *RAND Journal of Economics*, *15*(3), 311–327.

Alwin, D. F. (1973). The use of factor analysis in the construction of linear composites in social research. *Sociological Methods & Research*, *2*(2), 191–212.

Arlt, W. G. (2006). *China's outbound tourism*. Abingdon, England: Routledge.

Arnott, R. J., & Stiglitz, J. E. (1988). The basic analytics of moral hazard. *Scandinavian Journal of Economics*, *90*(3), 383–413.

Arrow, K. J. (1963). Uncertainty and the welfare economics of medical care. *American Economic Review*, *53*(5), 941–973.

Atherton, T. (1994). Package holidays: Legal aspects. *Tourism Management*, *15*(3), 193–199.

Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions.

Annals of Tourism Research, *27*(3), 785–804.

Baker, G. P. (1992). Incentive contracts and performance measurement. *Journal of Political Economy*, *100*(3), 598–614.

Banerjee, A. V., & Duflo, E. (2000). Reputation effects and the limits of contracting: A study of the Indian software industry. *Quarterly Journal of Economics*, *115*(3), 989–1017.

Bao, Y. F., & McKercher, B. (2008). The effect of distance on tourism in Hong Kong: A comparison of short haul and long haul visitors. *Asia Pacific Journal of Tourism Research*, *13*(2), 101–111.

Basu, A. K., Lal, R., Srinivasan, V., & Staelin, R. (1985). Salesforce compensation plans: An agency theoretic perspective. *Marketing Science*, *4*(4), 267–291.

Berens, G., & van Riel, C. B. M. (2004). Corporate associations in the academic literature: Three main streams of thought in the reputation measurement literature. *Corporate Reputation Review*, *7*(2), 161–178.

Bergen, M., Dutta, S., & Walker, O. C. J. (1992). Agency relationships in marketing: A review of the implications and applications of agency and related theories. *Journal of Marketing*, *56*(3), 1–24.

Brown, S. P., & Robert, A. P. (1994). The effect of effort on sales performance and job satisfaction. *Journal of Marketing*, *58*(2), 70–80.

Byrne, B. M. (1994). Burnout: Testing for the validity, replication, and invariance of causal structure across elementary, intermediate, and secondary teachers. *American Educational Research Journal*, *31*(3), 645–673

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts,*

applications, and programming (2nd ed.). New York, NY: Routledge.

Cardon, J. H., & Hendel, I. (2001). Asymmetric information in health insurance: Evidence from the national medical expenditure survey. *RAND Journal of Economics*, *32*(3), 408–427.

Caserta, S., & Russo. (2002). More means worse: Asymmetric information, spatial displacement and sustainable heritage tourism. *Journal of Cultural Economics*, *26*(4), 245–260.

Cawley, J., & Philipson, T. (1999). An empirical examination of information barriers to trade in insurance. *American Economic Review*, *89*(4), 827–846.

Chen, C., & Schwartz, Z. (2006). The importance of information asymmetry in customers' booking decisions. *Cornell Hotel and Restaurant Administration Quarterly*, *47*(3), 272–285.

Chen, S. C., & Dhillon, G. S. (2003). Interpreting dimensions of consumer trust in E-commerce. *Information Technology and Management*, *4*(2&3), 303–318.

Chen, Y., Mak, B., & Guo, Y. (2011). "Zero-fare" group tours in China: An analytic framework. *Journal of China Tourism Research*, *7*(4), 425–444.

Chiappori, P.-A., & Salanié, B. (1997). Empirical contract theory: The case of insurance data. *European Economic Review*, *41*(3–5), 943–950.

Chiappori, P.-A., & Salanié, B. (2000). Testing for asymmetric information in insurance markets. *Journal of Political Economy*, *108*(1), 56–78.

Chiappori, P.-A., Durand, F., & Geoffard, P. (1998). Moral hazard and the demand for physician services: First lessons from a French natural experiment. *European Economic Review*, *42*(3–5), 499–511.

Chiappori, P.-A., Jullien, B., Salanié, B., & Salanié, F. (2006). Asymmetric information in insurance: General testable implications. *RAND Journal of Economics*, *37*(4), 783–798.

Chou, S. (2002). Asymmetric information, ownership and quality of care: An empirical analysis of nursing homes. *Journal of Health Economics*, *21*(2), 293–311.

Christen, M., Iyer, G., & Soberman, D. (2006). Job satisfaction, job performance, and effort: A reexamination using agency theory. *Journal of Marketing*, *70*(1), 137–150.

Clerides, S., Nearchou, P., & Pashardes, P. (2008). Intermediaries as quality assessors: Tour operators in the travel industry. *International Journal of Industrial Organization*, *26*(1), 372–392.

CNTA (2009). 2008年中国旅游业统计公报. [China tourism statistics highlights 2008]. Retrieved from http://www.cnta.gov.cn/html/2009-9/2009-9-28-9-30-78465_3.html

CNTA (2010). 2009年中国旅游业统计公报. [China tourism statistics highlights 2009]. Retrieved from http://www.cnta.gov.cn/html/2010-10/2010-10-20-10-43-69972.html

CNTA (2011). 2010年中国旅游业统计公报. [China tourism statistics highlights 2010]. Retrieved from http://www.cnta.gov.cn/html/2011-11/2011-11-1-9-50-68041.html

Cohen, A. (2005). Asymmetric information and learning: Evidence from the automobile insurance market. *Review of Economics and Statistics*, *87*(2), 197–207

Cohen, A., & Siegelman, P. (2010). Testing for adverse selection in insurance markets. *Journal of Risk and Insurance*, *77*(1), 39–84.

Cooper, R., & Hayes, B. (1987). Multi-period insurance contracts. *International Journal of Industrial Organization*, *5*(2), 211–231.

Cordell, V. V. (1997). Consumer knowledge measures as predictors in product evaluation. *Psychology and Marketing*, *14*(3), 241–260.

Crase, L., & Jackson, J. (2000). Assessing the effects of information asymmetry in tourism destinations. *Tourism Economics*, *6*(4), 321–334.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, *52*(4), 281–302.

Cummins, J. D., & Tennyson, S. (1996). Moral hazard in insurance claiming: Evidence from automobile insurance. *Journal of Risk and Uncertainty*, *12*(1), 29–50.

Curtin, S., & Busby, G. (1999). Sustainable destination development: The tour operator perspective. *International Journal of Tourism Research*, *1*(2), 135–147.

Cutler, D. M., Finkelstein, A., & McGarry, K. (2008). Preference heterogeneity and insurance markets: Explaining a puzzle of insurance. *American Economic Review*, *98*(2), 157–162.

D'Arcy, S. P., & Doherty, N. A. (1990). Adverse selection, private information, and lowballing in insurance markets. *Journal of Business*, *63*(2), 145–164.

Darby, M. R., & Karni, E. (1973). Free competition and the optimal amount of fraud. *Journal of Law and Economics*, *16*(1), 67–88.

Dearden, J. A., & Lilien, G. L. (1990). On optimal salesforce compensation in the presence of production learning effects. *International Journal of Research in* Marketing, 7(2&3), 179–188.

Dellarocas, C. (2006). Reputation mechanisms. *Handbook on Economics and*

Information Systems. Retrieved from http://www.ww.uni-magdeburg.de/e-business/03_education/01_lectures/Information_Reputation_and_Interactive_Marketing_SS_2011/documents/DellarocasHandbook.pdf

Dewan, S., & Hsu, V. (2004). Adverse selection in electronic markets: Evidence from online stamp auctions. *Journal of Industrial Economics*, *52*(4), 497–516.

Diamond, D. W. (1989). Reputation acquisition in debt markets. *Journal of Political Economy*, *97*(4), 828–862.

Dionne, G., & Doherty, N. A. (1994). Adverse selection, commitment, and renegotiation: Extension to and evidence from insurance markets. *Journal of Political Economy*, *102*(2), 209–235.

Dixit, A. (2003). Trade expansion and contract enforcement. *Journal of Political Economy*, *111*(6), 1293–1317.

Dobie, T., McFarland, K., & Long, N. (1986). Raw score and factor score multiple regression: An evaluative comparison. *Educational and Psychological Measurement*, *46*(2), 337–347.

Doherty, N., & Smetters, K. (2005). Moral hazard in reinsurance markets. *Journal of Risk and Insurance*, *72*(3), 375–391.

Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, *61*(2), 35–51.

Dranove, D., Kessler, D., McClellan, M., & Satterthwaite, M. (2003). Is more information better? The effects of "report cards" on health care providers. *Journal of Political Economy*, *111*(3), 555–588.

Dwyer, L., King, B., & Prideaux, B. (2007). The effects of restrictive business practices

on Australian inbound package tourism. *Asia Pacific Journal of Tourism Research*, *12*(1), 47–64.

Ecchia, G., & Lambertini, L. (1997). Minimum quality standards and collusion. *Journal of Industrial Economics*, *45*(1), 101–113.

Edelman, B. (2009). Adverse selection in online "trust" certifications. In P. Y. K. Chau, K. Lyytinen, & C. P. Wei (Eds.), *Proceedings of the 11th international conference on electronic commerce (ICEC 2009)* (pp. 205-212). New York, NY: ACM.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*(1), 57–74.

Eisenhauer, J. G. (2004). Risk aversion and the willingness to pay for insurance: A cautionary discussion of adverse selection. *Risk Management and Insurance Review*, *7*(2), 165–175.

Elton, M. A. (1984). UK tour operators and retail travel agents: ABTA and the public interest. *Tourism Management*, *5*(3), 223–228.

Ely, J. C., & Välimäki, J. (2003). Bad reputation. *Quarterly Journal of Economics*, *118*(3), 785–814.

Erdem, T., Swait, J., & Louviere, J. (2002). The impact of brand credibility on consumer price sensitivity. *International Journal of Research in Marketing*, *19*(1), 1–19.

Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, *88(*2), 288–307.

Fang, H., Keane, M. P., & Silverman, D. (2008). Sources of advantageous selection: Evidence from the Medigap insurance market. *Journal of Political Economy*,

116(2), 303–350.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London, England: SAGE Publications.

Finkelstein, A., & McGarry, K. (2006). Multiple dimensions of private information: Evidence from the long-term care insurance market. *American Economic Review*, *96*(4), 938–958.

Finkelstein, A., & Poterba, J. (2002). Selection effects in the United Kingdom individual annuities market. *Economic Journal*, *112*(476), 28–50.

Finkelstein, A., & Poterba, J. (2004). Adverse selection in insurance markets: Policyholder evidence from the U.K. annuity market. *Journal of Political Economy*, *112*(1), 183–208.

Fombrun, C. J. (1996). *Reputation: Realizing value from the corporate image*. Boston, MA: Harvard Business School Press.

Fombrun, C. J. (1998). Indices of corporate reputation: An analysis of media rankings and social monitors' ratings. *Corporate Reputation Review*, *1*(4), 327–340.

Fombrun, C. J., Gardberg, N. A., & Sever, J. M. (2000). The reputation quotient: A multi-stakeholder measure of corporate reputation. *Journal of Brand Management*, *7*(4), 541–255.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

Foster, A. D., & Rosenzweig, M. R. (1994). A test for moral hazard in the labor market: Contractual arrangements, effort, and health. *Review of Economics and Statistics*,

76(2), 213–227.

Frank, R. G., Glazer, J., & McGuire, T. G. (2000). Measuring adverse selection in managed health care. *Journal of Health Economics*, *19*(6), 829–854.

Fudenberg, D., & Levine, D. K. (1992). Maintaining a reputation when strategies are imperfectly observed. *Review of Economic Studies*, *59*(3), 561–579.

Ganesan, S., & Hess, R. (1997). Dimensions and levels of trust: Implications for commitment to a relationship. *Marketing Letters*, *8*(4), 439–448.

Garella, P., & Petrakis, E. (2008). Minimum quality standards and consumers' information. *Economic Theory*, *36*(2), 283–302.

Gehrig, T., & Jost, P. (1995). Quacks, lemons, and self regulation: A welfare analysis. *Journal of Regulatory Economics*, *7*(3), 309–325.

Gentzkow, M., & Shapiro, J. M. (2006). Media bias and reputation. *Journal of Political Economy*, *114*(2), 280–316.

Geva, A., & Goldman, A. (1991). Satisfaction measurement in guided tours. *Annals of Tourism Research*, *18*(2), 177–185.

Glazer, A., & Hassin, R. (1983). The economics of cheating in the taxi market. *Transportation Research Part A: General*, *17*(1), 25–31.

Goldsmith, R. E., & Newell, S. J. (1997). Innovativeness and price sensitivity: Managerial, theoretical and methodological issues. *Journal of Product & Brand Management*, *6*(3), 163–174.

Grabowski, D. C., & Gruber, J. (2007). Moral hazard in nursing home use. *Journal of Health Economics*, *26*(3), 560–577.

Grant, D. (1996). The package travel regulations 1992: Damp squib or triumph of self-

regulation? *Tourism Management*, *17*(5), 319–321.

Greif, A. (1993). Contract enforceability and economic institutions in early trade: The Maghribi traders' coalition. *American Economic Review*, *83*(3), 525–548.

Grice, J. W., & Harris, R. J. (1998). A comparison of regression and loading weights for the computation of factor scores. *Multivariate Behavioral Research*, *33*(2), 221–247.

Grossman, R. S. (1992). Deposit insurance, regulation, and moral hazard in the thrift industry: Evidence from the 1930's. *American Economic Review*, *82*(4), 800–821.

Guitart, C. (1982). UK charter flight package holidays to the Mediterranean (1970–1978): A statistical analysis. *Tourism Management*, *3*(1), 16–39.

Guo, L., & Meng, X. (2008). Consumer knowledge and its consequences: An international comparison. *International Journal of Consumer Studies*, *32*(3), 260–268.

Harris, M., & Raviv, A. (1978). Some results on incentive contracts with applications to education and employment, health insurance, and law enforcement. *American Economic Review*, *68*(1), 20–30.

Hayek, F. A. (1945). The use of knowledge in society. *American Economic Review*, *35*(4), 519–530.

Heal, G. (1976). Do bad products drive out good? *Quarterly Journal of Economics*, *90*(3), 499–502.

Hemenway, D. (1990). Propitious selection. *Quarterly Journal of Economics*, *105*(4), 1063–1069.

Hjorth-Andersen, C. (1991). Quality indicators: In theory and in fact. *European*

Economic Review, *35*(8), 1491–1505.

HKTB (2011). A statistical review of Hong Kong tourism 2010. Retrieved from http://partnernet.hktourismboard.com/pnweb/jsp/doc/listDoc.jsp?doc_id=138859&cat_id=3632&logs=yes&type=FREE

Holmström, B. (1979). Moral hazard and observability. *Bell Journal of Economics*, *10*(1), 74–91.

Holmström, B. (1999). Managerial incentive problems: A dynamic perspective. *Review of Economic Studies*, *66*(1), 169–182.

Hörner, J. (2002). Reputation and competition. *American Economic Review*, *92*(3), 644–663.

Houser, D., & Wooders, J. (2006). Reputation in Auctions: Theory, and evidence from eBay. *Journal of Economics & Management Strategy*, *15*(2), 353–369.

Hubbard, T. N. (1998). An empirical examination of moral hazard in the vehicle inspection market. *RAND Journal of Economics*, *29*(2), 406–426.

Hubbard, T. N. (2002). How do consumers motivate experts? Reputational incentives in an auto repair market. *Journal of Law and Economics*, *45*(2), 437–468.

Huberman, B. A., & Wu, F. (2004). The dynamics of reputations. *Journal of Statistical Mechanics: Theory and Experiment*. doi:10.1088/1742-5468/2004/04/P04006

Jacob, B. A., & Levitt, S. D. (2003). Rotten apples: An investigation of the prevalence and predictors of teacher cheating. *Quarterly Journal of Economics*, *118*(3), 843–877.

Jia, Y. Q. (2004). 零团费现象剖析及治理措施. [An analysis of "zero-fare" group tours and the management policies]. *Social Scientist*, *6*, 111–114.

Jia, Y. Q. (2005). 零团费现象及其治理研究. [*The problem of "zero-fare" group tours and the policies*]. Unpublished master's thesis, Shandong Normal University, Jinan, China.

Jia, Y. Q. (2006). 零团费演化机制分析. [The evolution mechanism of "zero-fare" group tours]. *Tourism Science*, *20*(1), 56–62.

Jin, G. Z., & Leslie, P. (2003). The effect of information on product quality: Evidence from restaurant hygiene grade cards. *Quarterly Journal of Economics*, *118*(2), 409–451.

Johnson, J. P., & Waldman, M. (2003). Leasing, lemons, and buybacks. *RAND Journal of Economics*, *34*(2), 247–265.

Jøsang, A., Ismail, R., & Boyd, C. (2007). A survey of trust and reputation systems for online service provision. *Decision Support Systems*, *43*(2), 618–644.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, *20*, 141–151.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, *39*, 31–36.

Kaptein, M. (2008). Developing a measure of unethical behavior in the workplace: A stakeholder perspective. *Journal of Management*, *34*(5), 978–1008.

Karlan, D. S., & Zinman, J. (2009). Observing unobservables: Identifying information asymmetries with a consumer credit field experiment. *Econometrica*, *77*(6), 1993–2008.

Keane, M. J. (1996). Sustaining quality in tourism destinations: An economic model with an application. *Applied Economics*, *28*(12), 1545–1553.

Keane, M. J. (1997). Quality and pricing in tourism destinations. *Annals of Tourism*

Research, *24*(1), 117–130.

Keating, B. (2009). Managing ethics in the tourism supply chain: The case of Chinese travel to Australia. *International Journal of Tourism Research*, *11*(4), *403–408*.

Kim, B. S., & Sohn, D. (2002). Price competition in the Korean group package travel industry and consumer damage: A triangulation approach. In K. Chon (Ed.), *Proceedings of the first Asia Pacific forum for graduate students research in tourism* (pp. 592–602). Hong Kong, China: The Hong Kong Polytechnic University.

King, B., & Choi, H. (1999). Travel industry structure in fast growing but immature outbound markets: The case of Korea to Australia travel. *International Journal of Tourism Research*, *1*(2), 111–122.

King, B., Dwyer, L., & Prideaux, B. (2006). An evaluation of unethical business practices in Australia's China inbound tourism market. *International Journal of Tourism Research*, *8*(2), 127–142.

Klein, B., & Leffler, K. B. (1981). The role of market forces in assuring contractual performance. *Journal of Political Economy*, *89*(4), 615–641.

Klein, B., & Murphy, K. M. (1988). Vertical restraints as contract enforcement mechanisms. *Journal of Law and Economics*, *31*(2), 265–297.

Kranton, R. E. (2003). Competition and the incentive to produce high quality. *Economica*, *70*(279), 385–404.

Kreps, D. M. (1990). Corporate culture and economic theory. In J. E. Alt & K. A. Shepsle (Eds.), *Perspectives on positive political economy* (pp. 90–143). Cambridge, England: Cambridge University Press.

Kreps, D. M., & Wilson, R. (1982). Reputation and imperfect information. *Journal of Economic Theory*, *27*(2), 253–279.

Kunreuther, H., & Pauly, M. (1985). Market equilibrium with private knowledge: An insurance example. *Journal of Public Economics*, *26*(3), 269–288.

Lal, R., & Srinivasan, V. (1993). Compensation plans for single- and multi-product salesforces: An application of the Holmstrom-Milgrom model. *Management Science*, *39*(7), 777–793.

Lal, R., Outland, D., & Staelin, R. (1994). Salesforce compensation plans: An individual-level analysis. *Marketing Letters*, *5*(2), 117–130.

Lancaster, K. J. (1966a). Change and innovation in the technology of consumption. *American Economic Review*, *56*(1&2), 14–23.

Lancaster, K. J. (1966b). A new approach to consumer theory. *Journal of Political Economy*, *74*(2), 132–157.

Leland, H. E. (1979). Quacks, lemons, and licensing: A theory of minimum quality standards. *Journal of Political Economy*, *87*(6), 1328–1346.

Levinthal, D. (1988). A survey of agency models of organizations. *Journal of Economic Behavior & Organization*, *9*(2), 153–185.

Lichtenstein, D. R., Bloch, P. H., & Black, W. C. (1988). Correlates of price acceptability. *Journal of Consumer Research*, *15*(2), 243–252.

Liebeskind, J., & Rumelt, R. P. (1989). Markets for experience goods with performance uncertainty. *RAND Journal of Economics*, *20*(4), 601–621.

List, J. A. (2006). The behavioralist meets the market: Measuring social preferences and reputation effects in actual transactions. *Journal of Political Economy*, *114*(1), 1–

37.

Loevinger, J. (1957). Objective tests as instruments of psychological theory. *Psychological Reports*, *3*(7), 635–694.

Lucas, R. E. (1975). Hedonic price functions. *Economic Inquiry*, *13*(2), 157–178.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, *58*, 593–614.

MacLeod, W. B. (2007). Reputations, relationships, and contract enforcement. *Journal of Economic Literature*, *45*(3), 595–628.

MacLeod, W. B., & Malcomson, J. M. (1998). Motivation and markets. *American Economic Review*, *88*(3), 388–411.

Mailath, G. J., & Samuelson, L. (2001). Who wants a good reputation? *Review of Economic Studies*, *68*(2), 415–441.

Malcomson, J. M. (1984). Work incentives, hierarchy, and internal labor markets. *Journal of Political Economy*, *92*(3), 486–507.

Marris, C., Langford, I. H., & O'Riordan, T. (1998). A quantitative test of the cultural theory of risk perceptions: Comparison with the psychometric paradigm. *Risk Analysis*, *18*(5), 635–647.

Marvel, H. P., & Ye, L. (2008). Trademark sales, entry, and the value of reputation. *International Economic Review*, *49*(2), 547–576.

McCarthy, D., & Mitchell, O. S. (2003). International adverse selection in life insurance and annuities. *NBER Working Paper No. 9975*. Retrieved from http://www.nber.org/papers/w9975.pdf

Melnik, M. I., & Alm, J. (2002). Does a seller's ecommerce reputation matter? Evidence

from eBay auctions. *Journal of Industrial Economics*, *50*(3), 337–349.

Milgrom, P., & Roberts, J. (1982). Predation, reputation, and entry deterrence. *Journal of Economic Theory*, *27*(2), 280–312.

Mirrlees, J. A. (1999). The theory of moral hazard and unobservable behaviour: Part I. *Review of Economic Studies*, *66*(1), 3–21.

Mishra, D. P., Heide, J. B., & Cort, S. G. (1998). Information asymmetry and levels of agency relationships. *Journal of Marketing Research*, *35*(3), 277–295.

Monroe, K. B., & Petroshius, S. M. (1981). Buyers' perceptions of price: An update of the evidence. In H. H. Kassarjian & T. S. Robertson (Eds.), *Perspectives in consumer behavior* (3rd ed.) (pp. 43–55). Glenview, IL: Scott, Foresman and Company.

NBS (1998). *China statistical yearbook 1998*. Beijing, China: China Statistical Publishing House.

Nelson, P. (1970). Information and consumer behavior. *Journal of Political Economy*, *78*(2), 311–329.

Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks, CA: SAGE Publications.

Newell, S. J., & Goldsmith, R. E. (2001). The development of a scale to measure perceived corporate credibility. *Journal of Business Research*, *52*(3), 235–247.

Nicolau, J. L., & Sellers, R. (2010). The quality of quality awards: Diminishing information asymmetries in a hotel chain. *Journal of Business Research*, *63*(8), 832–839.

Nilssen, T. (2000). Consumer lock-in with asymmetric information. *International*

Journal of Industrial Organization, *18*(4), 641–666.

Nunnally, J. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw-Hill.

Oxenfeldt, A. R. (1950). Consumer knowledge: Its measurement and extent. *Review of Economics and Statistics*, *32*(4), 300–314.

Pan, G. W., & Laws, E. (2003). Tourism development of Australia as a sustained preferred destination for Chinese tourists. *Asia Pacific Journal of Tourism Research*, *8*(1), 37–47.

Parker, P. M. (1995). "Sweet Lemons": Illusory quality, self-deceivers, advertising, and price. *Journal of Marketing Research*, *32*(3), 291–307.

Pavlou, P. A., Liang, H., & Xue, Y. (2007). Understanding and mitigating uncertainty in online exchange relationships: A principal-agent perspective. *MIS Quarterly*, *31*(1), 105–136.

Pearce, D. G. (1987a). Spatial patterns of package tourism in Europe. *Annals of Tourism Research*, *14*(2), 183–201.

Pearce, D. G. (1987b). Mediterranean charters: A comparative geographic perspective. *Tourism Management*, *8*(4), 291–305.

Petrick, J. F. (2004). Are loyal visitors desired visitors? *Tourism Management*, *25*(4), 463–470.

Petrick, J. F. (2005). Segmenting cruise passengers with price sensitivity. *Tourism Management*, *26*(5), 753–762.

Prideaux, B. (1998). Korean outbound tourism: Australia's response. *Journal of Travel and Tourism Marketing*, *7*(1), 93–102.

Prideaux, B., King, B., Dwyer, L., & Hobson, P. (2006). The hidden costs of cheap group

tours: A case study of business practices in Australia. In J. Chen (Ed.), *Advances in hospitality and leisure* (Vol. 2) (pp. 51–71). West Yorkshire, England: Emerald.

Puelz, R., & Snow, A. (1994). Evidence on adverse selection: Equilibrium signaling and cross-subsidization in the insurance market. *Journal of Political Economy*, *102*(2), 236–257

Rao, A. R., & Sieben, W. A. (1992). The effect of prior knowledge on price acceptability and the type of information examined. *Journal of Consumer Research*, *19*(2), 256–270.

Reece, W. S. (2009). *The economics of tourism*. Upper Saddle River, NJ: Prentice Hall.

Resnick, P., Zeckhauser, R., Swanson, J., & Lockwood, K. (2006). The value of reputation on eBay: A controlled experiment. *Experimental Economics*, *9*(2), 79–101.

Riley, J. G. (1985). Competition with hidden knowledge. *Journal of Political Economy*, *93*(5), 958–976.

Rob, R., & Fishman, A. (2005). Is bigger better? Customer base expansion through word-of-mouth reputation. *Journal of Political Economy*, *113*(5), 1146–1162.

Rogerson, W. P. (1983). Reputation and product quality. *Bell Journal of Economics*, *14*(2), 508–516.

Rogerson, W. P. (1988). Price advertising and the deterioration of product quality. *Review of Economic Studies*, *55*(2), 215–229.

Rosen, S. (1974). Hedonic prices and implicit markets: Product differentiation in pure competition. *Journal of Political Economy*, *82*(1), 34–55.

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *American*

Economic Review, *63*(2), 134–139.

Rothschild, M., & Stiglitz, J. (1976). Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. *Quarterly Journal of Economics*, *90*(4), 629–649.

Saito, K. (2006). Testing for asymmetric information in the automobile insurance market under rate regulation. *Journal of Risk and Insurance*, *73*(2), 335–356.

Schlesinger, H., & von der Schulenburg, H.-M. G. (1993). Consumer information and decisions to switch insurers. *Journal of Risk and Insurance*, *60*(4), 591–615.

Schmalensee, R. (1984). Gaussian demand and commodity bundling. *Journal of Business*, *57*(1), S211–S230.

Schreiber, J., Nora, A., Stage, F., Barlow, E., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *Journal of Educational Research*, *99*(6), 323–338.

Schwartz, Z. (2006). Revenues and asymmetric Information: How uncertainty about service quality and capacity management affect optimal advanced booking pricing. *Journal of Quality Assurance in Hospitality and Tourism*, *7*(4), 1–22.

Shapiro, C. (1982). Consumer information, product quality, and seller reputation. *Bell Journal of Economics*, *13*(1), 20–35.

Shapiro, C. (1983). Premiums for high quality products as returns to reputations. *Quarterly Journal of Economics*, *98*(4), 659–680.

Sheldon, P. J. (1986). The tour operator industry: An analysis. *Annals of Tourism Research*, *13*(3), 349–365.

Singh, J., & Sirdeshmukh, D. (2000). Agency and trust mechanisms in consumer

satisfaction and loyalty judgments. *Journal of Academy of Marketing Science*, *28*(1), 150–167.

Smallwood, D. E., & Conlisk, J. (1979). Product quality in markets where consumers are imperfectly informed. *Quarterly Journal of Economics*, *93*(1), 1–23.

Smith, S. L. J. (1994). The tourism product. *Annals of Tourism Research*, *21*(3), 582–595.

Sobel, J. (1985). A theory of credibility. *Review of Economic Studies*, *52*(4), 557–573.

Song, H., & Witt, S. F. (2003). Tourism forecasting: The general-to-specific approach. *Journal of Travel Research*, *42*(1), 65–74.

Song, H., Wong, K. F. F., & Chon, K. (2003). Modeling and forecasting the demand for Hong Kong tourism. *International Journal of Hospitality Management*, *22*(4), 435–451.

Spence, M. (1977). Consumer misperceptions, product failure and producer liability. *Review of Economic Studies*, *44*(3), 561–572.

Stigler, G. J. (1961). The economics of information. *Journal of Political Economy*, *69*(3), 213–225.

Stiglitz, J. E. (1974). Incentives and risk sharing in sharecropping. *Review of Economic Studies*, *41*(2), 219–255.

Stiglitz, J. E. (1989). Imperfect information in the product market. In R. Schmalensee & R. D. Willig (Eds.), *Handbook of industrial organization* (Vol. 1) (pp. 769–847). Amsterdam, Netherlands: Elsevier.

Stiglitz, J. E. (2002). Information and the change in the paradigm in economics. *American Economic Review*, *92*(3), 460–501.

Tadelis, S. (1999). What's in a name? Reputation as a tradable asset. *American Economic*

Review, *89*(3), 548–563.

Tadelis, S. (2002). The market for reputations as an incentive mechanism. *Journal of Political Economy*, *110*(4). 854–882.

Tadelis, S. (2003). Firm reputation with hidden information. *Economic Theory*, *21*(2), 635–651.

Tan, Y. K. (2007). 泰中旅游贸易中的零团费问题研究. [*Investigating the problem of "zero-fare" group tours in the Thai-China travel businesses*]. Unpublished master's thesis, University of International Business & Economics, Beijing, China.

Taylor, C. R. (1995). The economics of breakdowns, checkups, and cures. *Journal of Political Economy*, *103*(1), 53–74.

Telser, L. G. (1980). A theory of self-enforcing agreements. *Journal of Business*, *53*(1), 27–44.

Teltis, G. J., & Gaeth, G. J. (1990). Best value, price-seeking, and price aversion: The impact of information and learning on consumer choices. *Journal of Marketing*, *54*(2), 34–45.

Tsaur, S. H., & Wang, C. H. (2009). Tip-collection strategies, service guarantees, and consumer evaluations of group package tours. *Journal of Travel Research*, *47*(4), 523–534.

Tse, T. (2003). An analysis of industry response to the influx of visitors from China to Hong Kong. In K. Chon & I. Yang (Eds.), *Proceedings of the first APAC-CHRIE conference "hospitality, foodservice, & tourism research and education: The Asian waves"* (pp. 58–67). Hong Kong, China: The Hong Kong Polytechnic University & Yonsei University.

UNWTO (2001). *Tourism 2020 vision (Vol. 7): Global forecasts and profiles of market segments*. Madrid, Spain: World Tourism Organization.

UNWTO (2011a). *Study on Chinese outbound travel to Africa*. Madrid, Spain: World Tourism Organization.

UNWTO (2011b). *UNWTO tourism highlights 2011*. Madrid, Spain: World Tourism Organization.

Vogt, C. A., & Fesenmaier, D. R. (1995). Tourists and retailers' perceptions of services. *Annals of Tourism Research*, *22*(4), 763–780.

Walsh, G., & Beatty, S. E. (2007). Customer-based corporate reputation of a service firm: Scale development and validation. *Journal of the Academy of Marketing Science*, *35*(1), 127–143.

Walsh, G., Beatty, S. E., & Shiu, E. M. K. (2009). The customer-based corporate reputation scale: Replication and short form. *Journal of Business Research*, *62*(10), 924–930.

Wang, K. C., Hsieh, A. T., & Huan, T. C. (2000). Critical service features in group package tour: An exploratory research. *Tourism Management*, *21*(2), 177–189.

Wang, K. C., Hsieh, A. T., Chou, S. H., & Lin, Y. S. (2007). GPTCCC: An instrument for measuring group package tour service. *Tourism Management*, *28*(2), 361–376.

Wartick, S. L. (2002). Measuring corporate reputation: Definition and data. *Business Society*, *41*(4), 371–392.

Wu, C. G. (2010). *Econometric analysis of tourist expenditures*. Unpublished doctoral thesis, The Hong Kong Polytechnic University, Hong Kong, China.

Zeithaml, V. A. (1984). Issues in conceptualizing and measuring consumer response to

price. In T. C. Kinnear (Ed.), *Advances in consumer research* (Vol. 11) (pp. 612–616). Provo, UT: Association for Consumer Research.

Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. New York, NY: The Free Press.

Zhang, H. Q., Heung, V. C., & Yan, Y. Q. (2009a). Play or not to play—An analysis of the mechanism of the zero-commission Chinese outbound tours through a game theory approach. *Tourism Management*, *30*(3), 366–371.

Zhang, H. Q., Yan, Y. Q., & Li, Y. (2009b). Understanding the mechanism behind the zero-commission Chinese outbound package tours: Evidence from case studies. *International Journal of Contemporary Hospitality Management*, *21*(6), 734–751.